THE DISINFLATION ISSUE

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Abstract

Progress has been made in the recent years towards a better understanding of the costs and effects of inflation. There is widespread consensus today on the absence of a long-term trade-off between inflation and unemployment, on the negative effects of inflation on capital formation and economic growth under nominal-based tax systems and on the negative effect of the level of inflation on output stability. Still controversial positions on the disinflation issue persist which cover the timing and the final stage of the disinflation process as well as the choice of supplementary measures to reduce transitory output and employment losses. It is suggested that further empirical research on the effects of monetary policy announcements on wage formation would make an important contribution towards greater consensus on the disinflation issue.

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I. *Introduction*

Suppose that two decades ago a book had been published with the title "The Monetary Affairs of 1984" picturing a brave new world where the Bretton Woods System would have been abolished in favor of widespread floating, where central banks would announce monetary targets, where economists would deny a long-run trade-off between inflation and unemployment, or – to mention some more esoteric field – where there would be econometric models containing a monetary sector. No doubt, this book would have never appeared on the shelves of any bookstore's economics section. It would have been placed on the shelves reserved for science fiction, perhaps next to George Orwell's famous volume.

The change both in monetary theory and actual monetary policy has, in fact, been substantial. In contrast to the mid-sixties, when monetary issues played a rather neglected role, today there is widespread consensus that "money matters." The increased interest in monetary issues, the progress that has been made in monetary theory and the actual experience gained over the last two decades, however, have not resulted in a general consensus about the conduct of monetary policy. A large variety of viewpoints exists both with respect to the strategies and the tactics for monetary control.

A-still incomplete-list is given by Tobin (1983, p. 506-7):

> "Some would restore the gold standard or make paper money convertible into other commodities. Some would replace intermediate monetary aggregates with other targets: the monetary base, nominal GNP or final sales, total domestic credit, price indexes or their rates of change, exchange rates. Some advocate irrevocable commitment to announced values of chosen targets; others contemplate revision of target values at regular or irregular intervals. Some propose simple rules and targets, not to be changed during their tenure by reference to observed macroeconomic outcomes; others advocate complex feedback formulas describing how monetary instruments will respond to such observations. Some are willing to trust the judgments and priorities of the monetary authorities: let them look at the whole state of the economy and decide what to do without precommitments to any rules or formulas or targets. Hardcore monetarists would, of course, reinstate targets for M1 or other aggregates and tie the central bank more tightly to their realization."

An attempt to explore the factors that lie at the roots of these several controversies would be beyond the scope of a conference paper.[1] I shall, therefore, confine the analysis of agreement and disagreement in the field of monetary economics to one specific issue: the disinflation controversy, which has

been an important element of the international policy discussion in the recent years.

II. *The disinflation controversy*

The rejection of the Phillips-curve hypothesis by the worldwide stagflation experience of the seventies had a major impact on monetary policy. It implied that central banks could aim at lowering inflation without causing a permanent reduction in unemployment. While there is now widespread agreement on this point, several authors have argued that disinflation may still be costly.[2] The reason is that there may be *transitory* losses in output and employment, due to a *short-run* trade-off between inflation and unemployment.

The economic principle of comparing alternatives suggests that one would have to compare the costs of disinflation with the cost of non-disinflation, i.e., permanent inflation. In this section we will first discuss the various types of costs that may result from permanent inflation. Subsequently, we will turn to the causes for the potential output losses under disinflation and discuss the implications for the timing of the disinflation process. In the light of these findings we shall, then, attempt to state the areas of agreement and disagreement on the disinflation issue and to explore the reasons for the remaining dissent.

The Cost of Inflation

There is widespread agreement that the "shoe-leather" cost of inflation resulting from lower real money holdings (conventionally measured by the triangle under the demand for money function) is not the only cost of inflation (Fischer and Modigliani 1978, p. 814). Thus Tobin's (1977) statement: "It takes a heap of Harberger triangles to fill an Okun gap" – while having a substantial entertaining value – is beside the point when it comes to comparing the costs of permanent inflation with the costs of disinflation.[3]

Other costs and effects of inflation are likely to be important as well (Friedman 1977, Fischer and Modigliani 1978, Yeager 1981, Brunner 1983a).

