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Political and Economic Aspects of International Monetary Relations

What is the ideal choice of an international monetary regime for the settlement of international transactions? This is a question of critical importance in a world economy in which flows of goods and services among countries are increasing constantly. Just as the levels of production and consumption activities, the distribution of income, and the rates of growth and inflation in a given country depend much on the nature and workings of that country's monetary regime, the levels of production and consumption activities and the rates of economic growth and inflation of the world economy, as well as the distribution of income between rich and poor countries, depend on the nature and workings of the international monetary system.

The domestic monetary system of a single country is ultimately based on national consensus and in many cases is the result of a long process of evolution. Seigniorage rights to issue money gradually became concentrated in the hands of a nation-state, while, at the same time, a national banking system gradually developed. By contrast, in the case of the international monetary system, political power is only partly concentrated, and because there exists no concentration of political power in the present world that is strong enough to be called a world government, the international monetary system is based directly and explicitly on a consensus among nations, albeit a consensus that reflects differences among nations in their relative bargaining power. When compared to the development process of domestic monetary systems, the prevailing stage of the international monetary system corresponds to the stage in which the consolidation of power had not yet been completed, many issuing banks coexisted, and many types of bank notes and coins circulated simultaneously. The situation may also be viewed as similar to the present state of international law, where power politics are often still explicit in resolving conflicts of interest among nations and where there still exist many treaties among nations that lack the power of enforcement.

There have been many proposals for the ideal international monetary regime, but most share a common shortcoming.¹ This shortcoming is that economists proposing an ideal regime discuss various desirable properties that would obtain if a particular regime were to be adopted but neglect to analyze the benefit-cost structure that affects the economic incentives of a country considering whether to join an agreement. In other words, they refrain from studying the political feasibility of their ideal plans. It is not sufficient to ask what the ideal international monetary system would be if feasibility considerations were disregarded. One should also ask what type of monetary regime is most likely to be adopted through negotiation in the light of the benefit-cost structure that each regime confers on the participating countries. This brings to mind one of Aesop's fables. Once the mice are able to put a bell on the cat, their problems would be solved. How to put the bell on the cat, however, remains the most difficult problem. One of the purposes of this book is to analyze the feasibility of international monetary reforms by clarifying the benefits and costs that accrue to each nation under alternative international monetary regimes.

The more integrated is the world economy through international trade and capital movements, the more interdependent become the effects of national economic policies. In the area of trade policy as well as in the interplay of macroeconomic policies, national policy authorities are compelled to act while taking account of the mutual interdependence of their economic policies. Moreover, the nature of this interdependence differs substantially depending on the nature of the international monetary regime. Another purpose of this book is to show that the interaction of economic policies, particularly monetary policies, takes different forms under alternative international regimes.

Let us start by clarifying two important concepts used in this book. "International monetary regime (or system)" refers to a set of rules, formal or informal, that governs the use of currencies in the settlement of international transactions such as trade and investment. As in the case of other economic institutions, the formation and development of an international monetary regime are based on an explicit or implicit consensus among the participants—in this case, nation-states. This book is designed to clarify the relationship between the rules of the international monetary system and the economic activities taking place under those rules.

Next, what is meant by "international interdependence"? The concept has at least three elements. The first element is the recognition that the world is closed as a whole and that Walras's Law holds for the world economy. The second element is that goods and assets of different countries are becoming

closer substitutes for one another through the development of transportation and communications technology. The extreme examples of this are the purchasing-power-parity relationship in goods markets and perfect capital mobility in asset markets. Under such circumstances, as long as Japanese and American cars (for example) are homogeneous, their prices must be equal if converted into the same currency unit using the prevailing exchange rate. In fact, one of the merits of flexible exchange rates is that they block the link of substitutability among different national monies that exists under fixed exchange rates. The third element of interdependence is the small number of influential countries. Because the economic influence on the world economy of the United States, Germany, Japan, the European Community (EC), and the Organization of Petroleum Exporting Countries (OPEC) is quite strong, the authorities of these countries or groups of countries must take account of possible reactions from other major countries when formulating policy.

