Volume Title: The Costs and Benefits of Price Stability

Volume Author/Editor: Martin Feldstein, editor

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-24099-1

Volume URL: http://www.nber.org/books/feld99-1

Publication Date: January 1999

Chapter Title: Introduction to "Costs and Benefits of Price Stability, The"

Chapter Author: Martin Feldstein

Chapter URL: http://www.nber.org/chapters/c7769

Chapter pages in book: (p. 1 - 8)

Introduction

Martin Feldstein

During the past decade, the United States and most of the countries of western Europe have experienced substantial declines in their rates of inflation. Since 1992, the annual rates of increase of consumer prices in the United States have been 3 percent or less. Inflation rates in many European countries and in Japan have been even lower.

But low inflation is not the same as price stability. The Federal Reserve and other central banks repeatedly state that "price stability" is their goal. Even allowing for measurement bias in the official inflation statistics, price stability would require a U.S. inflation rate as measured by the consumer price index (CPI) of 1 or 2 percent.

The issue for the Federal Reserve and other central banks is therefore whether to take steps to lower inflation even more until full price stability is achieved. Similarly, the central banks face the question of how to respond if an adverse price shock should raise the inflation rate from current levels to, say, 3.5 or 4 percent.

In keeping with our NBER tradition, the papers in this volume do not offer specific policy advice. Our goal is rather to provide information that can help policy officials at the Federal Reserve and others who are interested in this question to reach a more informed decision.[1]

There are of course many ways in which going from low inflation to full price stability confers benefits on an economy. The primary focus of the present volume is on the gains that would result from price stability because of the

Martin Feldstein is the George F. Baker Professor of Economics at Harvard University and president of the National Bureau of Economic Research.

1. For a recent discussion of the policy issues involved in setting price stability as a goal of monetary policy, see *Achieving Price Stability,* the 1996 annual conference of the Federal Reserve Bank of Kansas City. My own policy views are presented there in a brief statement (Feldstein 1997b).

interaction between inflation and the tax system. Even in the absence of inflation, the tax systems of the United States and western Europe cause losses of economic efficiency by distorting individuals' choices between current and future consumption and by inducing overinvestment in owner-occupied housing. These tax distortions are exacerbated by inflation; the higher the rate of inflation, the greater the tax bias against future consumption and the greater the tax bias in favor of owner-occupied housing. Because inflation increases the existing tax distortions, the resulting welfare loss from even low rates of inflation can be quite substantial. More formally, the deadweight losses that result from inflation are not just "small triangles" (i.e., second-order effects) but are potentially much larger "trapezoids" (i.e., first-order losses of economic welfare).

The welfare gain from reducing the rate of inflation is a permanent one. Indeed, because the welfare loss caused by inflation is proportional to the level of GDP, the annual welfare gain from reducing inflation grows over time in proportion to the growing level of GDP. In contrast, standard economic theory implies that the cost of going from low inflation to price stability is the temporary cost of moving down the short-run Phillips curve. Because of this contrast between the permanent gain and a temporary loss, even a relatively large temporary output loss incurred to reduce inflation can be more than offset by the present value of the permanent and growing gain of lower inflation.

I first explored this contrast between the short-run cost of disinflation and the permanent gain of lower inflation in a paper that focused just on the reduced distortion in the demand for money (Feldstein 1979). That paper emphasized that although the annual welfare gains from reducing the distortion in the demand for money are very small, they can be enough to justify a large cost of disinflation if the discount rate used to calculate the present value of the future welfare gains is low enough.

Although I had written extensively on the interaction of taxes and inflation,[2] it was only in 1996, as part of an NBER project organized by Christina and David Romer, that I presented an analysis based on that research to evaluate the welfare gain that would result from going from low inflation to price stability (see Feldstein 1997a). I found there that the gain associated with the tax-inflation interaction is very much larger then the potential gain from reducing the distortion in money demand. I estimated that going from a 2 percent rate of inflation to price stability raises annual economic welfare by an amount equal to about a 1 percent rise in real GDP. Even with a relatively high real discount rate, the present value of this permanent and growing stream of welfare gains could substantially outweigh the output loss required to go from low inflation to price stability.

