

ESSAYS IN INTERNATIONAL FINANCE

No. 93, April 1972

---

MONETARY INTEGRATION

---

W. M. CORDEN



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

*This is the ninety-third number in the series* ESSAYS IN INTERNATIONAL FINANCE, *published from time to time by the International Finance Section of the Department of Economics of Princeton University.*

*The author, W. M. Corden, is Nuffield Reader in International Economics at Oxford University. He is the author of Recent Developments in the Theory of International Trade (1965), which was No. 7 in the Section's Special Papers in International Economics, and of The Theory of Protection (1971). The present essay is a revised and extended version of his Frank Graham Memorial Lecture given at Princeton in April 1971.*

*The Section sponsors the essays in this series but takes no further responsibility for the opinions expressed in them. The writers are free to develop their topics as they wish. Their ideas may or may not be shared by the editorial committee of the Section or the members of the Department.*

PETER B. KENEN, *Director*  
*International Finance Section*

ESSAYS IN INTERNATIONAL FINANCE

No. 93, April 1972

---

MONETARY INTEGRATION

---

W. M. CORDEN



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

Copyright © 1972, by International Finance Section  
Department of Economics  
Princeton University  
L.C. Card No. 72-892

Printed in the United States of America by Princeton University Press  
at Princeton, New Jersey

## PREFACE

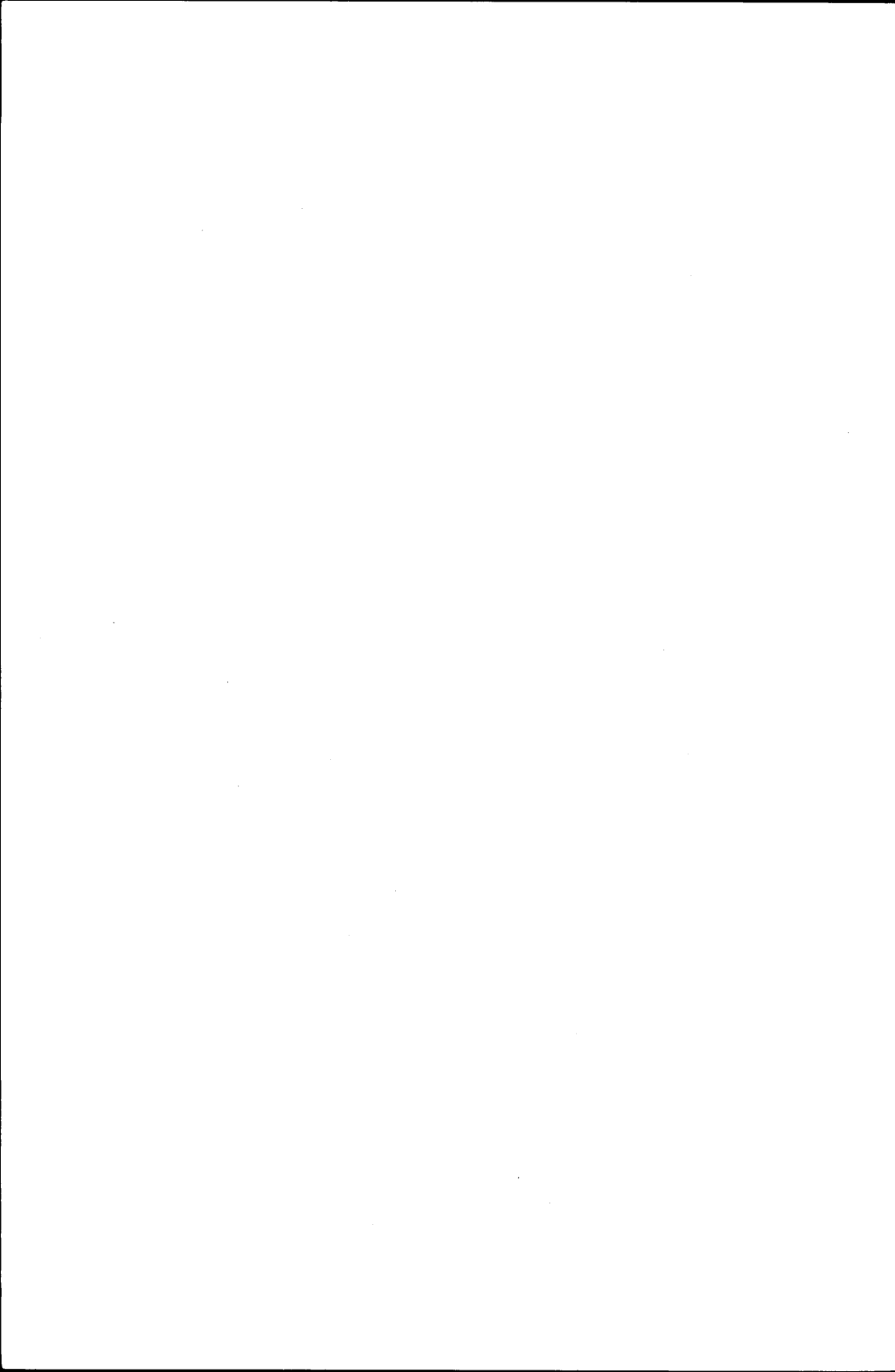
This essay is based on my Frank Graham Memorial Lecture given in April 1971. It was a pleasure to deliver a lecture in memory of a distinguished economist who had specialized in international economics most of his life (and who, like so many leaders in that field, was a Canadian). While his main work was in the area of real, rather than monetary, international trade theory, he was certainly interested in the issues discussed in this essay, and it is intriguing to reflect what his advice would have been to the Europeans on the question of monetary integration. He was the author of *Essay in International Finance No. 2*, published in 1943, entitled *Fundamentals of International Monetary Policy*. In this essay he criticized the Keynes and White plans because

