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INTERNATIONAL TRADE AND FACTOR MOVEMENTS IN DEVELOPMENT THEORY, POLICY, AND EXPERIENCE[1]

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Introduction

The role of international trade and factor movements in the process of economic development of developing countries (LDC's) has continued to attract the attention of economic theorists, policymakers, and chroniclers of economic development. While it is too much to expect a consensus view of this role to emerge based on the confrontation of alternative theories with the development experience of many countries since the Second World War, it is fair to say that (1) the divergence of views has narrowed and (2) the proponents of alternative views are able to support them by drawing upon (albeit selectively) an impressive accumulation of analytical and empirical studies.

The past 25 years have witnessed a sea-change in the world economic system: the nations of the world have become more interdependent both in the sense that a larger proportion of world output is traded in world markets and that world capital markets have become integrated to a considerable extent. The system has absorbed significant shocks: the collapse of the Brettonwoods system of fixed exchange rates, the two massive oil price increase in 1973 and 1979, the related phenomena of recessions in industrialized countries, and the unprecedented increase in real interest rates. Whether the recent fall in oil prices and interest rates will sustain the ongoing recovery and help the oil importers or whether it will end it through its effect on some oil exporting countries (mainly the heavily indebted ones) and the capital exporters is too soon to tell. Be that as it may, the experiences of countries that followed development strategies with different foreign trade orientation in adjusting to external economic shocks provide an unusual opportunity for assessing the strengths and weakness of the strategies pursued.

Since the Second World War, we witnessed several rounds of multilateral negotiations and agreements for reducing the tariff and nontariff barriers to international trade. Numerous innovations in reducing political and other risks involved in foreign investment have also taken place. Also, a set of proposals for a New International Economic Order (NIEO) was put forward by the developing countries in the second half of the seventies. The so-called North-South negotiations between the developed (north) and developing (south) countries on these proposals have been held off and on since then. While a few of these proposals were accepted by the north in some diluted form, all of them have been the subject of a number of studies, which by and large conclude that most developing countries were unlikely to benefit from the proposals, if they benefit at all. For all intents and purposes, these proposals are dead, if not yet buried.

Beside the shocks and shifts in the global economic system of the past 25 years, there have also been significant additions to the analytical toolkit of economists in general and development economists in particular. Some of the analytical problems that were once thought to be peculiar to development economics have now become part of the mainstream. Advances in economic theory, in particular, the attempts to provide a more satisfactory

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theory of expectation formations and (microeconomic) foundations for macroeconomics; the development of models incorporating features of industrial organization theory in analyzing problems of international trade; and analysis of the implications of viewing nonmarket institutions and processes as serving the functions of nonexistent or imperfectly functioning markets in a context of asymmetric information, moral hazard, and adverse selection have all influenced development theorizing. There has been an enormous increase in the quantity (if not to the same extent in the quality) of economic data on developing countries. At the same time, a vast array of new econometric tools and the computational capacity to use them have become available, enabling analysts to use simulation with empirical models as a technique for understanding the implications of complex policy scenarios and shocks to the system. This is a task that is not easy to accomplish only with a priori theorizing even of the most sophisticated kind.

The developments in the world economy, in empirically modeling, the functions of the economic system, and simulating the effects of counter-factual policy variants and other shocks to the system have been substantial. It is impossible to discuss them in a coherent manner in one paper, even if one were, indeed, equipped to do so. I took a more modest approach and reviewed only a few theoretical advances and empirical studies relating to international trade and factor movements.

The Foreign Sector in Development Strategy

Foreign trade has been viewed as a lead sector in development strategy for some time. The perception of the role of trade has changed over time.