This finding raised the important question of whether this relatively large welfare gain from moving to price stability is a special feature of the U.S. tax system or whether it would occur in other industrial countries, each with its

2. See my papers on this subject collected in Feldstein (1983).

own tax rules. If the potential tax-inflation gain that I had calculated is unique to the United States, it might be possible to achieve the same gain by shifting the U.S. tax system in the direction of the tax systems of other major countries. But if the tax-inflation interaction is a source of significant welfare loss in all countries, the prospect of limiting that loss by feasible tax reforms would be less promising. The potential gain from going from low inflation to price stability in other countries would of course also be important to the monetary authorities of those countries.

To explore this issue, I invited the Deutsche Bundesbank, the Bank of Spain, and the Bank of England to participate in an NBER project to refine and replicate my earlier analysis. The results of our combined efforts are presented in the first four chapters of this volume. These results show that differences in national tax rules do cause differences in the gain from disinflation but that in each country there would be a significant gain from shifting from 2 percent inflation to full price stability.

In their analysis of the German economy, Karl-Heinz Tödter and Gerhard Ziebarth found that the gain from reducing inflation by 2 percentage points was equivalent to a perpetuity of 1.4 percent of GDP, about 40 percent greater than the basic estimate for the United States. The difference is concentrated in the effect of the inflation-tax interaction on the timing of consumption. Although the complex differences between U.S. and German laws make it difficult to pinpoint the reason for the difference in welfare effects, I suspect that it is the higher marginal rate of tax in the German case that is the primary reason for the difference.

The Spanish analysis by Dolado, González-Páramo, and Viñals also found a larger gain from achieving price stability than the U.S. numbers imply. Their calculations imply that the gain from a 2 percentage point inflation reduction would be about 1.7 percent of GDP, about 70 percent more than the estimate for the United States. The principal source of the difference is the much higher deadweight loss associated with the increased demand for housing in Spain. According to those authors, this reflects the fact that in Spain the tax privileges associated with owner-occupied housing are quite generous and the size of the housing stock is also relatively large.

While the calculations for Britain also show a significant gain from reducing inflation, the gain is very much less than in the other countries, only about one-fifth of the U.S. value, or about 0.2 percent of GDP a year. This lower level of loss reflects the substantial differences between the tax systems of the United Kingdom and the other countries, particularly the ways in which U.K. investors can reduce the tax on investment income and the limited tax advantage of home mortgages. Britain indexes capital gains for inflation, eliminating one significant source of the tax-inflation interaction that penalizes postponed consumption. There are also many more opportunities for middle and upper income individuals to save in untaxed forms in Britain, implying that the tax-inflation interaction does not distort the timing of consumption for these individuals.

Finally, deductible mortgage borrowing is much more limited in Britain, reducing the effect of inflation on the tax subsidy to owner-occupied housing.[3]

My 1996 analysis had several potentially important omissions. Two of these gaps have been filled by papers in the current volume. Darrel Cohen, Kevin Hassett, and Glenn Hubbard have studied the effect of inflation on the net-of-tax profitability of different kinds of business assets: equipment versus structures and short-lived assets versus long-lived assets. They find that inflation raises the user cost of capital, thus exacerbating the distortion that the tax system would cause in the absence of inflation, but that the magnitude of the effect and the resulting welfare consequence are very small.

Mihir Desai and James Hines filled the second gap by extending the earlier analysis to an open economy with international capital flows. They show that in this context the tax-inflation interaction distorts international capital flows and that this extra dimension of behavior can cause the gain from achieving price stability to be substantially larger than it would be in a closed economy. In an important case that they examine, the gain from price stability would be about twice as large as it would be in a closed economy.

There are two further interrelated tax-inflation issues that remain to be examined: the effect of inflation on the debt-equity mix of household portfolios (since inflation raises the tax on debt relative to the tax on equity) and the effect of inflation on the financing mix of firms (since inflation lowers the cost of debt finance relative to the cost of equity finance). Although neither of these welfare effects is likely to be of the same order of magnitude as the issues assessed in the analyses that have been done, it would be desirable to explore these additional questions.

