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No. 139, October 1980

A LIBERAL INTERNATIONAL ECONOMIC ORDER: THE INTERNATIONAL MONETARY SYSTEM AND ECONOMIC DEVELOPMENT

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INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

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International Finance Section

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Introduction

Since the suspension of the convertibility of the dollar into gold in August 1971 and the subsequent collapse of the Bretton Woods system, the world has gradually moved to what is now described as an international monetary "nonsystem." The Jamaica agreement of January 1976 to amend the Articles of Agreement of the International Monetary Fund legalized the managed floating of exchange rates, which has been widespread since 1973. A fierce and voluminous debate continues on whether the existing nonsystem needs to be reformed by the erection of a new system to replace Bretton Woods and, if so, on what form the new system should take. This debate presupposes some agreement on the necessity of any international economic (including monetary) system or order and on the basic objectives of this system. The debate has gained considerable topical interest with the desire of the less developed countries to seek a new international economic order.

Section 1 of this essay briefly surveys the answers that have been provided to these fundamental questions and argues the case for what has been termed "the liberal international economic order." To do so, some well-trodden ground must be covered, but a number of relatively unfamiliar arguments in favor of such an order are also advanced. In particular, I contend that the arguments in favor of free trade in assets parallel those for goods and services. I also take issue with a common argument advanced against the feasibility of a "spontaneous emergence of free trade" in a world where most countries have some degree of monopoly power (see Kindleberger, 1976a). The arguments for a full-fledged liberal international economic order set the stage for the policy discussions in the next two sections.

Policy debates on the international monetary system have centered around the desirability of alternative arrangements for three dimensions of an international monetary system: the role of exchange-rate adjustments, the nature and role of international reserve assets, and the degree of control of international capital movements. Much of the debate on

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these issues has been based on what Corden (1977, p. 43) has termed "target theory rather than optimising theory." This has meant that, unlike other debates on public policy (e.g. concerning alternative tax structures, price-stabilization schemes, investment criteria, and trade policies), those on the reform of the international monetary system are not usually conducted within the explicit framework of welfare economics. In my view, however, it is both possible and desirable to view the choice of an international monetary system in terms of welfare economics. This is the purpose of section 2.

I take issue with the views of both those who believe in the feasibility and desirability of fixed exchange rates and those who want some rules for a system of managed floating. I argue that fixed exchange rates are not feasible in the real world, where monetary independence is identified with national sovereignty and there is some downward rigidity in money wages and the prices of nontraded goods. The advocacy of managed floating is shown to be based on an implicit model in which governments have perfect (or at least greater) foresight than other market participants. In the real world of irreducible uncertainty, I argue, no such assumption is valid. In consequence, free trade in goods and services (including capital flows) and freely floating exchange rates represent the optimal system for the world as it is.

While many, but by no means a majority of, economists might be willing to concede the optimality of such a regime for advanced (OECD) countries, most would seem to argue for some form of managed flexibility of exchange rates and capital controls for less developed countries (see Díaz-Alejandro, 1975; Cline, 1976; Joshi, 1979; Black, 1976). The merits of these arguments are examined in section 3, which also briefly discusses the pros and cons of the demands of developing countries for a link between foreign aid and the creation of international fiduciary money in the form of Special Drawing Rights. I argue that, except for a few of the least developed countries, a currently heretical case can be made for the application of the arguments of the earlier sections of the essay to most of these countries. It would be in their interests to endorse the monetary arrangements of a liberal international economic order—free floating and no capital controls.

1 The Case for a Liberal International Economic Order

The purpose of public policy is to raise levels of economic welfare, usually identified by economists, though not by politicians and diplomats,

with the level of individual consumption broadly defined. It is a fact of life that the individuals concerned are organized into nation-states. The question then arises: What should be the economic objectives of a rational nation-state which subscribes to the relatively mild liberal individualistic premises that, *ceteris paribus*, it is better for individuals to be in their own chosen position and that the source of economic welfare (which is of course only a part of total welfare) is consumption by its current and future citizens?

Economic Objectives of "Rational" Nation-States

It is necessary first to define the set of individuals to be counted as members of the nation—those whose economic welfare is the nation's concern. The individuals defining the nation have common rights and duties concerning the provision of various public goods, as well as the attainment of any commonly shared *national* redistributive goals realizable through either voluntary or coercive transfers between citizens of the nation. Furthermore, the rights of noncitizens to join and of citizens to leave the nation (immigration and emigration policies) are under national control and need to be specified, irrespective of whether national rule making concerning these rights is democratic, dictatorial, or oligarchic.

But apart from thus defining the set of individuals whose economic welfare is its concern, should the nation-state care at all about the actual ownership of claims to physical and other assets within its borders, or about the particular composition of output or assets? To set aside for the moment second-best domestic distributional considerations, assume that each nation can enforce its desired domestic income distribution. Then suppose that the citizens of two nations engage in mutually agreeable trades until each group ends up "owning" all of the other's physical assets in economies assumed to be stationary (to avoid complications arising from differential rates of return on savings, which I take up below). Should this be a matter of concern to either national authority?

In these static economies, there would seem to be no reason why it should be (ignoring political problems concerning, for instance, the risks of expropriation, which are discussed below). The respective consumption and income flows will, of course, still depend upon the initial resource endowments of the two countries' citizens, their rates of time preference, and the respective productivities, but the location of the income-generating assets will not in itself be a source of additional benefit. The foreign ownership of a country's assets, moreover, does not diminish the country's capital stock or remove it from the country. It means

only that, as a result of national and foreign portfolio preferences, the portfolio of assets has been altered (and in the process of adjustment the relative prices of different assets may have changed). At any point in time, most of a country's capital stock is physically fixed and cannot be shipped out (except in economists' models with perfectly malleable capital goods). The only question is: Who has the rights to the income stream that is generated by the stock? If nationals are willing without coercion to exchange their rights from local assets for those from foreign assets, both sides to the bargain have presumably gained. Hence, from an *economic* viewpoint, the fear of foreigners' buying up local assets would not be rational.

This argument remains unchanged even when the assumptions of a static economy are relaxed. Allow additions to the local capital stock through *flows* of savings (local or foreign). If there are no disparities between private and social rates of return to investment in either nation, there is again little *economic* reason to be concerned with the location of investments made by citizens with current savings. (The case of disparities between private and social returns to investment, domestic and foreign, is considered in section 3. There may also be noneconomic reasons concerning ownership and control that may lead to national concern over foreign ownership, on which more below.)

What would be the optimal international economic order from the viewpoint of such rational nation-states? Would this optimal order emerge spontaneously from the self-interested actions of such nation-states, or would it need to be enforced?

Alternative World Environments

Assume a world of nation-states each of which follows the economically rational objective of being concerned with the consumption levels of its citizens. Further assume for the moment that each state can correct any *domestic* disparities between private and social values and can legislate the optimal domestic income distribution through nondistortionary lump-sum taxes and subsidies. Following Grandmont and McFadden (1973), we can categorize four world environments that are conceivable in principle.

The first consists of centrally planned nations in which a central committee of Platonic Guardians acts as if the nation consisted of a single consumer. The rest of the environments consist of nations with multiple consumers and relatively decentralized national markets, but they differ in the size of the nations. In the second, the nations are "infinitesimal" in international markets in that they cannot influence world prices or dis-

turb world trade equilibrium. In the third, they are "small" in that they treat world prices as parameters but influence the determination of world trade equilibrium. In the fourth, they are "large" in that they treat world prices as variables.

In the first world environment, it has been shown that free trade is to the advantage of each nation. The mutual gains from trade for a world of initially autarkic centrally planned nations follows from the fact that "the refuge of [any degree of] autarky remains available when trade is possible" (Grandmont and McFadden, 1973). Starting from any allocation under autarky, the Platonic Guardians can choose from an enlarged feasible set of allocations under free trade, either the original allocation or one that is at least as good for every consumer. Given such a Pareto-optimal allocation under free trade, any alternative allocation that is feasible under autarky can improve the lot of some consumers in the nation only by worsening that of others. The same arguments apply when we consider the whole spectrum of choices while moving from autarky to restricted trade to free trade. Grandmont and McFadden emphasize that this proposition "does *not* require that nations be either 'infinitesimal' or 'small' in international markets, that nonincreasing returns to scale prevail, that all commodities be tradeable, or that factors be immobile."

For the second and third world environments, namely for "small" and "infinitesimal" multi-consumer trading nations, in which consumers are (locally) nonsatiated and externalities are absent, it can be shown that any alternative allocation feasible under varying degrees of autarky will not be Pareto-optimal, as compared with an equilibrium allocation under competitive trade. For any allocation achieved under autarky, a system of *domestic* lump-sum transfers can be found for which a competitive equilibrium exists and will be at least as satisfactory as autarky for every consumer. This conclusion does not require that traders be "small," that nonincreasing returns to scale prevail, or that factors be immobile.

These conclusions for centrally planned nations and "small" and "infinitesimal" multi-consumer trading nations are not restricted to trade in commodities. As Kareken and Wallace (1977) have shown, similar conclusions apply when asset or portfolio autarky is compared with free trade in assets (where autarky means that "the residents of every country are prohibited from owning real assets, by assumption physically immobile, that are located in other countries"). They show that portfolio autarky is not in general Pareto-optimal, while free trade is optimal.

Mutatis mutandis, the free-trade regime will also be superior to various restricted-trade regimes.

Let us now successively relax some of the assumptions underlying these demonstrations of the mutually beneficial effects of free trade in commodities and assets. First, these results are based on models that abstract from uncertainty or else sidestep it by postulating complete Arrow-Debreu-type futures markets. Many authors have argued that in a world of uncertainty about preferences, the terms of trade, or technology, many of the standard theorems of trade and welfare theory do not hold in the standard trade-theoretic model, which abstracts from trade in international securities and hence in international risk-sharing arrangements. (See Helpman and Razin, 1978, for a review of these studies.)

