This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Financial Policies and the World Capital Market: The Problem of Latin American Countries

Volume Author/Editor: Pedro Aspe Armella, Rudiger Dornbusch, and Maurice Obstfeld, eds.

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-02996-4

Volume URL: http://www.nber.org/books/arme83-1

Publication Date: 1983

Chapter Title: Optimal Economic Integration

Chapter Author: Michael Mussa

Chapter URL: http://www.nber.org/chapters/c11186

Chapter pages in book: (p. 41 - 58)

2   Optimal Economic Integration

Michael Mussa

Economic activities in different areas of the world are linked through commodity trade, factor movements, flows of financial claims, and transfers of knowledge and technology. Economic integration of the world economy is not complete because there are both natural and artificial barriers that inhibit full integration. The natural barriers include the real costs of moving goods and factors from one place to another, the differences in language and culture that diminish the benefits and increase the costs of labor migration, the real costs of securing information and conducting transactions in financial claims issued in different areas of the world, and the differences in education and training that interfere with the transfer of knowledge and technology. The artificial barriers to full economic integration include all of the distortions and inefficiencies created by the failure of market mechanisms and by government policies that interfere with commodity trade, factor movements, flows of financial claims, or transfers of knowledge and technology.

The question of optimal economic integration is the question of how economic policies should be structured to achieve the degree of integration of economic activities in different regions that maximizes some sensible measure of social welfare. One possible answer is that economic policies should be structured so that they do not themselves create artificial barriers to integration and so that they countervail the artificial barriers that would otherwise result from defects in the operation of market mechanisms. No formal proof can be given that this policy prescription will always lead to an improvement in potential economic

Michael Mussa is a professor at the Graduate School of Business at the University of Chicago and a research associate of the National Bureau of Economic Research.

welfare in the sense of Samuelson (1950), but analyses of specific issues relating to economic integration (such as the analysis of the global benefits of a general policy of free trade) indicate that this prescription provides the only possible general answer to the broad question of optimal economic integration. Nevertheless, in this paper it will be argued that the general policy prescription to avoid creating artificial barriers to economic integration and to countervail other artificial barriers is not a realistic and appropriate guide for the structuring of policies that affect economic integration. Moreover, it will be argued that there is *no* general prescription for policies that will serve the broad objective of optimal economic integration. The most that economic analysis can provide is an evaluation of the policies that will serve reasonably well-defined and specific objectives with respect to economic integration, given the limitations within which these policies must operate.

The central thesis of this paper is developed by discussing the four major impediments to *any* general prescription of policies to achieve optimal economic integration and then suggesting some principles that are relevant in applying economic analysis to more limited questions of economic integration. The first impediment to a general theory of optimal economic integration, which is considered in section 2.1, is the problem of defining a welfare criterion to use when evaluating policies that affect economic integration. This problem is more severe than the usual difficulties associated with interpersonal utility comparisons. Decisions about policies that affect economic integration are usually taken by government authorities who both assign special weight to the economic welfare of their own citizens (or to particular groups of citizens) and sometimes pursue policies that are not clearly motivated by any reasonable concept of economic welfare. The second impediment (section 2.2) is that government authorities are subject to a wide variety of constraints on the policies that they can adopt and on the effectiveness with which these policies can be pursued. The extent and diversity of these constraints render the search for a general theory of optimal economic integration virtually hopeless. The third impediment to any such theory (section 2.3) arises from the fundamental principle of second-best welfare analysis. Specifically, in economies with a multiplicity of distortions, the optimal economic policy with respect to any particular distortion (such as an artificial barrier) depends, in general, on all of the other distortions of the economic system. The fourth impediment (section 2.4) is that policies that affect different dimensions of economic integration (commodity trade, factor movements, flows of financial claims, and transfers of technology) cannot, in general, be evaluated separately. This is true because the extent of economic integration is one dimension usually affects the desirable extent of such integration in other dimensions.

2.1 Problems with Specifying an Appropriate Welfare Criterion

In analyzing issues of optimal economic policy, a welfare criterion is needed on which to base measurements of the relative desirability of the outcomes of different policies. The standard welfare criterion that is employed in economic analysis is the criterion of potential welfare improvement; that is, a policy is said to be welfare improving if the adoption of the policy allows some individuals economic gain without causing other individuals economic loss. Frequently, to insure that no individual suffers economic loss, it would be necessary for compensation to be paid by those who gain from a particular policy to those who lose from the policy. However, such compensation need not be paid for a policy to be judged "welfare improving," if it can reasonably be argued that the government authority is capable of evaluating the welfares of different individuals and determining and effectuating the appropriate amount of compensation.