A more fundamental issue is the assumption that a shift to price stability changes the level of real GDP (including the change in deadweight losses) but does not alter the economy's rate of economic growth. There is substantial evidence that high rates of inflation (exceeding 10 percent per year) do reduce economic growth (Barro 1995; Bruno and Easterly 1995; Fischer 1993; Sarel 1996), but those studies have found no evidence that single-digit rates of inflation permanently affect the rate of economic growth. The paper in this volume by Andrés and Hernando analyzes the experience of OECD countries during a period of relatively low inflation and finds that even low inflation has an important negative temporary effect on the long-term growth rate; that is, it permanently lowers the level of real incomes (by reducing investment and the efficiency with which factor inputs are used). Their careful econometric analysis suggests that reducing the permanent rate of inflation by 1 percentage point

3. Although the study has been done with great care and attention to the details of the British tax system, there are unresolved issues about just how much of the favorable tax treatment of saving affects *marginal* saving. Because the saving incentives are subject to limits, many individuals may face the full tax rate at the margin even though they face lower average tax rates on investment income. Since the welfare effects depend on the marginal tax rates, the impact of lower inflation may be greater than the authors of this study calculate.

would permanently raise the level of real income by between 0.5 and 2.0 percent. This finding that there is a level effect but not a rate-of-growth effect is consistent with the assumption made in the analyses in the other papers. Although the Andrés-Hernando estimate seems substantially larger than the estimates obtained in the four country studies, it is important to bear in mind that they are looking at the level of income and not at the change in economic welfare. If each generation of individuals saves more when they are young, the capital stock will be permanently larger and real incomes higher. The utility gains to the individuals will, however, be less than the rise in income since they have accepted lower levels of consumption during their younger years to achieve this.

The studies in this volume also assume that the shift to price stability requires a temporary rise in unemployment but that price stability, once it is achieved, can be sustained without a permanently higher rate of unemployment, that is, that there is a short-run Phillips curve but that the long-run Phillips curve is vertical. This long-established conclusion about the nature of the inflation-unemployment relation has recently been challenged by Akerlof, Dickens, and Perry (1996), who believe that a downward-sloping long-run Phillips curve (associating higher unemployment with lower inflation) exists at very low rates of inflation because of the difficulty of achieving reductions in nominal wages. The essence of their argument is that the reductions in real wages for particular employees or firms that are occasionally needed to maintain employment can be achieved by reducing the rate of increase of nominal wages when there is moderate inflation but cannot be achieved when there is price stability because such real wage cuts would require lowering the level of nominal wages.

Since the United States has not yet experienced price stability, there is no way to test this directly. It is clear, however, that the recent experience with very low inflation provides no support for the Akerlof-Dickens-Perry view since very low inflation has been accompanied by low and declining rates of unemployment; in the five years since the rate of CPI inflation fell to 3 percent or less (i.e., since 1992) the unemployment rate has fallen from 7.5 percent to less than 5.0 percent.[4] One possible reason for this favorable relation is the finding of Groshen and Schweitzer (in chap. 7 of this volume) that reducing inflation decreases the kind of wage variability that makes labor markets less efficient at matching jobs and job seekers.

My own view is that the resistance to nominal wage reductions would gradu-

4. This experience should also raise questions about the possible importance of "hysteresis effects" in this context, i.e., the proposition that a "temporarily" higher rate of unemployment will become permanently higher because unemployment causes workers to lose their skills and their commitment to work. While this may be relevant in the context of Europe's high rates of unemployment and very long unemployment spells, in the United States with our much lower rates of unemployment and much shorter unemployment spells hysteresis effects seem much less likely a priori and are clearly not supported by the experience after the recession that ended in 1991.

ally disappear in a sustained period of price stability as such changes become more common. In addition, the current tendency to make bonuses a part of annual compensation even for lower paid workers provides a way of reducing total compensation by cutting the bonus without the psychologically more difficult action of reducing the individual's official wage rate.

There are of course other advantages of price stability that have not been explored in this volume. Price stability may bring a "credibility bonus" that allows the monetary authority to offset adverse inflation shocks with less loss of output. Price stability also makes financial planning easier, even for apparently sophisticated financial investors. These issues are discussed briefly in my own chapter in this volume.