Brief History of the Postwar International Monetary System

The international monetary system has undergone several major changes during the postwar period. The Bretton Woods system (or the former IMF system) that endured for much of the postwar period was the result of cooperation among nations to prevent the undesirable consequences of the competitive devaluations that took place after World War I. It was a compromise between the Keynes plan of a "clearing union," representing the position of the British government, and the White plan, representing the position of the U.S. government. The compromise can be characterized as an adjustable peg system, but because the price of gold was fixed in terms of the dollar and because both gold and the dollar served as international currencies, it also retained certain characteristics of the gold exchange standard.

After the United States adopted a two-tier price system for gold in 1968, the international monetary system started losing its character as a gold standard and moved closer to a dollar standard. The critical date was August 1971, when President Nixon launched the New Economic Policy that destroyed the adjustable peg system root and branch. Thereafter, the floating exchange rate system came to be adopted by most developed countries. Except for a brief period between the end of 1971 and the beginning of 1973, when the Smithsonian system (a type of fixed exchange rate regime that allowed much wider margins of exchange rate fluctuations than the Bretton Woods system did) was in force, the international monetary system among developed countries has been dominated by a "managed float

system.” This series of major reforms resulting from the “Nixon shock” was based on unilateral action on the part of the United States designed to cope with its balance of payments crisis rather than on benefit-cost calculations by, or a consensus among, participating countries.

The fact that such reforms were inevitable suggests that the former IMF regime contained serious internal inconsistencies. First, while the credibility of the dollar was maintained by linking it to gold, the balance of payments deficits of the United States led to a decline in the credibility of the dollar, which in turn worsened the U.S. balance of payments. Thus there was an element of built-in instability in the system. Second, even after the link between gold and the dollar had been severed, the dollar standard could work well only if the United States assumed the role of maintaining world price stability. Once the United States abandoned this role and turned to the pursuit of policies directed at domestic objectives alone, the world economy was at the mercy of inflationary as well as deflationary pressures arising from U.S. monetary policies.

Efforts to restore international monetary stability and the operation of fixed exchange rates led to agreement on the formation of the Smithsonian system; however, this system lasted only briefly because it failed to cope with the rapidly changing international financial situation that was affected by external shocks such as the first oil crisis. Thereafter, the international monetary system transformed itself into a managed float system. Since 1973, despite the oil crisis and other disturbances, the world economy has functioned without any serious international monetary crises. Thus, it would be fair to say that the managed float system has worked despite its imperfections.

Method and Plan of the Book

In examinations of the politico-economic process of international agreement on the adoption and reform of international monetary regimes, the traditional tools of economic analysis used in competitive theory are inadequate. Price theory, particularly the highly sophisticated theory of perfect competition, is based on the assumption that any individual economic agent has negligible influence on the market. When considering the international monetary problem, however, we notice the predominance of large countries such as the United States, West Germany, and Japan, a situation with strong implications for the process of negotiating a monetary regime as well as for the interplay of monetary policies under a given monetary regime. To cope with this situation, this book appeals to oligopoly theory and the powerful

tool of game theory rather than to the theory of perfect competition.² My basic approach will be to apply these tools to an analysis of the impact of the rules of economic behavior on economic activity. In addition, I will make use of several useful tools from the field of public economics, such as Olson's theory of collective action and Buchanan's theory of clubs (Buchanan 1964).