Early Perceptions and Subsequent Experience

It is useful to begin with some facts at the aggregate level. Contrary to the widespread belief in the immediate post-World War II years that the prospects were dim for substantial growth in world trade and of per capita income of the poor countries, the realized growth was remarkable. However, it is too soon to assess whether the growth path of the pre-first-oil-shock period has been restored since 1984 (tables 1 and 2). The realized average growth rate of per capita income over 1950-83 at about 3 percent per annum exceeded by a third the growth rate achieved by most of today's industrialized countries over the century ending in 1960. Equally, if not more impressive, is the fact that the volume of world trade as a whole grew faster than world gross domestic product (GDP). Trade in primary products (agriculture and mineral) seems to have grown faster than the growth in their output. This aggregate picture masks substantial variations among countries and, in part, can be explained by their policies. Nevertheless, the pessimistic perspective on the elasticity of trade with respect to output and income that colored early development theorizing and policymaking has been clearly belied by history.

This pessimism led to the identification of a shortage of foreign exchange as one of the key (if not the sole) constraints on economic development. Cairncross put the dominant view succinctly: "The majority of the underdeveloped countries are monocultures, dependent for their earnings of foreign exchange on a single commodity (or at most two or three). These earnings are highly inelastic except when exports of the principal commodity form a small fraction of the world's consumption. At the same time, nearly all the plant and machinery that they require has to be imported, so that the scale of industrial development is limited by the foreign exchange available to pay for it" (22)[3]. It is indeed ironic that this view of a single primary commodity export with (income) inelastic foreign demand

[3]Underscored numbers in parentheses are listed in the References at the end of this article.

Table 1--Growth of world merchandise trade and production

Item	Annual rate of change		
	1963-73	1973-83	1984
		Percent	
Exports:			
All merchandise	9.0	3.0	9.0
Agricultural products	4.0	3.0	7.0
Minerals	7.5	-2.0	3.0
Manufacturers	11.5	4.5	12.0
Production:			
All merchandise	6.0	2.0	5.5
Agriculture	2.5	2.0	5.0
Minerals	5.5	0.5	2.0
Manufacturing	7.5	2.5	7.5
Share of developing countries:	1963	1973	1984
In world exports	20.5	19.0	24.5
In world imports	21.0	18.0	23.5

Source: (30, pp. 4-6).

Table 2--Growth of per capita real gross domestic product

Item	1955-70	1965-73	1973-80	1981	1982	1983	1984 1/	1985 2/
				Annual rate of growth				
All developing countries	3.1	4.1	3.2	1.0	-0.7	0	3.3	2.4
Low-income countries	1.6	3.0	2.7	3.0	3.2	6.1	7.4	6.1
Major exporters of manufactures	3.9	4.6	3.1	-.8	-2.0	-1.6	1.8	1.0
Oil importers	3.2	--	--	--	--	--	--	--
Oil exporters	3.4	4.6	3.4	1.5	-2.8	-4.4	.7	0
High-income oil exporters	5.8	4.1	5.9	-.7	-7.6	-15.7	-3.0	-8.5
Industrial market economies	3.6	3.7	2.1	-1.1	-1.3	1.6	3.9	2.4

-- = Not available
1/ Projected on the basis of GDP.
2/ Estimated.
Source: (75, table 3.1 for 1982 and; table A.2 for 1986).

constraining the imports of capital goods needed (often in fixed proportion to output) for industrial development continues to underpin some of the recent structuralist North-South models. This suggests that some form of theorizing is unlikely to be influenced by inconvenient facts.

Evolution of Analytical Models: Two Gaps to Applied General Equilibrium

The early development models of (Chenery and Bruno, Chenery and Strout) encapsulated a rigid foreign exchange gap (in addition to a domestic savings gap) that can prove to be a binding constraint on development, given the assumed exogeneity of export earnings (24, 25). When the exchange gap was binding, which implied that there was a realizable but unrealized pool of domestic savings, foreign aid became twice blessed, once for relieving the constraint on imports of capital goods and once again by realizing the potential domestic savings and converting it (together with aid financed equipment imports) into productive capacity in the form of plant and equipment.