However, Helpman and Razin have shown that the standard theorems are resurrected once international trade in securities is allowed. The basic reason is that the lack of (or restrictions on) international trade in real equities under conditions of uncertainty turns each of the trading countries into a virtual "closed" economy. The stochastic element for every good (including traded goods) for which there is only a domestic market makes every good in effect nontraded or partially traded. Hence, each country's production decisions are tied to its consumption decisions, as in a closed economy. The introduction of trade in securities, opening up extra international "insurance" markets, is required to "open" the economy completely (as purely "goods" trade does in the standard model without uncertainty). This enables the familiar gains from trade to appear. It becomes possible to separate the country's production and consumption decisions at commodity and asset price ratios that differ from those under autarky, so that there are gains from enlarging its potential consumption-possibility set beyond the domestic production-possibilities set.

Keeping within the confines of our first three world environments, let us next relax the assumptions concerning the optimal correction of any domestic divergences between private and social values. As it will not usually be feasible to use neutral fiscal devices, such as lump-sum taxes and subsidies, only a second-best welfare optimum will be attainable in each trading nation. There will then be a hierarchy of policies for dealing with particular domestic disparities, as well as with domestic income distribution. In this hierarchy, many *domestic* policies will dominate those restricting foreign trade in goods and assets. (See Corden, 1974, for an excellent summary of this modern theory of trade and welfare.) Furthermore, as Neary (1978, p. 508) has shown, once the realistic assumption is made that capital is sector specific in the short run, then a

"number of paradoxes which have attracted much attention in recent writings, such as a perverse price-output response, and a perverse distortion-output response, will 'almost never' be observed" when a small open economy is opened up to trade. Though free trade will not necessarily be optimal in *all* second-best situations, the combination of some domestic intervention and free trade will dominate a policy of restricted trade in many situations where the feasible set of domestic policy instruments is not so limited as to rule out their deployment in dealing with domestic distortions.

This still leaves one unrealistic assumption, that the domestic distributional effects of alternative trade policies can be dealt with neutrally through lump-sum domestic taxes and transfers. In practice, lump-sum redistribution will generally not be feasible. Once again, however, there will be various second-best *domestic* redistributive mechanisms which, if feasible, will be preferable to protection in tackling the distributional effects that may flow from increased foreign trade. It should also be noted that the distributional effects of any economic change, even if domestic in origin, would also require domestic compensatory policies in line with each country's distributional preferences.

Finally, we have the fourth world environment to consider, with "large" multiple-consumer nations for which world prices are variables. In this world, there is a case for levying an optimal tariff, which equates the marginal costs and revenues of a country's imports and exports. For a country that can affect its terms of trade because of its monopoly/monopsony power in trade in commodities, mobile factors, or assets, such a tariff would be optimal from a national standpoint if other countries were either price takers or else did not retaliate against the tariff-imposing country. Although world welfare would be lower, the country imposing the tariff would gain. Furthermore, Johnson (1953-54) has shown that even if more than one country can affect its terms of trade and all the others retaliate, it is still possible for one of the countries to be better off in the tariff-ridden situation than with free trade.

It may be argued that in the real world many countries have at least *some* influence over their terms of trade. It may therefore be tempting for the smaller nations to levy optimum tariffs on their foreign trade. As their tariffs would have an almost imperceptible effect on the world economy, the dangers of retaliation against them would be minimal and there would be little incentive for rational countries to move unilaterally to free trade. In order to maximize world gains, it would be necessary to enforce free trade through universal agreements to eschew protective devices (see Scitovsky, 1942, and Kindleberger, 1976a). In the absence

of any international externalities in consumption, however, rational nations are unlikely to be moved by notions of cosmopolitan gains. They are more likely to prefer *national* gains to any given total of cosmopolitan gains. Why, then, should any such agreement to eschew the use of optimal tariffs be stable?

The Terms-of-Trade Argument for Protection and the Legislation of a Liberal International Economic Order

To answer this question, an application of N-person cooperative game theory is particularly useful. It allows us to look at the traditional two-country–two-commodity optimal-tariff model incorporating retaliation as a two-person non-zero-sum *non*cooperative game (like the Prisoner's Dilemma). If the world economy consisted of two noncooperating trading blocs, the final configuration would be unpredictable and the free-trade equilibrium would have to be enforced. This implicit model underlies much thinking on an international economic order, as is brought out by the following quotation from Kindleberger (1976a, p. 16):

> In the international economy it has long been recognized that the world of the benign invisible hand does not obtain. Unlike the households and firms of the national economy, countries in the international economy and especially in the international polity have power. A country can improve its terms of trade, that is get imports cheaper, by imposing a tariff on goods bought abroad. The fallacy of composition argues that if each country tries to gain at the expense of others, all lose, so that it is useful to simulate the world of the invisible hand by commitments to the rule of free trade and the gold standard.

But since the world economy is *not* (at least as yet) composed of two mutually opposed trading blocs, are the same conclusions valid for a multi-country trading world in which all traders can within limits choose the quantities they want to buy and sell at mutually agreed prices (and hence are implicitly "price makers" in one sense)?

The relevant model is that of N-person cooperative game theory. Within this framework, it can be demonstrated that, following from a famous theorem of Edgeworth's recently revived in the mathematical theory of the "core" of an economy, when there are many trading nations with some "monopoly" power and those nations have the preferences of *homo oeconimicus*, the only stable equilibrium point in the process of higgling and haggling among these "rational" nations will be where they all act as if they were price takers, namely the free-trade, competitive equilibrium.[1] As Arrow and Hahn (1971, p. 186) point out:

[1] This proof holds (see Malinvaud, 1972) under the usual convexity assumptions, in the presence of all markets (absence of externalities), when the costs of bargaining

> Contrary to the view sometimes expressed that competitive equilibrium has an inherent instability in that it would pay, for example, the owners of some one commodity to form a cartel and exploit their monopoly power [the] theorems on the relation between competitive equilibria and the core suggest that any such attempt would be broken up by the formation of coalitions involving some buyers and some sellers of that commodity. The sellers ultimately can depend for sure only on what they can achieve by trade among themselves, and of course, this may be very little indeed.

This line of argument might appear to be a cruel joke to those suffering from the oil prices legislated by the OPEC cartel since 1973. But the theorist, as always, has a way out! The argument depends upon symmetries in expected behavior. As Arrow and Hahn state:

> If a coalition with monopoly power somehow makes it credible to all others that its demands will not be compromised no matter how much it suffers and that none of its members can be drawn off into side bargains, then it may indeed get its way. The difficulty with this type of argument is its asymmetry. If one coalition can threaten in this way, so can the coalition composed of all others. The asymmetry in expected behavior needed for the efficacy of threat strategies is plausible only when based either on *differential bargaining costs* (so that the counter-coalition cannot really form) or on *extra-economic motives* of loyalty to and identification with some group, such as nation, class, or race (p. 187, emphasis added).

Clearly, the success of the OPEC cartel can be sufficiently explained within this framework by the two italicized conditions. It proved impossible to organize a countervailing consumer coalition, despite U.S. efforts, partly because oil-importing developing countries were sympathetic to OPEC and wanted to follow OPEC's lead by organizing similar cartels for other commodities. Among the producers, Saudi Arabia's adherence to the OPEC cartel was to an important extent motivated by its desire to use the "oil weapon" as a lever to obtain perceived Arab rights.

This argument suggests that *if* nations were moved purely by economic self-interest, *if* there were enough of them, and *if* any particular resource (commodity or factor) were not *wholly* owned by a single nation, then the economic power of any individual nation would be so weakened that it might as well behave like a price taker.[2] Free trade would seemingly

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(and coalition formation) among nations are low or at least uniform, and when expectations of behavior are symmetrical. It is not my purpose to argue for the realism of these assumptions but merely to show that within the conventional framework (which also makes use of these assumptions), there is no presumption, as is often asserted, that free trade will need to be enforced.

[2] To the best of my knowledge, Graham (1948, pp. 10-12) was the only international trade theorist aware of this deficiency (based on game-theoretic considerations) in the classical terms-of-trade argument.

emerge spontaneously as the result of the self-interested actions of rational nations, except when there were nonconvexities or market failures of one kind or another in the world economy as a whole. Thus Kindleberger and others are wrong to assert that a plurality of self-interested nations with some "monopoly" power in trade would *for that reason alone* find a conflict of interest between subscribing to free trade in the world interest and levying the optimum tariff in the narrow national interest. In a multi-country framework, and under the usual assumptions of trade theory, some monopoly power in trade would not prevent the spontaneous emergence of a free-trade equilibrium.

This does not mean that free trade (or a liberal international economic order) would not have to be enforced in the real world. My contention is merely that the reason most often cited in support of the argument seems invalid. A departure from one or another of the simplifying assumptions made above is required to prevent free trade from emerging spontaneously. It could be argued, for instance, that economic self-interest is not the primary motive for a nation's actions, despite the economists' assertion that it *should* be so. But Graham (1948, pp. 19-20) had an answer to this objection:

> The description of how men act or the explanation of why they act as they do, in what we are pleased to call the economic phase of their lives, is not economics. On the contrary, how men act in "economic" affairs, and why they act as they do, is often *contrasted* with "truly" economic action. We then say that certain of their actions or motives are uneconomic even though they are concerned with what is generally conceded to be the subject matter of economics. We could, however, not make this assertion without some independent criterion of the economic. This criterion it is one of the functions of economic theory to supply. . . . The departure of the actual from the postulated conditions does not, of course, make the theory any less valid for the situation with which it purports to deal. If the trend of facts is regarded as foreordained, or otherwise unalterable, the center of interest is, of course, bound to shift from a theory that has little relevance to reality to a theory which can more readily be applied to the existing or prospective situation. A fatalistic view of events, however, makes all attempts at amelioration vain. . . . We could not then, indeed, have *any* ends, in the sense of choice between alternatives. Unless free will can play some role in human affairs all aspiration is fruitless. . . . There would, in such a world, be no place for economics, as a superior method of realization of chosen ends, since both the ends and the process of their realization would be prescribed. If, then, the classical theory postulates ideal conditions from which we have been retreating, we are logically bound, in spurning fatalism as fatal to economics as to any other striving, to condemn not the theory but the retreat from the conditions it postulates. . . . If all the world should become less honest than of yore the theory that honesty is the best policy, however un-

heeded, might well, as a social precept, seem more valid than ever before. The fact that prevailing practice repudiated the theory would not, of itself, make the theory bad.