Because of the importance of the tax-inflation interaction as a source of welfare loss, some participants in the conference suggested that the gain from price stability could be achieved by changing the tax law instead of by reducing inflation. Although the proposals for "fundamental tax reform" that would completely eliminate the personal and corporate income taxes and substitute taxes on wages or consumption would eliminate the distorting effects of inflation, such tax rules have not been enacted anywhere in the world and now show no sign of being adopted in the United States. Indexing all aspects of the measurement of taxable income (including capital gains, interest payments and receipts, and depreciation) for inflation would be another way to eliminate the current distorting effects of the tax-inflation interaction. But it is again noteworthy that no major industrial country has adopted such indexing.[5] In Feldstein (1997a, sec. 3.8) I discuss the technical, legal, and administrative reasons that are likely to prevent such comprehensive tax indexing from ever being enacted.

In any case, the Federal Reserve (and every other central bank) must decide how to conduct monetary policy and what inflation rate to seek. It does not have the option of changing the structure of the tax system. While economists may offer advice about ways in which the economy's performance can be improved by changes in labor market institutions, social insurance rules, and tax regulations, the central bank must make monetary policy in the institutional context that it finds.

There is finally the question of whether a negative rate of inflation would be better than price stability. The logic of the tax-inflation calculation implies that the welfare gain that would result from going from low inflation to price stability would be increased further by going to a negative inflation rate. Deciding whether that would be a desirable goal in practice would require balancing such tax-inflation gains against not only the costs associated with getting to

5. Although the influential chairman of the House Ways and Means Committee has long been an advocate of indexing capital gains and succeeded in getting such a provision incorporated into the 1997 tax bill passed by the House of Representatives. the strong opposition of the White House and the lack of strong support among Senate Republicans kept it from becoming part of the final 1997 tax legislation.

such a rate of disinflation but also the effect of a negative inflation rate on the quality of individual decision making, on the "credibility bonus" usually associated with price stability, and on the possible psychological effect of disinflation on managers and other investors.

For the past several years, the U.S. economy has been enjoying a remarkable combination of low inflation and low unemployment. There is clearly no public or political support at this time for a deliberate policy to increase the unemployment rate in order to reduce further the rate of inflation. Similarly, there is no support for a policy of deliberately raising the inflation rate in order to reduce unemployment. The Federal Reserve must nevertheless continue to focus on setting a goal for the long-term rate of inflation. More specifically, the members of the Federal Reserve's Open Market Committee should be asking themselves three kinds of questions, listed here in what may be the order of increasing difficulty: First, how should the Federal Reserve respond if some nonmonetary force causes a rise in inflation? Second, how should it respond if economic activity slows, pointing to a rise in unemployment and a further decline in inflation? And, third, what risk of excess tightening and resulting economic decline should the Federal Reserve be willing to take as it contemplates the probability that the current low rate of unemployment (now 4.9 percent) is below the level that is consistent with stable inflation? I hope that the studies presented in this volume will help the Federal Reserve (as well as other central banks) to deal with these questions.

References

Akerlof, George, William Dickens, and George Perry. 1996. The macroeconomics of low inflation. *Brookings Papers on Economic Activity*, no. 1: 1–59.

Barro, Robert. 1995. Inflation and economic growth. NBER Working Paper no. 5326. Cambridge, Mass.: National Bureau of Economic Research, October.

Bruno, Michael, and William Easterly. 1995. Inflation crises and long-run growth. NBER Working Paper no. 5209. Cambridge, Mass.: National Bureau of Economic Research, August.

Feldstein, Martin. 1979. The welfare cost of permanent inflation and optimal short-run economic policy. *Journal of Political Economy* 87 (4):749–68.

———. 1983. *Inflation, tax rules, and capital formation.* Chicago: University of Chicago Press.

———. 1997a. The costs and benefits of going from low inflation to price stability. In *Reducing inflation: Motivation and strategy*, ed. C. Romer and D. Romer, 123–56. Chicago: University of Chicago Press.

———. 1997b. Price stability. In *Achieving price stability.* Kansas City: Federal Reserve Bank of Kansas City.

Fischer, Stanley. 1993. The role of macroeconomic factors in growth. *Journal of Monetary Economics* 32:485–512.

Sarel, Michael. 1996. Nonlinear effects of inflation on economic growth. *IMF Staff Papers* 43:199–215.

This Page Intentionally Left Blank