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Lessons from Moderate Inflations

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Few topics have sustained the interest of policymakers and economists as long and as intensively as inflation. There is no mystery about why: it is the "almost unbroken chronicle in every country which has a history, back to the earliest dawn of economic record, of a progressive deterioration in the real value of the successive legal tenders which have represented money (Keynes, 1972, p. 63)."

The literature on inflation is unusual, if not unique, because the classics are not only worth reading, but also are still read. The inter-War literature takes up virtually all the great themes. Bresciani-Turroni (1968) examines the causes of the German Hyperinflation, the role of the budget deficit, money printing, and the exchange rate, and the social costs of inflation, which he along with many others argues were responsible for the rise of Hitler. Keynes' famous essay (1972) on the social consequences of changes in the value of money contains most of the arguments about the costs of inflation — especially that it redistributes income and wealth in an arbitrary fashion — that have appeared in subsequent literature.

In the post-World War II literature, Cagan's classic article (1956) examines the relative roles of money growth and expectations in inflation, using the hyperinflations to argue for the causal link between money growth and inflation. In the 1960s and early 1970s an extensive Phillips curve literature developed, culminating in the standard textbook model of inflation, in which prices are set on the basis of mark-up over wage and other costs, and the Phillips curve links changes in wages to expected inflation and to the state of aggregate demand. The role of wage behavior is critical in the Phillips curve approach, leading to discussions of incomes policy, labor militancy, and the system of industrial relations — an emphasis that continues to puzzle monetarists.

In the 1970s and 1980s, the triple digit inflation episodes in middle income developing countries, and the historically high inflation rates in the industrialized countries led to renewed interest in inflation. Topics emphasized in the recent literature, beyond the search for the microfoundations of price determination (Mankiw and Romer, 1990),

include the role of credibility and labor contracts in determining both the rate of inflation and the costs of disinflation (Sargent, 1982; Barro and Gordon, 1983; Taylor, 1983; Fischer, 1986a), fiscal deficits as the ultimate cause of inflation (see, for instance, the papers in Bruno, *et al.*, 1988; and Bruno *et al.*, 1991), and the role of indexation in inflation. There has been particular attention to the possible benefits of using the exchange rate as a nominal anchor, both because it may be technically preferable to a money growth rule (Bruno and Fischer, 1990; Fischer, 1986b), and because it may have more credibility (Giavazzi and Giovannini, 1989) than other rules. Game theoretic analyses have explicated the relationship between wage behavior and inflation (Lindbeck and Snower, 1988).

The classic studies of hyperinflations, as well as subsequent research on high and extreme inflations, have helped sort out competing explanations of inflation. Detailed econometric studies of the inflationary process in the generally low inflation industrialized countries have also contributed to the modern understanding of the determinants of inflation.

In seeking to understand the inflationary process, less attention has been paid to the phenomenon of *moderate inflation*, inflation at rates of around 20% per annum. Such inflations are common in the wake of successful stabilization programs that bring inflation down from triple or more digit inflation. At present, each of the countries that successfully stabilized high inflations in the 1970s and 1980s — Bolivia, Chile, Israel, and Mexico — suffers from moderate inflation. So do some countries that have never experienced high inflarion, for instance Colombia, or a few years ago, Portugal.

The evidence from moderate inflation episodes could overcome two problems that beset existing studies: very high inflation economies suffer from pervasive distortions and misallocations caused by a government that has lost control, so that findings may not be applicable to more normal economies; and in low inflation economies, there may be insufficient independent variation in nominal variables to sort out empirical relations. In a recent study (1991), which I will summarize in this paper, my colleague Rudiger Dornbusch and I have drawn on the evidence from moderate inflations to shed light on some of the outstanding issues about inflation, specifically

- the costs of disinflation and the role of credibility
- the role of fiscal deficits and seigniorage in the inflation process
- the role of the exchange rate as a potential nominal anchor for prices, especially during disinflation
- the role of indexation

Before reaching the conclusions, I have to define moderate inflation, outline the competing theories, and present some of the case study evidence on which we draw.

I. Moderate Inflation Episodes

In studying moderate inflation, we need a working definition that separates this type of inflation from very brief supply shock inflations, and from the high inflation episodes on which we were all brought up. We define a moderate inflation episode as one in which the annual inflation rate is in the 15-30% range for at least three years. Of course, every definition has problems at its edges: in this case, the precise range of inflation does not much matter, for any of the features that we discuss, but the required length of an episode does matter, as we shall see shortly.

