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UNEXPECTED REAL CONSEQUENCES OF
FLOATING EXCHANGE RATES

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INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

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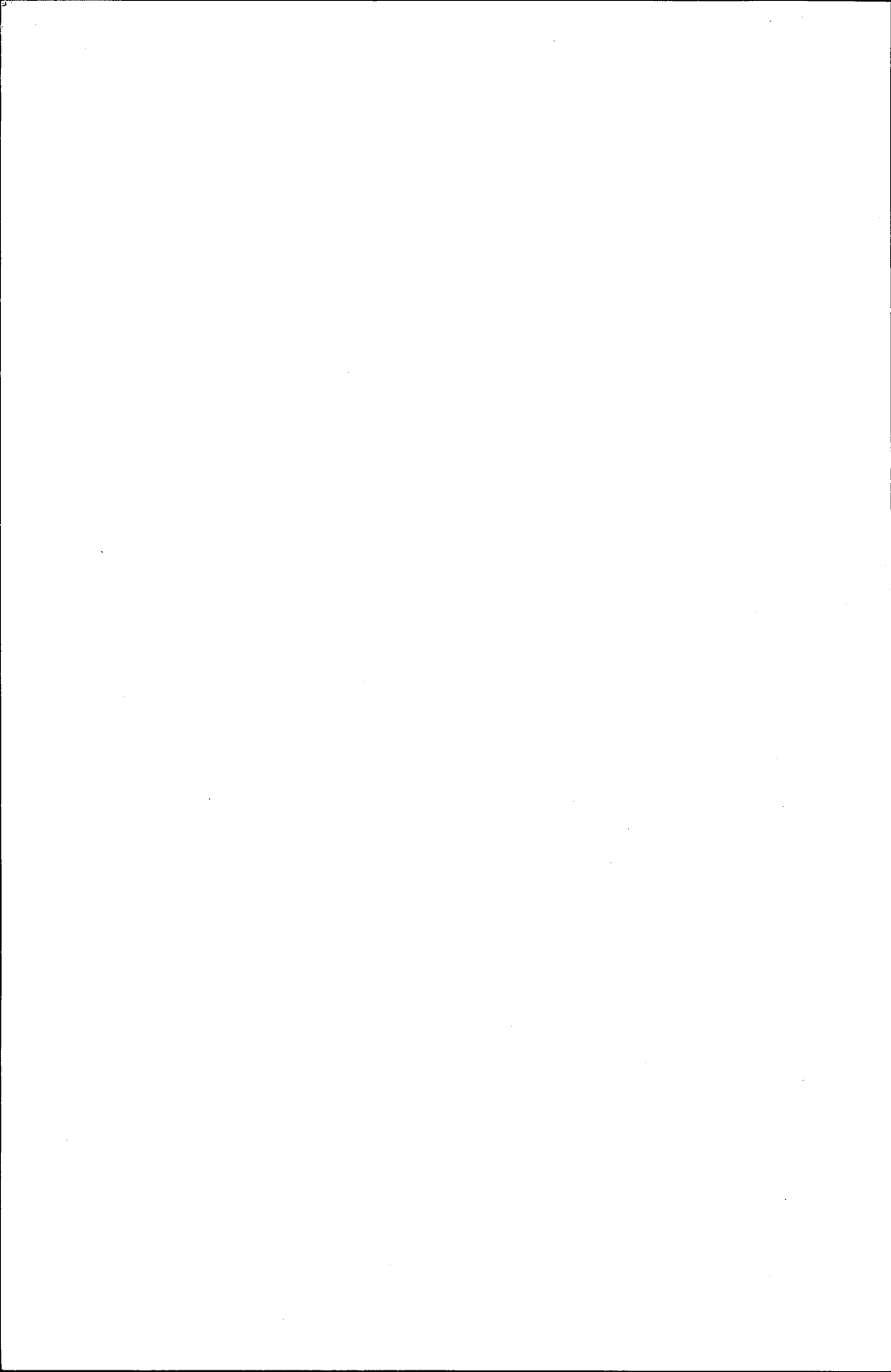
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CONTENTS

