

“The Economics of International Trade and Finance”

Chapter 2 of

State Power and World Markets: The International Political Economy

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I. INTRODUCTION

To understand the role played by politics in international economic affairs, we first need to understand the purely economic incentives that prompt countries to engage in international trade and financial transactions. Economic theory provides a very firm foundation for such an appreciation of why nations pursue international economic relationships, and for that reason this chapter provides an overview of some of its key concepts and arguments about the bases for and gains from trade, the functions and operations of international money and finance, and a number of issues regarding the efficacy of macroeconomic policy for nations that are highly open to international trade and finance.

In the first section of the chapter we focus on international commerce. Trade theory, we suggest, provides a strong account of how and why nations gain from trade and thus have an incentive to enter into commercial relationships. It also helps us understand why countries tend to export certain goods while importing others. Finally, while modern

trade theory provides a strong argument that a nation as a whole benefits from trade, it also provides a line of analysis which suggests that some groups within a nation might not gain but instead lose from the country's participation in trade, giving those particular groups a rational reason to prefer and to demand protection from international competition through political channels.

In the second section of the chapter we turn to economic theory and the basic functions and institutions of international money and finance. We explore in particular the operation and importance of the foreign exchange market, the manner in which currencies trade against one another, and the basic choice of governments as to whether to have flexible exchange rates or to try to fix the value of their currencies against others. We also introduce some basic concepts that permit us to evaluate the international payments situation of a country, namely, its balance of payments, and what the balance of payments means for a country from the viewpoint of operating a fixed as opposed to a flexible exchange-rate regime.

In the chapter's third main section we explore the manner in which international trade and capital flows can affect the capacity of governments to steer their national economies. We review in particular the line of analysis put forward by modern macroeconomic theory which demonstrates that economic openness--that is, the combination of a high level of trade and low barriers to the entry or exit of capital--significantly constrains the capacity of most countries to affect through individual policy actions such key economic variables as national growth and employment. Countries, then, face a choice: they can have the benefits of trade and capital mobility, or they can have national economic policy autonomy, but they typically cannot have both. This

raises a profoundly political question, addressed throughout the remainder of the book: how do nations adjust their policies individually and collectively to maximize the advantages of economic openness while coping with the loss of national autonomy that is entailed by such openness to the world economy?

## II. WHY DO NATIONS ENGAGE IN TRADE?

We want to understand how and why countries can gain from trade, and thereby have an incentive to facilitate or at least not to impede such transactions across their borders.

To make this issue concrete, consider the following:

- In 1996, the United States bought a total of \$320 million in coffee and coffee products from Brazil. But coffee was only the fifth biggest export from Brazil to the United States that year; the biggest Brazilian export product going to the United States in 1996, coming to \$1.2 billion dollars out of a total of \$8.8 billion in Brazilian exports to America, was footwear. Now, it might be obvious why the United States buys coffee from Brazil: it cannot be grown readily in America and it can be in Brazil. But how, in light of the fact that the United States is an industrial powerhouse, could the United States possibly benefit from purchasing from Brazil something as simple to make as shoes?
- At the same time, the biggest U.S. export item going to Brazil in 1996 (constituting about \$900 million out of a total of \$12.7 billion in American goods sold to that country) was computers. Brazil for almost twenty years had sought and has made some progress in nurturing a domestic Brazilian computer industry; given this national interest in an indigenous computer industry, why doesn't

Brazil simply prohibit computer imports? Why, in other words, does it gain from buying computers from America rather than making still greater efforts at building them at home?

### The Ricardian Model of Comparative Advantage and the Gains from Trade

To understand why Brazil and America exchanged shoes for computers in 1996, we can usefully employ the logic of comparative advantage, first presented by David Ricardo in the early 1800s. Let us, for the following discussion, stipulate the following assumptions:

- There are only two countries: Brazil and the United States.
- Brazil and the United States produce only two goods: computers and shoes.
- Only one input is required for the production of either computers or shoes: labor.
- Any one worker either in the United States and Brazil is able to produce in one year the number of computers or pairs of shoes depicted in Table 2.1:

Table 2(1):  
Hypothetical Output Levels, One Year of Labor, United States and Brazil

	Output/Worker, One Year		Opportunity Cost	
	<u>Computers</u>	<u>Shoes (pairs)</u>	<u>1 Computer</u>	<u>1 Pair of Shoes</u>
United States	50	200	4 pr. shoes	.25 computer
Brazil	5	175	35 pr. shoes	.03 computer

Any one worker in the United States, in this simple model, can produce more computers than can any one worker in Brazil (50 in America as opposed to 5 in Brazil), and such an American worker can also produce more pairs of shoes than can a Brazilian worker (200 as opposed to 175 pairs of shoes). The United States, in other words, has an

absolute advantage over Brazil both in computers and shoes. In light of the fact that the United States is better positioned to produce both products, it would seem to be highly unlikely that America could gain from trade from Brazil.

To see how such trade would in fact be beneficial, consider what would be the situation if the United States wanted to produce and consume more shoes in the absence of trade. Given that we are assuming that labor is the only input needed to produce either computers or shoes, the solution to the problem of making more shoes would be to shift labor out of the production of computers and into the production of shoes. If one worker were so shifted, computer production in the United States would go down by 50 units over the course of a year, and shoe production would go up by 200 pairs. Hence, in the United States, attainment of the production and consumption of 200 pairs of shoes requires that the United States forgo the opportunity to produce and consume 50 computers. Economists by consequence say, as is reported in Table 2.1, that the “opportunity cost” of the production and consumption of one more pair of shoes in the United States is one-fourth of a computer.

We can also calculate the hypothetical opportunity costs between computers and shoes in Brazil. These are also reported in Table 2.1, and, as can be observed in that table, the opportunity cost of a making/consuming an additional pair of shoes in Brazil in terms of computers forgone is much lower than it is in the United States. If there were a preference on the part of Brazil to increase shoe production and labor were shifted out of computers and into shoes in order to satisfy that preference, and if one Brazilian worker were so shifted, then computer production would go down by five units while shoe production would go up by 175 pairs. Hence, the opportunity cost of shoes in terms of

forgone computers in Brazil would be 5 computers/175 pairs of shoes, or about .03 of a computer forgone for each additional pair of shoes produced. Shoes, then, are relatively much cheaper to make in terms of forgone computers in Brazil than in the United States (.03 computers forgone in Brazil as opposed to .25 of a computer in the United States), and by consequence we may say that, in respect to the United States, Brazil has a comparative advantage in the production of shoes rather than computers.

