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STABILIZATION POLICIES IN THE WORLD ECONOMY:  
SCOPE AND SKEPTICISM

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Harvard University and NBER. This work is part of a project with Michael Bruno, of Hebrew University, on the macroeconomics of supply shocks. Errors in this analysis are, of course, my own. Support from the National Science Foundation is gratefully acknowledged. The research reported here is part of the NBER's research program in International Studies. Any opinions expressed are those of the author and not those of the National Bureau of Economic Research.

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ABSTRACT

Throughout the industrialized world, macroeconomic performance since the mid-1970s has been very poor, and the prospects in the near term remain bleak. While there is no consensus among macroeconomists regarding the diagnosis (or cure) of these ills, the major competing schools of thought have focussed most of their blame on macroeconomic policy. This paper summarizes a series of studies, in collaboration with Michael Bruno, suggesting rather that supply shocks coupled with real wage rigidities are a central source of the poor macroeconomic performance. Various hypotheses are mentioned as a source for the resistance to real wage cuts, and some illustrations of the policy implications of supply shocks are provided.

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## Stabilization Policies in the World Economy: Scope and Skepticism

Throughout the industrialized world, macroeconomic performance since the mid-1970s has been very poor, and the prospects in the near term remain bleak. It is sobering to reflect that all 24 OECD economies suffered a slowdown in aggregate economic growth after 1973 (comparing average growth rates for 1965-73 with 1973-79); all but one (Switzerland) experienced an intensification of consumer price inflation. Overall, the annual GNP growth of the OECD slowed from 4.9 percent during 1965-73 to 2.7 percent during 1973-79, and it has slowed further since then. The slow growth has translated into rising unemployment, which stood at about 7 percent of the OECD workforce in 1981 as compared with a mere 2 to 3 percent in 1970. In the European Economic Community, the 1981 unemployment rate appears to have been a staggering 8 percent.

Bright spots in this picture are few indeed, but their lessons may be instructive. After the steep recession in the OECD during 1974-75, the U.S. alone of the major economies staged a rapid recovery; the unemployment rate fell significantly below its 1975 peak, while it continued to rise in Europe. Unfortunately, U.S. performance on most measures has deteriorated sharply (and relatively) since 1979. Japan provides a case of extremely successful performance since the mid-1970s, after a very sharp jolt during 1973-75. Among the smaller economies, the neighboring Nordic economies of Sweden and Finland offer a vivid contrast of worsening and improving economic developments, respectively since the mid-1970s.

There is no consensus among macroeconomists regarding the diagnosis of these ills, the sources of relative success across economies, or most important for the purpose here, the right policy mix for sustained recovery. The interpretations offered here, which must be regarded as tentative, lay great

stress on the various adverse supply shocks that affected all of the OECD economies during the past decade. The interpretations are based largely on a joint research project with Michael Bruno, of Hebrew University, on the macroeconomics of supply disturbances in open economies.

### I. The Central Role of Supply Disturbances

The major competing schools of macroeconomic thought have focused most of their blame for the current debacle on macroeconomic policy. For the Keynesians, recent policy has been too austere, overly directed against fighting inflation. For the monetarists, the case has been almost the opposite: that politicians have continued to drive up money growth to fight short-term unemployment, to the sacrifice of longer-term price stability. And for the new classical macroeconomists, the policies have simply been too erratic, with policy "surprises" explaining the fluctuations in output growth.

Unfortunately, these important propositions have been subjected to almost no systematic, cross-country scrutiny. No strong comparative evidence has been set forth to show that high unemployment and slow growth have been closely tied to more restrictive policies, or to more uncertain and volatile policies, or that price stability has resulted from slow and stable money growth. Recent tests of the "surprises" model, for example, failed on Japanese data (see Jun'ichiro Seo and Wataru Takahashi). There is little doubt that tight policies can explain high unemployment at certain times and places (the Thatcher experiment in the U.K. is a case in point; see Willem Buiter and Marcus Miller), but it is doubtful that they provide a general explanation for the recent experience. The almost universal slowdown in growth and rise in unemployment in the OECD has characterized both activist and passive, as well as expansionary

and contractionary policy regimes. To cite just two cases, neither the austere Barre policies in France nor the expansionary Keynesian policies in Sweden restored high employment or rapid growth to their economies.

