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Introduction

Indexation is a controversial issue and its role as an anti-inflationary policy is often misunderstood. Its basic proposition is to link all or most nominal contracts re wages, loans, taxes, et cetera to the general price level. The main arguments in favor of indexation stress that it (1) reduces or eliminates the redistributive effects of inflation by protecting sectors of the economy whose incomes cannot be promptly adjusted, (2) lowers the government's propensity to inflate by depriving it of the revenue obtained from taxing cash balances, and (3) serves as an alternative to the "stop and go" anti-inflation and stabilization policies that lead to changes in the rate of inflation because of the time it takes for the community to adjust to changed rates of government spending—a lag that distorts relative prices, the structure of production, and the level of employment. Since the escalator clauses may narrow the gap between actual and expected inflation and thus induce a gradual moderation in the rate of inflation, indexation helps anti-inflationary measures to succeed.

The arguments on the other side are numerous and frequently heard. Thus, it is said that indexation has an inflationary impact; that it may tend to freeze the structure of prices and incomes and arrest the downward correction exerted by increases in real wages secured by trade union demands for nominal wages; that by lowering revenue from a given rate of inflation it may induce the government to raise the rate of taxes; that indexation may signal a policy of "living with inflation" to the public and thus raise anticipation of future inflation; that its widespread use may reduce the time lag in responding to changes in the inflation rate, thus making the nominal price level more sensitive and changeable despite the increasing stability in the real variables. It is also argued that the government could conceivably manipulate the price index, but, of course, the question is whether an inadequate index is better than no index at all.

Specific programs for indexation have been advanced for the United States and Western European countries, for some developing economies, and for some international commodities. The complexity of the problems inherent in specifying the needs, magnitudes, and indexation techniques for the various economies has led to a lively discussion in the literature. In order to throw some light on the outstanding issues in this debate, the National Bureau of Economic Research found it desirable to cosponsor a conference with the Instituto de Pesquisas Econômicas (IPE) of the University of São Paulo to examine the indexation experience of Brazil, a country that both adopted the most comprehensive indexation program anywhere during the period 1964–1973 and showed one of the most rapid growth records in the world before the international turbulence of 1973. In this volume we have compiled a sample of the papers presented at the conference, held February 26–28, 1975 at the University of São Paulo. The participants came from various countries in Latin America, North America, and Europe, and from Israel.

The first paper, "Reflections on the Brazilian Experience with Indexation," by Affonso C. Pastore, Ruben D. Almonacid, and José Roberto M. de Barros, provides the background of how and why indexation was introduced in Brazil. The authors trace the economic strategy adopted by Brazil that lowered the rate of inflation from 100 percent in 1964 to about 15 to 20 percent in 1973—while the country experienced a growth rate of about 10 percent during this period. They assess the role of indexation as part of an overall economic stabilization and growth program and discuss the gradual introduction of indexation as a mechanism of inflationary correction, using formal models to analyze the mechanism of inflationary developments *before* indexation and the role of monetary policy *after* indexation. They emphasize that in order to reduce the deficit and keep monetary expansion under control, the government had to pay a positive real rate of interest on bonds, return a substantial part of the inflation tax to the public, and employ fiscal policy to mobilize resources. The role of financial assets in changing the savings rate and of the foreign sector and minidevaluation in generating the necessary conditions for mobilizing savings, promoting investment, and stabilizing prices are also examined. The authors point out that the success of Brazilian indexation can and should be assessed as an integral part of the overall economic policies, and not in isolation.

In the second of our series, Antonio Carlos Lemgruber attempts to test Friedman's hypotheses on monetary correction by using a simulation technique. He develops a formal model of inflation and real output based on Friedman's work, and poses the question whether monetary correction can both reduce the side effects of a given inflation rate and lower government revenue from inflation. His conclusions: indexation certainly does lower the side effects of inflation (although with some oscillations and some overshooting on macro variables), and also reduces government revenue, as Friedman had suggested.

Samuel A. Morley's paper "Indexing and the Fight against Inflation" examines the arguments for and against comprehensive indexation, as well as the relevance of the Brazilian system of monetary correction to the U.S. economy. He reaches the conclusion that comprehensive indexation is desirable for the United States for two reasons: first, because it makes the unemployment and output levels of the economy independent of the price level, and second, because it reduces the social frictions that inflation generates by eliminating the redistribution of income and wealth caused by *unexpected* deflations. If employment, investment, and terms of borrowing remain unaffected by the changes in the level of prices, the public will be relatively indifferent to what price level the government decides to set. These advantages of indexation, Morley argues, will not be reversed in sectoral inflations.