There have been 55 moderate inflation episodes in 131 countries over the period, typically starting in the 1960s, for which annual inflation rates are available from *International Financial Statistics*. Just over half these episodes, 28 of them, started during the oil price shocks and lasted no more than four years, indicating that most of the moderate inflation episodes were triggered by commodity price shocks.

The data also show that most countries that experience moderate inflation reached that range from a lower inflation rate. Leaving moderate inflation, countries typically stay on average in the neighborhood of moderate inflation, or go back to a lower inflation rate. Very few transit to higher inflation. Of the 49 completed episodes we examined, only 6 had inflation that averaged more than 30% during the next three years.

The evidence shows that most countries that enter the moderate inflation zone do not stay there very long. Of the 55 spells, 31 lasted only three years.[1] Half of the remaining 24 spells lasted only four years. Thus there are very few countries where moderate inflation become a way of life: there are only six spells where inflation is in the 15-30% range for more than five years. The two longest spells are those of Portugal and Colombia, each lasting twelve years(and Colombia still continues).

II. The Causes of Inflation

Taking for granted the link between money growth and inflation, there are basically two answers to the question of why there is inflation. One is that inflation is an integral part of a country's public finance. The other is that inflation continues because it is too hard or too costly to stop it.

A. Seigniorage

we start with the seigniorage or inflation tax argument. At least since the 1920s it has been understood that money creation is one way, albeit not the preferred one, of financing budget deficits. It might be thought that the seigniorage argument is only relevant to extreme high inflation economies, but of course that is not the case. In the

[1]This is the reason the length of spell required in the definition matters.

moderate inflation countries it is commonplace for the government to collect 2-3% of GNP by printing money; and since many of these economies are also low tax countries, as much as 20-25% of government revenue may be acquired through seigniorage. It is therefore not implausible to consider inflation as a conscious part of public finance.

What predictions can we get from the seigniorage argument? Cagan (1956) introduced the notion of a revenue-maximizing steady-state rate of inflation. Cagan's empirical results imply revenue-maximizing rates of 100-400% per annum in the hyperinflation countries, well below actual rates, but well above moderate inflation rates.

No rational government using the inflation tax would drive inflation as far as the revenue-maximizing rate. Rather, as Bailey (1956) argues, an optimizing government would set the inflation rate at the point where the marginal social cost of raising government revenue through inflation is equal to the marginal social cost of raising revenue through alternative sources. Our calculations suggest that, if the area under the demand curve were the only social cost of inflation, tax-optimal inflation rates could well be in the moderate inflation range.

However, the non-menu costs of inflation, and the gradual shift away from money holding that is common in moderate inflation as well as high inflation economies, make us sceptical of the public finance argument for moderate inflation. We do accept the implication of the Bailey's analysis that inflation rates will be higher in countries where alternative sources of revenue are costly. Bailey's results thus help account for generally higher inflation rates in Latin American countries, which have great difficulty raising normal tax revenues. They also suggest that tax reform would be an essential measure to accompany and support inflation stabilization.

B. The Phillips curve and reputation

The second set of arguments about the causes of inflation focuses on the Phillips curve relationship between unemployment and inflation. Within this category there are two complementary explanations, the game-theoretic and the Brookings School views. In the game-theoretic models, for example Barro and Gordon (1983), two types of equilibrium are possible. Governments with short horizons that are unable to precommit their actions end in a high inflation equilibrium. Within this bad equilibrium in the Barro-Gordon model, the equilibrium level of inflation is higher the lower the unemployment rate the government attempts to achieve, the more the government is concerned with the employment objective rather than with inflation, and the smaller the impact of unemployment on inflation.

By contrast, a government that can precommit itself to following a low inflation policy attains a good equilibrium, with a lower inflation rate and the same unemployment rate as in the bad or opportunistic equilibrium. Taking account of reputation in the game-theoretic models suggests — realistically — that inflation rates are likely to be lower in countries with more stable governments where policymakers and the institutions in which

they operate have the opportunity to establish reputations.

The central place of precommitment and reputation in game-theoretic models supports the notion embodied in the creation of independent central banks that institutions and policy makers should be designed to reduce the incentives for opportunistic behavior and ambiguity about preferences. For example, appointing conservatives to run the central bank would lead to lower inflation. So would positive disincentives for policy makers to create inflation.