At the same time, the figures in Table 2.1 indicate that if the United States wanted to build more computers and so shifted one worker from shoes to computers, the opportunity cost incurred would be four pairs of shoes forgone for each additional computer produced; if Brazil wanted more computers and by consequence shifted workers from shoes to computers, the opportunity cost of each additional computer so produced would be thirty-five pairs of shoes forgone. By consequence, we may say that the cost of producing an additional computer in terms of forgone pairs of shoes is much lower in America than it is in Brazil (again, four pairs of shoes given up as opposed to thirty-five), and for that reason the United States has a comparative advantage over Brazil in the making of computers over shoes.

Given the differences in opportunity costs between computers and shoes in the United States and Brazil, the logic of comparative advantage suggests that the United States and Brazil could each become better off if each country specialized in the manufacture of the good in which it had a comparative advantage, and traded with the other to obtain the good no longer produced. Table 2.2 presents a sequence of steps to show how this might occur.

Table 2.2

## Hypothetical Gains from Specialization and Exchange

	United States		Brazil	
	Computers (million)	Shoes (mill prs)	Computers (million)	Shoes (million prs)
1. Initial production/consumption	30	80	3	70
2. Production w/specialization	50	0	0	175
3. Export to partner	10	0	0	100
4. Import from partner	0	100	10	0
5. Consumption after trade	40	100	10	75

For the purposes of this discussion, we continue to assume that the United States and Brazil have the per-worker annual production rates for computers and shoes that are presented in Table 2.1. We further assume, for the purposes of ease of presentation, that the United States and Brazil each have a total labor supply of one million worker-years and that, prior to specialization and trade, each is devoting 400,000 of its labor-years to shoes and 600,000 to computers. This means, as is reported in Step 1 of the table, that, prior to specialization, the United States is producing 30 million computers and 80 million pairs of shoes, while Brazil is producing 3 million computers and 70 million pairs of shoes. Step 2 depicts what happens if the United States specializes on the basis of its comparative advantage: it stops making shoes and, by shifting the 400,000 labor-years now released from that industry to the computer industry, it increases its production of computers from 30 million to 50 million units. Step 2 also depicts specialization by Brazil: it stops making computers and, with the released labor, increases its shoe production from 70 million pairs to 175 million pairs.

Let us first note what has happened to the total production of computers and shoes. Before specialization, the combined total of U.S. and Brazilian computer

production was 33 million units, but with specialization it has increased to 50 million units; similarly, before specialization, shoe production in the two countries totaled 150 million pairs, but with specialization it too has increased to 175 million pairs. This increase in “global” production and availability of the two goods after specialization reflects the fact that both Brazil and the United States are now making better use of their labor resources.

But there is more: now that the United States is producing many more computers and Brazil is producing many more pairs of shoes, they could each obtain the good no longer produced locally by offering to trade with the other. The key requirement is that they agree on a rate at which U.S. computers will be so traded for Brazilian shoes.

Given the domestic opportunity costs between computers and shoes in the two countries, we know that certain offers will not be accepted:

- On the one hand, if Brazil offered fewer than four pairs of Brazilian shoes for each American computer received, then it would be cheaper for the United States to make its own shoes again by re-allocating labor from computers to shoes, and thereby obtain four pairs of U.S.-made shoes for each computer forgone.
- On the other hand, if the United States indicated that it would provide a computer to Brazil only if it received more than 35 pairs of shoes in return, then it would be cheaper for Brazil in terms of shoes forgone if it shifted labor out of shoes and into computers, since if it had to do so it could obtain each such locally produced computer by forgoing 35 pairs of shoes.
- Thus, the terms of trade between the two countries will have to fall somewhere between 1 U.S. computer exchanged for 4 pairs of Brazilian shoes and 1 U.S.

computer exchanged for 35 pairs of Brazilian shoes, for only if the terms of trade so fall within that range will each partner be better off by specializing and trading than if it obtained both goods through wholly domestic production, and thus will be willing voluntarily to engage in a trade.

For the purposes of the analysis presented in Table 2.2, let us assume that the demand for computers and shoes in both the United States and Brazil are such that they agree to a terms of trade of 1 computer for 10 pairs of shoes, and to an exchange, depicted in Steps 3 and 4, whereby the United States exports 10 million computers to Brazil in exchange for which it receives 100 million pairs of shoes.

Step 5 presents the key evidence that both the United States and Brazil would gain through such an exchange of goods made possible in the first place by specialization on the basis of comparative advantage. Prior to such specialization and trade, American consumption of computers and shoes was limited to what American workers could produce: 30 million computers and 80 million pairs of shoes. After specialization and trade, American consumption, no longer limited by American productive capacity in the two industries but instead grounding itself on American and Brazilian specialization on the basis of their respective comparative advantage and U.S.-Brazilian trade, grows to 40 million computers, as opposed to 30 million prior to specialization and trade, and 100 million pairs of shoes, up from 70 million prior to specialization and trade. Similarly, Brazil's consumption of both shoes and computers grows as a result of specialization and trade: from 3 to 10 million computers, and from 70 to 75 million pairs of shoes.

#### The Neoclassical Model of Trade:

## Comparative Advantage and the Heckscher-Ohlin Theorem

David Ricardo's model of comparative advantage shows that specialization and mutually voluntary trade can increase national consumption of goods of both the United States and Brazil, and thereby enhance the national welfare of each country. But that model raises two key questions:

- If specialization on the basis of comparative advantage is the path to enhanced national welfare, why don't countries fully specialize in the good in which they have a comparative advantage?
- Why causes one country to have a comparative advantage in one good, and another country to have a comparative advantage in another good?

Concretely, why does the United States have a comparative advantage in computers while Brazil has a comparative advantage in shoes?

To answer the first question, let's return for a moment to the Ricardian argument about specialization. It will be recalled from the discussion above that we assumed in regard to the United States, for example, that if it shifted labor from shoes to computers, it could produce each additional computer at the opportunity cost of 4 pairs of shoes, and that this opportunity cost remained the same no matter how many more computers were made as the United States specialized in computers. Embedded, then, in the discussion above was the assumption that throughout the process of U.S. specialization in computers, as successive increments of additional computers were made by using labor released from shoe production, the opportunity cost in terms of forgone pairs of shoes to make the very last increment of additional computers was exactly the same as it was the

make the very first increment, namely, four pairs of shoes forgone per additional computer made.

Neoclassical economists argue persuasively that this assumption of constant opportunity costs between goods in the Ricardian model of trade is not likely to hold as a country progressively specializes in one or another good. The Neoclassical model begins with a key adjustment in our assumptions about the production of either computers or shoes:

- Rather than being produced with only one factor of production, shoes and computers are produced with TWO factors of production, labor and capital in the form of machinery and buildings.
- Technical knowledge allows both computers and shoes to be made with different combinations of labor and capital. However, compared to shoes, the most efficient combinations for making computers all use relatively more capital than labor, while, compared to computers, the most efficient combinations for making shoes all use relatively more labor than capital.