- With higher rates of inflation price adjustments tend to be more frequent, at least in "custom" markets (Okun 1975). As a result adjustment and information costs will increase and lead to patterns of resource allocation different from those that would otherwise occur.[4] There is widespread agreement that these costs would become dramatic in hyperinflation and, eventually, lead to the collapse of the monetary standard. Little is known, however, about the extent to which resources are distracted from other occupations in order to deal with the additional adjustment and information requirements under more moderate levels of inflation. The lack of

quantitative empirical evidence on these costs permits diverging (possibly strongly diverging) opinions on their importance.

- Inflation has substantial additional real effects when the legal system, including the tax system, is based on nominal values:
  - In the absence of inflation accounting, inflation tends to lower total capital formation by reducing the incentive to save and it diverts capital from plant and equipment to owner-occupied housing (Feldstein 1976, 1982);
  - with progressive income tax rates, inflation (i.e., "taxation without representation") is conducive to the expansion of the government sector and to an increase in the share of the income tax relative to other taxes.[5]

A standard argument in this context is that these real effects could be avoided by changing to an indexed tax system. The costs of permanent inflation would, then, include the additional resources which are required to introduce and run an indexed tax system – resources which could be employed elsewhere if the price level were kept stable.[6] In this context it has to be noted that the costs of introducing an indexed tax system may not only be of an administrative type but also of a political type since indexation turns out to be a controversial issue in many countries.[7]

> Political resources would, in these circumstances, have to be devoted to removing existing reservations against the indexation of the tax systems and are, hence, not available for other purposes.[8]

The observation that the variability of the rate of inflation increases with the level of inflation (Blejer 1979; Luebbers 1981) suggests that *inflation is costly because it produces more disinflation (and associated output losses) in the future.*

This point is made, inter alia, by Brunner (1983a) who argues that the cumulated additional output losses which would occur under permanent inflation are likely to be larger than the transitory output losses resulting from a once-and-for-all anti-inflation policy.

The argument rests on the hypothesis that a stable price level provides a more steady and reliable nominal standard than the positive rate of inflation that would have to be explicitly or implicitly accepted if disinflation were refused.

The social convention of a stable price level has a relatively firm basis in its complementarity to

- the social convention of money as a means to reduce information, adjustment and transaction costs and

- the social convention of a legal system (including the tax system) which is based on nominal values.

A permanent inflation standard has no similar anchor. The Phillips trade-off which provided the main basis for the deviation from price-level stability in the seventies has been washed away. The argument that an inflation rate of x percent is optimal from an inflation tax perspective will hardly be convincing and, as a matter of fact, no government has established an inflation standard based on this argument. Historical tradition also does not qualify as a basis: theoretically it is conceivable that an inflation rate which has been stable at say, 10 percent or 20 percent for some decades may achieve the status of a widely accepted social convention. There are, however, no countries with such a record. The argument, finally, that the *present* inflation rate is optimal since it prevents temporary output losses associated with disinflation, will also not provide a firm ground for a permanent inflation standard. On the contrary, a monetary strategy that accepts inflation in order to avoid transitory output losses is likely to destabilize the nominal system, since in these circumstances the central bank would have to accommodate whatever cost and price push there may be (and to adjust the nominal standard accordingly).

The problems of instituting a permanent inflation standard are illustrated by the following quote from Herbert Stein (1976): "The inflation rate in the US has been around 6 percent for over seven years, and interest rates, wage contracts, annuities, and many other arrangements have been adjusted to it. On balance what seems crucial is to try to assure that the rate does not rise above 6 percent, or gets back promptly if it does. Beyond that, if opportunities arise to get the rate lower, they should be taken, but no great sacrifice should be made in order to achieve that." A first remark on this statement is that the US experience since 1976 has shown that seven years (during which the GNP-deflator had, by the way, fluctuated between 3 and 10 percent) apparently do not suffice to establish a social tradition: neither was prompt action taken to bring inflation back to 6 percent when it rose beyond that rate in the late seventies, nor has the subsequent disinflation stopped at a 6 percent rate. A second remark is that such an inflation standard tends to be less reliable because of the option to reduce the inflation standard "if opportunities arise" – without making any reference to what these opportunities would look like. Third, the recommendation that "no great sacrifice" (again a rather vague statement) should be made to reduce inflation is likely to lower the credibility of prompt action against a rise in inflation. If inflation actually increases, what would the government prevent to again delay "costly" restric-

tive policies and instead declare that: "the inflation rate has been around 8 percent for over five years. . . . "?