Recent policy experiments, like those of the 1920s, have focused on enhancing credibility along with actual monetary disinflation. In Chile, for example, the central bank was formally made independent of the government in 1989. In New Zealand an elaborate agreement between the Treasury and the central bank in 1989 obliged the latter to achieve a stable price level by the end of 1992. Canada recently announced an agreement between the Minister of Finance and the Governor of Bank of Canada to bring inflation down from 5% in 1990 to 3% in the end of 1992. A further reduction to 2% is to be accomplished by 1995. Although the Canadian package is less ambitious than that of New Zealand, it too attempts to lower the cost of disinflation by directly influencing expectations.

C. Inflation too costly to stop

Still concentrating on the inflation-unemployment relationship, the Brookings School or textbook view includes both a Phillips curve and a cost-based pricing equation. The expectational Phillips curve allows both expectations and aggregate demand policies to affect the rate of wage increase, and is thus consistent with the game-theoretic models of inflation, which we have just discussed. Other versions of the Phillips curve, which relate the rate of wage increase to lagged inflation, either through indexation or through various forms of inertia, lead to a much gloomier view of the possibilities of disinflation. In this view, the output costs of disinflation will be high unless wages can be deindexed or unless incomes policy can be brought to bear directly on wage inflation.

The cost-based pricing equation implies that the inflation rate is moved by changes in wages, changes in the costs of imported inputs, which are affected by the exchange rate, and by productivity shocks.[2] Under reasonable assumptions, this implies that inflation today will be equal to inflation yesterday except for any combination of the following:

- Wage inflation falls below past price inflation. This requires a break with any implicit or explicit backward looking indexation. The suspension of indexation, or introduction of an incomes policy could accomplish this.
- Exchange depreciation falls below the rate of past inflation.
- Favorable supply shocks lead to disinflation without the need for the exchange rate or wages to take the lead.

[2]In addition, the inflation rate is affected by changes in the mark-up, a factor I ignore here.

The basic point is that the inflation process tends to perpetuate itself even after a government has changed the policies that sustain the ongoing inflation. For inflation to fall, there has to be a major break in the process whereby each sector, including the monetary authorities, accommodates the inflation rate of every other sector. One possibility is a change in the structure of indexation among wages, prices and the exchange rate. Another is a change in the rules for setting the exchange rate and for public sector prices. Use of the exchange rate to initiate a disinflation is very common, but it risks leading to a situation of overvaluation which then greatly complicates the unwinding phase. Or else it might be a change in the wage rules that move from compensating for past erosion of the purchasing power of wages to a forward setting based on expected inflation. But if all else fails, high unemployment will have to be used to slow inflation by reducing demand and wage pressures.

In our case studies, we highlight how the problem of cutting into the inflationary process was addressed in each instance. We also examine the role of seigniorage in the inflation process.

III. Case Studies

Dornbusch and I present case studies of eight countries that have suffered moderate inflation episodes. Of these, Chile, Colombia, and Mexico are currently moderate inflation countries. Chile and Mexico reached the moderate inflation range from above, by stabilizing triple digit inflations; Colombia became a moderate inflation country from below, reaching that range in 1974, and staying close to it since then. One country, Brazil, experienced moderate inflation in the 1960s, and has since the first oil shock been suffering from much higher inflation rates. Four of the countries we study have stabilized moderate inflations, and currently have single digit inflation rates. They are Indonesia, Ireland, South Korea and Spain.

Rather than present all the case studies, I will discuss two of them — Chile and Ireland — at some length, and then draw on all eight in summarizing the conclusions we reach. I choose Chile because it has gone through two distinct sets of policies since 1973: the first, ending in 1982, was a failed attempt to stop inflation; and the second, starting in 1982, was a period in which growth was successfully restored while inflation was kept in the moderate range. Ireland presents a clear example of an exchange-rate based stabilization that succeeded in reducing inflation.

A. Chile

Chile is today seen as *the* example of successful macroeconomic stabilization and structural adjustment. There is no question about the success, but there should also be no illusion about the cost at which these accomplishments were attained — violent political repression for almost two decades, and mass unemployment until very recently.

Chile's inflationary history since 1973 divides into two periods, until 1982, and since 1982. Following the military coup in September 1973, the Pinochet government rapidly established fiscal austerity and tight monetary control. "Chicago monetarism" was the rule. But disinflation was slow even though unemployment increased sharply. The reason was primarily automatic wage increases resulting from full backward-looking indexation provided for by law.