Regarding the U.S. specialization process described in the previous section, the Neoclassical expectation would be that while at first the United States might in fact be able to build one more computer by shifting the labor and capital previously used to make four pairs of shoes, eventually it would have to forgo progressively larger numbers of shoes. This is because, in comparison to the optimal mixture of capital and labor to make a computer, the reduction in shoe production is releasing too much labor and too little capital. The computer industry would respond by turning to relatively more labor-intensive manufacturing processes, but, given that computers are optimally made using

capital-intensive techniques, the productivity of the computer industry as a whole would at some point begin to decline. In order, then, to keep building additional increments of a given number of computers, shoe production would have to drop by progressively larger and larger amounts. Returning to our example, rather than being able to produce one more computer by shifting the labor and capital that had been used to make four pairs of shoes, it would become necessary at some point to shift the labor that otherwise would yield five pairs, and then seven pairs, and so on.

The result, according to Neoclassical economic theory, is that the opportunity cost of computers in terms of forgone pairs of shoes will increase as the United States makes more and more computers and fewer and fewer shoes. By the same logic, the opportunity cost of pairs of shoes in terms of forgone computers would increase as Brazil makes more and more shoes and fewer and fewer computers. Eventually, as the United States and Brazil undertake specialization and trade, additional computer production would become so expensive in terms of forgone shoes, and extra Brazilian shoe production would become so costly in terms of forgone computers, that the opportunity costs between computers and shoes would equalize across the two nations. At that point, which in all likelihood would occur prior to full specialization, neither of the two countries would have an incentive to specialize further. Hence, in the Neoclassical model of increasing opportunity costs, the dual process of specialization on the basis of comparative advantage plus trade is mutually beneficial to the nations involved, but it is not likely to lead to full specialization by either partner in the good in which it has a comparative advantage.

Thus, in response to the first question of why not have full specialization, Neoclassical theory provides the response: countries can mutually gain if they undertake specialization and trade because in the absence of trade they differ with regard to opportunity costs between goods, but specialization and trade eventually bring about an elimination of these differences. But what about the second question: why is it that the United States has a comparative advantage in computers rather than shoes, while Brazil has a comparative advantage in shoes rather than computers? Eli Heckscher in 1919 and Bertil Ohlin in 1930 provided a helpful response to this question by investigating the implications of adding to the Neoclassical model the following assumptions:

- Compared to the availability of capital and labor in Brazil, the United States has relatively more capital than labor: the United States is a capital-abundant country while Brazil is a labor-abundant country.
- Preferences or tastes for computers over shoes are similar in both Brazil and the United States. Differences in the relative amounts of the two goods that are produced and consumed in the two countries prior to specialization are therefore not a reflection of relative demand for the two goods, but instead of differences in the relative costs in the two countries of producing them.

Working with these assumptions and those listed above under the Neoclassical theory, Heckscher and Ohlin developed a crucially important line of analysis about trade; what has come to be known as the Heckscher-Ohlin theorem of the bases of trade suggests is that a country will have a comparative advantage in, and thus will tend to export, those goods whose production requires the intensive use of the factor of production they have in relative abundance. In the Heckscher-Ohlin framework, because

the United States, compared to Brazil, is abundant in capital rather than labor, the cost of capital, relative to wages, will be lower in the United States than in Brazil. Given the earlier assumption that economically efficient production techniques are capital-intensive for computers and labor-intensive for shoes, the United States will be able to produce computers at a lower cost and therefore at a lower price relative to shoes than will Brazil, and Brazil will be able to produce shoes at a lower cost and price in comparison to computers than will the United States. This is equivalent to saying that the opportunity cost for producing an additional computer in terms of shoes forgone will be lower in the United States than in Brazil.

The Heckscher-Ohlin line of inquiry thus suggests that differences across countries in their endowments of factors of production, plus differences in the mixtures of factors of production with which different goods are optimally made, can explain why Brazil has a comparative advantage in shoes, while the United States has a comparative advantage in computers. And, fortified by the Heckscher-Ohlin logic, the Neoclassical model reaches the same conclusion through an analysis of two factors of production and increasing opportunity costs as did the Ricardian model with its analysis of one factor and constant costs. That is, given that the United States and Brazil face different relative prices of computers and shoes (and therefore different opportunity costs of one in terms of the other) as a result of differences in their factor endowments and the factor intensities associated with the two products, the United States would best improve its prospects of increasing its overall consumption of both computers and shoes by specializing in computers and exchanging some for Brazilian shoes, while Brazil would

best improve its consumption opportunities by specializing in shoes and exporting some to the United States in exchange for computers.<sup>1</sup>

### The Problem of the Distribution of the Gains from Trade:

#### The Stolper-Samuelson Theorem

Both the Ricardian and Neoclassical theories of trade yield the same basic argument posited at the outset of this chapter of why do nations engage in trade; the answer, in a nutshell, is that nations will be better off if they do so. Specialization on the basis of comparative advantage and trade, economic theory suggests, are clear examples of the power of human ingenuity and rationality. This is because the increase in overall consumption of computers and shoes that occurs in both Brazil and the United States in the discussion above results not from increases in the availability of capital or labor in the two countries, but rather they result from the more efficient use by each of their existing supplies of those resources and the construction of a new human institution--mutually voluntary and mutually beneficial exchanges of goods between the two countries.

Given its core findings, international trade theory has supported freer trade among nations, and it has been generally highly skeptical of arguments favoring restrictions on trade. Indeed, given the big gains that nations may attain from trade that are identified by

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<sup>1</sup> However, if tastes in the United States were such that consumers had a much stronger preference for computers over shoes than was true in Brazil, then it might be the case that, in light of increasing costs, local demand-driven high production of computers in the United States could cause the opportunity costs between (and therefore relative prices of) computers and shoes to be equal to that in Brazil, thus undermining the basis for specialization by either or trade between them. It is for this reason that the Heckscher-Ohlin model assumes that tastes between countries are not so dissimilar as to bring about a demand-led equalization of opportunity costs.

economic theory, it is hard to understand how anyone might rationally question the wisdom of efforts by nations to facilitate international commerce, or how anyone might rationally support policies by countries that impair such exchange.