... their authors favor fixity of exchange rates in neglect of domestic monetary policies and, conscious of the disruptive effects to be expected in this situation, present measures of half-hearted coercion of such states as are recalcitrant in their adhesion to some undefined national monetary policy which, it is fondly hoped, will more or less miraculously emerge as the "norm" (p. 21).

He listed a choice of five possible policies, with his own preference for a commodity standard. One of the alternatives he listed was monetary integration, and this he rejected. Of course he meant *international* monetary integration, not integration embracing only part of the industrialized world. He described this alternative as "enforced stabilization of both price levels and exchange rates through the imposition, on all countries, of the requisite monetary policy, with some central bank for central banks as the ultimate governing authority." On this he made some very quotable remarks:

The struggle for control of such a bank would be fierce and would be solved, if at all, only by giving the lion's share to the lion or, not improbably, to the eagle. The chances are strong that the system would be sabotaged by the action of some powerful country, or countries, reluctant to follow the general policy of the controlling authority or in disagreement with the methods by which it sought to make its policy effective. This is not, perhaps, a matter for regret since Freedom must always look with a skeptical eye on an international organization which would bind all to a single monetary scheme laid down by some omnipotent, but fallible, authority (p. 22).

The lecture on which this essay is based was written while I was Visiting Professor in the Department of Economics of the University of Minnesota. In the revision of the lecture I have greatly benefited from comments by William Branson, Charles Freedman, Peter Kenen, Anne Krueger, Peter Oppenheimer, and Lex Reitsma.



## Monetary Integration

What are the gains and losses to potential partner countries when they form a monetary union? Furthermore, what do we really mean by a "monetary union"? Can the elements of monetary integration be decomposed, so that we can analyze the effects of each of the elements separately? Is there some inevitable connection between a customs union and a monetary union, so that countries that have formed a customs union ought naturally to go on to form a monetary union? And, finally, must monetary integration also mean fiscal integration?

These fundamental questions are currently of practical importance, since monetary integration is in the air in Europe. The Werner Report of October 1970 to the Council of Ministers of the European Economic Community recommended "the realization by stages of economic and monetary union in the Community" and set out some quite detailed proposals, concluding that "economic and monetary union is an objective realizable in the course of the present decade." While this report generated a good deal of opposition and skepticism, its basic aim was endorsed in February 1971 by the EEC Council of Ministers. The Council agreed on a program for the first three-year stage of a plan to achieve full economic and monetary union by the end of the present decade.