After the initial orthodox stabilization, the next step was an attempt to disinflate by using the exchange rate as a nominal anchor. Recognizing the cycle of inflation, exchange rate depreciation, and wage increases, to be followed by the next round of inflation, the government first implemented a preannounced *tablita* of exchange rate depreciation, and then fixed the exchange rate in 1979, despite an inflation of 30%.

The fixed rate was maintained until 1982, resulting in growing real exchange rate appreciation and contributing to Chile's subsequent debt crisis. Over time, however, the fixed exchange rate combined with a budget surplus and tight money played its role: inflation started coming down. But, because of backward-linked indexation of wages the decline in inflation was slow and real wages started rising.[3] In the short run the gain in real wages sustained real aggregate demand and even gave the 1970s miracle a terminal boost.

But by 1982 the overvaluation in conjunction with massive external shocks made an exchange-rate collapse certain, and the Chilean attempt to stop inflation by fixing the exchange rate had failed. The actual abandonment of fixed rates (amidst the debt crisis of 1982) was followed by major exchange depreciation and the prospect of renewed inflation.

Following the collapse of the fixed rate regime, very tight monetary policy and a cyclically adjusted budget surplus forced a deep depression of economic activity. Real GNP declined by 14% in 1982, and by another 1% in 1983.

Unemployment, including a government work program that paid a fraction of market wages soon accounted for more than 30% of the labor force. In the subsequent years recovery gradually brought down the record unemployment, but until the late 1980s unemployment was high enough to keep a firm lid on wage increases and hence on inflation despite a nearly 50% decline in the real exchange rate. Inflation never went back to the high levels of the 1970s, but rather settled in the 15-25% range.

Unemployment was certainly not the only factor in maintaining inflation stability. Increasingly the government succeeded in establishing a consensus around economic policy. It came to be believed, more so after unemployment had come down from peak levels, that a demand-driven program of recovery could result in renewed inflation and chaos. That view was increasingly reinforced by the unhappy inflationary experience in

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[3]See Corbo (1985) and Edwards and Edwards (1987) on the interaction between disinflation and real wage gains.

other Latin American countries, notably Peru, Argentina and Brazil.

Chile's success in institutionalizing conservative policies is most apparent in the transition to a democratic government in 1990. This was a natural time to fear that the new government, more open to the concerns of labor and the left, might quickly give in to pressures for spending and expansion. But against a background of an acceleration of inflation the incoming government took a firm stand: in the campaign they assertively endorsed highly conservative economic management. Once in office they actually practiced it. 1990 was a year of slower growth, necessary to cool off the economy and set the stage sustained and stable growth in the years to come. Inflation did rise in the calendar year to 27%. But by December the growth-recession had done its work and inflation rates had been pushed down sharply. The point had been made that inflation at 20-25% was acceptable, but open-ended inflation was not.

The transition was marked by important institutional innovation. An independent central bank was established whose founding law established its responsibility to assure monetary stability and the normal functioning of the payments mechanism. Growth or full employment were not made part of its task description. The creation of an independent central bank is widely viewed in Latin America today as *the* key step in stopping inflation — in Chile it was more the final step in assuring that a disinflation process was locked in.

What was the role of seigniorage in this process? Government revenue from the printing of money was quantitatively unimportant in the 1980s. Seigniorage was more important in earlier periods, in particular amounting to 17% of GDP in 1973, and remaining close to 5 % of GDP through 1978. The fiscal disorder under Allende thus led to inflation via money printing, and the need for seigniorage could for some time have continued to be a factor supporting the continuation of inflation. But there is no reason to think that the need for seigniorage played any significant role in the maintenance of moderate inflation in Chile after 1982, especially given the massive fiscal effort that was undertaken during that period.

It is important to recognize that Chile today, and throughout the 1980s, never achieved inflation in the single digit range except just before the 1982-83 depression. Even today the government is not undertaking policies that would attain single digit inflation in the foreseeable future. Inflation in the 20% range appears to be accepted and the chief focus of attention is to avoid its acceleration, if necessary with an unpopular slowdown. Clearly it is possible to stay in this range for a long time. But the experience of 1990 marks just how essential it is, at a key political juncture or in an external crisis, to establish firmly the determination to avoid acceleration.