However, modern trade theory has identified and explored at least one dynamic associated with specialization and trade that could lead some individuals and groups within a country to have a perfectly rational basis for opposing freer trade even as the country as a whole benefited from more open trade. This line of analysis was put forward by Wolfgang Stolper and Paul Samuelson in 1941, and the important result of their analysis is known in economics as the Stolper-Samuelson theorem. The theorem explores the effects on the returns and hence the incomes of factor owners (for example, workers, capital-owners, or land-owners) as their countries specialize on the basis of comparative advantage envisioned in the Heckscher-Ohlin framework--that is, as the country specializes in those goods whose most efficient production employs intensively the factor of production that is in abundance in the country. The Stolper-Samuelson theorem suggests that an effect of such specialization and trade is that the owners of the factor of the relatively abundant factor will experience a disproportionate gain in their returns and real incomes, and the owners of the factor of the relatively scarce factor will sustain a drop in their returns and real incomes.

This will occur because of changes in the demand for factors of production as specialization proceeds on the basis comparative analysis. In the case above regarding the United States and Brazil, when trade opens up U.S. computer manufacturers will find that there is an increase in demand for their product, and to meet that increased demand they will want to expand production. To do that they will need some additional labor and

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a lot of additional capital equipment, for computers are a capital-intensive product, and in the discussion above we identified both sets of additional inputs would come from: the shoe industry. But we did not then, and we need now, to reflect on why capital will move from the shoe to the computer industry: because computer manufacturers, in strong need of capital, will be willing to pay higher rental rates for it, and it is the prospect of receiving and the actual attainment of such higher returns which induces some of the owners of capital equipment to provide it to the computer makers, and it is only the payment of the higher charge to them by shoe manufacturers which prevents other capital owners from not leaving the shoe industry.

Hence, higher demand for computers will lead to higher demand for capital equipment, and, in the face of that higher demand for that factor, capital owners in both the computer and the shoe industry will enjoy a higher return and thus an increase in their real incomes. Prices of computers in the United States would also go up as computer demand escalated in the face of the new export market in Brazil, but the Stolper-Samuelson model suggests that the percentage increase in the return to capital would be greater than the increase in the price of computers. Therefore, capital owners would enjoy not just an increase in the returns to their factor of production, but an increase in their real income (that is, an increase in their income after taking into account price changes) even if they only purchased computers. Thus, owners of the relatively abundant factor of production gain from an opening of trade.

Owners of the U.S. relatively scarce factor--in the present discussion, American workers--face a different situation were specialization and trade to go forward. As noted above, the computer industry will expand its production by drawing both capital and

labor from the shoe industry. Let's us also recall that, by assumption, compared to each pair of shoes, each computer is made using a great deal of capital and not much labor. Therefore as shoe production goes down, a great deal of labor is being released relative to the amount of capital so released. Hence, the computer industry would not need all of the labor that "comes along" with the amount of capital that it does need to meet the increased demand for computers were trade to open up with Brazil. There are by consequence now more workers available than are required for employment in the computer industry and the now-reduced shoe industry given the current production methods using capital and labor in the two industries. Workers laid off from shoe factories who were unable to get jobs in the expanding (but capital-intensive) computer industry would respond to their situation by offering to accept lower wages if offered a position in either industry, and, in the face of a lower prospective costs for labor, both industries would accept higher employment and maintain overall output by moving to more labor-intensive manufacturing processes. Hence, in the face of specialization and trade, owners of the relatively scarce resource in the United States--labor--would experience a decline in their returns (that is, their wages), and, according to the Stolper-Samuelson theorem, this decline in wages would not be offset by a decline in the prices of shoes as the latter became more plentiful through imports from Brazil.

Hence, while specialization and exchange with Brazil makes the United States as a whole better off, the Stolper-Samuelson theorem provides a basis for finding that a particular group within the United States--U.S. workers--would be worse off as a result of such a move to specialization and commerce. Hence, while the United States as a national community might have a rational incentive to pursue trade liberalization, U.S.

workers would have a rational basis for resisting such a liberalization of exchange. Similarly, while in the context of this discussion the Stolper-Samuelson theorem would help us understand why workers in Brazil, as the owners of the relatively abundant factor of production in that country, would unambiguously gain from trade and thus rationally would have an incentive to press for trade initiation and expansion, it also would lead us to expect that Brazilian capital owners would rationally oppose such an initiation and expansion.

The main response by modern trade theory to the implication of the Stolper-Samuelson theorem that some groups within a country may have a rational preference for protection against trade is that the gains from exchange are so great that those that win from trade liberalization could offer compensatory payments to those who lose, and both groups would still be better off with trade than with autarky. Will that occur, and if so, what will be the form of compensation? Will the country instead respond to demands for protection by imposing restraints on trade to some degree even if this reduces the gains from trade? Or will the country pursue liberalization without compensation of domestic losers? These questions concern the politics and political institutions of the country entertaining liberalization, and to answer we must leave the realm of economic theory and enter that of political analysis.

### III. BASIC ELEMENTS OF INTERNATIONAL MONEY AND FINANCE

In this section of the chapter we offer a brief overview of the economic functions performed by the foreign exchange market. In addition, we analyze the two main ways

by which countries may seek to have their currencies trade against others, namely, fixed and flexible exchange-rate regimes. We will also examine how a country's international transactions are recorded in its balance-of-payments, and how a nation's balance of payments affects the capacity of a country to maintain a fixed as opposed to a flexible exchange-rate regime in the face of an international payments imbalance.

The Economic Functions of Foreign Exchange Markets  
and Alternative Exchange-Rate Regimes

In the previous section we discussed the bases for and gains from trade without regard to money. However, an American manufacturer, whose expenses (such as wages, materials, and dividends to stockholders) will be mostly in dollars, will typically require payment in dollars. Therefore, if a foreign resident (either a person or firm) wants to buy that American manufacturer's product, that foreign resident will need to acquire dollars. Similarly, in the discussion above we pointed out that countries that are relatively scarce in capital will tend to have relatively higher costs for borrowing capital--that is, interest rates--than those of capital abundant nations. If investors from the capital abundant countries had some way to purchase financial instruments issued in the capital scarce countries--stocks, bonds, money market accounts, interest-bearing checking accounts, or real assets such as property--they could earn a higher return than would be available in their respective home countries. But again, the investors would need to acquire the currency of the capital scarce countries in order to purchase such assets. Hence, both trade and financial transactions require for their completion the acquisition and use of

foreign currencies. These foreign currencies are typically acquired through purchases or sales of currency on the foreign exchange market. Residents of a country supply its currency on the foreign exchange market as a result of their demand for imported goods and services and foreign financial assets, while the demand for a country's currency on the foreign exchange market reflects demand on the part of foreign residents for the country's exports of goods and services and its financial assets.