In time, the two-gap models begat a generation of multisector development planning models. The analytics of these models were summarized by Blitzer, Clark, and Taylor (18). Some limited input substitution in production was included in these models in the form of alternative activities that used inputs in different but fixed proportions. Even more limited commodity substitution in demand was allowed in an ad hoc way.

The choice among alternative production and consumption activities was the consequence of the optimization of the specified objective functions of these models. Put in another way, their choice was not necessarily the result of the response of producers, consumers, and traders to the relevant prices and constraints faced by them. It was as if these agents faced the "shadow prices" associated with the "optimum" solution to the model, and their actual decision environment was adequately described in the model.

Implicit in this was also the belief, though not necessarily shared by all modelers, that the planner (such as, the state) had enough fiscal and other instruments in his arsenal to assure that the "shadow prices" were in fact the actual prices faced by consumers and producers. Thus, a purposive planner, imbued with the long-term interests of the society, having an appropriately formulated model of the economy, was supposed to use the model as a tool to analyze the implications of alternative strategies and policies and arrive at the most suitable (if not the optimal) strategy together with a description of taxes, subsidies, and other items needed to implement the strategy. It must be added, however, that the more perceptive planners did not share this view of the modeling exercise. They viewed the models only as a computationally convenient but necessarily rough approximations, which were far more useful than other methods to check the internal consistency of alternative plan proposals. They rightly believed that the planning models cannot eliminate the role of judgment in making hard political and socioeconomic choices. Forgetting this important fact can lead to unfortunate consequences. For example, Rosen (56) provides a fascinating account of the entanglement in Indian politics of a, in many ways, pioneering, planning model put together in the sixties by Indian and foreign economists working for the Center for International Studies at Massachusetts Institute of Technology (MIT).

The capacity to build an empirical analogue of a price-endogenous Walrasian General Equilibrium Model (WGEM) and algorithms to compute its equilibrium became available in the midseventies. This new model of applied general equilibrium analysis was quickly put to use for analyzing domestic fiscal policies in a number of countries by Shoven Whalley (61). Their multicountry variants have been used to analyze foreign trade policies, particularly unilateral and multilateral trade liberalization. Such models have been put together for several developing countries, largely under the sponsorship of the World Bank. At the International Institute for Applied Systems Analysis (IIASA) in Austria, a model was prepared from the pioneering effort of Adelman and Robinson (1).[4]

The attractions of such a model are obvious enough: not only the allocative efficiency implications of policies that distort the equilibrium set of market prices can be analysed, but through their effect on equilibrium returns to primary factors, the income distributional implications can be drawn as well. Provided one is willing to specify the processes of formation of price expectations, accumulation of primary factors and of technical change, a sequence (in time) of equilibria can be computed as well. Elements of such a sequence are not, of course, components of an intertemporal competitive equilibrium but simply of Hicksian temporary equilibria. Thus, static as well as dynamic efficiency and equity implications of alternative development strategies could be analyzed or so it was hoped. Clive Bell and I critically examined the strengths and weaknesses of such models for understanding the development processes (6). These models have been far more useful in examining issues of allocation and efficiency than as tools for analyzing processes.

The evolution of another useful tool, namely, social cost benefit analysis, for analyzing choice at the sectoral and project level rather than at the economy-wide level needs to be

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[4]It is interesting that the earliest empirical planning model for any developing country was by Sandee (60) for India. However, a price endogenous model for India came years after Adelman and Robinson's for Korea, as if the attitudes of policymakers toward prices and markets in the two countries influenced the modelers (1).