If the "irrationality" is based on ignorance of the true dimensions of a nation's self-interest, it should be possible to convince nations to act rationally by resort to arguments and evidence. Only if the irrationality is in some sense pathological should it be necessary to impose international institutional restraints on national conduct. In practice, this is unlikely to be an important enough reason to require the enforcement of the liberal economic order.

The reasons for resistance to voluntary adherence must be sought in the various other assumptions made above about the actions of otherwise rational nations.

The most important of these, as I have emphasized, concern the optimal or, failing that, the second-best cures for various domestic distortions, as well as the legislation of the optimal or second-best domestic income distribution through the use of *domestic* policy instruments. When it is not feasible to use such domestic policy instruments (e.g. because of very high information and transactions costs associated with their use relative to the costs of restrictions on foreign trade), or when nations fail to perceive the superiority of the feasible set of domestic policy instruments over the use of protection, even the most rational nations may not adhere spontaneously to free trade.

More important, however, the deployment of some of these superior domestic instruments may be hindered by domestic political factors, such as the relative strength of domestic sectional interests which stand to gain from trade restrictions. Particularly in these circumstances, some external enforcement of free trade can help to offset "extra-economic" considerations by stiffening the resolve of the government to resist sectional pressures that go against the national and cosmopolitan interest. External constraints on resorting to protection might also encourage countries to search for superior *domestic* policies to correct various domestic divergences in either an optimal or second-best manner. Thus, some form of external enforcement of the liberal international economic order may be required in the real world. Enforcement may be particularly important for developing countries, where voluntary adherence may be prevented by the perceived weakness of domestic fiscal systems as well as by "rent-seeking" oligarchic power structures.

Furthermore, free trade in assets may be resisted because most developing countries (and some developed ones) appear to be concerned

about certain noneconomic aspects of foreign ownership and control. Their chief fear seems to be that foreign investors may attempt to subvert the host country's polity or culture, particularly if their investments are large relative to the size of the economy. Given the inequality of states, the leaders of weaker countries are particularly afraid that foreign investors will be used by their parent governments as a foreign-policy tool to cause economic destabilization of the host country and thus to drive a wedge between its rulers and the ruled. An evaluation of these political fears is beyond the scope of this essay (but see Lal, 1975, Part V, for a fuller discussion). Nevertheless, the importance of these noneconomic fears helps to explain the reluctance of developing countries to subscribe wholeheartedly to the financial and monetary aspects of a liberal international economic order.

The other side of the same coin, of course, is the fear on the part of foreign investors that their investments will be expropriated for political reasons. Since foreign investment flows in the past were mainly from developed to developing countries, this was a factor inhibiting the free flow of capital *from* developed countries. More recently, with the emergence of large OPEC trade surpluses, many oil-producing developing countries also fear expropriation—a fear that has probably been accentuated by the Carter administration's ill-advised freezing of Iranian assets in the United States in pursuit of political ends.

Thus, in the absence of any effective international means to outlaw the expropriation of foreign assets, it would be imprudent for governments or their nationals to ignore the political risks attached to foreign as opposed (most often) to domestic investments. This does not mean, however, that restrictions on foreign trade in assets are necessary in the national interest. The risks of expropriation will obviously reduce the expected rate of return on foreign investments and thus reduce their magnitude, and it would therefore be wrong from the viewpoint of national economic welfare to impose additional restrictions on such investments, unless the social returns were deemed to be even lower than the risk-adjusted private returns.

Lacking a world government, and hence an apparatus for enforcing rules that nations may fail to internalize for various irrational reasons, some have suggested that a rational hegemonic power should force the other nations to be free. One advocate goes so far as to say:

> Americans tend to be overly impressed by the merits of constitution writing, just as the British are caught up in admiration when contemplating the evolutionary growth of law. But both require the content of social cohesion,

> and when that is lacking, order cannot be produced spontaneously; it must be imposed. Benevolent despotism is the best form of government because it permits us all not to pay the price of eternal vigilance (Kindleberger, 1976a, p. 38).

One might add to the last sentence the phrase, "particularly against the irrational impulses in us all"! Historical evidence can be cited in support of the view that the liberal international economic order was never as secure as when it was "enforced" under Pax Britannica in the nineteenth century and Pax Americana after the Second World War (see Lal, 1978, and Calleo, ed., 1976). But Kindleberger rightly notes that this is not necessarily an optimal system, since the "difficulty with any benevolent despotism is to keep it benevolent, or viewed as such" (p. 38). A securer foundation, in my view, would lie in propagating rationality and thereby internalizing the adherence to the liberal international economic order among the nations of the world. Hence this essay.

While there is to some extent an emerging professional consensus on the optimal rules of the game for trade in goods (and some services), namely free trade, there is no similar agreement on the optimal rules and arrangements for the system of international finance and payments. This is the matter to which I turn next. It should first be said, however, that there are other aspects of international economic relations that may call for international cooperation. Cooperation is needed to provide various international public goods, such as the maintenance of the bare minimum of law and order in the international lanes of commerce, for instance by outlawing piracy (see Kindleberger, 1978). The optimal provision of international public goods is ignored in the rest of this essay, except for one good whose provision should be a prime function of any international monetary system, namely an international money, which serves at least as an international medium of exchange, although probably no longer as a store of value!

2 What International Monetary System is Optimal?

Much of the previous argument in favor of a liberal international economic order has been implicitly conducted for economies where money is not essential (as is much of the pure theory of international trade). In the real world, exchanges of commodities and of assets are mediated through various monetary instruments. A country's exchange rate is in an important sense the relative price of different national monies, as monetarists emphisize. Most of the analytical issues connected with an optimal international monetary regime can be sorted out in terms of the

determinants of national exchange rates and of the optimal exchange-rate regime.

To sort out those issues, I consider a multi-country world in which each country produces three "goods," its national money, a traded good, and a nontraded good. The exchange rate is the price of foreign money in terms of national money and is determined within a simultaneous-equation system in which there will be both stock and flow equilibria in the monetary (asset) and real (goods) markets.

Now consider the "optimal" exchange-rate regime and the associated policy toward international reserves in two simple models. The first is one in which all changes are perfectly foreseen in each economy: there are *no unforseen* exogenous shocks. The second is one in which many changes are unforeseen and *unforeseeable*; there is a very important element of irreducible uncertainty. In both cases I assume free trade in commodities (which we know is optimal).

A Changing World with Perfect Foresight

Consider a changing world in which all changes in tastes, technologies, and resources are perfectly foreseen by all participants (or else there are universal futures markets in contingent commodities). Free trade in commodities and assets will be optimal from the viewpoint of national and world welfare (assuming, as before, that domestic distortions and the distribution of income are handled by using appropriate domestic policy instruments). Given the changing tastes, technologies, and rates of time preference (which need not be the same in all countries), there will be an equilibrium set of relative prices for commodities, factors, and claims, in each country and each time period.

Exchange-Rate Regimes. If there is perfect price flexibility in commodity, factor, and asset markets, then these real equilibria will be instantaneously established in each time period. Changes in the exchange rate and in monetary policy (which in our simplified model entail changes in the relative supplies of national monies) will not affect any real variable in the world economy. They will merely affect the price level.

Consider a devaluation starting from a position of equilibrium.[3] With everything else unchanged, the devaluation will raise the domestic prices of traded goods immediately, as well as raising the overall domestic price level. This will have the following effects:

[3] This is the pure monetarist model. As Corden (1977) has emphasized, its real-world relevance seems limited, for it is unclear what purpose such a devaluation would serve. For the monetary approach to the balance of payments, see the essays collected in Frenkel and Johnson (1976).

First, with the increase in the relative price of traded to nontraded goods, there will be excess demand for the nontraded goods (associated with an incipient balance-of-trade surplus). In our world of perfectly flexible wages and prices, this will cause an instantaneous increase in the prices of nontraded goods to restore the original equilibrium price ratio—and will also put further upward pressure on the general price level in the home country.