INTERNATIONAL MONEY AND THE GOALS OF BRETTON WOODS	2
Macroeconomic Performance	2
Controlling Inflation	4
Living with Exchange Risk	5
MARKET-DETERMINED EXCHANGE RATES	7
Controls on Trade and Capital Flows	7
Implications for Foreign Direct Investment	8
EXCHANGE RATES, RELATIVE PRICES, AND COMPETITIVENESS	11
Elasticities and the Law of One Price	11
Sectoral Consequences of Changes in Exchange Rates	13
Adjustments to Real Shocks	14
CAUSES AND CONSEQUENCES OF PROTECTION	16
Sectoral Consequences of Protection	17
Volatility and Protectionism	18
CONCLUDING REMARKS	20
REFERENCES	21



Unexpected Real Consequences of Floating Exchange Rates

After a decade of floating exchange rates, international monetary reform is again in the air, and it is thus timely to ask how well (or badly) the current system is functioning. But compared to what? Because the current monetary arrangements came into effect following years of vigorous debate on the merits of exchange-rate flexibility, some observers appear to forget that these arrangements were not in reality “designed” or even “adopted” by the International Monetary Fund. Rather, the present regime was initiated by the collapse of the Bretton Woods system, following prolonged and heroic salvage efforts. As late as 1972, a report on international monetary reform by the Executive Directors of the IMF failed even to mention flexible exchange rates as a viable long-term option (IMF, 1972), while an earlier report explicitly concerned with the role of exchange rates in the adjustment process had devoted only one of seventy-eight pages to floating rates (IMF, 1970). The markedly after-the-fact Second Amendment of the IMF Articles of Agreement to legalize the status quo merely reflected recognition of member governments’ inability to agree on an alternative—any system imposing even minimal restraints on national policies—rather than an affirmation of the benefits of floating.

The central and still unresolved issue in the fruitless debate over international financial arrangements was the desire to preserve national autonomy in the face of growing economic and political interdependence. Since the present time seems no more propitious than the early 1970s for the willing sacrifice of national sovereignty by IMF members, any argument for system reform must be solidly grounded in the accumulated experience with floating, not by reference to the dogmas of the Bretton Woods era. This Essay is an eclectic assessment of that experience, with particular reference to the ways in which events have confounded both advocates and

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critics of floating. Although there is some discussion of the consequences of the floating-rate regime for worldwide macroeconomic performance, the main focus is on microeconomic issues—specifically, the role of floating rates in facilitating or retarding the growth of world trade and investment.

International Money and the Goals of Bretton Woods

National money, in its time-honored functions as medium of (indirect) exchange, unit of account, standard of deferred payment, and store of value, is supposed to facilitate the efficient allocation of resources in production and consumption. Although the precise nature and magnitude of the efficiency gains have never been spelled out fully in economic analyses, monetary history gives clear evidence of significant real resource costs and unanticipated redistributions of wealth when money fails to perform its traditional functions. At the same time, control of a nation's money supply also constitutes a potent tool of macroeconomic management and an alternative to taxation as a means of financing government expenditure. Thus, conflicting objectives confront those who conduct monetary policy, and there are both microeconomic and macroeconomic bases on which to judge their performance.

Analogously, the international monetary system is supposed to facilitate an efficient allocation of resources worldwide, presumably through trade guided by comparative advantage, but it also has important consequences for global macroeconomic conditions. This twofold function was explicitly recognized in the Articles of Agreement of the International Monetary Fund approved at Bretton Woods in 1944, which listed among the purposes of the Fund:

To facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy (Articles of Agreement, Article I(ii)).

As inadequacies in the Bretton Woods system became apparent during the 1960s, criticisms and proposals for reform likewise fell into two distinct categories.