B. Ireland

Ireland's inflation entered the double digit range during the first oil shock. Increased oil prices and a tight link to the collapsing pound were the main sources of higher

inflation. The chief mechanism for translating supply shocks into increased inflation was sticky real wages. "National Wage Agreements" and "National Understandings" did more to protect real wages and relative wages than to help absorb real shocks without sharply raising inflation. The situation was aggravated by substantial wage gains in the public sector, which made it difficult for the private sector to resist wage inflation. Moreover, exchange rate policy was broadly accommodating. Rounds of inflation were followed by depreciation. And inflation accelerated sharply, reaching more than 20% in 1981-82.

Having pegged to sterling since 1922, Ireland abandoned the currency link with the United Kingdom and joined the European Monetary System (EMS) in 1979. Until the early 1980s the EMS had relatively little effect: frequent realignments were needed because the inflation differentials with Germany and other EMS partners were substantial. In fact, there were 7 EMS realignments in the 1980-84 period. But increasingly the EMS became more of a constraint, or at least was used as such by policymakers. Early 1982 marks the first case of an EMS realignment in which the Irish pound was not devalued (in terms of the ECU). The exchange rate peg became progressively firmer.

A first factor in disinflation was the decline of external inflation. Specifically, Ireland's main trading partners, the United Kingdom, continental Europe, and the United States saw a major decline in their inflation rates. Given the fixed exchange rate, declining foreign inflation tended to reduce inflation in Ireland. But most of the work was clearly domestic. There was a decisive turnaround on the budget in 1982: after one government fell on the budget issue, the new government returned the same budget and got it passed. Increasingly the view that fiscal discipline and stable exchange rates were essential ingredients for macroeconomic stabilization gained acceptance. Tight money supported the move to lower inflation.

Inflation stabilization did not come cheaply. The unemployment rate rose from 9.5 to more than 17% between the early 1980s and 1987. A massive shift in the primary budget from a deficit of 4-8% of GNP to a surplus of 4% was behind the sharp cooling off in economic activity. (Parenthetically, it should be noted that seigniorage revenue was small throughout, suggesting that seigniorage cannot have been a significant factor in Ireland's inflation.) And the fiscal tightening was accompanied by a major *increase* in realized real interest rates, as a result of declining inflation, tight money and external changes in interest rates. With a stable exchange rate, budget tightening and increased real interest rates there could be no crowding-in. Unemployment was the result.

But the unwavering commitment to disinflation did pay off: inflation came down to German levels by the end of the 1980s, after almost 10 years of disinflation. Even then, unemployment remained high and helped reinforce the anti-inflationary discipline of monetary and fiscal policy.

There is an interesting question to which no definitive answer is as yet available: did EMS participation help disinflation, over and above what monetary and fiscal policy

accomplished?[4] There is no ready evidence of the kind a clear-cut, irreversible change in regime might produce, such as an immediate drop in long-term interest rates reflecting a collapse of inflationary expectations. Rather, disinflation was a day-by-day affair and the question of whether the currency would be devalued was always alive when EMS realignments came up. There is certainly a plausible claim that EMS membership helped secure the disinflation: without the EMS commitment, the government might at a number of points been more inclined to accommodate inflationary pressures or relent in its restrictive policies — in brief, the EMS commitment served as a nominal anchor for policy.

This claim may well be right, but it must not obscure the basic message: through 1988, Ireland spent nearly a decade with record unemployment despite an extraordinary shift in monetary and fiscal policy. While Ireland undoubtedly *did* change the policy regime, there was no obvious credibility bonus for the government.

The terminal phase of the Irish inflation is also interesting. By 1987 inflation had come down substantially, but unemployment was still extremely high. The Programme for National Recovery (PNR) was intended to substitute incomes policy for unemployment as a means of further disinflation. To keep inflation low, exchange rate depreciation had to be avoided, but inflation was still too high to sustain a fixed rate indefinitely. The PNR addressed this issue by an agreement between the Irish Congress of Trade Unions and the Federated Union of Employers, which cut rates of wage increase in half. These pay agreements were widely followed in private settlements. A 1989 survey showed that 97% of agreements were within the guidelines and that 78% of these agreements covered a 3 year period. In the public sector the pay agreements paralleled those for the private sector, except that they included a front-end 6 months pay pause.

Thus at the end of the 1980s incomes policy become a powerful means of combining lower inflation with economic recovery. Exchange rate policy fully supported the incomes policy: the exchange rate on the DM suffered no further realignment so that Ireland now had a hard currency. In 1988 it seemed questionable whether the policy could be called successful. Unemployment was extremely high, real interest rates remained very high and the debt to GDP ratio was steadily climbing. By 1991 it was quite clear that Ireland had indeed turned the corner: growth was strong, inflation continued to be low and a consensus had formed around the new macroeconomic policies.