A key policy issue for nations is to decide whether these forces of demand and supply will determine the exchange rate between their currency and that of others. If a government allows market forces to determine the exchange rate, then the government is pursuing a floating or flexible exchange-rate regime. If the government instead announces that the currency will trade at a government-specified rate against a key currency or group of currencies, and the government undertakes financial interventions in the foreign exchange market to keep those rates in place, then it is pursuing a pegged or fixed exchange-rate regime. As of the mid-1990s, some fifty-one countries had floating exchange-rate regimes; sixty-nine had fixed-rate regimes; and sixty-four had mixed systems (IMF, 1997, p. 946).

Switzerland, for example, has a flexible exchange-rate regime. As of mid-1998, the market-based exchange rate between the U.S. dollar and the Swiss franc was about \$.67 to 1 Swiss franc; that is, it required 67 cents to buy one Swiss franc, or, seen from the viewpoint of the price of dollars, it required about 1.5 Swiss francs to buy 1 U.S. dollar. Let's imagine that U.S. demand for Swiss francs increased, either because American tastes changed in favor of Swiss products, or because U.S. domestic incomes surged and hence America's appetite for foreign goods, including Swiss products, increased faster

than did foreign demand for American products, or because Swiss investments offered superior returns over American investments. In that case, U.S. demand on the foreign exchange market for Swiss francs would increase faster than would the supply of Swiss francs, and U.S. dollar-holders would, in the face of the now-relative scarcity of Swiss francs, bid up their price, for example, to \$.70 offered for one Swiss franc delivered, rather than \$.67. The Swiss franc, in this case, would have experienced an appreciation against the dollar, or put in an equivalent manner, the dollar would have experienced a depreciation against the Swiss franc.

Now let's turn to the second general alternative: a fixed or pegged exchange-rate regime. In this case, supply and demand conditions are still operating in the foreign exchange market, but the national government does not let their interaction determine the exchange rate. Instead, it announces an official rate at which the national currency will be exchanged against a key currency or group of currencies, and commits to maintain that rate through two types of government policy: official transactions in the foreign currency markets, discussed below, or monetary policy, discussed below in Section IV.

Mexico is an example of a country that has sought to maintain a fixed exchange-rate regime; for example, in the early 1990s it sought to maintain a rate of exchange between the peso and the U.S. dollar of roughly 3 pesos to the dollar, or 33 cents to the peso. If supply and demand conditions in the foreign exchange market resulted in an exchange rate of 33 cents per peso, then the Mexican government would have no need to intervene. However, consider the effect of a rapid increase in Mexican demand for U.S. goods: the supply of pesos offered for dollars on the foreign exchange market would increase, and the market-determined exchange rate might no longer be 33 cents per peso but rather 25

cents. In those circumstances, the Mexican government would be obliged, if it wanted to maintain the peg, to come to the foreign exchange market and buy pesos with dollars to the extent that the price of a peso would remain at 33 cents. Alternatively, if U.S. demand for Mexican goods and therefore for pesos suddenly surged, and, in the absence of government intervention the price of one peso would rise from 33 cents to, say, 50 cents, then the central bank would again be obliged to intervene, but in this case the central bank would offer pesos in exchange for dollars to the extent that the dollar/peso exchange rate on the foreign exchange market remained at 33 cents per peso.

It will be observed that a country that has elected to pursue a fixed exchange-rate regime but finds that the official value of its currency is higher than what it would be as the result of the interplay of supply and demand on the foreign exchange market will be required to use its own reserves of foreign exchange to buy the local currency and so maintain the official peg. To assess whether a country will have sufficient foreign exchange reserves to maintain a peg, we need to appreciate some basic elements of the accounting system used to record a nation's international transactions--that is, its balance of payments.

### The Balance of Payments

A nation's balance of payments "is a summary statement of all transactions between residents of that nation and residents of the outside world which have taken place during a given period of time" (Dunn and Ingram, International Economics, pp. 259-60). Balance of payments reporting is based on the following three conventions:

- “Residents” may be individuals, firms, or governments.
- Balance of payments reporting employs “double-entry” book-keeping: for example, if a good is exported, the transaction appears once as the recording of the good being shipped out of the country and once as the recording of a counter-movement of capital associated with the payment for the good.
- Transactions are listed in the balance of payments as “credits” (+) or “debits” (-). Credits are transactions that bring about the receipt by a resident of a payment from abroad; debits are transactions that involve the payment by a resident to an entity abroad.

A nation’s balance of payments has three major components. The first is the current account, which records three types of transactions:

- Trade in goods and services: exports of goods and services give rise to payments received from abroad, and are therefore credits (+); imports of goods and services give rise to payments to foreigners, and are therefore debits (-).
- Investment income: receipts by residents of dividends, interest payments, or royalties from abroad are credit items, and the payment by residents of dividends, interest, and royalties to foreigners are debits (-)
- Unilateral transfers: the receipt of foreign aid or worker remittances from abroad entails the receipt of payments, and are therefore credits (+), while the extension of foreign aid or worker remittances sent abroad entail payments, and therefore are debits (-).

We may determine if a country's total receipts of payments arising from current transactions are equal to, exceed, or fall short of its total payments abroad for such transactions; that is:

CURRENT ACCOUNT BALANCE=

INCOME (exports+investment income received+unilateral transfers received)

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EXPENDITURES (imports+investment income paid+unilateral transfers paid).

The second main component of a country's balance of payment is the capital account. Before we identify its main elements, which relate to flows of capital into and out of the country, it will be helpful to consider what is entailed for someone who makes or disposes of an investment, or who undertakes lending or borrowing, or who adds cash to or draws cash from a checking account:

- An individual who buys a financial asset exchanges some form of payment (let's assume cash) for the documentation indicating ownership of the asset. When an individual sells an asset, that person exchanges the relevant ownership document for cash.
- An individual who extends a loan provides cash in exchange for an IOU document that indicates how much interest will be paid as well as the date by which the loan will be repaid. Borrowing entails the exchange of an IOU in exchange for the receipt of cash.
- An individual who adds reserves to a checking account is depositing cash with the bank in exchange for receipts documenting that the bank is holding the individual's money. When that person writes a check, he or she is recovering the cash in exchange for documentation acknowledging that the bank is now holding less cash on behalf of the person.