The proposals for the first stage were rather modest, and there was no definite commitment to move on to the next stages. Events since May 1971 have interrupted moves to monetary integration—and ought to have brought home some of the difficulties. By the end of 1971 little had been achieved. Nevertheless, the exchange-rate realignments that have recently been agreed upon might ease once more the moves to integration. Furthermore, there is sufficient motive power behind the continuous pressure toward "completing" European integration—leading perhaps to political integration—that one should take the Werner report's radical proposals and the EEC's general endorsement of them quite seriously. A revival of the movement toward monetary integration is certainly possible.

The approach in this essay is as follows. In the first seven sections, monetary integration is discussed on the assumption that capital movements among the countries forming the union can be ignored. In section 1 the concept of exchange-rate union is explained, the crucial distinction being made between a pseudo and a complete exchange-rate union. Section 2 discusses the costs of an exchange-rate union, namely, enforced departure from internal balance, and sections 3 and 4 pursue special

aspects of this theme. Section 5 considers a possible gain from an exchange-rate union, namely, an increase in domestic price stability (but shows that, in fact, an exchange-rate union might also reduce stability). Sections 6 and 7 consider the effects of trade integration (section 7 concerns the EEC's agricultural policy) on the gains and losses from an exchange-rate union.

Capital movements are introduced in sections 8, 9, and 10. Section 8 discusses the gains and losses from capital-market integration (which is assumed to be one component of monetary integration, exchange-rate union being the other), section 9 discusses how exchange-rate union may affect capital movements and so yield possible gains additional to those discussed in section 5, and section 10 asks whether capital mobility can solve the internal balance problem created by exchange-rate union and so modify or eliminate the costs it imposes. Finally, section 11 is concerned with the relationship between monetary integration and fiscal integration.

### **1. What Do We Mean by Monetary Integration?**

"Monetary integration" has two essential components. The first component is what might be called an *exchange-rate union*, that is, an area within which exchange rates bear a permanently fixed relationship to each other even though the rates may—in unison—vary relative to nonunion currencies. The second component is *convertibility*—the permanent absence of all exchange controls, whether for current or capital transactions, within the area.

Convertibility for transactions directly connected with trade must really go with a customs union to make the latter meaningful; it will be assumed here that such convertibility exists. (The relationship between trade integration and monetary integration will be discussed further in section 6.) Convertibility for capital transactions, including interest and dividend payments, is the principal element in what might be called *capital-market integration*—the establishment of a unified capital market with no geographic restrictions of any kind on capital movements (or the rewards to capital) within the area. Essentially, then, monetary integration can be regarded as consisting of an exchange-rate union combined with capital-market integration.

While these two components are of course related, it is useful to analyze them separately. It is possible to have groups of countries that maintain fixed exchange rates relative to each other over long periods and yet do not allow complete freedom of private capital movements among them. This, indeed, has been the case in Europe, and many examples could be cited. It is also possible to have complete freedom



of capital movements combined with a fluctuating exchange rate: the obvious example is the United States-Canada relationship.

*The pseudo-exchange-rate union.* Let us now look at the concept of exchange-rate union in more detail. A distinction can be made between a pseudo-exchange-rate union and a complete exchange-rate union. One can conceive of an arrangement where the member countries agree—no doubt solemnly—to maintain fixed exchange-rate relationships within the union but there is no explicit integration of economic policy, no common pool of foreign-exchange reserves, and no single central bank. This is a pseudo-exchange-rate union.

The members of the union might determine that, for accounting purposes, one of their currencies is to be the reference currency. Alternatively, they might establish a new accounting currency for the purpose (the *Europa?*). Then each of the other partners agrees to keep its exchange rate fixed relative to this reference currency. Each country has its own foreign-exchange reserves and conducts its own monetary and fiscal policies. If it finds that it is running out of reserves, then—to make good its solemn promise—it must engage in a monetary or fiscal contraction sufficient to restore the reserve position. Every six months or so, or perhaps much more frequently, the finance ministers or central-bank governors meet and consider whether they wish to change the parity of the reference currency. If it changes, then all the other currencies must, of course, move with it.

One can see a number of difficulties straight away. First, with each finance minister or governor mandated to fight for that common exchange rate most appropriate to his own country's balance-of-payments situation, agreement will certainly be difficult to reach, bargaining will be hard, and the system will be subject to continuous strain.