Thus, this book represents an attempt to analyze the impact of rules of economic behavior on economic activity in the field of international monetary relations using the tools of economic theory. This amounts to studying the political process of adopting and reforming the international monetary system endogenously. There is growing recognition of the need to incorporate the political behavior of economic agents as endogenous variables in economic models of the domestic economy as well, as advocated by Buchanan (1971). I cannot support the drastic proposals advocated by the public choice school, such as the proposal that a balanced budget be guaranteed by law, but I find it meaningful in principle to view economic activities as social phenomena that should be studied in conjunction with the political process. In the field of international economics in particular, there is now a growing need to analyze the political aspect of agreeing on the rules of the game using an interdisciplinary approach that combines the tools of economics and political science inasmuch as the outcome of interactions among the macroeconomic policies of different countries depends crucially on the rules of the game that are formulated through the political process of international negotiation.

If we consider the relationship between rules and economic policies (or, more precisely, between the formation of rules and the interplay of economic policies among nations under a given set of rules), we can think of international monetary confrontations as gamelike situations with two distinct layers or stages. The first stage consists of the game of agreeing on a set of monetary rules—that is, of choosing or reforming an international monetary regime. In other words, it is a game of choosing the rules of the policy game that follows. The second stage consists of the game of policy interplays under a given set of monetary rules. In this game stage 1 and stage 2 are not necessarily played consecutively. Rather, they are often played simultaneously and are closely related to one another. For the purpose of analysis, however, it is helpful to distinguish between them.

In chapters 2 and 3, I concentrate on the first stage of the game and examine the process of negotiating the adoption or reform of the set of rules that defines an international monetary regime. In chapter 2, after clarifying the relationship between the first and second stages of the game, I examine the structure of the economic incentives faced by each country during the

political process of agreeing on a set of monetary rules. I then show that the first stage of agreeing on a regime exhibits properties similar to the game of matching pennies in which both players gain when they choose the same side of the coin. It is a situation in which the ongoing set of rules persists until agreement is reached on reform.

In chapter 3, the politico-economic approach to analyzing the choice of an international monetary system will be applied to the problem of monetary unions or monetary integration, a typical example of which is monetary integration within the EC. In particular, the calculus of participation, an application of public economics to political processes, will be used to assist in the analysis of the problem of participation in a monetary union. The calculus of participation is based on the idea that the decision of whether to join a monetary union will depend on whether a given country can improve its level of economic welfare by joining. The benefits accruing to participating countries have the nature of public goods, while the costs have the nature of private goods. Moreover, the time profiles of the benefits and costs are different; the costs come first and the benefits later. For these reasons, monetary unions are difficult to achieve. If we review the historic experience of monetary centralization within individual nations and that of international monetary integration in the light of the calculus of participation as well as the theory of clubs, we find many interesting instances that indicate the difficulty of achieving a successful monetary union.

The remaining chapters are devoted to examining the second stage of the game of monetary confrontations: the game of policy interplays under a given set of rules. Chapter 4 examines the interdependence of monetary policies in the context of a Keynesian model that assumes a fixed price level and variable employment. Chapter 5 studies the interdependence of monetary policies in a monetarist model that takes the level of employment as given but allows the price level to be completely flexible. In both models the game of monetary policy interplays can be formulated in the form of an n -person non-zero-sum game. As is well known, there are many solution concepts to an n -person non-zero-sum game; however, solution concepts worth noting can be broadly classified into cooperative solutions that arise when countries cooperate and noncooperative solutions that arise when countries react more or less independently. Among the general requirements for cooperative solutions are the requirement that they be Pareto-optimal and that they represent situations more desirable than the initial situation for all participating countries. Noncooperative solutions include the Cournot-Nash equilibrium based on the passive behavior of all countries and the

leadership equilibrium with a dominant country such as the United States acting as the leader. By comparing these alternative solution concepts, we obtain a number of interesting results. In chapter 5, for example, I show that if the increase in outside money such as gold or special drawing rights (SDRs) is larger (smaller) than the increase in total demand for international reserves by all countries, then the Cournot-Nash equilibrium as well as the leadership equilibrium will tend to be more inflationary (deflationary) than the cooperative outcome.