briefly noted. Cost benefit analysis as a tool for making public investment choice is not a new development. Its refinement, however, to incorporate a wide spectrum of social objectives (including those relating to the distribution of income along socioeconomic groups at a point in time and over time) and the derivation of procedures for the evaluation of individual projects from an explicit or implicit economy-wide model indeed are new. Such derivation can be linked to the evolution of economy-wide models. Simply stated, the problem of project evaluation is to arrive at a set of social or shadow prices to inputs and outputs of a project during its lifetime so that the net present value of the project at these prices indicates its social-welfare impact. Analogous to the use of simple models such as the two-gap model, there were attempts to derive shadow pricing formulas for a few key factors such as unskilled labor, capital, and foreign exchange. As the simple one and two sector models evolved into multisector, multiperiod programming variants, the shadow prices for inputs and outputs associated with the optimum solution to the economy-wide programming problem suggested themselves as the relevant ones for use in project evaluation. Unfortunately, apart from the conceptual problem that each ad hoc constraint introduced to approximate some aspect of reality, the programming model acquired a shadow price that was not easily interpretable and usable in a project evaluation context.

As it turned out, the shadow price vector was not very robust even to minor changes in the specification of the model. By viewing a project as a small perturbation of an initial equilibrium, one could derive project evaluation criteria from the applied general equilibrium models as well. The same robustness problem with respect to model specification arises in this case also. Workable procedures of evaluation have to be robust, theoretically sound, and simple in computation. The two basic project evaluation guidebooks emerged from a search for workable procedures, namely, the OECD manual authored by Little and Mirrlees (46) and the UNIDO guidelines authored by Dasgupta, Marglin, and Sen (26). A central result of these manuals is that for a small open economy (that is an economy that cannot influence the relative prices of internationally traded goods) shadow prices for traded goods are their "border" prices (that is, f.o.b. prices for exports and c.i.f. prices for imports). The shadow prices for nontraded goods and primary factors can often be derived from traded goods prices. These results are fairly robust (as long as the economy is a price taker in world markets and distortions are not due to quantitative interventions, such as import quotas) and can be rigorously derived from a general equilibrium model of the economy (62); thus, making the procedure theoretically sound. Since border prices for traded goods are readily available and the procedure for deriving other prices usually requires no more than an input-output table, the procedure is easily implemented.

Outward- and Inward-Oriented Development Strategies

The early pessimism with respect to foreign demand for exports was partially based on the dismal experience with foreign trade during the inter-war period in general and the depression period in particular. This pessimism, apart from its impact on analytical modeling of development, was a major reason for many developing countries to adopt an "inward-oriented" strategy of development in spite of the potential static and dynamic gains of an "outward-oriented" strategy. To avoid the misidentification of outward orientation either with active export promotion or with laissez-faire, let me define an outward-oriented strategy as one that has no significant bias, first toward autarkic development, or second toward either export promotion (earning of foreign exchange) or import substitution (saving of foreign exchange). Many countries adopted a development strategy that was biased toward import substitution (beyond what would occur if dictates of comparative advantages were followed). They also implemented it through a regime of quantitative restrictions on imports and exports of goods and services, domestic and foreign investment, and imports of technology. Tariffs and price interventions were not altogether absent. The failure of this strategy was becoming clear by the midsixties. Although few countries abandoned it altogether, several countries experimented with

liberalizing their foreign trade and payments regimes. These liberalization episodes as well as the claims of rapid industrialization (enhanced investment rates, greater employment creation, and faster technical progress made in favor of the inward-oriented strategy) were examined in a number of theoretical and empirical studies in the late seventies (2,9,16,41,42).

Very few of the claims made for inward orientation were supported by the experience of the countries studied. The strong conclusion emerging from these studies is simply that trade liberalization is beneficial and the performance of countries that either switched to, or pursued from early on, a version of the outward-oriented strategy far outstripped that of others. Bhagwati persuasively argues that the attribution of success of the outward-oriented strategy for eastern countries (such as Singapore, Taiwan, and South Korea) to their authoritarian regimes is simply an assertion without any convincing evidence to support it (11).