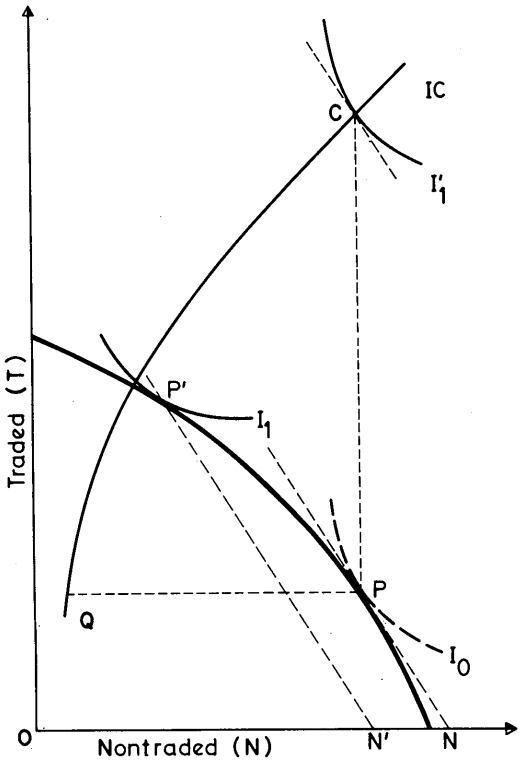
Second, the increase in the general price level will reduce real money balances. As compared with the initial equilibrium situation, this will cause an excess demand for money and hence an excess supply of goods. As capital is assumed to be perfectly mobile, there will be a surplus on trade account matched by an equivalent deficit on capital account; foreign money will be added to domestic cash balances to restore their real value to the original level. At this point, the domestic economy will return to equilibrium, with a lower exchange rate, a higher price level, and a larger component of foreign money in the domestic money base, but with all real equilibria the same. Furthermore, if the home country is "small" in that it faces a given interest rate in world capital markets, there will be no change in any intertemporal variable; with an unchanged interest rate, investment levels will be unaffected.

In this pure monetarist model, a devaluation is thus equivalent to a policy of domestic monetary contraction. If I had told the story in terms of a reduction in the domestic money supply instead of a devaluation, it would have been the same except that there would have been no effect on the domestic price level.

Even in this simple world, however, the effect of exchange-rate change depends crucially on whether or not wages and prices are flexible. Thus it is obvious that changing real conditions will alter through time the equilibrium relative price of traded to nontraded goods. If there is perfect wage and price flexibility, that equilibrium price will be achieved continuously even under a system of rigidly fixed exchange rates (and assuming an unchanged price in foreign currency of traded goods); it will be accomplished through changes in the domestic money costs of factors of production, which ensure continuous full-employment equilibrium in a "flex-price" economy. If, however, there is any stickiness in the prices of nontraded goods or in money (but *not* real) wages, then even in this world of perfect foresight, flexible exchange rates will be superior from a welfare viewpoint than a system of rigid exchange rates (as, for instance, under a gold-standard system).

This is illustrated by the familiar Salter (1959) diagram in the accompanying figure. Suppose the economy is in internal and external bal-

ance at P. Then there is a shift in tastes toward the traded good. The equilibrium is at point P', where the relative price of the traded good is higher than at P. With fixed exchange rates and an unchanged price of traded commodities in terms of foreign currency, the price of traded goods is fixed in domestic currency. Hence the only way to bring about the requisite increase in the relative price of traded goods is to reduce the domestic price of the nontraded good. If this price is sticky or rigid downward, equilibrium at P' will be unattainable. Where will the economy end up in this case?



I_0 - indifference curves for old tastes.
I_1 - indifference curves for new tastes.
IC - income consumption curve for new tastes and NP relative price.

Suppose the government tries to prevent unemployment from emerging. This will require it to generate enough domestic demand to sustain the full-employment domestic outputs of the two goods at the initial and rigid relative price given by the slope of *NP*. The consumption point will then be at *C*, with an excess demand for traded goods (and hence a current-account deficit) of *PC*. Clearly, this is unsustainable over the long run, as absorption greatly exceeds domestic output. To restore external equilibrium, there will have to be a reduction of expenditure until the point *Q* is reached. At that point, there will be excess supply (and hence unemployment) in the nontraded goods industry, shown by the distance *PQ*. The economy will be at the lower welfare level given by the consumption *cum* production point *Q*, as compared with the welfare optimum at *P'*.

The latter could be attained, however, if the exchange rate were flexible. Given the rigid price of the nontraded good, the relative price of traded to nontraded goods required to reach *P'* can be attained by a devaluation large enough to raise the price of the traded good to the requisite extent. To get to *P'*, of course, the government will also have to reduce domestic expenditure from *ON* to *ON'* in terms of nontraded goods.

This exchange-rate flexibility, moreover, could be of the adjustable-peg type. Under the assumption of perfect foresight, the equilibrium exchange rate would always be known to the authorities. This is a simplified version of the implicit model that justified the Bretton Woods exchange-rate regime, as compared with a rigidly fixed exchange-rate regime of the pure gold-standard type.

With a perfectly flexible exchange rate, the authorities would not need to intervene. Equilibrium exchange rates, *ex hypothesi*, would be perfectly foreseen by speculators. When there is some price rigidity, however, and individual market participants lack the perfect foresight of the Platonic Guardians about the course of the equilibrium exchange rate, then the government should intervene in the interests of real income gains to producers and consumers in all countries. It should smooth out deviations from the equilibrium trend, which is known to the government but not to private speculators. This, in fact, is a simplified version of the implicit model underlying much of the literature on rules for managed floating (see Williamson, 1977, and Ethier and Bloomfield, 1975) as well as the explicit model underlying the literature on price stabilization (see Turnovsky, 1978).

International Liquidity. In a world economy with a perfectly foreseeable flexible-exchange-rate regime, would any international money be

needed? It is useful to distinguish between the speculative, precautionary, and transactions demands for international money in answering this question.

There would not be any purely speculative demand based on differences among market participants in their expectations about exchange-rate changes. All exchange-rate changes would reflect real equilibria and would be foreseen perfectly by all market participants. Nor would there be any need for precautionary reserves to tide over temporary adjustment problems. All temporary balance-of-payments adjustment problems would be accommodated by perfectly stabilizing capital flows.

Nevertheless, traders (both public and private) would have transactions demands for foreign monies, and there would clearly be some potential resource gains from pooling the stocks of foreign currencies that traders in each country would otherwise hold for transactions purposes. As Chrystal (1978) emphasizes, the source of these economies lies in the likelihood that the transactions elasticity of demand for any foreign currency will be less than unity and that the variance of net transactions in any particular currency will be smaller for the aggregate of traders than the sum of the individual variances. It does not follow, however, that an international central bank need be created to enforce such pooling. Any intermediary capable of managing the traders' pooled balances would make profits from the potential resource savings. Thus, in the absence of national restrictions on private intermediation, competitive financial centers (i.e. banks) may be expected to emerge to provide the required services.

Drawing an analogy with an argument used to justify foreign-exchange control for a national economy, it might be argued that further gains could be made by substituting an international paper money for the pooled national monies held by various international banks. Instead of having a number of individual banks in any national monetary area competing for traders' deposits of foreign monies, the central bank might enforce a further pooling of the country's external balances through foreign-exchange controls. There could then be a further gain to the country "from the fact that the holding of external money involves an opportunity cost to the economy as a whole, whereas the holding of domestic fiat money does not (assuming an issue of domestic money in excess of reserves)" (Chrystal, 1978, p. 11). But it should be remembered that the administrative costs of enforcing foreign-exchange controls, as well as the loss of convenience to traders, could in many cases outweigh these benefits from exchange control. Furthermore, this "social savings" argument does not apply to the substitution of an international paper money for holdings

of national monies. From the viewpoint of the world as a whole, the various national monies are not external to the world economy, which is a closed economy for this purpose. Thus, there are no resource gains to be had by pooling national monies at an international level, for there are no *net* flows of any national currency outside the world economy that would permit savings in transactions balances. As Mundell (1971, pp. 179ff.) emphasizes: "Whilst any individual country can gain by substituting fiat money for 'gold' or 'international reserves' in its domestic money supply, the world as a whole will not benefit beyond the gains accruing from the more efficient exploitation of the advantages of money."

A Changing World with Irreducible Uncertainty

We now enter the real world, where there is no perfect foresight and where transactions costs prevent the emergence of markets for contingent commodities. The underlying world economic system is assumed to be stable (in the formal sense), but there are a series of unpredictable exogenous shocks, monetary and real, including unknowable shifts in tastes, technologies, and resources. To counteract some of these shocks, moreover, governments will be intervening to maintain the fullest utilization of resources compatible with the desired level of price stability. Even though the underlying system may be stable in the face of exogenous shocks, the time it takes the economy to adjust to them could in some cases be speeded up by monetary and fiscal policies. (Governments will also intervene, *ex hypothesi*, to correct domestic distortions and to legislate the desired income distribution in the appropriate second-best manner.)

Assume again free trade in commodities, assets, and mobile factors of production, so that there will be an "equilibrium" relative price of traded to nontraded goods, as well as a portfolio equilibrium in asset markets. But these equilibria will change over time and *they cannot be predicted with certainty by either the Platonic Guardians or market participants*. Williamson (1977, p. 198) argues:

> . . . there is no particular reason for expecting market operators to be more skilled in [the] task [of predicting the equilibrium rate] than national authorities, while there is a compelling reason for expecting authorities to have an advantage: namely that the equilibrium rate depends *inter alia* on the future policies to be pursued by the authorities themselves.

This is a complete nonsequitur. Just because a particular variable—in this case, monetary policy—is supposedly under government control, we cannot conclude that the government *knows* how it is going to use this instrument in the future. The U.K. Chancellor of the Exchequer would be

amused to learn that he knew better than market participants how he would alter monetary policy in the future as a result of a constellation of future events, including varying degrees of trade-union militancy!

With any current change in an economic variable, *all* economic participants, including the government, have to make *guesses* about the economy's evolution in the irreducibly uncertain future. The final outcome will be based on the necessarily subjective evaluation of available information, which I assume (not too implausibly) to be the same for all market participants. If the government has better information, it should obviously disseminate it to the market. There is *no* objective way in which the resulting gambles made by anyone (whether a central banker or a currency speculator) can be said *ex ante* to be "better" than someone else's. When the number of "gamblers" (speculators) is large and there is not an infinite supply of "suckers" who enter the market each day to be fleeced by the professionals, the speculators whose guesses turn out *ex post* to be "better" will usually make profits at the expense of the rest. There is thus a presumption that speculation will be stabilizing even though, in principle, the possibility of destabilizing private speculation cannot be ruled out. In other words, speculation can be expected to dampen the deviations from the emerging and only slowly recognizable equilibria.