The Cost of Disinflation

Economic policy discussions on the costs of disinflation usually center on the effect of disinflation on output and employment.

As has been shown by the rational expectations approach (Lucas, 1972; Sargent and Wallace, 1976) transitory losses in output and employment are avoided, if monetary disinflation is fully anticipated in wage and price contracts. The recent practice of central banks to preannounce monetary expansion rates has been conducive to anticipation. Several arguments have been brought forward, however, in favor of the thesis that anticipation may be insufficient.

Insufficient Anticipation due to the Existence of Long-Term Contracts

The existence of long-term wage contracts, including staggered contracts (Fischer 1977; Phelps and Taylor 1977) has to be considered as an argument against an immediate start of disinflation rather than as an argument against disinflation in general.[9] Suppose there are three-year staggered wage contracts as there are in the US. If it is assumed that renegotiation of contracts is not possible, the implication is that in order to avoid negative output effects, disinflation should be announced to start when the last of the existing wage contracts has expired, i.e., three years from now. In this case the disinflationary course of monetary policy could be anticipated in all contracts which would exist at the start of the disinflation policy.

On the other hand one may argue that it is possible to *renegotiate* wage contracts when the monetary authority announces a change in its policy course. In this case the costs of renegotiation have to be compared to the benefits of an earlier return to price level stability. In fact, in the US there have been several cases where wages have been renegotiated although not as a response to the Fed's announcement of lower monetary expansion rates, but as a reaction to company losses and the threat of additional unemployment.

Incomplete Anticipation due to the Lack of Credibility of the Announced Monetary Target

A credibility problem arises when the announced money growth rate deviates from the growth rate that would be expected on the basis of past systematic performance of monetary policy, i.e., when the announced strategy represents a change in the monetary policy regime. The credibility of such a change in regime depends on various factors (Fellner 1981).

> A change in the monetary policy regime tends to be the more credible the sooner it is brought about. The announcement to start monetary disinflation in, say, three years from now in order to avoid incomplete anticipation resulting from long-term wage contracts is likely to be received with relatively little confidence. One reason is that the change in regime may itself be reversed or altered in the meantime.

A second reason is that the delay of disinflation implies that in the meantime the monetary authority would be willing to accommodate the rate of inflation that is anticipated in the existing contracts. With three more years of monetary accommodation, however, a delayed disinflation policy would most likely be less credible, when it is finally initiated, than a disinflation policy that starts immediately; moreover, if in the meantime the monetary authority were to accommodate an accelerating pace of inflation the deviation from price-level stability and, hence, the extent of disinflation would increase.

As a result the transitory output losses might be increased rather than reduced by a delay of disinflationary action. (Taylor 1983)

> A change in the monetary policy regime tends to be more credible if it goes along with the introduction or announcement of consistent adjustments in the government's financial policies;[10] appropriate measures include
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> - financial reforms in order to balance the "inflation-tax" loss that is to result from disinflation; this point is especially important in high inflation countries with a close link between the size of the budget deficit and monetary expansion rates;[11]
> - pressure towards wage increases in the public sector which are consistent with the disinflation path;
> - the issue of index-linked bonds or the shortening of the maturity of the public debt.
>
> The credibility of monetary targets tends to increase with the number of successful past realizations of monetary targets. This implies that the timing of the disinflation process may have an effect on the cumulative output losses resulting from disinflation.