Unfortunately, this general criterion of potential welfare improvement cannot realistically be applied in analyzing many important issues relating to economic integration. One important problem relates to the scope of the welfare criterion: Whose welfare is counted in deciding on a desirable policy? This problem is well illustrated by the standard analysis of the optimum tariff. A country that is large enough to influence the price that it pays for its imports can improve the welfare of its residents by exploiting its monopoly power in trade through the imposition of an import tariff. If the scope of the welfare criterion is limited to the residents of that country, then the imposition of a tariff is welfare improving. However, a tariff is not welfare improving from the perspective of the world as a whole, since the benefits to the residents of the tariff-imposing country are smaller than the losses to the rest of the world. Nevertheless, a government that is exclusively concerned with the economic welfare of domestic residents would find it attractive to restrict trade through the imposition of an optimum tariff.

Another problem related to the scope of the welfare criterion is the absence of any assured means of paying compensation across international boundaries. If a tariff-imposing country were always required to pay appropriate compensation to other countries injured by its actions, then the argument for the optimum tariff would disappear. However, there is no mechanism to insure that such compensation would be paid, and it is probably appropriate to assume that most governments place greater emphasis on improving the economic welfare of their own residents than on improving that of the residents of other countries.

An interesting example of the problems arising from the lack of an adequate and assured means of compensation arises in connection with the migration of skilled labor—the "brain drain" problem (see the papers

in Adams 1968). A policy of limiting migration of skilled workers is likely to be supported by skilled workers already resident in high-income countries because they would sustain an uncompensated loss from immigration of additional skilled workers. Similarly, unskilled workers in low-income countries may favor restrictions on migration of skilled workers because they too would suffer an uncompensated loss. The skilled workers who would like to migrate from a low-income country to a high-income country would undoubtedly enjoy benefits from migration, but their welfare may have low weight in the welfare index of policymakers in both countries.

From a cosmopolitan viewpoint, of course, it is attractive to argue that the scope of the appropriate welfare criterion used in analyzing issues of economic integration should be very broad—indeed, that it should encompass the economic welfare of the residents of all countries, and that it should envision appropriate compensatory payments both within and across national boundaries. However, decisions about policies that affect economic integration are usually made by sovereign governments that assign the greatest weight to improving the economic welfare of domestic residents and that generally deny responsibility for making compensatory payments to residents of other countries who may be harmed by their policies. Policies that either promote or restrict economic integration (such as tariffs or limitations on labor migration) frequently have different effects on the economic welfare of the residents of different countries. Together, these facts imply that even if attention is restricted to the economic effects of policies that affect economic integration, it is frequently difficult to make any prescription for optimal policy because what is optimal from the perspective of one country is not optimal from the perspective of another.

The analysis of optimal policies with respect to economic integration is further confounded by divergences between the usual conception of economic welfare and the broader conception of national welfare that appears to motivate the actions of many national governments. Portfirio Díaz, the long-time president of Mexico, once summarized the problems of his country as follows: "Poor Mexico, so far from God, so near to the United States." Eighty years later, similar sentiments are reflected in the policies of the Mexican government that are directed to maintaining a degree of economic independence from the United States, regardless of what may be the (narrowly defined) economic benefits of closer interdependence. Policies of the Canadian government which seek to promote greater domestic ownership of companies engaged in exploration and development of Canadian energy resources reflect a similar desire for economic independence.

Trading relations among countries are frequently influenced by politi-

cal considerations that are not easily represented in any measure of economic welfare. The nature and extent of trading relations among the Eastern bloc countries are clearly related to their political relationship. The changing attitude of the United States toward trade with the People's Republic of China is also clearly related to political developments and broader strategic objectives. The development of the European Economic Community is, at least in part, an expression of the desire for greater political unity among its member countries.

Policies affecting labor migration are another area in which noneconomic concerns weigh heavily. Some of these concerns were expressed with unusual forthrightness by a senior Australian politician who proclaimed that his policy was, "Two wongs don't make a white." Some native Malay politicians have expressed opposition, perhaps in somewhat more refined terms, to further growth of the Chinese minority in Malaysia through immigration of former Chinese residents of Vietnam. In the United States, domestic political opposition has clearly been an important factor motivating recent attempts to limit immigration of refugees both from Southeast Asia and from the Caribbean. Nevertheless, the acceptable flow of refugees and other immigrants into the United States (which has a long tradition of a relatively liberal immigration policy) has been considerably greater than the flow into Japan (which has an even longer tradition of opposition to immigration).