I would suggest three lessons on macroeconomic performance and policy from the tangled comparative record. First, it is not the policy choices but rather the policy options that worsened in the 1970s, with supply shocks driving the stagflationary process. Second, the appropriate policy response to high unemployment or slow growth depends on the source of the unemployment, with "supply-generated" unemployment less tractable than the garden-variety Keynesian unemployment. And third, since national economic structures differ, particularly in labor market and financial institutions, the same policy is likely to have very different effects across economies.

Various "supply-side" shocks were of dominating importance in the 1970s. All industrial countries faced a massive rise in the real price of raw materials inputs after 1970, following two decades of falling real input prices. The oil price increases (in 1973-74, 1979-80) were the most stunning, but by no means the only major hikes in real commodity prices. Overall, the index of non-fuel primary input prices rose sharply relative to prices of final manufactured goods in the 1970s (see Robert Lipsey and Irving Kravis). Accompanying these shocks was a persistent slowdown in total factor productivity growth in almost all of the OECD. The synchronization of the slowdown with the raw material price increases suggests a causal linkage running from prices to output (as suggested by Martin N. Baily and Bruno, for example) but this linkage remains an open question. Many, such as David Grubb, Richard Jackman, Richard Layard, and William Nordhaus, take the productivity slowdown to be an independent event. A third supply shock, from the point of view of the OECD, has been the rapid expansion of the newly industrializing countries (NICs) into traditional export sectors

of the OECD economies (e.g. steel, shipbuilding, electronic components). This import-competing growth of the NICs has worsened the OECD terms of trade, and perhaps more importantly, has shifted the locus of new world investment in key industries decisively away from the developed economies. It is forecast, for example, that about half of the world's capacity expansion in steel during 1980-1985 will be made in the developing economies, up from      percent in the 1970s.

On a theoretical level, the economics of supply shocks are fairly well understood (see Bruno and Sachs (1981a, 1981b) and Sachs (1980b) for general equilibrium analyses in the case of output-market clearing, and Edmond Malinvaud and Robert Solow for the non-market clearing case). Consider, for example, a rise in real input prices. In a competitive, full-employment economy a permanent input price shock reduces output on impact, and most likely sets in motion a path of capital decumulation, along which output and productivity grow more slowly than trend. For a given money supply, the nominal price and wage levels may either rise or fall after the shock; if the output effect of the shock is small, the rise in real input prices probably requires the fall of other nominal wages and prices. And very importantly, the real wage consistent with full employment (hereafter, the "full-employment real wage") must fall on impact, and then must grow more slowly than trend as the process of capital accumulation proceeds.

From the point of view of macroeconomic equilibrium, then, there are two problems. After the supply shock, the nominal price vector may be inappropriate given the existing money stock and exchange rate. If nominal prices and/or wages are sticky, a standard demand management problem arises (with the standard short-run inflation-unemployment tradeoffs, if they exist). Edmund Phelps has described this demand-side issue of supply shocks in detail. The second,

and more novel policy issue involves the need to reduce real wages to their new full-employment path. Most recessions up until 1973 signalled little about the need for long-term real wage adjustment, while the resolution of post-1973 recessions has depended on the deceleration of real wages from an earlier trend. And for reasons that we shall see, such a deceleration is only likely after a transitory phase of high unemployment, and is also likely to be hard to bring about with standard macroeconomic policy tools.

For a number of years after 1973 (at least two years in most countries; four to five in others) OECD real wage growth remained strong relative to productivity growth, and profitability was sharply squeezed (see Sachs (1979) and Bruno for details). The rate of return on manufacturing capital fell steeply between 1973 and 1978 in most economies. Only in the U.S., where unionization rates are extraordinarily low, was the profit squeeze largely avoided. The evidence is not strong on whether the real wage behavior reflects union wage-setting per se, or more general outcomes in the labor market. It is significant though, that in both the U.K. and U.S. there was a sharp rise in the union-non-union wage differential over the course of the 1970s.