Suppose the credibility status is less than perfect in the initial phase and that disinflation would represent a change in the policy regime – i.e., it is not expected on the basis of past systematic behavior of the monetary authorities. The larger the disinflation, the larger will be the difference between the anticipated and the announced rate of monetary growth and, hence, the greater will be the potential for a loss of output and employment. If disinflation starts with a relatively small step, output losses will be smaller,

but the remaining distance from price stability will be larger. However, when the second step towards disinflation is taken, the credibility status is likely to have improved, since the announced monetary growth for the first period has provided a better prediction of the actual rate than the forecast based on past systematic behavior. When the next steps are taken credibility will tend to increase further. This implies that the *average* credibility of the disinflation process is likely to be larger, and the potential for output losses smaller, under a gradualist strategy as compared to a "cold turkey" approach.

Insufficient Anticipation due to Disregard of Monetary Announcements

A third reason for an insufficient anticipation of disinflation may be that economic agents do not base their wage setting decisions on announced monetary growth rates although they believe the announcements. This view is taken implicitly by standard econometric models (including the models used by central banks!) where the increase in wages is a function of past variables, and where the announced monetary expansion rate does not appear as an argument in the regression function. There are several questions and possible controversies that are related to this point:

- Is the proposition that wage setting decisions are not based on announced monetary growth rates correct? Empirical results presented by Gutierrez-Camara and Vaubel (1981) contradict this view by showing that monetary preannouncement has reduced the unemployment effect of disinflation. One would, therefore, like to see additional investigations on this issue, also for more recent periods.
- If wage setting decisions disregard announced money growth does this reflect "irrational" behavior? Or does it reflect unreliability of the announced targets due to previous deviations? There have been substantial deviations from the announced target paths in most countries. But do those deviations justify to completely neglect announced money growth in wage setting decisions?
- It is standard practice to derive announced money growth rates from a target path for nominal GNP. Thus, there is the possibility that agents will consider the ultimate target for GNP growth rather than the intermediate target of money growth in their wage setting decision. A question of interest for empirical research thus is: does target GNP perform better in nominal wage equations than announced money growth?

Implications for the Timing of the Disinflation Process

The extent to which gradualism reduces the cumulative transitory output losses from disinflation will be larger

- the lower the initial credibility of monetary policy announcements and the larger the potential for improving the credibility status through successful realization of targets;
- the slower or smaller the reaction of wages to unforeseen changes in output or inflation; important factors in this context are the length of contracts, the institutional impediments to renegotiating on existing contracts, the extent of wage indexation and the relative size of unemployment benefits.

As a result of these institutional differences the gains from gradualism may differ substantially among countries.

Moreover, the gains are difficult to state in quantitative terms. A main reason is that we know little about the effect which monetary policy announcements have on wage settlements.

Disinflation: Areas of Agreement and Disagreement. A Summarizing Appraisal

Progress on the issue of disinflation has been made in the recent years. Academic work on the theory of inflation and the empirical lessons which have been drawn from accelerating inflation in the seventies have considerably improved our knowledge of the costs and effects of inflation. There is widespread agreement today that

- there is no long-run trade-off between inflation and unemployment as suggested by the Phillips-curve hypothesis;
- inflation tends to have a negative rather than a positive effect on economic growth;
- inflation is likely to result in more intense business cycle fluctuations due to a reduced reliability of nominal standards.

As a result, the benefits of disinflation are appreciated more highly today than one or two decades ago. The most outstanding result of this change in views is the pronounced disinflation policy that has taken place in the industrial countries during the last years.

A comparison of recent consumer price inflation (measured by the increase from 1982, III to 1983, III) with the average rates of 1980 shows that inflation has come down in nearly all of the countries listed. (The exemptions are Belgium and Luxembourg where the lack of progress in reducing consumer price inflation is largely due to the substantial real depreciation of the Belgian/Luxembourg Franc; the increase of home prices in Belgium has been reduced from 6.7 percent in 1980 to 3.3 percent in 1983, III; wage increases in Belgium have slowed from 9.3 percent in 1980 to 4.1 in 1983, II).[12]