Second, each session will be accompanied by speculation about its outcome and hence speculative capital movements into or out of the union. For this and the previous reason, one suspects that if a system of this kind were set up—or if countries drifted into such a system—in practice the line of least resistance would be to keep the exchange rate of the reference currency fixed permanently. In other words, an exchange-rate union would be achieved by a system of completely fixed exchange rates relative to all currencies. This, in fact, has been the line of thinking of advocates of European monetary integration. They have wanted their countries to avoid exchange-rate alterations relative to each other but, since the countries have not so far set up adequate machinery for a proper monetary union, they have tried—albeit unsuccessfully—to avoid all exchange-rate changes, even ones where they would all move together relative to the dollar.

Third, this system does not allow for the possibility of the reference currency floating relative to outside currencies, or even fluctuating within a band. Suppose that the reference currency does float. It will do so in response to conditions in its own market. For example, an expansion of the money supply in the reference country will cause the reference currency to depreciate. Similarly, a shift in foreign demand toward the reference country's exports will cause its currency to appreciate. The pseudo-union system requires the monetary authorities in the partner countries to vary *their* exchange rates so as to maintain constant parities relative to the reference currency. They will have to buy and sell dollars (the outside currency) so as to sustain or bring about the necessary exchange-rate alterations. If world demand for their exports falls, they will not be able to devalue but will lose reserves, and eventually they will have to restrict domestic expenditure. It has to be remembered here that in this pseudo-system there is no common pool of reserves. Each country has its own reserves (though the reference country itself, if its currency is truly floating, may need few or no reserves). The market rate of the reference currency that will emerge (and that will determine the exchange rate for the whole union) will not take any direct account of conditions in the markets for the other union currencies. The monetary authorities of the reference country will, in fact, be able to determine the exchange rate for the whole union.

Fourth, such a system does not assure the permanence of the relationships between currencies that is implied in the concept of monetary integration. This is the crucial point, and for this reason we must describe such an arrangement as only a *pseudo*-exchange-rate union. There is always the possibility that the finance ministers will not agree, that one of the countries finally will choose not to deflate to the extent required to maintain its rate at the required parity, or that a surplus country will choose neither to build up its reserves nor to inflate as required and so will allow its rate to rise above the solemnly agreed-upon level.

It follows that true monetary integration must involve more than a pseudo-exchange-rate union. At the minimum, one might imagine some automatic arrangement whereby surplus countries help to maintain the parities of deficit countries up to a certain limit of funds provided, giving the deficit countries time to adjust. Surplus countries might operate directly in the market for the deficit countries' foreign exchange, or, alternatively, they might make loans or grants to the deficit countries' central banks.

This is not unlike what was proposed in the EEC decisions of Feb-

ruary 1971. There was to be medium-term financial aid for members with balance-of-payments difficulties. The credits that would be provided would not be automatic and would have limits. Ceilings were set to the funds that members might be called on to contribute. In addition, the central banks were to intervene in the markets in a concerted way to keep within a narrow range the fluctuations around par values of the EEC currencies relative to each other. Much attention has been given to this latter proposal, which was worked out in some detail by the committee of Governors of the Central Banks. It meant that the various rates would move up and down together somewhat in relation to the dollar. It involved certain technical complications, but since the range of fluctuations would be small, its only really important effect, if implemented, would be that the central banks would acquire the habit of cooperating.

*The complete exchange-rate union.* All this does not assure the permanence of exchange-rate relationships and, in fact, does not overcome any of the problems I have mentioned. So let us suppose, rather, a much more radical step, namely the complete pooling of the foreign-exchange reserves of the union countries. A union central bank might be established to be responsible for managing the common fund. Now we are coming much closer to a common currency and a complete exchange-rate union. The union central bank would operate in the market to maintain permanently the exchange-rate relationships among the various union currencies and, at the same time, it would allow the rate of the reference currency to fluctuate, or to alter intermittently, relative to the dollar. For example, if the foreign-exchange (dollar) reserves in the common pool were running down, the bank would allow the reference currency, and with it all the partner currencies, to depreciate. Technically, a proper exchange-rate union could now be achieved.

The common reserve fund, like the EEC's arrangement for medium-term financial aid, would have the incidental by-product of economizing on foreign-exchange reserves, since all the countries would not tend to be in deficit and surplus at the same time, and surplus countries would automatically be helping deficit countries. This indicates one of the motivations for monetary integration in Europe. It would be possible to economize on dollars—in the fashionable European language, to “reduce the role of the dollar” or “reduce Europe's dependence on the dollar.” But this is a minor aspect of monetary integration.