The profit squeeze was closely linked to output, investment, and growth behavior after 1973, with the relatively favorable U.S. profit position inducing a more rapid recovery (see Sachs (1979)). The links of wages to unemployment in this period are best documented for the U.K. (see James Symons for a detailed presentation; R. Morley; Bruno and Sachs (1981b)), and econometric work supports this link for Japan (David Lipton and Sachs). Indeed, Japan provides a revealing comparison of adjustment to the first and second oil shocks. In the first, real wage growth remained high, and profits and output were sharply squeezed; in the second, there was a dramatic drop in real wage growth for 1979-80, which made room for Japan's terms-of-trade loss.

Output growth hardly dipped in the second episode (see Sachs (1981c) and Yoichi Shinkai for supporting evidence).

Real wages may fail to adjust for many reasons, and each of these reasons has different implications for policy. We can divide the possible explanations into categories which emphasize: (a) uncertainty, timing, or misperception; and (b) union bargaining power. Most directly, some wages may be predetermined by contract at the time of an unanticipated supply disturbance, so that real wages are unexpectedly driven above full-employment levels. If renegotiation is costless, the profit squeeze would soon disappear, but otherwise the squeeze must persist until the next bargaining round. Herbert Giersch has suggested such a view for the high real wage settlements in Germany in 1974 (in Germany, the misperception was twofold, involving both oil prices and tight Bundesbank policy).

A related argument holds that unions, or both employers and unions, failed to understand the link of higher oil prices and wage moderation, and the ordeal of unemployment was necessary to "clarify" that link. This simple argument probably holds enormous weight. The supply shocks were a novel phenomenon. There was no way prior to the late 1970s to evaluate the partial elasticity of labor demand with respect to real energy prices, or to verify that a persistent slowdown in productivity growth had occurred. An asseveration by employers to employees of the need for real wage declines is, in general, of little avail, for employers have reason to dissimulate and employees have cause to ignore their employer's importunings. The inability of employers to convey credibly to workers the need for real wage moderation has been elegantly captured by Sanford Grossman and Oliver Hart. Adverse shocks in their model bump against partial real wage rigidity, and therefore cause unemployment. Their results directly transfer to our case. If this hypothesis is maintained,

we should expect to see a gradual process of wage moderation after a supply shock, as workers gain evidence (through the persistence of unemployment) that the adverse demand shift against labor has in fact occurred. Moreover, we would expect learning between the first (1973-74) and second oil shocks (1979) regarding union wage setting. According to Shinkai, Japan is a vivid illustration of such learning, for formerly militant union federations explicitly called for wage moderation in 1980, in light of supply-side developments. One federation's "offensive white paper" declared: "Our wage demand (in 1980) is based on our assessment of the impact of oil-price rise and growth prospect, and aims at a real wage increase lower than the real GNP growth." (p. 19)

The previous explanations all apply in a basically competitive labor market setting. More troubling cases emerge once we recognize the extent of monopoly union power in OECD labor markets, particularly throughout Europe. In the U.S. we often forget that much of European wage setting occurs in a highly centralized, highly unionized context. And when powerful unions face off against employers, supply shocks may well redound on unemployment rather than wage reductions. To our benefit, Ian McDonald and Solow have recently offered a smorgasbord of models that make that very point. There is simply no presumption that an optimizing union will substantially cut real wages, rather than employment, following a supply shock; indeed, it may even raise them!

#### 11. Implications for Demand Management Policies in Open Economies

From the very aggregative standpoint then, supply shocks may raise the "typical" problem that the nominal price and wage are out of line with money supply and the exchange rate, and the novel case that real wages exceed their full employment level. If output markets do not clear, we may adopt

Malinvaud's typology: the first problem would push the economy into the regime of Keynesian unemployment, and the latter towards classical unemployment. Demand stimulus is effective in the first case (subject to Mundell-Fleming limitations) but not in the latter, unless the demand stimulus itself (say an exchange rate depreciation) can reduce real wages by accelerating inflation.