Using these basic concepts, let's return to the capital account of a nation's balance of payments. The acquisition by a resident of a foreign asset (for example, a resident firm acquires a foreign enterprise by buying all its outstanding shares) entails the payment by that resident of cash abroad in exchange for the title of ownership of the foreign asset (the shares). Foreign investments basically involve the shipping of capital out of the country

in exchange for inward movements of titles of ownership; hence, investment by residents abroad constitute capital outflows and appear as debits entries (-) in the capital account component of the country's balance of payments. So, too, if residents lend money abroad (for example, resident pension funds buy bonds issued by foreign corporations or governments) or increase their deposits of cash in foreign checking accounts, these are capital outflows and are recorded as debits (-) in the capital account. By the same logic, the sale by residents of foreign assets, or borrowing by nationals abroad, or a reduction by residents of cash holdings in foreign banks, entail the inward movement of cash (and the outward movement of titles of ownership, bonds, or checking account statements), and are recorded as credits (+) in the capital account component of the resident country's balance of payments. In addition, if foreigners come into the country and buy assets, extend loans by buying bonds, or increase their cash holdings in their checking accounts of resident country banks, these transactions all entail payments received by residents and are credits (+) in the capital account. Finally, if foreigners sell resident-country real or financial assets or reduce their cash holdings in resident-country banks, these transactions entail payments to foreigners and, as capital outflows, are recorded as debits in the capital account of the resident country.

These financial transactions provide the basis for the capital account component of the balance of payments:

CAPITAL ACCOUNT BALANCE=

PAYMENTS RECEIVED from abroad due to sales of assets to foreigners owned by residents at home or abroad+borrowing by residents abroad+increases in cash deposited by foreigners in resident country+decreases in cash balances held by residents abroad --

PAYMENTS MADE abroad due to purchases by residents of foreign assets+sales by foreigners of resident-country assets+lending by residents abroad+decreases in cash balances held by foreigners in resident country+increases in cash balances held by residents abroad.

Putting together both the balance on current account and the balance on capital accounts, we may assess a country's payments situation arising from transactions undertaken without regard for their impact on the balance of payments. This balance of payments arising from such "autonomous" transactions is:

BALANCE OF PAYMENTS= CURRENT ACCOUNT+CAPITAL ACCOUNT

In this accounting framework, if total autonomous credits exceed total autonomous debits, the country has a balance of payments surplus, and, if total credits are less than total debits, the country has a balance of payments deficit. How such a payments imbalance is rectified in a flexible as opposed to a fixed exchange-rate regime, and the political implications for resolving such an imbalance through one regime as opposed to the other, is the subject to which we may now turn.

Bringing about Balance of Payments Equilibrium: Flexible Exchange-Rate Regime

If a country with a flexible exchange rate system were to begin to run an payments surplus in its overall balance of payments (for example, by beginning to experience a surplus in both its current account and its capital account), there would be greater demand for its currency than supply, and the price of the country's currency would begin to appreciate. The country's exports by consequence would be more expensive to foreigners and would decrease, while imports in contrast would become cheaper to residents and thus would increase. At the same time, foreign financial assets would become less expensive to purchase, and local financial assets more expensive, thus encouraging a net increase in capital outflows. The combined effect of these developments in the current account and the capital account would cause what had been a payments surplus to contract and to move towards balance. If in contrast there were to develop a balance of payments deficit for the country, the oversupply of the nation's currency in the foreign exchange market would cause the country's currency to begin to depreciate on the foreign exchange market. By consequence, imports and foreign assets would become more expensive, exports and local assets would become cheaper, and the resulting shifts in current and capital account transactions would push the balance of payments away from a deficit toward overall balance. Hence, by establishing a flexible exchange rate regime, the government in principle needs to do no more to bring about equilibrium in the country's balance of payments--the markets for foreign exchange and for exports, imports, and financial assets do the job.

#### Fixed Exchange-Rate Regimes and the Official-Settlements Account

In the case that a government fixes the exchange rate and pegs it either above the market-clearing rate (the currency is set at an over-valued level) or below the market-clearing rate (the currency is set at an under-valued level), an imbalance in international payments and receipts is likely to develop. If, compared to the rate that would prevail were market conditions allowed to operate, the government pegged the currency at too high a level against others, the supply of the country's currency would exceed demand for it on the foreign exchange markets as a result of a payments deficit either in the current account or the capital account or both. To prevent a drop in the value of the national currency, the government would need to buy the "excess" supply of national currency with its foreign-exchange reserves. If the peg were set too low, a shortage of the local currency would develop in the foreign exchange market as a result of a payments surplus either in the current or capital account or both, and the tendency without intervention would be for the local currency to appreciate. To prevent this, the government would be required, if it wanted to keep the currency pegged at the official rate, to intervene in the foreign exchange market and make up for the shortage of local currency by selling that currency in exchange for foreign currency, which it then would add to its foreign exchange reserves.

Currency-market interventions by the government seek to counteract current-account or capital-account imbalances, and are therefore termed "compensatory" insofar as they are meant to compensate for payments imbalances in the "autonomous" transactions recorded in the current and capital accounts. Such compensatory transactions are recorded in the "Official Settlements Account" of the nation's balance of payments. Let's consider how official interventions in support of a pegged exchange

rate appear in a country's official settlements account when there is either a payments surplus or deficit arising from autonomous transactions.

Situation: Mexican Payments Surplus Arising from Autonomous Transactions with the United States

If a country has an overall payments surplus as a result of autonomous transactions in the current and private capital accounts, foreign-currency receipts are greater than foreign-currency payments made. What then happens? Let's imagine that Mexico has a fixed exchange rate regime and is running a balance of payments surplus with the United States as a result of autonomous transactions. Some economic actors in that country (for example, Mexican exporters) have more dollars on hand than they can sell at the pegged rate. So, rather than agree to accept fewer pesos in order to dispose of their dollars, they submit those dollars to the Mexican central bank in exchange for pesos at the official rate. The Mexican central bank would then deposit the dollars with the Federal Reserve Bank of New York, perhaps through the purchase of a short-term U.S. treasury bond. Hence, an increase in Mexico's official foreign reserves holdings (associated with a payments surplus in Mexico's autonomous transactions) brings about an capital outflow and is listed as a debit in the official settlement's account portion of Mexico's balance of payments (-).<sup>2</sup>

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<sup>2</sup>Let's look at things from the US perspective. It has a balance of payments deficit in this example with Mexico on current account and private account transactions. Due to this the Mexican central bank is depositing dollars in a US institution—the Federal Reserve Bank of New York. As with other capital inflows, an increase in official holdings by

Situation: Mexican Payments Deficit Arising from Autonomous Transactions with the United States

If Mexico had a payments deficit with the United States as a result of autonomous transactions, then the supply of pesos in the foreign exchange market would exceed demand for them at the official rate of exchange. In the absence of intervention, the value of the peso would go down. To prevent that, the Mexican central bank must buy the excess supply of pesos with dollars. Where does it get those dollars? It might return the U.S. treasury bond noted above to the U.S. central bank in exchange for dollars. Dollars would move from the U.S. central bank to the Mexican central bank of Mexico, in exchange for which the Mexican central bank would return the treasury bond to the United States. The Mexican central bank would then use the dollars acquired by selling the U.S. treasury bond back to the Fed to buy the “excess” pesos on the foreign exchange market, closing the gap between supply and demand of pesos against dollars induced by the payments imbalance in autonomous transactions. So, from the viewpoint of Mexico, a reduction in its holdings of foreign exchange reserves (which in this case that had been in the form of Mexican central bank holdings of U.S. treasury bonds) brings about a capital inflow for Mexico, and is documented as a credit (+) in the official settlements account component of Mexico’s balance of payments.<sup>3</sup>

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foreign central banks (and other government agencies) of dollars in the United States is a credit in the official settlements accounts portion of the US balance of payments.