The table also shows that in four countries (Japan, Austria, Netherlands

CONSUMER PRICE INFLATION IN INDUSTRIAL COUNTRIES

	1980	*III/1983*[a]	1960-64[c]
United States	13.5	2.6	1.2
Canada	10.2	5.3	1.4
Australia	10.1	9.3	1.8
Japan	8.0	1.4	5.5
New Zealand	17.2	5.4	2.2
Austria	6.4	3.1	3.3
Belgium	6.6	7.6	1.7
Denmark	12.3	6.1	4.3
Finland	11.6	8.9	5.0
France	13.8	9.8	4.0
Germany	5.5	2.8	2.3
Ireland	18.2	10.0[b]	3.3
Italy	21.2	13.9	4.5
Luxembourg	6.3	8.3	1.6
Netherlands	6.5	2.5	2.6
Norway	10.8	7.8	3.3
Spain	15.6	11.0	5.0
Sweden	13.7	9.2	3.5
Switzerland	4.0	1.8	2.8
United Kingdom	18.0	4.6	2.6

[a] As against III/1982. [b] Estimate. [c] Period average.
Source: IMF, *International Financial Statistics*, January 1984.

and Switzerland) inflation rates have fallen below the average levels experienced in the first half of the sixties which is often taken as a reference period for a relatively high degree of price stability.

In contrast to the disinflation in the industrial countries and most of the developing countries (IMF, 1984, p. 63-5) over the last years, some LDCs – mainly in Latin America – have experienced an acceleration of inflation. What is the explanation for this "disagreement in policies"? Why have these countries not joined the international disinflation train? The main reason is that these countries have been confronted with unforeseen budget deficits resulting from unexpected increases in spending (partly as a result of a rise of real import prices and real interest payments) and tax-shortfalls due to an unexpectedly deep recession, while at the same time they had to face a reduction in their ability to borrow abroad. Since the scope for additional domestic borrowing tends to be small in these countries, the choice that had to be made was between spending cuts, tax-increases or additional use of the print-

ing press. Both government spending and regular taxes are very difficult to change in the short run, since they are based on contracts which cannot be adjusted immediately. Moreover, explicit changes in spending or tax-rates are likely to meet immediate protest by the various pressure groups so that decisions are delayed until the "minimum resistance" bundle of spending and tax adjustments is found; in the meantime the "inflation tax" fills the gap, since it requires no explicit agreement and is likely to meet protest only at a later stage, i.e., when the acceleration of price increases becomes visible.

Thus, the increase of inflation in various developing countries since 1980 can hardly be regarded as an attempt to establish a persistently higher "optimum inflation tax."[13] In fact, in the recent months several of the high-inflation LDCs (e.g., Brazil) have taken drastic measures to reduce inflation.

Controversial views still persist with respect to the timing of the disinflation process. A first area of disagreement concerns the extent to which gradualism can help to reduce the transitory output and employment losses from disinflation. A main cause for disagreement is different views on the wage formation process. Is wage setting purely adaptive? Or do decision makers take account of announced monetary strategies? To which extent can a monetary policy improve the credibility of its announcements? Additional empirical research on the effects of monetary policy on wage setting decisions would be an important contribution to a greater consensus on the disinflation issue.

A second area of disagreement on the timing of the disinflation process concerns the question of how the potential benefits of a gradualist strategy (reduction of transitory output losses) compare with the potential costs (additional transitory deviations from price level stability). The answers on this question may differ not only because of different judgments about the potential for avoiding output losses but also because of different evaluations of the negative allocative effects from additional transitory inflation. These negative allocative effects are extremely difficult to measure and it does not appear very likely that substantial progress will be made on this issue. Moreover there may be different judgments about whether resource waste through unproductive activity should be treated on equal grounds with resource waste through involuntary unemployment.

A third reason for disagreement on the timing of the disinflation process may be seen in the different weights that are given to short-term political considerations. For a policymaker it may be rational not to choose the disinflation strategy that minimizes the aggregate resource costs (resulting from inflation and unemployment) over time but to choose the strategy that minimizes the resource costs prevailing at the next election.[14] These political considerations are likely to bias the disinflation process in a way that is known from

the concept of the political business cycle (Nordhaus, 1975): disinflationary action tends to be shifted away from periods which are close to future election dates to periods which are further away from future election dates. While these shifts raise the total resource cost of disinflation they contribute to a more favorable combination of inflation and unemployment at the date of the election and may, hence, be considered as an appropriate policy option by policymakers which seek reelection, whereas they may be rejected by an independent monetary authority which is not constrained by election dates.