In recent models, particularly Sachs (1980b) and Bruno and Sachs (1981a), I have investigated these policy issues under a variety of labor market assumptions (in these models, the output market is assumed to clear continuously, so that the economy is always at the boundary of Keynesian and classical regimes). Consider one useful specification, which distinguishes between the "bargained" real wage  $w^B$ , the actual real wage  $w$ , and the full-employment real wage  $w^f$  (see Grubb, Jackman, and Layard for a similar formulation). We assume that unions and firms bargain for a real wage ( $w$ ), but set a nominal wage that is only partially indexed (or perhaps fully indexed with a lag). Actual wages ( $w$ ) can deviate in the short run from  $w^B$ , because of unanticipated or accelerating inflation. The bargained wage itself is assumed to respond only to unemployment, in order to capture the partial real wage rigidity I have discussed above.

Now, we can envision various relations among  $w^B$ ,  $w$ , and  $w^f$ . Generally, unemployment will result when  $w > w^f$ , but this can occur with high or low real-wage bargains. If  $w > w^f = w^B$ , unions and firms would settle on a lower real wage, but because of partial nominal wage rigidity, they do not achieve it. This is a case where a money supply increase or exchange rate devaluation can readily reduce unemployment (at the cost of a higher price level). Unemployment is basically a monetary problem.

On the other hand, if  $w = w^B > w^f$ , the wage bargain is intentionally set above  $w^f$ , (as discussed earlier, unions may misperceive  $w^f$  or may choose

unemployment in return for higher wages). In this case, a monetary expansion can temporarily reduce  $w$ , and increase employment, but only in the short run. Long-run, full-employment equilibrium requires that  $w^B$  be reduced to  $w^f$ , (or that  $w^f$  be raised). For concreteness, suppose that  $\Delta w^B = \alpha(U_t)$ , where  $U_t$  is the unemployment rate. Then,  $1/\alpha(w^B - w^f)$  measures the cumulative unemployment that must be experienced before long-run equilibrium is restored. The unemployment may be postponed through rising inflation, but it cannot be avoided in the long run through expansionary monetary policy. Simulation exercises show that expansionary policy very often results in higher inflation and deeper unemployment along the adjustment path than does a passive policy.

It should be pointed out that a fiscal expansion may raise  $w^f$  and thus moderate unemployment by favorably shifting the economy's terms of trade (see Sachs (1980) for an example). Moreover, direct supply-side measures may also raise  $w^f$ . Space prevents elaboration of these two possibilities here.

I close with a tale of two countries, Sweden and Finland, that vividly confirms the difficulty of preventing, rather than merely postponing, supply-shock unemployment.

The year-to-year GNP developments in the two countries in the mid-1970s were:

	1973	1974	1975	1976	1977	1978	1979
Finland	6.5	3.1	0.6	0.3	0.3	2.3	7.2
Sweden	3.8	4.2	2.5	1.6	-2.4	1.3	4.1

Sweden utilized very expansionary policies during 1974-76 to "bridge" the world recession (see OECD Economic Surveys for Sweden and Finland for recent policy history), and indeed open unemployment did not develop in the early years of the policy (though hidden unemployment, such as workers in government job-training programs, did). But neither did real wages moderate. A wage boom

and severe profit squeeze ensued, which ushered in a number of years of very poor growth. Moreover, the expansionary policies left a legacy of a greatly expanded government sector. In Finland, the decision to abandon reflation was taken much earlier (1975), with a view towards restoring profitability and competitiveness in Finland's export sector. The output drop in Finland in 1975-76 was far more severe than in Sweden, and Finland's real wage gap (as measured by the OECD) was eliminated in 1976. The growth since 1977 has been far higher.

### III. Conclusions and Extensions

The recessions in the 1970s were inherently more painful than previous episodes since they signalled the need for real wage moderation and a period of slow economic growth. In some countries, the need for real wage moderation was accepted by workers without the ordeal of unemployment (e.g. Japan, 1979-80), while in others, the adjustment process seemed to require a recession. In such countries, expansionary demand policies serve mainly to postpone rather than prevent an economic downturn.

Of course a variety of additional issues should be raised in a complete treatment of the recent supply shocks. Higher energy prices and competition from the NICs call for sectoral reallocation of resources, as well as overall wage and price adjustments. One suspects that in a booming economy, sectoral shifts of the requisite magnitude could be handled in stride. In the present environment, though, policy makers have supported moribund industries and protective labor legislation has slowed down the flow of workers to more productive enterprises. These inefficiencies have magnified Europe's adjustment problem significantly.

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