A common foreign-exchange pool makes an exchange-rate union possible technically. But, in the absence of further measures, it does not make it practical. If each country conducted its own monetary policy, and

hence could engage in as much domestic credit creation as it wished, surplus countries would be financing deficit countries without any incentives for the deficit countries to restore equilibrium. If one country ran a large deficit, the common exchange rate would depreciate, but this might put other countries into surplus. If wage rates were rising in the member countries at different rates, while productivity growth did not differ in such a way as to offset the effects on relative prices, those countries with the smaller inflation of wage rates would be permanently financing other countries. In the European context, one usually thinks of Germany financing France.

One could now proceed in either of two ways. The first method is *integration through talk*—a special case of a pseudo-union. One could allow each country to retain the machinery of currency and credit creation, but introduce “economic policy coordination.” The finance ministers of the member countries would meet regularly and discuss each other’s policies. They would make recommendations and perhaps give instructions to each other about economic policies. One country should deflate somewhat, another should inflate, and so on. This might be described as “multilateral surveillance” activity (in the language of the Organization for Economic Cooperation and Development). This type of procedure appeared to be envisaged in Europe for the first stage of monetary integration. According to the EEC Council of Ministers’ resolution of February 1971, the Council is to hold three meetings a year to examine the economic situation in the Community and to adopt guidelines for short-term economic policy for the Community and for each member to achieve harmonious economic development. The problem is, again, how to bring about agreement, and then how to enforce the agreement. In fact, the difficulties are much the same as in the case I mentioned earlier of the meetings of finance ministers and central bank governors to fix the reference exchange rate.

The alternative is to go the whole way. A Community central bank is established which not only holds the common foreign-exchange reserves but also has the sole right to create money in the union. If an exchange-rate union is to be truly permanent and effective, this seems to be inevitable, as indeed is recognized in the Werner report. One can, of course, imagine the Community central bank taking over the role of the individual central banks gradually. But the end result is a *complete exchange-rate union*—literally *monetary* integration. It means that the government of any one of the partner countries can no longer run a deficit that is financed by its own central bank. Either the Community central bank must finance it or the government must go on the open market.

In Europe there has been some debate as to whether "monetary" integration should precede or follow upon "economic" integration. By "monetary" integration is really meant what I have called a pseudo-exchange-rate union, while by "economic" integration is meant, at the lowest level, "economic policy coordination" or "multilateral surveillance" and, at the highest level, a common central bank and possibly also some kind of fiscal integration.

One view is that if a *pseudo*-exchange-rate union were set up first, tensions would develop that would then lead to "economic" integration—and hence to a *complete* exchange-rate union—the tensions being the pressures from surplus countries on deficit countries. The other view is that "economic" integration (which is usually ill-defined in practice) should come first; the exchange-rate union could then follow without tensions, and surplus countries would not find themselves involuntarily financing deficit countries. The first view has been favored by France and the second by Germany and Holland. Since "economic" integration, if genuine, is a much bigger step than establishing a pseudo-exchange-rate union, and since the establishment of the latter will set up tensions to move to the former, the chances of both being eventually attained are greater if the pseudo-union comes first. Hence the "Europeans," who are mainly interested in keeping the pace of integration moving, favor beginning with the pseudo-union.

I have emphasized that a pseudo-exchange-rate union, where each union country is responsible for its own foreign-exchange reserves and monetary policy, is not the "real thing." Nevertheless, a pseudo-union is certainly worth analyzing carefully. It may lead to quite long periods when exchange parities within the union do remain more or less fixed relative to each other. Furthermore, it may be an inevitable, and possibly quite long, intermediate step on the way to a complete exchange-rate union. This would certainly be so in the EEC if the French point of view prevailed (as it has so often in the past). Much of the following discussion applies both to a pseudo-union (provided it is reasonably effective) and to a complete union, but at various points the distinction between the two will be made and will turn out to be significant.

Nothing has been said so far about capital-market integration. It is convenient to postpone systematic discussion of capital movements until later, since they present many complications. Right through sections 2 to 7 it should be imagined that there are no private capital movements at all. The subject is sufficiently complicated without them. It is useful to see how far one can go while supposing capital to be immobile among countries and to discover later precisely what difference it makes once we allow for capital mobility.