To sum up, there is little reason to believe that the government can foretell the future better than anyone else, and hence little basis for any action on its part to achieve convergence to an *unknowable* equilibrium (or prevent deviations from it). It can of course speculate, just like any other market participant. But only if its guesses turn out to be better than those of market participants (and there is no particular reason for them to be better) will the government be able to stabilize the relevant variable "faster" than the market. The sign of its success is the profitability of its speculation!

Relative Merits of Alternative Exchange-Rate Regimes. We next examine the relative advantages of alternative exchange-rate regimes in this uncertain environment. Broadly speaking, three exchange-rate regimes can be contrasted: a completely fixed-rate system, as under the gold standard; a fully floating-rate system; and different forms of managed flexibility, including the adjustable-peg system, various crawling-peg regimes, and the current "dirty floating" regimes. Those in the third group differ in kind from the first two regimes because they entail *discretionary* changes in the exchange rate. Under both completely fixed rates and fully floating rates, the balance-of-payments adjustment mechanism is automatic. Under all the managed systems, specific govern-

ment decisions about the exchange rate are required to trigger the adjustment mechanism.

When considering the relative merits of these alternative exchange-rate systems, it should be remembered that "real" exchange rates will be changing over time with changes in "real" variables, which argues in favor of an adjustment mechanism that imparts flexibility to relative prices, either through domestic wage-price flexibility or through exchange-rate changes.[4] By implication, a flexible exchange rate has great appeal because it enables the economy to adjust speedily to emerging disequilibria. Furthermore, the recent move to managed floating would seem to make the consideration of fully flexible exchange rates, for all independent monetary areas, of more than academic interest.

Instability of floating exchange rates. Many commentators on the present exchange-rate regime (e.g., Williamson, 1977) feel that some public intervention is still needed to combat the instability of floating rates. Others (Kindleberger, 1976b, McKinnon, 1976) want to revert to a completely fixed-rate system.

Two possible sources of exchange-rate instability may be noted. First, the underlying markets for traded goods may be unstable, in the sense that the price elasticities determining flows of traded goods may be low and the Marshall-Lerner stability condition may not be met. This fear underlay various models of foreign-exchange bottlenecks that were built for developing countries in the early 1960s. Export pessimism engendered by the interwar collapse of international trade and the ensuing depression of commodity prices led to the belief that the elasticities of demand were low for most primary products exported by developing countries. It was therefore assumed that these countries faced fixed export earnings and thus a fixed import capacity that could not be altered by exchange-rate changes. Import substitution, working back to more and more elemental stages of production, was seen to be the only solution (see Lal, 1972, for a critique of these models). The growth of exports by these countries, particularly in the 1960s and 1970s, has belied this elasticity pessimism (see World Bank, 1977, and Cline *et al.*, 1978). The empirical assumptions underlying the bottleneck view and, *mutatis mutandis*, concerns about the instability of flexible exchange rates are not supported by the evidence.

[4] I do not deal in this essay with the assertions of the so-called "New Cambridge" school, who argue from an assumption of *real* wage rigidity that exchange-rate changes are ineffective, so that protection may be desirable to achieve external and internal balance. The illogicality of their position is shown in Corden, Little, and Scott (1975) and Lal (1979).

The second source of instability comes from the possibility of destabilizing speculative capital flows. To assess this possibility, a system of flexible exchange rates must be contrasted with a system of genuinely fixed exchange rates (as under a pure gold standard), and both must be contrasted with the adjustable-peg system established at Bretton Woods.

It is conceivable in principle that destabilizing speculation might occur in a free foreign-exchange market. As many economists have emphasized (e.g. Friedman, 1962, and Meade, 1951), however, such destabilizing speculation cannot continue for any length of time unless the body of speculators is continually fed by a stream of amateurs who lose their money. If there is a relatively large and stable body of speculators, destabilizing speculation would mean that they were buying when prices were relatively high (with reference to the notional equilibrium rate) and selling when prices were low. Hence, they would be taking losses as a group. It is not surprising, therefore, that it has been impossible to document obvious periods of destabilizing speculation in either foreign-exchange or commodity markets (see Willett, 1977).

This does not mean that a flexible exchange rate will not fluctuate. Changes in technologies, resources, and public policies (e.g. monetary policies) alter underlying short-period equilibria in goods and assets markets, often in unpredictable ways. We would therefore expect the exchange rate to change in unforeseeable ways. The efficient-market hypothesis states that a large group of profit-maximizing speculators will stabilize the price in a particular market by making the best use of *available information.* Only someone with *better information* can do better than market participants whose actions are based on rational expectations. The fluctuations of a flexible exchange rate are therefore reflections of the underlying fluctuations in various economic variables whose origins, timing, and effects are, and *can only be,* dimly perceived by mere mortals.

Given these unforeseeable fluctuations in economic variables, a rigidly fixed exchange rate of the gold-standard type would necessitate (a) that no country attempt to follow an independent monetary policy and (b) that changes in real economic variables in every economy entail quantity adjustments (e.g. unemployment and unanticipated inventory changes) in the absence of instantaneous and perfectly flexible wages and prices in domestic commodity and factor markets. If, in particular, the domestic relative price of traded to nontraded goods is sticky, any excess supply emerging in the market for nontraded goods must lead to unemployment.

As long as there are national governments that want monetary autonomy to attain various employment goals, a strict gold-standard mech-

anism, with its genuine international monetary integration, will be unacceptable.[5] A genuine worldwide monetary union would confer efficiency gains, flowing from the convenience and reduced transactions costs of a stable monetary unit. But those who have been mesmerized by these gains and thus advocate a system of genuinely fixed exchange rates are burying their heads in the sand. The international political prerequisites for monetary integration—an implicit world state with a single monetary authority—and hence for the institution of a true gold standard do not exist at present. The alternatives, therefore, are some form of adjustable peg (fixed but changeable), of which managed floating is merely a more flexible variant, or freely floating exchange rates.

The Bretton Woods type of adjustable peg offered the worst of all possible worlds for the authorities, as far as destabilizing speculative capital flows are concerned. As is well known, it gave speculators a one-way bet in currencies whose par values were expected to change. In a flexible-exchange-rate system, by contrast, the speculators bet against each other. When underlying forces appear to require that a flexible exchange rate depreciate, moreover, speculators will try to profit by anticipating the new "equilibrium" rate and in the process will push the rate to this new value faster than would otherwise be the case.

It has been argued (see Kindleberger, 1976b, and McKinnon, 1976) that the large fluctuations in exchange rates seen since the world moved to floating rates are a sign that speculation has been destabilizing, or insufficiently stabilizing. Critics have also blamed floating rates for the rise in transactions costs and the poorer performance of forward rates as predictors of spot rates. But if underlying economic conditions are volatile (as they have been in the 1970s), one would expect exchange rates to be volatile. It is illegitimate to argue that speculation has been destabilizing because exchange rates have been volatile. Willet (1977, p. 37) points out that empirical tests that have attempted to identify destabilizing speculation (by finding systematic cycles or patterns in exchange rates) in general suggest that the major foreign-exchange markets have not been characterized by persistent and systematic poorly

[5] This, of course, assumes that there is a nonvertical long-run Phillips curve for each country. If this is denied, as it is by monetarists, then governments cannot affect employment levels by independent monetary policies, and the arguments against a full-fledged gold standard and world monetary integration are weakened. I shall not enter into the debate about the feasibility of affecting employment levels. It is enough to note for my purposes that, at least at present, governments consider it both feasible and desirable to use monetary policy to affect employment. My views on monetarism, etc., for what they are worth, are stated in Lal (1977).

behaved speculation. He has derived a similar view on balance from his discussions with exchange-market participants.

Increased uncertainty and the J-curve. Two other criticisms of floating rates should be considered: (a) that floating rates have increased uncertainty in international trade and (b) that a depreciation can become cumulative because of so-called J-curve effects.

There are a number of counterarguments to the first criticism. First, as argued above, the instability of floating rates is due to the underlying instability of economic conditions. Discontinuous but large exchange-rate changes under an adjustable-peg regime would not reduce this underlying uncertainty. Second, in the absence of perfect wage-price flexibility, genuinely fixed rates would transform exchange-rate instability into real income (and employment) instability. Third, stabilizing speculative flows in a floating-rate system will provide speedier adjustments to real disequilibria and hence contribute to a lowering of uncertainty. Finally, it appears that traders have learned from experience to cope with floating rates by making more use of forward-exchange markets (see Dreyer *et al.*, 1978).

This leaves the J-curve argument. It states that if traders price their exports in terms of domestic currency while their imports are priced in foreign currency, then the impact of a devaluation will be to worsen the balance of trade. The relatively inflexible quantities of imports and exports in the very shortest of short runs will lead to a fall in foreign-currency receipts from exports without any change in foreign-currency payments for imports. Over time, of course, and assuming that demand elasticities at home and abroad are sufficiently high, the quantity of exports will rise and that of imports fall, improving the balance of trade. Hence the latter can be expected to follow a J-shaped path after a devaluation. The twist in a floating-rate world is as follows: The initial deterioration in the balance of trade after a depreciation will put further downward pressure on the currency. There will not be sufficient time for the stabilizing effect of the upturn in the J-curve to work itself out in the currency market, and the exchange rate will depreciate still further, leading (it is feared) to a cumulative depreciation.

There are two objections to this argument. First, it assumes that domestic exporters are extremely short-sighted. They are assumed to be unaware that, given high price elasticities of foreign demand, they are losing money by pricing their goods in a depreciating currency. If they are not short-sighted, they will change their currency of invoicing. In fact, there is some evidence that traders *have* adjusted their pricing behavior following the advent of floating (see Grassman, 1976). Second,

the argument assumes that speculators are unaware of the J-curve effect (if it exists) and do not seek to make profits by buying the currency on the downswing in order to sell it on the upswing of the trade-balance movements. If they do so, they will arrest any cumulative depreciation.