Put in terms of the concepts of public economics, the rate of world inflation is a public good (or public "bad") that is determined by the average rate of monetary growth of all countries. On the other hand, the balance of payments of a country is determined by the difference between the domestic rate of monetary growth and the average monetary growth rate of all countries. (In the two-country case, it depends on the difference between the monetary growth rates of the two countries.) Consider the case in which further inflation is undesirable for the world economy. Although each country recognizes that any increase in the world money supply would create the public bad of inflation, it may find it advantageous to raise its own monetary growth rate above those of other countries because by so doing it can attain a higher level of consumption, at least in the short run. This is analogous to the example of air pollution by automobiles. The more a driver uses his or her car, the more the driver benefits, but, at the same time, the more exhaust the automobile emits. Since the level of air pollution is determined by the total amount of exhaust emitted by all automobile users, there is a tendency for the air to be polluted more than is desired by society as a whole.

One of the drawbacks of the game-theoretic approach taken in most chapters of this book is that the analysis is limited to a static framework. At the end of chapter 5, however, I will experiment with a dynamic approach to the simple world money game by appealing to the technique of the differential game.

Neither the model in chapter 4 that assumes fixed price levels nor the model in chapter 5 that takes income and employment as exogenously given is sufficient to analyze the current state of the world economy (although they highlight some interesting aspects thereof), because we are living in a world in which inflation and unemployment coexist. In order to analyze simultaneous changes in price and employment levels, from chapter 6 on I examine the effects of monetary policy on economic fluctuations and the nature of the international transmission mechanism of business cycles in a model that

incorporates the short-run and long-run Phillips curves. In chapter 6 I will present a monetary model that incorporates the Phillips curve and study its properties under alternative monetary systems. Under a fixed exchange rate system, both foreign inflation and changes in the terms of trade affect the domestic economy. On the other hand, under a flexible exchange rate system, while changes in the general price level abroad are absorbed through changes in the exchange rate, a deterioration in the terms of trade results in both unemployment and inflation (stagflation) in the domestic economy.

In chapter 7, this framework is extended to a two-country model. The two countries interact, first, directly through the effects of changes in money supply on the balance of payments, and, second, through the wage-price spiral accompanying changes in the terms of trade. The former link through the interaction of monetary policies operates only in the case of fixed exchange rates, while the second link through the terms of trade operates under both fixed and flexible exchange rates. While recession in one country tends to cause recession in the other under fixed rates, it tends to cause stagflation in the other under flexible rates. Moreover, the second link through the terms of trade becomes more important the lower is the elasticity of substitution between consumption goods. During the oil crises, the deterioration in the terms of trade of oil-importing countries was aggravated by exchange rate depreciation, as a result of which they suffered from serious cost-push inflation. The mechanism of this process seems to be well explained by the model developed in this chapter. The difference between the macroeconomic mechanisms under the fixed and flexible exchange rate systems stems mainly from the fact that, under fixed exchange rates, international reserves serve as a buffer, while under flexible exchange rates, exchange rates perform the adjusting function in the same way that other prices do. In the terminology of Hicks (1974), this difference corresponds to that between the mechanisms that characterize the “fix-price” economy and the “flex-price” economy.

The above policy-game approach is also applicable to the analysis of the managed float system, as we see in chapter 8. Intervention in the foreign exchange market has substantial effects on the intervening country, as well as on other countries. For example, a devaluation of the domestic currency implies an increase in the money supply of the rest of the world when measured in terms of domestic units, which results in strong inflationary effects as well as employment-creating effects on the domestic economy. On the other hand, for all other countries, a domestic devaluation implies a contraction of the money supply of the devaluing country measured in terms of their respective currency units, meaning that they face deflationary

pressures instead. Accordingly, under the managed float system, a devaluation in a given country's exchange rate implies "beggar-thy-neighbor" effects.

This book, then, is an attempt to study international monetary confrontations, a topic that lies on the border between political science and international economics, using an interdisciplinary approach.