Since policies concerning foreign investment, international trade, and labor migration are strongly influenced by noneconomic objectives, an exclusively economic criterion of national welfare cannot provide a reliable guide for the policies that sovereign governments will want to pursue with respect to these key dimensions of economic integration. Differences in the noneconomic objectives of different societies and conflicts between these objectives mean that it is impossible to construct a general welfare criterion that will serve as the basis for a general prescription of policies to meet the objective of optimal economic integration.

2.2 Constraints on Government Policy

A second major obstacle to any general theory of optimal economic integration arises from the many constraints that are imposed on government policies and the lack of uniformity in those constraints. These constraints may be divided into three broad categories: First, political and legal constraints are placed on policies that directly affect commodity trade, factor movements, flows of financial claims, or transfers of knowledge and technology. Second, practical constraints on the effectiveness of these policies arise from the desire and capacity of private agents to avoid or evade government controls, regulations, or taxes. Third, con-

straints on policies that governments can pursue with respect to economic integration arise from policies that are adopted to serve other political and social objectives.

Political and legal constraints severely restrict the policies that can be employed to affect regional economic integration within a sovereign nation. The state of California, which is economically about the same size as Canada, does not have the same flexibility as Canada in adopting policies that affect its economic integration with the rest of the United States. The state of California cannot impose tariff barriers or import quotas to protect its domestic industries from competition with the rest of the United States. Nor can it restrict the free movement of labor and capital to and from the rest of the United States (except to a minor extent through licensing of professionals and zoning restrictions on the use of property). Nor can it decide, like Canada, to float the exchange rate between its money and the money of the rest of the United States.

Political and legal constraints also restrict the policies that sovereign nations can adopt with respect to economic integration with other nations. The threat of foreign retaliation and the legal and moral force of international agreements concerning commercial and financial policies limit the freedom of national governments to restrict commodity trade and, to a lesser extent, international capital flows. Members of the European Economic Community, and other regional economic organizations, accept limits on their freedom to restrict movements of goods and factors to and from other member countries. These limits cannot always or easily be articulated at the margin, at the convenience of a member government.

The practical constraints on the effectiveness of government policies that directly affect economic integration are well illustrated by the practices of smuggling and under-invoicing and over-invoicing import and export transactions as means of evading tariffs, export taxes, and other restrictions on commodity trade. The relevance of such evasive practices for the theory of international commercial policy has recently received considerable attention in academic literature (Bhagwati 1973). The practical importance of such evasive practices is indicated both by the incapacity (or unwillingness) of government authorities to suppress the narcotics trade and by the limited success of economic sanctions and embargoes.

Policies that attempt to limit international mobility of factors of production are also avoided and evaded on a wide scale. Controls on movements of financial capital can sometimes be enforced with some degree of effectiveness on large institutions, such as banks and corporations. They are notoriously difficult to enforce, however, on individual asset holders. Illegal migration vitiates policies that attempt to restrict the international mobility of labor. This is especially true for migration of labor from

Mexico to the United States, which could be halted only by draconian measures that would be unacceptable to both the United States and Mexico.

Black markets in foreign exchange are a mechanism through which private economic agents can partially circumvent government policies that interfere with economic integration by maintaining unrealistic official exchange rates between domestic money and foreign monies. The importance of such black markets is illustrated by the fact that in many countries when the difference between a black market exchange rate and an official exchange rate becomes large, a government is usually compelled to alter the official exchange rate to bring it into closer correspondence with the black market rate.

The Eurodollar market provides an outstanding example of the means that private agents can use to circumvent government restrictions on international financial flows. A major stimulus to the original development of this market came from the interest equalization tax which was imposed by the Kennedy administration in an attempt to discourage capital outflows from the United States. The desire of banks and their customers to avoid the tax on bank intermediation activities, which is implicit in reserve requirements on domestic bank deposits and in other forms of bank regulations, has provided continued stimulus for the growth of the Euromarket (see, e.g., Swoboda 1968).

Replacement of domestic money holdings with foreign money holdings is one means by which the residents of a country can avoid the inflationary tax on their cash balances that is induced by excessive domestic money creation. Currency replacement also allows domestic residents to escape from the disadvantages of an unstable domestic standard of value by using foreign money as the nominal unit of account for private agreements and transactions. Fear of large-scale currency replacement can become a significant constraint on the policies that a government adopts with respect to both exchange rates and the domestic money supply.

Government policies that are not specifically directed at commodity trade, factor movements, or monetary relations may nevertheless have important indirect effects on economic integration. In many cases policies that are not directed toward economic integration serve very important social and political objectives and are, for this reason, difficult to alter. These policies should be regarded as constraints on the overall flexibility of government policy in addressing issues related to economic integration.