An apparently unfavorable assessment of outward orientation emerges from studies of trade liberalization, using the newer tool of applied general equilibrium modeling. Whalley (73) and Srinivasan and Whalley (65) report on several of these studies. Since the results of most studies are similar, let me draw on Whalley (73) for illustration. His model distinguishes seven regions: the United States, EC, Japan, other developed countries (ODC), Organization of Petroleum Exporting Countries (OPEC), newly industrializing countries (NIC's), and less developed countries (LDC). Six aggregate products are produced in each region with five of them being internationally traded. He makes four counter-factual simulations or scenarios. He included in the first scenario only the northern regions (United States, EC, Japan; and ODC), in the second scenario only the southern regions (OPEC, NIC's and LDC), and in the third scenario, all seven regions abolished tariff and nontariff barriers. In the fourth scenario, the southern regions grew faster in the post-1978 period than the northern regions did in the pre-1978 period. The welfare impact of liberalization is assessed by Hicksian Equivalent Variation of income. The results are shown in table 3.

The global gains to trade liberalization are extremely modest, varying from 0.28 percent of 1977 GNP in scenarios 1 and 2 to 0.36 percent in scenario 3 when the whole world achieves the Nirvana of free trade. The NIC's-LDC group lose almost 5 percent of their GDP by unilaterally liberalizing and about 4 percent when the rest of the world joins them in liberalizing. As in scenario 4, if the southern regions continue to grow faster and attempt to catch up with the northern regions, their terms of trade deteriorate. Should we conclude from this that outward orientation makes only a marginal difference to world welfare but definitely harms the LDC's and NIC's?

I argued elsewhere that such a conclusion would be wrong for several reasons (64). These reasons include the competitive general equilibrium features of the models, particularly their inadequacy in capturing the necessarily forward-looking and dynamic processes of factor accumulation and technical change, and their manipulation of data (as well as the specification of crucial elasticity parameters) to make them an internally consistent equilibrium set. I wish to emphasize two features that are likely to understate the gains from outward orientation in developing countries. The first relates to the fact that the models assume rent-seeking activities triggered by policy instruments used in implementing an inward-oriented strategy. Such rent seeking diverts resources away from producing goods and services demanded by final consumers, a diversion that will by definition disappear with liberalization. The second is the assumption that production takes place under constant returns to scale technologies and competitive market structures. Yet, the policies (particularly those relating to the industrial sector such as investment licensing and allocation of capital goods imports) used to sustain inward orientation restrict competition not only from imports but also among domestic producers. In fact, they create domestic oligopolies and even monopolies besides establishing high-cost domestic capacity of nonoptimal scale for the production of import substitutes. Again, gains from

Table 3--Welfare impact of trade liberalization secnarios and terms-of-trade impact of differential growth

Region	Gross national product	Scenario		
		1	2	3
	Billion 1977 dollars	- - - - - - - -	Percent	- - - - - - - -
EC	1,629	-3.1	37.2	33.1
United States	1,897	-.1	12.1	10.7
Japan	734	-.1	12.1	10.7
ODC	2,024	3.4	4.5	5.6
OPEC	303	1.7	7.0	4.4
NIC's	461	9.2	-31.6	-24.3
LDC	773	11.8	-28.2	-23.0
World	7,824	22.1	22.0	27.8

	Annual growth rate	Terms-of-trade change relative to base case		
		After 5 years	After 10 years	After 20 years
		Percent		
EC	3.3	3.4	6.8	13.9
United States	2.8	3.4	6.9	14.0
Japan	4.8	-3.4	-6.7	-13.1
ODC	4.1	-2.8	-5.7	-11.1
OPEC	3.5	.9	1.8	3.5
NIC's	5.2	-4.6	-8.9	-17.2
LDC	4.5	-3.1	-6.1	-12.1

Source: (72, tables 4 and 5).

liberalization arising from the elimination of deadweight losses due to imperfect competition are not captured by the models.