In the fourth paper, Roberto Fendt, Jr. considers the optimality conditions for full indexation of time deposits and other money. He reaches the conclusion that full indexation of money does not lead to a social optimum. It will tend to increase holdings of indexed and decrease those of nonindexed monies. If the partial elasticities of substitution of indexed and nonindexed monies are zero, the policy of full indexation of demand deposits will be socially optimal.

The question of exchange rate policy is the focus of our fifth paper, "The Basis of the Minidevaluation Policy," by Adroaldo Moura da Silva. He describes the rationale and role played by the Brazilian government's minidevaluation policy in neutralizing the harmful effects of domestic inflation (due to changes in domestic and foreign prices) and of changes in the terms of trade on the balance of trade. The minidevaluation policy not only protected the domestic economy from fluctuations in external prices but also served as an incentive for Brazilian businessmen to obtain financial resources via foreign capital.

The most important aspect of Brazilian indexation, which has received wide attention, is its effect on wages. Roberto B. M. Macedo examines the wage policy and the effect of indexation on income distribution in Brazil. He discussed the Brazilian wage policy as related to minimum wages, wages determined by collective bargaining, and wages in the public sector. The process of wage indexation and the effects of these adjustments on income shares are analyzed. The author finds that Brazil's wage policy during the 1960s has not been neutral in its distributive impact and that this impact has been of a far more complex nature than realized in previous studies. From the existing evidence, however, Macedo is unable to conclude that it is this nonneutrality of the wage policy that has been responsible for the observed changes in the overall income distribution during the period under review. Other factors such as access to subsidized credits, changing regional inequalities, education, and movement of workers from low- to high-wage industries have also been responsible for the observed changes in income distribution.

Ephraim Kleiman's contribution is a comparison of the Brazilian and Israeli experiences with indexation. Although the two countries differ in many respects, they have experimented extensively with indexation, and there are important lessons to be learned from the differences as well as the similarities of their experiences. In Israel indexation was introduced primarily for equity considerations, in Brazil, for allocative purposes, but in both countries it soon spread to other markets. Kleiman traces the history of monetary correction in Israel and specifically analyzes the effects of indexation on wages, financial assets, and taxes in Israel as compared with the Brazilian case. He makes several important statements. In both countries, indexation led to the virtual disappearance of long-term lending and borrowing. In both countries the inflation tax base appears to have been almost completely eliminated. And in both the expansion of financial instruments did not occur until after inflation had begun to decelerate. Finally, evidence tentatively suggests that indexation does not affect the rate of inflation.

In the concluding paper, Don Patinkin summarizes the discussion and addresses the important question whether the Brazilian experience in indexation has any relevance for advanced economies such as the United States. He is skeptical on that issue. The case for indexation, he argues, is not a matter of right or wrong economic analysis, nor is it a panacea against inflation—and may not even affect its operation. Indexation may not be a guarantee that governments will restrain their spending. Rather, the case for indexation rests primarily on equity considerations—to avoid the extreme inequities that frequently are associated with the inflationary process.

To sum up, the discussions held at the conference made it clear that much more information is needed to determine the effects of indexation in an economy with highly developed money and capital markets, an independent monetary policy, and widespread collective bargaining. Also, just as the absence of indexing under inflation may lead to distortions, so may partial indexing. Likewise, indexing of competing items on divergent indices may lead to distortions and disincentives. Finally, it would be erroneous to consider indexing by itself as a way to either combat inflation or stimulate growth. It may prevent distortive distributional effects of inflation, but certainly does not permit policymakers to dispense with vigorous monetary and fiscal policies to promote stabilization and growth.

In concluding my remarks on the conference, I would like to thank many people who made it possible. The members of IPE and the Department of Economics at the University of São Paulo were very helpful in planning the project. Special thanks are due to Roberto Macedo, who worked diligently to make the conference a success. Thanks are also due to Mario Henrique Simonsen, Minister of Finance of Brazil, and other officials of the Brazilian government, who participated vigorously in both discussion and hospitality at the conference. We also acknowledge the financial contribution of the Ford Foundation and the IBM World Trade Corporation to the National Bureau and the grants of the Central Bank and Ministry of Finance of Brazil to IPE, which made the conference possible.

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