<sup>3</sup> From the US viewpoint, a decrease in foreign exchange holdings in the US central bank by foreign central banks and other foreign official agencies is a debit (-) in the official transactions account of the US balance of payments.

Hence, for a country with a fixed exchange rate regime, the official settlements account brings into equality international payments and receipts, and therefore for these countries:

$$\text{BALANCE OF PAYMENTS} = \text{CURRENT ACCOUNT BALANCE} + \text{CAPITAL ACCOUNT BALANCE} + \text{OFFICIAL SETTLEMENTS BALANCE}$$

Thus, the balance of payments for a country with a flexible exchange rate regime consists, from a policy viewpoint, of the current and capital accounts. In contrast, the balance of payments for a country with a fixed exchange rate regime consists of these two components plus the official settlements account, which records the transactions undertaken by the government to compensate for imbalances in autonomous transactions summarized in the current or capital accounts which, in the absence of such compensatory transactions, would undermine the official peg.

It must be emphasized that there is an important difference in the type of constraints faced by surplus and deficit countries that choose to pursue a fixed exchange-rate regime. As noted above, compensatory intervention by a country facing an autonomous payments surplus consists of purchases of foreign currency by the central bank with local currency. The constraint on the central bank to create local currency for use in purchases of foreign exchange is that as more local currency is thereby injected into the national economy, the greater the risks of price inflation. However, the central bank may counter-act such inflationary pressures by “sterilization” operations: selling government bonds

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denominated in the local currency, and thereby “soaking up” the local currency it had previously sold for foreign currency.

Intervention by a country facing a payments deficit, as also discussed above, consists of sales of foreign currency by the central bank in exchange for local currency. The constraints on the central bank to undertake such sales are its holdings of foreign currency, and its ability to borrow foreign currency, both of which are likely to be limited. Hence, while surplus countries have substantial leeway to maintain a peg so long as they are willing to sterilize, deficit countries are constrained by their finite foreign exchange reserves and foreign exchange borrowing capabilities.

At the extreme, a deficit country might find that investors come to doubt that the central bank will be able to maintain the peg at the official rate and, for these investors, there is both a chance to make money by selling the currency, and a risk of losing money if they do not do so. The result might be massive selling of the currency by foreigners and local residents in anticipation of a currency “devaluation,” or official reduction of the value of the currency against others, a serious drain on the country’s foreign exchange reserves, and increases in interest rates by the government to attract capital inflows as a way of generating greater autonomous demand for the currency on the foreign exchange market.<sup>4</sup> The effects on the national economy of such policy efforts to so maintain a peg, as well as limits on the capacity of governments not to intervene to affect exchange rates even if they are pursuing a flexible exchange rate regime, take us to the subject of the macroeconomics of international trade and finance.

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<sup>4</sup> Official increases and decreases in the official value of a currency in a fixed-rate regime are called revaluations and devaluations, respectively. Market-induced increases and

#### IV. MACROECONOMIC POLICY IN AN OPEN ECONOMY

Many governments have sought since the 1930s to employ macroeconomic stabilization policies as a way of managing the overall level of economic activity within their borders and thereby to promote growth, to prevent unemployment, and to mitigate pressures toward price inflation. Governments have so sought to manage economic conditions through the use of two main instruments of macroeconomic policy: fiscal policy (government spending and taxes) and monetary policy (financial market interventions aimed at adjusting a nation's interest rate structure). Both of these macroeconomic policy instruments are directed primarily at affecting national aggregate demand and, by consequence, the level of economic activity, prices, and employment within a country.

Many industrialized and developing countries have experienced significant increases in recent years in the degree to which their economies have become integrated in both international trade and financial flows. This enhanced international economic openness has had major implications for the efficacy of fiscal and monetary policy. In a nutshell, whether the country is pursuing a fixed or a flexible exchange-rate regime, the efficacy of fiscal policy has declined as a result of enhanced international economic integration, while the efficacy of monetary policy has declined for pegged-rate systems and increased for floating-rate regimes.

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decreases in the value of a currency in a flexible-rate regime are called appreciations and depreciations, respectively.

To provide a sense of how international economic openness affects the efficacy of national macroeconomic policy, in the discussion below we will assume that a country begins with external balance (the balance of payments is neither in surplus nor in deficit) but at a level of national economic activity that is associated with a level of unemployment that is considered politically undesirable. We will then investigate how international economic integration complicates the use of either monetary or fiscal policy to spur national economic activity and thereby employment depending upon whether the country is pursuing a fixed or flexible exchange-rate regime.

#### Fixed Exchange-Rate Regime and Fiscal Policy

If the goal is to stimulate national economic activity, the traditional fiscal policy response would be to increase aggregate demand either by increasing government spending or by reducing taxes, or by some combination of the two. National economic activity, employment, and prices would all go up, as would interest rates. This increase in domestic interest rates would induce a capital inflow from abroad in search of the higher returns now available in the country's financial markets. The magnitude of the capital inflow would probably exceed the increase in expenditures on imports as incomes increase. The result would be a payments surplus in the capital account that exceeded the deficit in the current account, an excess supply therefore of foreign currency at the pegged rate for the national currency and, in the absence of central bank intervention, an appreciation of the national currency in the foreign exchange market. To prevent that, the central bank would be required to buy the excess supply of foreign currency with national

currency, thereby increasing the supply of money in the country, decreasing interest rates, sparking private investment expenditures, and thus further raising national income.

Fiscal policy would seem then to be highly efficacious for a country with a fixed exchange rate regime in a world of high capital mobility. One might have expected by consequence that such Western European countries as France and Spain, which pegged their currency against the German mark in the framework of the European Monetary System, would have been able to use fiscal policy to reduce the high rates of national unemployment that plagued their economies in the early to mid-1990s. Yet, France and Spain specifically avoided such fiscal expansionism. Why did these countries not use fiscal policy when it should have been so efficacious?