Macroeconomic Performance

The Bretton Woods system was held to impart a deflationary bias to the world economy on account of the asymmetrical positions of surplus and

deficit countries—at least in the rules, if not in the actual behavior, of member nations. At a time when the prospects for “fine tuning” of national macroeconomic performance seemed bright, the obligations of member nations under the Bretton Woods rules appeared to limit the ability of elected governments to deliver the combination of inflation and unemployment desired by their constituents. Although theory suggested that control of two instruments—monetary policy and fiscal policy—should allow enlightened policymakers to achieve both “internal balance” and “external balance,” thoughtful analysts stressed that other objectives, notably adequate long-run growth, could be jeopardized by this textbook solution.

Because the Bretton Woods rules appeared to constrain national governments, advocates of reform and especially of increased exchange-rate flexibility appealed to the need for greater macroeconomic independence. Most reform proposals, however, called for modification rather than scrapping of the Bretton Woods rules. Two popular evolutionary plans were the crawling peg and the widening of exchange-rate margins, the latter actually adopted in 1971 as part of the short-lived Smithsonian Agreement. Interestingly, Cooper had seen wider bands as a feasible means of increasing independence but noted a disadvantage “from the viewpoint of fostering international cooperation . . . of *not* affording an occasion for close international consultation” (1968, p. 263).

Subsequent events suggest that advocates of increased flexibility failed to distinguish adequately between institutional and economic constraints on the actions of national policymakers. The collapse of the Bretton Woods system clearly increased the national sovereignty of IMF members with regard to the conduct of macroeconomic policy but had at most a minor effect on the ability of member nations to achieve desired outcomes. Countries acquired the technical capacity to pursue autonomous monetary policies because they were no longer required to peg their exchange rates, but they were severely constrained in exercising this autonomy on account of the undesirable effects of large exchange-rate movements on their domestic economies. Furthermore, the system of flexible exchange rates could not suppress structural interdependence; the system proved to offer ample channels for the continued international transmission of macroeconomic disturbances.

Even so, the chief flaws in the standard macroeconomic arguments for flexibility had less to do with their predictions about independence than with the now-evident defects in the macroeconomic paradigms, both Keynesian and monetarist, on which they were based. That national econ-

omies failed to respond according to the predictions of ingenious 1960s models can be blamed on many aspects of human behavior that are usually assumed away for analytic convenience. Perhaps most important and surely most striking is the demonstrated capacity of market participants for profitable innovation—a description more optimistic than the pejorative “structural instability” sometimes conjured up to explain the failure of econometric models to predict human behavior in times of rapid economic and social changes.¹

Controlling Inflation

A related issue in the pre-1973 debate concerned the implications of the exchange-rate regime for the propensity of national officials to engage in inflationary policies. According to one standard argument, “the need to defend a fixed rate or a par value induces monetary and fiscal authorities to take greater care to prevent inflation; if floating rates were adopted, discipline would be weakened and countries would be more likely to pursue inflationary policies” (Solomon, 1977, p. 287). Indeed, the case for flexibility as a means of increasing macroeconomic independence implies precisely that some nations will opt for higher inflation rates when freed from the “external constraint” of a fixed parity. A similar but distinct argument is that a democratic government (or even one that is not so democratic) may find defense of a par value a politically acceptable reason to resist the competing claims of various domestic groups for increased shares of a relatively fixed national income (Caves and Jones, 1973, p. 444). As Caves and Jones note, however, a government might just as well point to “disgraceful” depreciation of a flexible rate. In the post-1973 period some have done exactly that.

The standard arguments sometimes acknowledged the inflationary potential of exchange-rate changes themselves, whether rates are flexible or adjustable, but only after 1973 did attention shift to this line of causation and thus away from the “nail-the-flag-to-the-masthead” argument for fixed rates. Although the inflationary pressures attending any devaluation or deprecia-

¹ Meese and Rogoff (1983) found that a random walk performed as well out of sample as any estimated structural model of exchange-rate determination. In an earlier version of the same paper (Meese and Rogoff, 1981), the authors attributed the poor out-of-sample performance of these models to “structural instability.” But the authors noted in the revised version that it is more accurate to describe the problem as one of omitted variables or other misspecifications of the underlying structural relationships. In other words, simple models cannot predict complex responses.

tion had long been emphasized by experts on less-developed countries, analyses for the industrialized nations tended to ignore the possibility, perhaps because of their Keynesian underpinnings. For example, the "absorption" literature stressed the importance of aggregate excess capacity in determining the degree to which the effects of a devaluation would be quickly offset by induced inflation.