Controversial views also exist with respect to supplementary measures to reduce the transitory output and employment losses. Most of these incomes-policy measures do not fall in the realm of monetary policy.[15] The main instrument that monetary authorities have in order to support the anticipation of disinflation in wage contracts is the preannouncement of their own actions. While there is widespread support of preannouncement, there are different views on the appropriate targets and on the scope for discretionary deviations from preannounced targets; this, however, is a controversy which is not limited to the disinflation issue and it will not be discussed here in further detail.

Controversial views, finally, are likely to exist with respect to the last stage of the disinflation process. Should price-level stability refer to a consumer price standard? Or a GNP-deflator-standard? Or a wage standard? Should one allow a weak "structural" inflation? These questions have been intensively discussed in the late 50's and early 60's and in the light of the substantially reduced inflation rates in the industrial countries we may soon see a renaissance of this discussion.[16]

FOOTNOTES

[1] In the quoted article Tobin discusses several of these issues. For a counter-position see Brunner (1983).

[2] See Gordon (1982).

[3] Feldstein (1979) has shown that in the long run the cumulative welfare losses from reduced real money holdings are substantial in a growing economy and may well exceed the temporary short-run gains in employment.

[4] "Inflation sabotages the transmission of information by prices. Ideally, each price conveys information to the prospective buyer of a good about how much sacrifice of other goods its purchase would entail, as well as information about how attractive an offer each prospective seller is making in comparison with his rivals' offers. Inflation renders such information obsolete or unreliable more quickly. . . .

"More generally, inflation alters the mix of real economic activity. It reduces the relative rewards of sober activity devoted to improving products or cutting the costs of producing or distributing them; it increases the relative rewards of being a crafty operator – of predicting prices and policies, of cleverly wheeling and dealing, of sizing up the intellects and moral characters of potential trading partners and associates. It also puts a relative premium on trying to protect oneself through political activities, broadly conceived, in contrast with more market-oriented activities." (Yeager, 1981.)

[5] Through its tendency to reduce investment in plant and equipment, to promote an expansion of the government sector (where productivity increases are usually below average) and to increase the share of the income tax, inflation is likely to have negative effects on economic growth – in addition to the negative growth effect resulting from increased information and adjustment costs.

[6] Vaubel (1980) has argued that indexation of income tax rates should not only account for inflation but also for real economic growth in order to avoid the bracket creep effect resulting from an increase in average real incomes. Indexation of the real growth component would not become obsolete after a return to price level stability.

[7] The main argument against indexation of the tax system is that indexing would be inflationary. Against this it is put that indexation will have this effect only if it causes an additional expansion of the money supply and that such an association is neither plausible on theoretical grounds (Ahnefeld and Vaubel 1974) nor supported by empirical evidence (Fischer 1983).

[8] Giersch (1973) has pointed out that the indexation of government claims and liabilities may not only be considered as a means to reduce the real effects of inflation but also as a means to raise the credibility of a disinflation strategy and thereby reduce the transitory output losses that are connected with such a strategy. We shall take up this point in the discussion of the costs of disinflation.

[9] This consideration applies in a similar way to contractual rigidities in credit markets where unanticipated disinflation tends to favor creditors at the expense of debtors. See Fellner (1981) and Fischer (1981) for a discussion of the effects of disinflation on credit markets.

[10] This is especially important in countries where monetary policy is controlled by the government rather than an independent monetary authority.

[11] Sargent (1982) emphasizes that fiscal reforms have been a precondition for the successful fight against hyperinflation in several European countries during the early 1920's.

[12] IMF, *International Financial Statistics*, January 1984.

[13] In the theoretical discussion there is consensus that the optimal rate of inflation is not necessarily zero (see e.g., Phelps, 1973); in practice, however, one hardly finds a case where disinflation is explicitly rejected on the grounds that it would lead to a suboptimal long-term inflation tax.

[14] A popular although questionable measure of the resource costs is the so-called discomfort index.

[15] For a thorough discussion of the various attempts and proposals to stabilize output and employment through incomes policies see Risch (1983).

[16] For an excellent survey on these issues see Giersch (1977, p. 68-89).

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