For example, many countries have established policies of providing assistance to individuals and businesses in economic difficulty. This assistance takes several forms, including unemployment compensation, relocation assistance, special tax benefits, public purchases of products of distressed industries, outright subsidies, implicit subsidies through low

interest rate loans, and public financing of enterprises taken over by government authorities. Whatever its form, such assistance almost inevitably distorts the incentives that individuals and businesses have to adjust to changing economic conditions, thereby affecting the social benefit or cost of policies that promote or inhibit economic integration.

In many countries, the conduct of macroeconomic policy is strongly influenced by objectives of domestic economic stabilization, particularly the maintenance of a high level of employment and an acceptable rate of inflation. When these objectives appear to conflict with policies that promote monetary integration, integration of financial markets, or integration through commodity trade and factor mobility, these policies are frequently sacrificed. The breakdown of the Bretton Woods system in 1971 occurred primarily because the United States wanted to pursue an expansionary monetary policy to fight a domestic recession (and to finance a war), and because other countries, especially West Germany, were unwilling to accept a domestic inflation rate that was consistent with the U.S. monetary expansion. The resort to highly protectionist policies by many countries during the 1930s was motivated largely by a desire to stimulate domestic employment and a belief that restrictions on imports would have an employment-stimulating effect. The decision by the Reagan administration to forego its general commitment to free trade and persuade the Japanese government to impose "voluntary" restraints on exports of automobiles to the United States is more recent evidence of the same important influence that domestic political and social concerns have on the conduct of policies that affect international economic integration.

The implication of all these constraints on the formulation and conduct of government policies that directly or indirectly affect economic integration is that issues of economic integration cannot generally be addressed by first-best policies that would remove or countervail all artificial barriers to complete economic integration. In some cases, these first-best policies may simply not be available to the relevant government authority. In other cases, the government authority may not be able to effectively implement the required policies. In still other cases, policies that governments pursue for reasons not directly related to economic integration may have side effects that significantly influence the consequences of policies affecting economic integration. Since these constraints on government policy are not the same for all governments, a general prescription of policies to achieve optimal economic integration is not possible.

2.3   Difficulties of Second-Best Welfare Analysis

A third fundamental difficulty which confronts any general theory of optimal economic integration arises from the basic principle of second-

best welfare analysis. This principle states that in an economy where a multiplicity of distortions induce divergences between privately perceived values and costs and true social values and costs, policies that reduce the magnitude of any one distortion (or group of distortions) may not improve economic welfare because they may exacerbate the deleterious effects of other distortions. For this reason, the second-best policy for any particular issue of economic integration is generally not the same as the first-best policy that would be appropriate if there were no other distortions in the economic system and no constraints on the policies that a government could adopt and effectively implement. The second-best policy for a particular issue of economic integration cannot be prescribed in general terms because it depends on the other distortions that are present in the economic system and on the constraints that impinge on government policy.

The difficulties of analyzing issues of economic integration that are created by the application of second-best welfare analysis are well illustrated by analysis of the economic benefits and costs of customs unions—the issue for which second-best welfare analysis was originally developed (Viner 1950; Lipsey and Lancaster 1956). A customs union promotes economic integration through commodity trade for the countries that are members of the union by removing tariffs and other artificial impediments to trade within the union and by erecting a common external tariff for goods imported from outside the union. The formation of such a union is beneficial to its members to the extent that the elimination of tariff barriers between members of the union creates trade that would not otherwise have existed. The formation of such a union is harmful to its members to the extent that the elimination of tariff barriers within the union and the retention of a tariff on imports from outside the union diverts trade which would otherwise have occurred between members and nonmembers. The total effect of the customs union may be either to increase or decrease the economic welfare of the member countries, depending on whether the benefits of trade creation do or do not outweigh the losses from trade diversion. No general answer can be given to the question of whether this form of economic integration is beneficial to the countries that undertake it.

This analysis of the benefits and costs of customs unions extends to arrangements that would allow free mobility of factors of production within a group of countries or regions, but that restrict factor movements between this group and the rest of the world. For example, it is a common practice in most countries to permit free movement of capital and labor between regions within the country but to restrict movements of capital and especially labor to or from other countries. Another example is the adoption by the European Economic Community of a policy of free mobility of labor for citizens of the member countries of the community,

combined with a continuation of restrictions on labor immigration from countries outside of the community. Such arrangements presumably generate economic benefits to the extent that they allow for movements of factors within the community that would not otherwise have occurred, but they also generate losses by displacing factor movements that would have occurred between members and nonmembers of the community.