The post-1973 inflationary experience was too dramatic to be ignored. Much subsequent debate has therefore centered on whether flexibility provides an independent source of inflationary pressure via a "ratchet" mechanism that pushes up domestic prices when a currency's value declines but fails to push them down at times of currency appreciation. Despite its intuitive appeal, however, empirical evidence for the ratchet effect appears to be weak (Goldstein, 1980). One important competing explanation for the failure to anticipate fully the inflationary impact of devaluation or depreciation was the tendency to underestimate the true openness of industrial economies, or, more precisely, the strength of the linkage between international prices of traded goods and domestic prices of nontraded goods (on this linkage, see Chipman, 1981, and McKinnon, 1981).

Living with Exchange Risk

Pre-1973 microeconomic arguments for floating exchange rates stressed their role in encouraging "unrestricted multilateral trade" (Friedman, 1953, p. 137). While rigidly fixed exchange rates like those of the classical gold standard were conceded to provide many of the benefits of a single world money, the Bretton Woods system of adjustable pegs had major shortcomings. Balance-of-payments disequilibria were frequently met by direct controls on trade and capital flows rather than the domestic macroeconomic policy responses prescribed by the "gold-standard rules of the game." Advocates of exchange-rate flexibility argued that it would produce appropriate exchange-rate movements, ensure prompt balance-of-payments adjustment, and thus obviate the need for direct controls that distort global resource allocation. But although proponents of flexible rates were virtually unanimous on this point, some critics foresaw incentives for protectionism (see, e.g., Wallich's comments in Haberler *et al.*, 1969, p. 362).

Of course, even pegged rates could and did change. Therefore, the appropriate comparison was not between floating and fixed rates but between rates changing by small amounts on a day-to-day basis and those changing by substantial percentages at longer intervals and usually only after mac-

roeconomic policy debacles, welfare-reducing direct controls, and repeated foreign-exchange-market crises. Some critics warned, however, that the day-to-day movements of floating rates would not be small. Skeptics envisioned low price elasticities, long lags, exchange-rate overshooting, and destabilizing speculation that would result in wide fluctuations in market-determined rates—a specter of the 1930s that (along with competitive devaluation) the IMF Articles of Agreement specifically pledged to exorcise. Large fluctuations in rates, it was said, would increase the uncertainty facing international traders and investors. Although forward markets and a variety of other, more complicated mechanisms could provide transactors with insurance against rate changes, some warned that the additional cost would push world trade back toward barter (Kindleberger, 1970, p. 224).

Subsequent events have provided ample reason for extreme modesty on the part of prognosticators in both camps. Market-determined exchange rates have exhibited instability beyond the fondest nightmares of fixed-rates fanatics, yet trade and investment flows seem relatively unaffected by these changes. Blackhurst and Tumlin (1980, pp. 13-16) have noted that the volume of world trade continued to grow more rapidly than production throughout the 1970s, consistent with their hypothesis that the major determinant of changes in the level of trade is underlying GNP growth. Examining the effects of exchange-rate uncertainty on the multilateral and bilateral trade flows of the United States, Germany, and several other industrial countries for the period 1965-75, Hooper and Kohlhagen (1978, p. 505) “found absolutely no significant effect on the volume of trade (at the 0.95 level) despite considerable effort and experimentation. . . .” They did find a significant impact on prices, suggesting that the absence of any impact on volume might reflect relatively inelastic short-run supplies of exports or, alternatively, substantial hedging by importers and exporters.

These apparently contradictory phenomena may also be reconciled by the observation that the only alternatives to risky international transactions are risky domestic transactions. Of the many large risks of all types that any commercial endeavor now entails, exchange-rate uncertainty may be relatively minor compared with the benefits of foreign trade and investment. The risk is appreciable but the profitability even more so. As foreign-exchange risk is highly diversifiable, international operations provide an important means of diluting risks associated with domestic transactions rather than an independent addition to risk.