Hence, it would seem that Willett (1977) is right in concluding:

> Unless variability in exchange rates is due to poorly behaved speculation, the costs [in terms of the reduced information content of current prices and exchange rates] cannot be reduced by official intervention to peg the exchange rate. . . . In well-behaved markets, variability in prices and exchange rates is a symptom not a cause of uncertainty and instability. . . . International trade will inevitably be riskier between countries which have greatly disparate macroeconomic policies than between countries with similar underlying economic conditions.

The law of one price. A completely different argument against flexible exchange rates is made by various "monetarist" proponents of fixed exchanges rates. They claim that exchange-rate changes are ineffective in correcting disequilibria in the balance of payments because of the high degree of substitutability between traded and nontraded goods. They believe that strict purchasing-power parity (PPP) holds in the form of what is labeled the "law of one price" (Laffer, 1975). Their view is thus based on assumptions diametrically opposed to those of the elasticity pessimists but leads to similar conclusions about the ineffectiveness of exchange-rate adjustments.

If the law of one price (or strict PPP) did hold, then effectively all goods in every economy would be tradeables, and there would be no relative price of traded to nontraded goods for the exchange-rate to affect. Moreover, domestic macroeconomic policy would affect only the world price level and not exchange rates or the level of domestic activity.

Assume that there is an increase in the supply of money in the home economy. This will lower domestic interest rates as people bid for bonds to attain portfolio balance. But, given perfect international capital mobility, reduced domestic interest rates will lead people to attempt to substitute foreign bonds for domestic money and bonds. As the supply of foreign bonds is fixed, their price must be bid up until domestic and foreign interest rates are again equal. Equilibrium in the world economy is attained when all world prices are higher and exchange rates are unchanged.

This whole argument hinges on the empirical assumption about the law of one price. But recent research (Isard, 1977; Houthakker, 1978; and Kravis and Lipsey, 1978) shows that there is little evidence to support strict PPP. Thus the alleged ineffectiveness of exchange-rate ad-

justments following from this monetarist argument can at best be regarded as a theoretical curiosity.

Relative insulation from shocks. Finally, arguments have been advanced for or against flexible exchange rates on the basis of the relative insulation that alternative exchange-rate regimes are likely to provide from internal or external shocks. On the whole, a fixed-rate regime will transmit both domestic disturbances to the world economy and foreign disturbances to the domestic economy. By contrast, a flexible rate will to some extent insulate the domestic economy against foreign disturbances but will also tend to bottle up domestic disturbances. In a world of high capital mobility, however, and with stickiness of prices or exchange-rate expectations, insulation is not complete. It has been argued that the international transmission of some types of domestic disturbances can be even stronger under floating than under fixed exchange rates (Dornbusch, 1978).

Nevertheless, Black (1976) has argued that the types of insulation provided by the two regimes can provide a basis for a particular country's choice between fixed and flexible exchange rates. A country should choose a flexible exchange rate if it expects that most of the shocks likely to affect it will be external in origin. If, instead, it expects most of the shocks to be internal (for instance, domestic harvest failures in a primarily agricultural country), it should opt for a fixed exchange rate, because a fixed rate will confer greater stability on the domestic economy by dissipating internal disturbances abroad.

In my view, this criterion is inadequate. First, it assumes that it is possible to *predict* which type of shock is likely to be important for a particular country. Little faith can be placed in such predictions. Second, a fixed exchange rate adopted to dissipate domestic disturbances internationally is an invitation to continual international friction, as was in fact the case under the Bretton Woods system. Third, as has been emphasized above, a *genuinely* fixed exchange rate would require either a supra-national monetary authority charged with running a world monetary policy or passive acceptance of the national employment levels engendered by the requirements of external balance under a gold-standard regime. It is not at all clear that the resulting abdication of national monetary control would be in the interests of (or even acceptable to) most countries.

This does not imply that, in an ideal world, the optimal currency area (within which there is the full integration afforded by a common currency) would be coterminous with the existing nation-states. A case can be made for multinational integrated monetary areas. But particularly in newly independent developing countries, where nationalism is fierce

and newly acquired national status jealously guarded, any forfeiture of national sovereignty is strongly resisted. This is borne out by the dismal record of various attempts to organize common markets among developing countries, the latest casualty of this economic nationalism being the East African Community. For all practical purposes, then, we have to accept that most nations will continue to be independent monetary areas in the world economy.

Finally, and most important, the choice between alternative exchange-rate regimes turns on the optimal response in terms of borrowing and lending to any internal or external shock, given the degree of domestic wage-price flexibility. Suppose that our economy has some downward rigidity in money wages and nontraded-goods prices. There is a one-period exogenous shock (say a harvest failure), which leads to excess demand for traded goods at the constant level of money expenditure maintained by the government to assure full employment in the nontraded goods industries. If the exchange rate is fixed and there are no private capital flows or official foreign borrowing, the temporary balance-of-payments deficit will have to be financed by running down official reserves. Because of its exchange-rate commitment and its desire to maintain full employment, the country will have to maintain current consumption (at the fixed relative price of traded to nontraded goods) by running down its assets at the expense of future consumption.

If, however, the exchange rate is flexible and there are no restrictions on private capital flows, but money expenditure is still maintained at the level required to assure full employment in the nontraded-goods industries, the outcome will be some combination of exchange-rate depreciation, foreign borrowing, and running down of "reserves" by both the private and public sectors. The last two portfolio choices will affect both how much the exchange rate depreciates and how much future consumption is foregone to maintain current consumption.[6] It is unlikely, however, that the optimal rundown of reserves (or foreign borrowing) will be just large enough to maintain the exchange rate unchanged.

In a world of flexible exchange rates and capital mobility, optimizing agents will be able to choose through their portfolio behavior many pos-

[6] This does not mean that I advocate "dirty floating." For the public sector, the relevant choice is between using reserves to buy foreign currency to hold and using reserves to buy foreign currency to spend. The first choice can be the result either of a portfolio decision or of a deliberate effort to manipulate the exchange rate. The choice between reserve use (borrowing) and depreciation examined in the text corresponds to the former case, since foreign currency purchased with reserves for spending purposes will not be motivated, *ex hypothesi*, by a desire to manipulate the exchange rate.

sible combinations of exchange rates, ratios of traded to nontraded goods prices, and present versus future consumption choices. Only some of these will correspond to the choices they would *have* to make if they were committed to a fixed exchange rate. The fixed-rate combinations are always open even under a flexible-rate system. If they are not chosen by optimizing agents, we can assume that the alternative choice is better. Put differently, a commitment to a fixed exchange rate (or to particular rules for managed floats) is a constraint, and it will necessarily reduce the range of present and future consumption choices. It will therefore be inferior in a welfare sense to a system that allows not only the fixed-rate combinations but others that are ruled out under a fixed-rate constraint.

In line with these arguments, I must come down squarely on the side of exchange-rate flexibility in the debate on the optimal exchange-rate regime. In a world of irreducible uncertainty, the path of the exchange rate is likely to be unpredictable; governments and speculators alike will be able only to guess at the extent and direction of changes. Many commentators and officials have convinced themselves of the feasibility and desirability of managed exchange rates by implicitly (and illegitimately) subsuming this real-world case in the artificial case of perfect, or greater, governmental foresight. In a world where the values of the relevant variables are irreducibly uncertain, such a belief is unwarranted.

International Liquidity. The so-called problems of international liquidity can be dealt with more summarily. It is obvious that with freely fluctuating exchange rates there would be no need for international reserves as such for managing the balance-of-payments adjustment process. The problem of managing international liquidity was peculiar to the Bretton Woods adjustable-peg system. With its commitment to maintain par values, except under conditions of "fundamental" disequilibrium, when exchange-rate changes were allowed, countries needed international reserves to tide them over short-term, reversible disequilibria in their balance of payments. Since exchange-rate changes could not be used to deal with such disequilibria, domestic income and employment changes were the only alternative to financing deficits by reserve movements. As such measures entailed the welfare costs of foregone output, an adequate level of reserves was considered desirable to avoid them. The pre-1971 debates then centered on the adequacy of the aggregate level of international reserves—whether reserves were sufficient to meet the sum of unavoidable short-run deficits and the desire of all countries to hold an increasing volume of reserves in some rough ratio to the rising volume of foreign trade.

The ensuing debate, triggered by a famous book by Triffin (1960), concentrated on the inherent instability of the form of international reserve creation that came to be an integral part of the post–World War II gold-exchange standard. This was the role played by reserve currencies (initially sterling and the dollar, but, with the relative decline of the U.K. economy, mainly the dollar) in supplementing the major reserve asset, gold.

Triffin pointed out that this form of reserve creation would be unstable because it depended upon the belief that U.S. dollars held as reserves by other central banks could always be converted into gold at a fixed dollar price. The confidence problem lay in the fact that, with an increase in the dollar component of the international reserve stock, it would become increasingly clear that the United States could not redeem dollars held as reserves using its own gold stock. Moreover, as the world's gold stock could not be expected to increase at the same pace as the demand for international reserves, there would be continual pressure on the United States to run a balance-of-payments deficit in order to supplement the level of international reserves. This process would grant the United States some seignorage gains, since the United States could obtain real resources by printing its own currency. (These seignorage gains were quite limited in practice, because of the interest paid by the United States on foreign holdings of dollars.) It also meant, however, a deterioration in the net reserve position of the United States until the time came when the U.S. gold stock would not be large enough to finance a sustained conversion of dollars into gold by other central banks.