IV. Conclusions

What are the lessons from the moderate inflations, on the causes of inflation, the output costs of disinflation, and the roles of fiscal deficits and seigniorage, the exchange rate, and indexation?

[4] This is the argument Kremers (1990) advances and supports.

Most of the eight countries we studied reached moderate or high inflation as a result of external, and particularly commodity price, shocks. Those countries that remained in the moderate inflation range after arriving there, notably Colombia and Chile, and for a shorter time Mexico, did so only by taking decisive action to prevent inflation from rising at certain specific points. Brazil, which was not willing to slow growth to stay in the moderate inflation range, found itself as a result with high and sometimes extreme inflation.

Three of the countries that successfully disinflated to low inflation, Ireland, Korea, and Spain, did so at a significant output cost. Each of those countries used non-market measures, the equivalent of an incomes policy, to assist the disinflation. In the Korean case, wage growth was restrained through restraint over public sector wages and moral suasion on the private sector. Even in the Indonesian case, subsidization of rice constitutes an unorthodox incomes-type policy. There is little evidence in the data that the Indonesian disinflation imposed significant output costs.

Each of the disinflations was accompanied by a very strong fiscal contraction. Fiscal contractions were undertaken also in the Chilean and Mexican cases to reduce high inflation to the moderate range, and in Colombia to keep inflation moderate.

Seigniorage revenues accounted for a significant share of government revenues in most of the moderate inflation countries. Seigniorage was especially high at the start of most of the inflationary episodes. This affected the fiscal effort that had to be made to reduce inflation, but there is little evidence in the literature that seigniorage considerations played an important role in the thinking of any government. This absence may reflect a general lack of understanding of the inflationary process, or may rather mean that seigniorage is rarely an explicit reason for a government to pursue inflationary policies. We believe the latter interpretation.

Countries in the moderate inflation range typically had flexible exchange rates. The European disinflators, Ireland and Spain, used an exchange rate commitment as part of their disinflationary strategy. Mexico likewise relied on an exchange rate anchor in bringing down high inflation. None of the evidence reviewed for this paper, nor evidence in other studies, establishes firmly that the exchange rate commitment significantly reduced the costs of disinflating although we do believe that a firm exchange-rate commitment helps the government precommit its policies.

Indexation and disindexation appears to have played an important role in the Latin American inflations and disinflations. In Mexico, in the context of the *pacto*, the departure from backward-looking pay increases was an essential part of the stabilization. Colombia in effect decided to live with inflation by permitting the introduction of indexation. Neither Korea nor Indonesia used indexation widely, and nor did Spain or Ireland.[5] Whether disinflation is easier in the absence of indexation, or whether the

[5]In Italy (not reviewed here), disindexation of wagaes played a critical role.

absence of indexation indicates a government's commitment not to live with inflation, is difficult to say on the basis of the evidence we have examined.

Two of the key issues in this conference are not directly discussed in our research. First, we do not evaluate the welfare costs of moderate inflations. Seigniorage aside, moderate inflation has nothing to recommend it except that it is costly to move to lower inflation. Second, the question of a zero inflation target is quite remote from the experiences we study.

On this topic, it is important to be clear whether the proposal is to attempt to maintain a constant price level over time, or merely in each period to aim for a zero inflation rate. If the aim is to maintain a constant price level, then periods in which the price level rises (for example, because of an adverse supply shock) will have to be followed by periods of deliberate deflation. A policy of this type will increase short-run uncertainty about the behavior of the price level while reducing long-run price level uncertainty. It would thus encourage long-term nominal contracts. The gain is unlikely to be worthwhile, particularly since the small costs of long-term uncertainty about the price level can be handled in other ways, for instance through the introduction of indexed long-term government bonds, as in the United Kingdom.

Alternatively, the zero inflation target may simply mean that the monetary authority has to try to keep the price level at its current level (whatever that may be), and not to attempt to reverse previous price level changes. Such a policy goal would probably end up producing inflation of about 2-4 % per year, which is a reasonable target, and might as well be stated as such. The most commonly-advanced argument for a target rate of zero, that any number other than zero is implausible, is not itself plausible, since it has hardly ever been attained. And, since the welfare costs of distortions are proportional to the square of the distortion — implying for instance that the distortion at 3% is very small relative to that at 10% — there is little reason to think that the difference between zero and 3% inflation is worth worrying about.

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