Market-Determined Exchange Rates

The central message of recent experience is that the foreign-exchange market is an asset market and that the economic laws governing exchange rates are fundamentally similar to those governing other asset prices—with stock and bond markets providing obvious domestic analogies. In fact, while exchange rates have indeed been volatile, their volatility has been less than that of stock prices (Frenkel and Mussa, 1980). Some recent literature has attempted to judge whether the volatility of observed asset prices is “excessive,” i.e., unjustified by movements in their fundamental determinants. Shiller (1981) found evidence that the volatility of stock prices is excessive in relation to underlying uncertainty about future dividends, at least if risk neutrality is assumed. Although his statistical methodology has been questioned by subsequent researchers, any similar test of exchange-rate behavior rests on still shakier ground. As Meese and Singleton (1982) have pointed out, a test of whether exchange-rate volatility is excessive must be predicated on the validity of a particular structural model, and there are several active contenders. Furthermore, as Frenkel and Mussa note, even a determination of excessive volatility has no obvious policy implications.

Related to these findings is the discovery that the celebrated “law of one price” is not strictly enforced by real-world markets and that purchasing power parity, which perhaps ought not to have held in any case, has evidently collapsed (Frenkel, 1981).² As a consequence, the once-prevalent notion that an exchange rate behaves like the ratio of two national price indices must be scrapped and the role of exchange-rate movements in equilibrating international transactions reevaluated.

Controls on Trade and Capital Flows

A market-determined exchange rate necessarily equates day-to-day supply and demand for a nation's currency, whether or not supplemented by official reserve transactions. Thus, the need for direct controls motivated by overall balance-of-payments considerations is indeed eliminated by floating rates. The result has been, as predicted, an important reduction in the use

² Although there is a rich literature spanning at least four decades on the reasons why purchasing power parity need not hold over short or even long time periods (see, e.g., Chipman, 1981), the notion persists that its absence somehow violates fundamental precepts of rational economic behavior.

of capital controls for balance-of-payments purposes. But asset preferences can and do produce significant prolonged divergences between the market price of a currency and its apparent "real" worth as determined by purchasing power parity. There is therefore no reason to expect a floating-rate system to eliminate incentives for direct controls motivated by current-account considerations.

While current-account balances have exhibited surprising (though lagged) responsiveness to rate movements, the reverse effect of current-account imbalances on exchange-rate movements is evidently much weaker. Indeed, floating rates react only to the extent that current-account imbalances constitute one type of "news" affecting asset preferences. Accordingly, macroeconomic incentives for protection, to increase domestic aggregate demand as well as to achieve sector-specific goals, are largely unaffected by floating rates.

The actual post-1973 experience has been characterized by the persistence and even extension of sectoral protection in the major industrialized countries, mainly for industries that are losing their competitiveness in relation to counterparts in Japan and especially the newly industrializing countries. Although there has been no apparent trend toward the increased use of protection (or competitive devaluation) as a means of macroeconomic stimulus, an assumed net gain in aggregate employment is customarily used—as in the Bretton Woods era—to bolster the case for proposed sectoral interventions, especially when large industries such as apparel and automobiles are involved. The Cambridge Economic Policy Group has promulgated a macroeconomic case for across-the-board protection of British industry, but with no noticeable effect thus far on the policies of the Thatcher government. Japan is sometimes accused of engaging in policies to prevent appreciation of the yen, especially through restrictions on inward foreign investment. But the main evidence presented in support of this hypothesis is unbalanced bilateral trade with the United States, a condition that also accompanied an allegedly overvalued yen in previous years.

Further aspects of the relationship between protection and exchange-rate movements are considered in subsequent sections.