Growing awareness of the asymmetry of the system—of the special position of the reserve-currency countries in obtaining seignorage, however limited—as well as of its potential instability led to numerous plans for increasing world liquidity (see Williamson, 1977, and Machlup, 1964, for surveys). These need not concern us in any detail, as most of them now lie on the garbage heap of history. The major objective was to overcome the international liquidity problem by permitting the International Monetary Fund to issue an international reserve asset—Special Drawing Rights, or SDRs, as they were to be called—that would replace gold as the basis of the international monetary system. But soon after agreement was reached at Rio in 1967 on the setting up of a facility to issue this so-called "paper gold" as the centerpiece of the international monetary system, events overtook its advocates.

With President Nixon's ending of gold convertibility in 1971 and the subsequent movement to a system of managed floating, the old debates about the adequacy of international reserves became muted. Although reserves were still "needed" in the managed floating system, this need

was not as pressing as under the old Bretton Woods system. Moreover, it became apparent that a move to a system of fully flexible exchange rates would make discussions of the adequacy of reserves irrelevant. Under completely flexible exchange rates, the exchange market can clear in each time period and there is no need to hold precautionary reserves, as under the Bretton Woods regime. The public sector might still want to hold "reserves" for portfolio-balance reasons, and the motivation could be termed "precautionary." But there is no need to hold reserves to maintain a particular exchange-rate commitment.

Transactions and asset demands for an international means of payment did not disappear. But now it was clear that, given the relative strength of the U.S. economy and the widespread use of the dollar as a vehicle currency, countries and traders were willing to hold dollars for these purposes. Instead of fading away as the centerpiece of the international payment system, the dollar came out even stronger after the movement to the current "nonsystem." The real casualty has been the SDR and the dreams of those supporters of the IMF who wanted it to become a world central bank running a truly SDR-based international monetary system. This is no accident and, in my view, is as it should be.

It is vain to hope that in a world without an international government the IMF can become the central bank of an integrated worldwide monetary union. To establish such a union, governments would have to relinquish national control over policy instruments, such as monetary policy, which are jealously guarded in the present world of nation-states. Nor, even in principle, is the world likely to be the optimum currency area (see the review of the rather ambiguous literature on this issue by Tower and Willett, 1976). It is thus difficult to see what purpose SDRs might serve in a world where full exchange-rate flexibility is not ruled out and may even come to exist in the near future.

As Chrystal (1978, p. 20) has rightly noted,

> [The] SDR is an unconditional right to borrow "real" convertible currency from another central bank at a specified rate of interest. It should be thought of as an unused overdraft facility rather than as [an] interest-bearing checking account. . . . The SDR is basically a credit instrument. Users of the SDR would prefer the rate of interest to be low. . . . Net holders would prefer the rate to be high. . . . If capital markets were perfect and the SDR bore the market rate of interest, the SDR stock would be irrelevant, since loans would already be available at the market rate of interest.

There are two reasons why the interest rate paid on SDRs entails a loss of income for net holders. First, the SDR interest rate is only four-fifths of the weighted average of the rates in five major financial centers. Second, even if the rate were equal to this weighted average, the SDR would be an unattractive asset to hold unless the portfolio preferences of

net holders matched the weights used to compute the SDR interest rate. At the same time, the SDR "overdraft facility" is attractive to net users, because the interest rate is lower than the world interest rate. But, as Chrystal (1978, p. 20) points out,

> To rectify the position for net holders would be to destroy the usefulness of SDR credit for all but the least creditworthy, i.e., those who find it difficult to borrow at market rates. An SDR yielding competitive interest rates would simply be a means of channeling loans to the weakest countries, with the Fund acting as guarantor.

Nor does the SDR appear to be a useful unit of account, comprising as it does a basket of fluctuating currencies. The value of the SDR may be more stable than the values of the component currencies taken individually, but it is no easier to predict than the value of any single currency (Chrystal, p. 21). Moreover, as most traders live in a particular currency zone or area, there is always *some* currency other than the SDR in which prices will be set in practice. Finally, as Chrystal emphasizes, though the SDR must be more stable than some of the currencies in the basket, it can be less stable than others, which will then be preferred to the SDR as a numeraire.

These arguments are devastating, in my view, for the future of the SDR. They explain why the SDR has declined as a proportion of total international reserves since the advent of floating. Though some, like Chrystal himself, still hanker after an international money, it is not clear that an international money is required once the straitjacket of exchange-rate fixity of the adjustable-peg type is removed and free capital movements are allowed, together with the associated intermediation by various "banks." The reasons are given in the previous section, and the argument in favor of private intermediation is supported by the explosive growth and development of the Eurocurrency market, in which at least some developing countries have been important participants (see Wellons, 1977, and Díaz-Alejandro, 1975).

Thus, I conclude that, because nation-states exist and desire to maintain sovereignty over national monetary policy, it is vain to hope for an integrated worldwide monetary system of which the IMF would be the centralized monetary authority. The best course would be to ignore the whole question of international liquidity and to encourage countries to remove controls on both capital flows and trade, as well as to permit full flexibility of exchange rates. No rules for managing the exchange rates can be laid down—not even to exclude central banks from acting as exchange-market participants, from holding desired portfolios, and from gambling from time to time on the foreign exchanges!

3 The Relevance for Developing Countries

Many economists may be willing to grant the optimality of an international monetary system based on fully flexible exchange rates and free movements of commodities and assets. Nevertheless, it has been asserted that the arguments presented in this essay are not relevant for many developing countries, which might find it "optimal" to restrict short-term capital flows and eschew full flexibility of their exchange rates (see Cline, 1976; Díaz-Alejandro, 1975; Black, 1976; and Joshi, 1979). Furthermore, at least some observers (e.g. Joshi, 1979) feel that it is in the interests of developing countries to lend their support to the establishment of an SDR-based international monetary system in which there would be effective international control over alternative forms of international liquidity such as that provided through the Eurocurrency markets.

The Exchange-Rate Regime

Some of the arguments against full flexibility for the exchange rates of developing countries are based on the misconceptions that I analyzed in the previous section. Thus Joshi claims that floating rates lead to an anti-trade bias "which they engender as a result of the *extra* uncertainty of engaging in foreign exchange transactions" (emphasis added).[7] As I argued, there is little reason to believe that floating exchange rates increase the instability of the underlying economic variables that are responsible for exchange-rate fluctuations. Since some degree of instability is unavoidable, fixed exchange rates are not viable when domestic wages and prices are at all sticky and "full employment" is to be maintained; any attempt to maintain exchange-rate fixity will lead only to large discrete changes in the rates. It is not at all clear why traders should find dealing in an overvalued currency, susceptible of devaluation by a large amount at any time, less uncertain than dealing in a floating-rate system where adjustment takes place over a period of time.

Another set of arguments advanced against floating rates for developing countries is based on the expectation that, since the exchange rate is determined simultaneously by demand and supply conditions in commodity and asset markets, "in the short run, it is this asset price aspect of the exchange rate which dominates over its commodity price aspect, . . . so that the exchange markets have often behaved rather like a stock market with asset holders speculating about the views of other asset holders and the intentions of the foreign exchange authorities" (Joshi,

[7] Joshi (1979) sets out very clearly the conventional wisdom on these issues. My remarks on his paper thus apply to a whole body of thinking of which his paper is succinctly representative.

1979). The implication, presumably, is that this will lead to greater instability.

It is wrong, however, to assume that, because it follows a "random walk," the behavior of the stock market is irrational (a view going as far back as Keynes) and that a foreign-exchange market that behaves like a stock market will also be irrational. As various theoretical and empirical studies have argued, stock-market behavior follows a random walk because the underlying shocks follow a random walk (see Samuelson, 1972, and Fama, 1970). Only by unjustifiably assuming that the underlying system is predictable and that there are thus "correct expectations" about exchange-rate movements (Joshi, 1979) can we judge fluctuations in exchange rates to be "excessive." If, for some reason, there is a wave of excessive optimism or pessimism that pushes the exchange rate "too far" in one direction in the government's judgment, the government can undertake *profitable* counterspeculation. The success of its speculation (i.e. whether it *is* stabilizing or not) can be judged by its profitability. No other general rules can be given for central-bank intervention.

The third set of arguments against freely fluctuating exchange rates for developing countries is based on the lack of active and well-developed capital and forward-exchange markets, which are necessary for a flexible exchange rate to function efficiently. There is no doubt that domestic financial retardation is a feature of many developing countries, which means that the functioning of a flexible exchange rate will be relatively less efficient. But this is an argument not against flexible exchange rates for developing countries but for institutional reform that would strengthen domestic capital markets and enable the floating rate to function more efficiently. As McKinnon (1973) has argued, moreover, such reform is needed to foster domestic development in many developing countries irrespective of the exchange-rate regime.

Furthermore, as Black (1976) has argued, the institutional reforms needed to make a floating exchange rate work are probably exaggerated. The forward market, for instance, need be developed vis-à-vis only *one* international currency, and the international banking system can then be used to purchase or sell other foreign currencies forward. The capital mobility that may be required to stabilize a floating rate is discussed below in connection with the control of capital movements. Nevertheless, some of the least developed countries may not find it feasible to develop the currency and financial markets required by an efficient free-floating system. For these few countries, some of the "basket of currency" schemes advocated and discussed by Black (1976) and Joshi (1979) may be desirable.

Another set of arguments concerns the allocative and income effects that are supposed to flow asymmetrically from alternative exchange-rate systems. Thus Joshi (1979) argues that "freely floating exchange rates are efficient only if they do not lead to violent short-run exchange fluctuations, which are wasteful and expensive in terms of resource movements." Black (1976) argues for that exchange-rate system which reduces the variance of domestic relative prices of tradeable goods, on the grounds that risk-averse producers and consumers with diminishing marginal utilities would prefer less variability in prices.