Another application of second-best welfare analysis to an issue of factor mobility is to the "brain drain" problem (see the papers in Adams 1968). The United States and other advanced countries apply easier standards for immigration of highly skilled labor than for immigration of unskilled labor. In accord with the general principle of second-best welfare analysis, there should be a direct benefit from reducing barriers to migration of skilled workers, as reflected in a reduction in the wage differential for skilled workers between the advanced and the less advanced countries. But there should also be an indirect loss from reducing barriers to migration of skilled while retaining barriers to migration for unskilled labor, as reflected in an increase in the wage differential for unskilled workers between the advanced and less advanced economies.

With respect to issues of financial integration, one key application of second-best welfare analysis is to the question of optimum currency areas (Mundell 1961; McKinnon 1963). If all prices and wages were perfectly flexible and if factors of production were freely mobile among regions, then the optimum monetary system would be a unified currency used in all regions. In other words, the optimum currency area would be the whole world. This is the first-best policy that allows for maximum exploitation of the social benefits of money. However, when there are rigidities of prices and wage rates and barriers to free mobility of factors of production, economic disturbances may lead to excess supply and unemployment in some regions, together with excess demand and production bottlenecks in others. In this situation, optimum currency areas would be regions within which there is a high degree of mobility of factors of production and for which the composition of output is relatively homogeneous. Flexible exchange rates between the monies of these regions would allow the effects of economic disturbances to be partially absorbed by variations in the relative prices of their outputs, achieved by variations in nominal exchange rates. Thus, the argument for regional currency areas is a second-best argument—this arrangement balances the losses from impairing the functions of money with the benefits of reducing the costs associated with the distortions created by barriers to factor mobility and sticky prices and wages.

A similar kind of second-best reasoning is employed in recent theoretical analyses of the relative virtues of fixed and flexible exchange rates (Fischer 1973). In the models that are the bases of these analyses, it is usually the case that a fixed exchange rate regime allows the economic

system to deal better with certain types of disturbances, particularly monetary ones, but that a flexible exchange rate regime allows the economic system to deal better with other types of disturbances, particularly real disturbances requiring adjustments in the relative prices of the outputs of different nations. The choice of a fixed or a flexible exchange rate regime, therefore, is not the choice of the first-best regime that is best in dealing with all types of disturbances; it is the choice of the second-best regime that is best on average for the type and magnitude of disturbances that impinge on the economic system.

Another application of second-best reasoning to an issue of financial integration is in the analysis of dual exchange rate systems. Under such a system, a country usually establishes a fixed exchange rate for current account transactions, but allows the exchange rate for capital account transactions to fluctuate in response to market pressures. The argument in favor of such an exchange rate system is not a first-best argument. Such a system creates distortions by introducing two prices for the same good (foreign exchange), it imposes significant monitoring and policing costs on the government and on private agents, and it creates a barrier to the international mobility of financial claims. The argument for a dual exchange rate is that the costs of these distortions are outweighed by the benefits of reducing excessive fluctuations of the exchange rate for current account transactions that would otherwise be induced by speculative capital movements.

The general principle that emerges from all of these examples of the application of second-best welfare analysis to issues of economic integration is that it is not possible to arrive at a general prescription of the best policies to pursue with respect to commodity trade, factor movements, and financial relations. For each of these dimensions of economic integration, the best policy (from an economic viewpoint) depends on a multiplicity of distortions that cause privately perceived costs and benefits to diverge from true social costs and benefits. The inconclusive results of analyses of the costs and benefits of customs unions, of the appropriate size of optimum currency areas, of the relative merits of fixed and flexible exchange rates, and of the advantages and disadvantages of dual exchange rate regimes illustrate the impossibility of arriving at any general prescription of policies to achieve optimal economic integration.

2.4   Interaction among Channels of Integration

The fourth major barrier to a general theory of optimal economic integration arises from the interdependence among alternative channels of integration. The degree of international mobility of factors of production influences the costs and benefits of international trade in commodities. Conversely, the extent of natural and artificial barriers to commodi-

ty trade affects the incentives for, and the consequences of, movements of factors of production. The extent of economic integration through commodity trade and factor mobility has important implications for the effects of alternative arrangements governing flows of financial claims and exchanges of national monies. Because of these interactions, questions of optimal policy with respect to different channels of economic integration cannot be treated separately. A general theory of optimal economic integration would have to be a theory that dealt with all forms of integration simultaneously.