## 2. The Losses from an Exchange-Rate Union: Departure from Internal Balance

Do the various members of a group of countries gain by permanently fixing the relationships among their exchange rates? In considering this question, I shall assume at this stage not only (1) that capital is immobile among them but also (2) that labor is immobile among them and (3) that the use of tariffs, import quotas, and similar devices for balance-of-payments purposes is ruled out.

It is hardly necessary to restate the elementary case for variable, or at least occasionally varied, exchange rates. In a world of at least three countries, country A may need to depreciate and country B to appreciate relative to the outside world, if each is to maintain internal and external balance, assuming that fiscal and monetary policies in each country are used to maintain internal balance. But if A and B form an exchange-rate union, they can jointly depreciate—which would suit A—or jointly appreciate—which would suit B—but they cannot alter the exchange rate to suit both. If the exchange-rate adjustment leaves A with a deficit, it will have to deflate, hence creating unemployment; if the adjustment leaves B with a surplus, it will either have to be content with accumulating reserves or allow its wages and prices to rise.

The main theme is that if countries do not permit themselves appropriate exchange-rate adjustments (or import restrictions and similar devices), they impose on themselves losses that are essentially the losses resulting from enforced departure from internal balance.

When the problem is posed in this familiar way, one wonders why countries should ever wish to tie their hands on exchange-rate adjustments. One needs an argument *for* fixed exchange rates within a region—a fixed exchange rate *gain* that can be traded off against the clear losses to which I have just referred. But before going in search of this gain, let us look more closely at what determines the extent of the losses I have just described.

One simple approach, making use of the Phillips curve concept, is the following. (I shall say something shortly for nonbelievers in the Phillips curve.) Each country has a Phillips curve indicating rates of change of money wages that go with various levels of unemployment. Furthermore, each country has a particular rate of labor-productivity growth, depending on its rate of capital accumulation, technical progress, and various other factors. The latter yields a particular rate of change of its costs for each given rate of change of money wages and hence for each point on the Phillips curve. Thus we can conceive of a “trade-off” curve relating rates of change in costs with levels of unemployment.

In principle, for each country there is a point on this curve indicating

the optimal trade-off between unemployment and inflation. Strictly, it is *price* inflation and not just domestic *cost* inflation that is relevant for the trade-off, and price inflation also depends on the rate of change of foreign prices, but for the simple argument one can ignore this complication. The optimal point can be described as the point of *internal balance*.

If the various countries of the union had the same rate of change of costs at their internal-balance points, then, assuming initial external equilibrium and no *structural* shifts over time (to which I refer further below), there would be no need for relative exchange-rate changes over time. Hence, the establishment of an exchange-rate union would inflict no costs. Otherwise, optimal policy from this trade-off point of view calls for relative exchange-rate changes.

If the optimal policy involves different rates of cost inflation, but exchange-rate relationships are in fact fixed, it becomes necessary for countries to depart from their optimal points so as to ensure a uniform rate of change in costs. Some countries will be compelled to have more unemployment than they wish, and some, more inflation. If a complete exchange-rate union is established, with a common central bank, one cannot readily predict whether the common policy will be unemployment-biased or inflation-biased, but if it is only a matter of a pseudo-union, it seems likely that the potential deficit countries will have to depart from their optimal points rather than the potential surplus countries, so that the union will be unemployment-biased. But, broadly, one might say that the costs of enforced exchange-rate rigidity will be greater the greater the differences among the various optimal rates of change of costs.

It will be observed that three considerations are involved: countries may differ with respect to (a) the positions of their Phillips curves (that is, trade-union aggressiveness, structural considerations affecting unemployment, and so on), (b) their rates of productivity growth, and (c) the preferences or trade-offs of their governments and central banks between unemployment and inflation. A difference in any one respect can create a problem, unless the difference in another respect is offsetting. The various member countries of the EEC, actual and potential, have had very different rates of price inflation in the postwar period and clearly differ in all three respects.

A complication to this simple analysis is that there may be structural shifts in demand and supply over time, reflected possibly in terms of trade changes, which might require the countries within the union to alter their exchange-rate relationships so as to maintain external equilibrium, even when their general rates of cost inflation are identical. Hence, one must add a fourth consideration to the three listed above