Implications for Foreign Direct Investment

The "overvalued" dollar of the 1960s was singled out as an important reason, even *the* important reason, for the large volume of U.S. direct investment abroad, particularly in Europe. Through acquisitions of existing na-

tional enterprises and the construction of new plant and equipment, U.S.-based multinationals achieved a major presence in the protected markets of the newly created European Economic Community—investments all the more attractive at prevailing exchange rates. This role of disequilibrium exchange rates in foreign-investment decisions was initially confirmed by events of the 1970s. As the dollar plummeted in relative value through two devaluations and subsequent market depreciation, foreign direct investment in the United States grew with unprecedented rapidity—enough to make the United States the world's leading *host* country (in absolute but not relative terms) by the end of the decade. Yet the strengthening of the dollar since 1978 has not stemmed the flow of new foreign direct investment, and exchange-rate volatility has had no noticeable impact on its volume.

Why have foreign investors been undeterred by exchange-rate turbulence? There are several plausible lines of explanation, not mutually exclusive, that invoke the *relative* advantages of multinational firms over national enterprises. Thus, the finding that foreign direct investment continued to increase after 1973 does not rule out real costs associated with increased exchange-rate uncertainty.

As already noted, one anticipated benefit of floating that has actually materialized is a marked reduction in the use of direct capital controls. This trend facilitates new or expanded investments, while at the same time increasing their attractiveness by improving prospects for the unimpeded repatriation of profits and royalties. Moreover, direct investment decisions are based on long-term plans, for periods during which even a pegged rate might well be expected to change. Over the life of an investment, the effects of volatility on profits largely cancel out, whereas cumulative movements in exchange rates, whether pegged or floating, mainly compensate for differential rates of domestic inflation or productivity growth across countries. A floating-rate system might even stimulate investment by easing such compensating exchange-rate adjustments and thereby reducing the likelihood of new direct controls on capital or trade flows during the investment period.

Foreign direct investment is also influenced by many considerations apart from exchange risk or the lack of it. If, as past studies suggest, protection is an important motive for direct investment, the recent protectionist swing in the United States—both actual and threatened—may have elicited investments intended to protect large expenditures already incurred in the

development of the lucrative U.S. market. Recent Japanese investments in the United States may fall into this category. Furthermore, the accumulation of wealth by OPEC surplus nations has increased demands for assets of all kinds, and the post-1973 "internationalization" of the supply of saving probably favors U.S. assets because of the relative size and stability of the American economy. However, official statistics are uninformative on this point, since many OPEC investments are held anonymously through third-country intermediaries.

Finally, as suggested above and exactly contrary to pre-1973 conventional wisdom, floating may provide an important independent incentive for foreign direct investment. Input-price uncertainty is a recognized motive for vertical integration; a regime of floating rates accordingly provides incentives for vertical multinational integration. Together with centralized management, vertical integration allows a substantial reduction in the variability of profits due to exchange-rate movements between input-source countries and the downstream user.³ This explanation fits the Canadian floating-rate period, which was marked by continued expansion of U.S. direct investments in Canadian extractive industries. Likewise, the reduction of input-price uncertainty may be a second motive (in addition to increased actual and threatened protection) for recent Japanese investments in the United States. Horizontal global expansion may similarly be favored by floating rates. For production operations in which minimum efficient scale is relatively low or scale economies unimportant, global diversification of production facilities allows firms some opportunity to optimize with respect to medium-term movements in real exchange rates as well as enhanced leverage in dealings with national labor unions.⁴

The vertical and horizontal expansions motivated by exchange-rate vari-

³ Centralized management also facilitates optimization of foreign-exchange exposure, reducing the need for forward-market cover. Aliber (1983) has suggested that the lower cost of internal cover provides an advantage to multinational firms over domestic ones.

⁴ Expanded international operations in the 1970s may also reflect efforts to minimize the impact of exchange-rate movements on reported profits. Despite all the good reasons adduced by economic theorists to show that rational managers should be indifferent to the variability of accounting profits, managers persist in their concern about period-to-period fluctuations in reported earnings. F.A.S.B. Statement Number 8, the Financial Accounting Standards Board's first attempt to develop standardized accounting principles for a world of day-to-day movements in exchange rates, resulted in large and probably meaningless fluctuations in reported earnings (Hekman, 1981). The resulting storm of protests produced F.A.S.B. Statement Number 52, which broadens the definition of exposure and calls for an adjustment to net worth rather than to earnings.