The classic example of interaction among alternative channels of economic integration is provided by the Heckscher-Ohlin theorem: A country tends to export the commodities that use intensively the factors of production in which that country is abundant. In establishing this theorem, it is assumed that productive technologies are similar in different countries, but that factors of production are not mobile among countries. It follows that at given commodity prices, a country that is relatively heavily endowed with some factor of production, say land, will produce relatively large amounts of commodities that are intensive in the use of land, in comparison with the production of such land-intensive commodities in countries where land is not abundant. International trade in commodities allows the land-abundant country to export some of the land-intensive commodities that are efficiently produced in that country, in return for imports of commodities that intensively use factors that are abundant in other countries. Thus, the essential idea of the Heckscher-Ohlin theorem is that commodity trade will substitute for movements of factors of production when such movements are restricted by either natural or artificial barriers.

The converse of the Heckscher-Ohlin theorem is embodied in Mundell's (1957) theorem concerning the effects of a tariff in a world of physical capital mobility. Under the assumptions of the two-sector model developed by Stolper and Samuelson (1941) and by Lerner (1952), Mundell shows that when one factor of production, capital, is mobile between countries, even a small tariff on commodity trade will lead to the complete elimination of all trade. The essential idea that underlies Mundell's result is that factor mobility is a substitute (in his model, a perfect substitute) for commodity trade. Hence, when international economic integration through commodity trade is interfered with by the imposition of a tariff, resort is made to the alternative channel, international capital movements, as the mechanism for achieving economic integration.

The theory of effective protection (Corden 1966; Johnson 1969) reveals another aspect of the substitution between commodity trade and factor movements. This theory recognizes that a tariff imposed on an intermediate good implies negative protection for producers of final goods that employ this intermediate good as an input. For this reason, a

barrier to factor mobility in the form of trade restrictions applied to intermediate goods is likely to stimulate increased trade in the final goods that embody these intermediate goods. Conversely, a barrier to trade in final goods creates an incentive for factor movements in the form of increased trade in intermediate goods.

Recent experience provides a number of illustrations of substitution between commodity trade and factor movements. Protection afforded by the United States to domestic textile and shoe manufacturers has been a stimulus to legal and illegal immigration of low-wage workers into the United States. The common external tariff erected by the European Economic Community and the removal of tariff barriers within the community have been stimuli to American firms to locate production facilities within the community or to acquire European firms that possess such facilities. The barriers to the importation of foreign steel into the United States have been one of the factors that have contributed to the lack of competitiveness of the U.S. auto industry and to increased auto imports. High tariffs on imports of automobiles imposed by many Latin American countries, on the other hand, have created an incentive for domestic assembly of automobiles using imported parts.

From these examples, it should not be concluded that commodity trade and factor mobility are only and always substitute channels of economic integration. If production processes are subject to increasing returns to scale, then both commodity trade and factor movements will generally be required to achieve an efficient pattern of production. If the scale of operations required to achieve reasonable efficiency in an industry is large, then a relatively small country that stimulates domestic development of this industry by severely restricting imports of the industry's product may acquire a very inefficient domestic industry. This apparently has been a problem with the import-substitution policies that have been adopted by a number of developing countries.

The correct conclusion to draw from the interactions between commodity trade and factor movements is that optimal economic policy for commodity trade cannot be analyzed separately from optimal economic policy for factor movements. The general principle of second-best welfare analysis (discussed in section 2.3) implies that when both commodity trade and factor mobility are subject to important distortions, a policy that generates benefits by reducing distortions to one channel of economic integration may create losses by exacerbating distortions in another channel of integration.

The interactions among channels of economic integration also involve interactions between arrangements governing transfers of financial claims (both monies and securities) and commodity trade and factor mobility. One aspect of these interactions is the linkage between movements of capital as a factor of production and transfers of securities

representing claims to future income. At the aggregate level, if a country wishes to accumulate productive capital more rapidly than at the rate permitted by domestic saving, it must finance the excess of investment over saving in the world "capital market"; that is, in the world market for financial claims to future income streams. At the microeconomic level, mobility of specific types of productive capital may be linked to mobility of specific types of financial claims. In particular, when productive capital includes specialized knowledge or technology that is the property of a foreign firm, and when use of this knowledge or technology cannot be acquired through a license, then limitations on foreign ownership may represent a significant barrier to domestic production of commodities requiring the special knowledge or technology.