There are a number of problems with these arguments. The "resource movements" argument of Joshi assumes that producers are extremely short-sighted; they shift resources around purely on the basis of current exchange rates and prices, taking no account of the *expected* future values. This assumption is unwarranted. It is similar to the assumption often made in the older development literature that "static comparative advantage" rules because businessmen look only at current prices.

As for Black's arguments, they assume that it is possible to predict the type of shock that an economy is generally likely to suffer and thereby to choose the exchange-rate regime that will minimize domestic instability. I have already given reasons why this is not likely to be "optimal" or practical. But suppose that the authorities can predict the probable nature of shocks and other market participants cannot. The authorities can then stabilize both the domestic economy and the exchange rate by undertaking profitable countercyclical speculation under a floating-rate regime.

It should be noted, moreover, that a government which chooses a freely floating rate and free capital mobility provides its citizens with the largest access to what are, in effect, insurance markets. Taking advantage of this access, private and public sectors can make consumption and production decisions according to their degrees of risk aversion, given the degree of uncertainty associated with variable prices. A case could even be made for public intervention in favor of risky activities if social risk aversion is (or should be) lower than private risk aversion. But complete price stability, or even increased price stability, is not necessarily welfare optimal (see Turnovsky, 1978).

Capital Controls

The standard development economist's view of capital controls (and the associated exchange controls) is provided by Joshi (1979): "It seems neither feasible nor desirable that LDCs should, over the foreseeable future, relax their exchange controls on capital movements and expose

themselves to the vagaries of short-run movements of funds." On the feasibility of controls, Friedman (1963, p. 57) has noted:

> Full-fledged exchange controls and so called "inconvertibility of currencies" are an exception to the rule [that there is seldom anything truly new under the sun in economic policy]. . . . To the best of my knowledge they were invented by Hjalmar Schacht in the early years of the Nazi regime. On many occasions in the past, of course, currencies have been described as inconvertible. But what the word then meant was that the government was unwilling or unable to convert paper currency into gold or silver, or whatever the monetary commodity was, at the legally stipulated rate. It seldom meant that a country prohibited its citizens or residents from trading pieces of paper promising to pay specified sums in the monetary unit of that country for corresponding pieces of paper expressed in the monetary unit of another country —or for that matter for coin or bullion.

It would be possible to do without controls. The world, with countries at all stages of development, lived without them until the 1930s. Some developing countries—Mexico, Hong Kong, and more recently Indonesia —have found it feasible to do without capital controls in the postwar period.

On the desirability of controls, I have already argued that free trade in both long-term and short-term assets is welfare optimal. Some accept this argument for long-term flows but say that it hardly applies to short-term flows—movements of hot money that can be readily reversed, with supposedly disastrous effects on the domestic economy. In assessing the desirability of controls on short-term capital movements, it is necessary to be clear about the exchange-rate regime under which they are applied, as well as about the motives for the capital movements.

Under an adjustable-peg regime, it is essential to maintain controls on short-term capital flows in order to prevent the one-way gambles that it affords to speculators. This was in fact the reason that the Bretton Woods agreement sanctioned controls on short-term capital flows, although it was not seen that such controls were necessary to make the system work. But it became progressively clearer over the post-war period, in a world of growing interdependence and increasing foreign trade not subject to controls, that controls on short-term flows cannot prevent the speculation that threatens countries whose pegged rates are seen by the market to be out of line. It is difficult to separate short-term from long-term capital flows. How do we classify investments in short-term foreign bonds that are held for genuine long-term investment purposes? Furthermore, seemingly speculative flows can be generated by the "leads and lags" resulting from normal hedging by traders. These can to some extent be limited by subjecting *all* foreign-trade transactions to

controls. But many developing countries have found that trade controls can be evaded by over-invoicing imports and under-invoicing exports (see Bhagwati, 1974, and Government of India, 1971). More important, the institution of Draconian controls, with their well-known inefficiencies and invitations to corruption, merely to make the adjustable-peg system work, would seem to be a classic case of the tail wagging the dog. This is particularly so if, as I have argued, pegged exchange rates are inappropriate in principle to a world of continual change, sticky prices, and irreducible uncertainty.

Thus the relevant question is whether, with flexible exchange rates, it is desirable purely from the viewpoint of national economic welfare to allow complete freedom for all capital movements.

Capital flows may be motivated by three broad types of considerations: fear of domestic political or economic crisis; differences in rates of return at home and abroad, net of tax differentials; and expectations of exchange-rate movements. All three types of flows can be financed not only from current savings but also from idle cash balances and sales of domestic bonds, equities, and physical capital assets.

It is the fear of politically motivated flows that has perhaps been most important historically in creating a climate of opinion favorable to capital controls. Haberler (1976, p. 74), has pointed out:

> [It was the] politically induced capital . . . from Hitler-Europe to the U.S. during the last years before the outbreak of the Second World War which strongly influenced Keynes' views on capital controls. He said: "There is no country which can, in the future, safely allow the flight of funds for political reasons or to evade domestic taxation or in anticipation of the owner turning refugee. Equally, there is no country that can safely receive fugitive funds."

As Friedman (1963) noted, it was Hjalmar Schacht who invented exchange controls in the 1930s. However, Haberler goes on to note, such capital flight is the exception rather than the rule.

Moreover, for a number of reasons the removal of exchange controls is unlikely to substantially increase politically motivated capital flight from third-world countries. First, to enjoy the fruits of such capital, the owner would have to "flee" too, changing his actual residence. With the nearly universal tightening of controls on immigration from third-world countries by both developed and developing countries, any large-scale movement of people with their capital is unlikely. Second, the elites in the third world, for whom immigration restrictions may not apply, have probably already taken advantage of both legal and illegal methods to build up foreign assets. They have moved their capital despite controls.

Third, under a floating exchange rate any massive attempt to move out of the domestic currency would cause that currency to depreciate, imposing what is in effect a heavy capital levy on the fleeing capitalists. Finally, for reasons spelled out above, there is no way in which much of the physical capital stock of the country could be reduced by a capital flight, which means that capital flight is unlikely to have disastrous effects under a system of floating rates.

I have already argued that there is no welfare reason for prohibiting the second category of capital flows, those reflecting differences in rates of return at home and abroad, except when there are disparities in relative private and social returns from domestic and foreign investment. If the social return from foreign investment is less than the private return, there is a case for a "second-best" tax on capital outflows. The optimal height of this tax, however, is unlikely to be prohibitive.

Turning to the third motive for capital movements, speculation on the exchange rate, we have merely to recall one of the advantages of a floating-rate system as opposed to an adjustable-peg system. Under a floating rate this type of capital movement is likely to be stabilizing rather than destabilizing, and there is thus no reason to resist it.

The conclusion is inescapable. Except for correcting disparities between the private and social returns from investments abroad, there is little justification for restricting capital flows under a floating-rate system. A welfare-economic rationale for controls can be provided only if it is explicitly or implicitly assumed that the world *should* be on an adjustable-peg system. But there is no reason to believe that such a system is more desirable than a floating-rate system.

International Reserves and the Link

Under a floating-rate system, the case for creating SDRs to provide an adequate level of international reserves is greatly diminished, for the reasons set out earlier. Central banks and the private sector will still hold parts of their portfolios in foreign currencies and assets denominated in foreign currencies. The SDR as presently constituted will probably not be attractive as a reserve instrument to most countries, as they can obtain higher returns on other assets, such as deposits in the Eurocurrency market. Many developing countries are now important depositors as well as borrowers in this market (see Wellons, 1977), and it appears from the evidence to be relatively efficient.

Moreover, the present system has a noneconomic advantage. Under a pure SDR-based international monetary system, the decisions of the supranational central bank must by their very nature be political. Under

the present system, developing countries have access to a relatively apolitical market for both their reserve placements and their borrowing. For this reason, developing countries are right to insist on retaining the freedom to place their reserves in the Euromarkets and to resist proposals to control that market put forward by those who want to strengthen the IMF rather than the world economy and establish a politically determined SDR-based monetary system. I therefore disagree with Joshi (1979), who observes:

> It must be recorded that LDC's played their part in frustrating progress on [the imposition of controls on reserve placements by central banks in Euromarkets] by insisting on the freedom to place their reserves in Euro-markets to profit from the interest rates offered. This was a short-sighted position. Interest earnings on reserves are less important from the LDC point of view than moving towards an SDR based monetary system.

His position would seem to be exactly the opposite of that required to serve developing-country interests!

What of the SDR link? This is at best an academic issue, because of the decreasing importance of SDRs in the world monetary system—a trend that I cannot lament, for the reasons given earlier. For completeness, however, I cite the conclusion of Cline (1976, pp. 93-94), who has made the most thorough study of the issue:

> The expectations, discussion, and acrimony generated by link proposals have been completely out of proportion to the significance of the instrument itself. . . . As currently proposed by the LDC's the link would be an inefficient aid instrument, conferring on developing countries already too prosperous for IDA eligibility 40 cents out of every dollar of gross link aid. . . . The arguments for and against the link on economic grounds are weak. Some are misconceived (SDR's are not a complete windfall that should go to the poor), some are outdated or at least inapplicable for a permanent instrument (world unemployment is not an argument that justifies a link), some dubious but comfortably unverifiable (the confidence issue), and some directionally correct but empirically of negligible importance (inflation and payments imbalance aggravation).

This argument is still valid.

In conclusion, developing countries would be well advised to support the financial and monetary aspects of a liberal international economic order by allowing free capital mobility and freely floating exchange rates. They would also do better to resist controls on their reserve placements and borrowings in the Eurocurrency markets than to accept the evolution of an SDR-based international monetary system. This essay, although heretical, has at least shown that there are strong arguments in support of these views.

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