The answer takes us to a key assumption made above about the reaction of investors to the increase in interest rates induced by fiscal expansionism. The assumption is that investors will react by buying financial assets in the country and thereby take advantage of the higher returns now available, and that this additional inflow of capital will exceed any current account deficit that might develop as national income grows. However, this chain of developments requires investors to estimate that the country's exchange rate would remain stable over time, or even appreciate in the face of enhanced capital inflows. Investors might make that estimation, but they might also worry that the increase in national aggregate demand induced by fiscal expansionism will not only spark greater economic activity and higher interest rates, but much higher prices as well. This trend toward higher domestic prices, investors might conclude, could ultimately erode the international competitiveness of the country (exports will become less competitive and imports more competitive), and thereby bring about a progressively larger current

account deficit. At some point investors might come to believe that the risk of an official devaluation brought on by a growing current account deficit might outweigh the prospects for greater gains brought about by holding financial assets of the country. By consequence, investors would begin to sell those assets and the country's currency. To prevent such an outflow of capital, which would undermine the peg, the central bank of the country would be compelled to raise interest rates and thereby compensate investors for the perceived relatively greater risk associated with holding the country's currency and assets. This move to raise interest rates would choke off both investment and consumption, thus counter-acting the growth-inducing effects of expansionary fiscal policy. Thus, while in principle fiscal policy is efficacious when combined with a fixed exchange rate regime and global financial integration, this in fact would only be true if and so long as there is strong investor confidence that fiscal expansionism will not engender price inflation and large current account deficits.

### Monetary Policy

Monetary policy is not efficacious for a country with fixed-exchange rates and a high level of exposure to the world economy. Let's again assume that the policy goal is to stimulate national economic activity, and that the central bank seeks to do so by increasing the monetary supply, thereby reducing interest rates, and ultimately stimulating investment, consumption, production, and employment. The problem is that

the reduction in interest rates would trigger a capital outflow and movement toward a deficit in the capital accounts. The supply of national currency thereby would come to exceed demand for it on the foreign exchange market, and the central bank, obliged to maintain the exchange rate, would need to intervene and purchase the excess supply of national currency with its holdings of foreign exchange reserves. This would mean that the government would reduce the stock of national currency circulating in the national economy, and this in turn would induce an increase in interest rates and a contraction of economic activity. Hence, monetary expansionism would have little or no efficacy if the country has a fixed exchange rate regime and high openness to international capital flows.<sup>5</sup>

### Flexible Exchange-Rate Regime

#### Fiscal Policy

Fiscal policy is likely to be ineffective if a country is maintaining a flexible exchange-rate regime and if there is high international capital mobility. If government in those circumstances were to increase spending or decrease taxes as a way of spurring economic activity, interest rates in the country, as noted above, would probably increase. This would spark inflows of capital into the country, and these inflows would likely be much greater than increases in imports arising from enhanced national economic activity; thus, there would be a net increase in demand for the national currency. Because supply

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<sup>5</sup> This finding is summarized in the “Mundell-Fleming conditions,” which posit that countries may at most have two of the following attributes: monetary policy autonomy, capital mobility, and fixed exchange rates.

and demand would be determining the exchange rate, the national currency would appreciate in value. This would cause imports to become less expensive to national buyers, and exports to become more expensive in the eyes of foreign buyers. The result would be that exports would drop and imports would increase. National production of goods and services would not go up, and it might actually decrease if exports were to drop and imports were to increase to a large enough degree. Thus, the likely reduction in net exports by the country to the rest of the world might have a contractionary effect on national economic activity and employment that would match, and even perhaps be greater, than the expansionary effect on economic activity that had been brought about by the government's fiscal expansionism.

### Monetary Policy

If a country seeks to expand national income and employment through expansion of the monetary supply and an associated reduction of interest rates, the response by investors would be to take their capital out of the country in search of financial assets abroad that now were providing relatively higher earnings. This would bring about a depreciation of the national currency. This in turn would make the country's exports cheaper to foreigners and imports more expensive to local consumers. Net exports would increase, and this would further boost aggregate demand and national income. Hence, capital flows and associated shifts in the exchange rate would magnify in the same direction the effects of monetary policy, suggesting that monetary policy is highly

efficacious if a country is pursuing a flexible exchange-rate regime and is highly open to international capital and trade.

Summary: Macroeconomic Policy in a World of Economic Openness

Monetary policy is ineffective as an instrument of macroeconomic policy for countries with pegged exchange-rate regimes and high exposures to the international economy. Fiscal policy is efficacious for such countries, but only if investors do not doubt the ability of the central bank to maintain the official peg in the face of growing current account deficits; if the country has engendered doubts on that score, then fiscal expansionism is likely to be undermined by a subsequent requirement to defend the peg through monetary contraction and higher interest rates. Thus, one traditional policy instrument available to governments in the face of unemployment--stimulative fiscal policy--has become less effective as a result of enhanced international economic integration. Monetary policy has become more efficacious in the wake of enhanced economic integration, but only for those countries that have flexible exchange rates.

V. CONCLUSION

In this chapter we have offered a thumbnail sketch of how economic theory helps us understand why states engage in international trade and financial transactions. However, in doing so we have encountered a number of problems that states encounter by virtue of being a part of the world economy, and the manner in which they respond to those

problems, and whether they do so in a way that promotes or detracts from international economic cooperation, takes us directly into the realm of political analysis. Let's review some of the basic findings of economic theory regarding international economics, and the political problems that a focus on economic theory pinpoints:

- States can mutually benefit if they specialize on the basis of comparative advantage and engage in mutually voluntary trade. A country's comparative advantage is likely to reflect its endowment of such resources as labor, capital, and land.
- Although a nation as a whole stands to gain by virtue of trade, some segments of society within a nation may lose; in particular, owners of the relatively scarce factor of production may experience a reduction in incomes. Perhaps society as a whole will compensate those that so lose from an opening of the country to trade. However, economic theory cannot tell us whether that will happen, how it will happen, the degree to which it will happen, whether the nation will choose instead economic closure, or whether society will choose openness without compensation of those left behind. Those questions require analysis of political institutions and dynamics both within and across nations.
- International monetary institutions and transactions support trade, provide the opportunity for private economic actors to achieve higher returns on their investments, and help bring about a more efficient usage of the world's resources of savings.
- A country that chooses to take advantage of openness to international trade and finance is likely to experience some loss of policy autonomy in the field of

macroeconomic policy. Whether a country that experiences such a loss in national policy autonomy is likely to remain committed to trade and financial openness, or how it might act individually and with others to try to cope with the loss of autonomy while being a part of the world economy, or whether it might choose to reverse course and restrict economic transactions with the outside world, cannot be answered by economic analysis alone. As with trade issues, a full understanding of international monetary affairs requires that we supplement economic theory with a political analysis of international economic relations. It is to that task that we now turn.

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