Interactions between transfers of financial claims and movements of goods and factors are especially important in influencing the international transmission of macroeconomic disturbances. When the monetary units of two countries are linked through a fixed exchange rate, the general levels of prices in these countries should move together over long periods of time, as required by purchasing power parity (allowing, of course, for differential price-level movements required to compensate for changes in relative prices). The speed with which price disturbances are transmitted from one country to another is likely to depend on the extent of trade and factor mobility. If a large fraction of the goods produced and consumed in the two countries are traded between them and if factors can move easily between them, then price disturbances should be transmitted quite rapidly, as they appear to be within countries. However, if trade and factor movements are impeded by extensive natural and artificial barriers, then transmission of price disturbances will probably occur more slowly, and more as a consequence of money supply adjustments necessitated by payments imbalances than as a consequence of direct transmission of price changes from one country to another. Moreover, this principle applies not only to disturbances affecting price levels (whether these disturbances be "monetary" or "real"), but also to disturbances affecting output and employment levels. In general, the more integrated two economies are through trade and factor movements, the easier and more rapid the transmission of macroeconomic disturbances should be between them. It follows that the more integrated two economies are through trade and factor movements, the less latitude national governments have in pursuing independent macroeconomic policies (see Frenkel and Mussa 1981 for further discussion).

International capital mobility, in the sense of free movement of nonmonetary financial claims between countries, contributes another mechanism for the rapid transmission of macroeconomic disturbances (Mundell 1968; Frenkel and Rodriguez 1975). When exchange rates are fixed, easy mobility of financial claims implies that changes in official

reserve holdings requiring adjustments in national money stocks will occur rapidly in response to desired portfolio shifts by private agents. This allows monetary disturbances that affect prices and output in one country to be rapidly transmitted into monetary disturbances that affect prices and output in other countries. Easy mobility of financial claims also allows for international transmission of "real" disturbances (disturbances affecting desired spending in different countries) when exchange rates are flexible. Specifically, when financial claims are traded among private agents, the incipient trade deficit generated by an increase in desired spending (relative to income) in one country can be financed by a private financial capital flow, thereby creating an increase in demand for goods in other countries. In the absence of private capital flows, there would be no way to finance the incipient trade imbalance, and exchange rate adjustments would forestall transmission of much of a domestic spending disturbance to other countries.

All of these examples illustrate interactions among alternative channels of economic integration that have potentially important implications for the conduct of government policies. It follows from these examples that all of the problems of specifying an appropriate welfare criterion, of taking account of the constraints on government policy, and of conducting complicated and frequently inconclusive second-best welfare analyses apply not only to each of the channels of economic integration considered separately, but also to designing an optimal set of policies that affect all channels of economic integration simultaneously.

2.5   Conclusion

The preceding discussion has emphasized the impediments to a general theory of optimal economic integration that seeks to provide a prescription of the best policies to pursue with respect to commodity trade, factor movements, and transfers of financial claims. These barriers, however, do not preclude a great deal of useful economic analysis about the consequences of specific policies affecting economic integration undertaken by particular nations. In concluding this paper, a few relevant principles are suggested for considering specific issues of economic integration.

First, the performance of the world economy since the Second World War has demonstrated the substantial advantage accruing to all nations from an international economic order that permits a high degree of economic integration through commodity trade, movements of financial capital, and transfers of knowledge and technology. It is in the general interest of all nations to insure that the benefits derived from this liberal international economic order are not lost by a move backward into protectionism, rigid capital controls, and other policies of economic

disintegration. This does not imply that complete free trade and removal of all barriers to movements of financial capital and physical factors of production lead to the optimal degree of economic integration for every nation. But it does imply a presumption against erecting artificial barriers to economic integration in the absence of convincing arguments in favor of such barriers. Moreover, since the imposition of such barriers by one nation may weaken general political support for a liberal international economic order, in that nation and in other nations, there is additional reason to be cautious when moving in the direction of greater barriers to international economic integration.

Second, since decisions about policies affecting international economic integration are usually made by sovereign governments primarily concerned with their national welfare, attention must be focused on policies that will improve the national welfare of the countries that adopt them. The effects of such policies on the welfare of particular groups within a country will, of course, frequently be an important concern. However, mechanisms exist within a nation for weighing the interests of different groups and reconciling conflicts between them. At the international level such mechanisms are poorly developed. For this reason, it is not relevant to consider policies that would "benefit the world as a whole," in accord with some global welfare criterion, unless it can be shown that these policies are likely to benefit the individual nations that are asked to adopt them.

Third, while the analysis of policies affecting international economic integration must take into account the noneconomic concerns relevant to the broad conception of national welfare, this does not warrant suspension of the analysis of the economic consequences of such policies. As Harry Johnson (1960) indicates in his analysis of the "scientific tariff," it is always appropriate to consider the economic cost of pursuing a noneconomic objective, and to select the policy that achieves the objective at the least possible cost. Moreover, in assessing policies justified by noneconomic arguments, it is useful to recall the old adage that "patriotism is the last refuge of a scoundrel."

Fourth, constraints on the policies that governments can adopt and implement, and distortions which government policies cannot countervail, imply that the appropriate policies with respect to many isues of economic integration will necessarily be second-best policies that take account of these constraints and distortions. The necessity of pursuing second-best policies, however, does not provide a blanket justification for erecting or expanding artificial barriers to economic integration. For example, under certain circumstances, the standard infant industry argument is a valid second-best argument for granting tariff protection to a domestic industry. The required circumstances are that there be increasing returns to scale in the domestic industry, that the benefits of these

increasing returns not be fully appropriable by private investors, that the first-best policy of a production subsidy not be available, and that the domestic industry be able to achieve competitiveness (without protection) within a reasonable time span. The infant industry argument is not a general warrant for granting protection to all import-competing industries at very high rates and for prolonged periods.

Moreover, in applying second-best arguments to justify policies that interfere with economic integration, careful account must be taken of the distortions that such policies are likely to introduce into the economic system, as well as the distortions that they are likely to correct. For example, granting tariff protection to a final goods producer on the basis of an infant industry argument may lead to increased imports of inputs used in producing these final goods. Increased imports of such inputs may lead domestic producers of these inputs to demand protection. Granting such protection, however, is likely to work to the disadvantage of the domestic final goods producer who will, in turn, demand greater protection for his output. Of course, substantial (and temporary) protection of both the final and intermediate goods industries may be justified if the infant industry argument (or some other second-best argument for protection) validly applies to both industries. But, the extent of protection should not exceed the amount that can initially be justified. The extent of protection should not be leveraged upward, with each tariff increase for one class of producers providing the automatic justification for the next tariff increase for some other class of producers.

Finally, in analyzing policies affecting economic integration, account must sometimes be taken of important interactions among alternative channels of integration. Imposing or removing restrictions on trade in intermediate products will frequently have important consequences for final goods producers. Similarly, imposing or removing restrictions on commidity trade may sometimes have important effects on factor movements, and conversely. When these ancillary consequences of policies directed at one channel of economic integration on other channels of economic integration are important, then obviously they must be taken into account in policy formulation. However, the general principle that in economics everything depends on everything else should not be allowed to paralyze analysis of what should be presumed to be the primary effects of a particular policy. If a policy cannot be justified on the basis of careful analysis of its likely effects in its principal domain of operation, it is unreasonable to adopt it on the basis of its unspecified and unanalyzed secondary benefits.

References

Adams, Walter. 1968. *The brain drain*. New York: Macmillan.

Bhagwati, Jagdish N. 1973. *Illegal transactions in international trade: Theory and measurement*. Amsterdam: North-Holland.

Corden, Max. 1966. The structure of a tariff system and effective protective rates. *Journal of Political Economy* 74 (June):221–237.

Fischer, Stanley. 1977. Stability and exchange rate systems in a monetarist model of the balance of payments. In *The political economy of monetary reform*, edited by Robert Z. Aliber. London: Macmillan.

Frenkel, Jacob A., and Michael L. Mussa. 1981. Monetary and fiscal policies in an open economy. *American Economic Review* 71 (May):253–258.

Frenkel, Jacob A., and Carlos A. Rodriguez. 1975. Portfolio equilibrium and the balance of payments: A monetary approach. *American Economic Review* 65 (September):674–688.

Johnson, Harry G. 1960. The cost of protection and the scientific tariff. *Journal of Political Economy* 67 (August):327–345.

———. 1969. The theory of effective protection and preferences. *Economica* 36, no. 142 (May):119–238.

Lerner, Abba P. 1952. Factor prices and international trade. *Economica* 19 (February):1–15.

Lipsey, Richard G., and Kelvin Lancaster. 1956. The general theory of the second best. *Review of Economic Studies* 24, no. 3:11–32.

McKinnon, Ronald I. 1963. Optimum currency areas. *American Economic Review* 53 (September):717–725.

Mundell, Robert A. 1957. International trade and factor mobility. *American Economic Review* 47 (June):321–335 1961. A theory of optimum currency areas. *American Economic Review* 51 (September):657–664.

———. 1968. *International economics*. New York: Macmillan.

Samuelson, Paul A. 1950. Evaluation of real national income. *Oxford Economic Papers* 2 (January):1–29.

Stolper, Wolfgang, and Paul A. Samuelson. 1941. Protection and real wages. *Review of Economic Studies* 9, no. 1:58–73.

Swoboda, Alexander K. 1968. The eurodollar market: An interpretation. *Princeton Essays in International Finance*, no. 64 (February). International Finance Section, Princeton University.

Viner, Jacob. 1950. *The customs union issue*. New York: Carnegie Endowment for International Peace.