There are two studies that estimate the gains from liberalizing an economy in which rent seeking or imperfect competition is prevalent. The first by Grais, Demelo, and Urata models the rent seeking associated with import quotas in the Turkish economy (31). It finds that while the gain to the removal of tariffs only (while keeping the quotas intact) was negligible, the removal of quotas increased real GDP compared with its base or reference value between 5 and 10 percent. The second study by Harris was on Canada's economies of scale and imperfect competition (33). He found that Canada's participation in a multilateral reduction of all tariffs yield a welfare gain in excess of 5 percent of GNP.

Outward Orientation and Adjustment to External Shocks

In the literature on the role of international trade and development, it is sometimes argued that outward orientation may expose a developing economy to disturbances that have their origins elsewhere in the trading world. In particular, a small open economy engaging in free trade (and capital movements) will be exposing itself to uncertain terms of trade (and interest rates). Of course if the small open economy faces a complete set of contingent commodity markets in the Arrow-Debreu sense, the argument in favor of the optimality of free trade is unaffected. But in the real world of incomplete markets, a general answer as to the expected welfare impact of trade restrictions cannot be given. However, to the extent that uncertainties can originate in the home economy as well as the

rest of the world, opening the economy to foreign trade offers insurance against risks originating at home. For example, the ability to import from the rest-of-the-world reduces the risk associated with crop failures at home as long as such failures are not correlated with those abroad.

The problem of adjustment to shocks should be conceptually distinguished from the issue of whether or not to trade in a world in which the exogenous variables of an economy (such as its terms of trade, if it is a small open economy) are uncertain but have a known objective or perceived probability distribution. One definition of an external shock, though not a universally accepted one, is that it is an unanticipated, temporary or permanent, change in (the joint probability distribution) of one or more exogenous variables to the economy. Adjustment to a shock then can be defined as changes in the time path of endogenous variables, in particular, policy instruments that are occasioned by the shock. Given some indicator of the cost of adjustment, one could compare alternative policy responses to the shock. The development strategy pursued by a country will affect its adjustment process. One strategy as compared with another may expand the set of feasible policy responses to a given shock and, as such, will be better from the point of view of adjustment regardless of how the cost of adjustment is defined. Even if such a strong ranking of two strategies is not always possible, one can compare them given an indicator of adjustment costs.

One could view, as Neary did in his lucid analysis, the problem of adjustment as tracing the consequences of an exogenous shock to an initial (steady state) equilibrium of an economy until a new equilibrium is reached (52). Loosely speaking, the process by which the economy reaches a new equilibrium once it is out of an initial equilibrium can be specified in alternative ways depending on the flexibility with which resources move between sectors, the time horizon involved, and the policy instruments used to influence the process. Again as Neary argues, while conceptually such an analysis is appealing, the fact that in the real world the economy is likely to be bombarded by a sequence of shocks, each one coming before the adjustment to all the earlier ones have completely worked themselves out, makes analysis of the efficacy and welfare cost of particular policy interventions or of development strategies in the adjustment process particularly difficult.

A number of studies at the World Bank by Balassa (2,3,4,5) and Mitra (50,51) view the OPEC induced increase in real oil prices of 1973 and 1979 and the increase in real interest costs of international borrowing in the early eighties as shocks. They attempt to quantify these shocks as they affect different countries and compare their adjustment policies in terms of certain indicators. Balassa concludes from such a comparison that developing countries pursuing an outward-oriented development strategy were more successful in their adjustment. While this is in many ways a comforting conclusion, there are some problems with the approach that is used in arriving at such a conclusion.

Balassa defines adjustment policies as responses to external (or internal) shocks that have as their objective the regaining of the pre-shock growth path of the national economy. Such a definition presumes that regaining the pre-shock growth path is not only feasible but also optimal in the sense of minimizing the costs (or maximizing the gains, in the case of favorable shocks) of adjustment. Although Balassa's definition of external shocks as "unanticipated changes in world economic conditions" is not too different from the definition given above, his methodology of quantifying shocks involves the assumption of static expectations. Thus, any difference in a country's average terms of trade during the shock-adjustment periods (1974-78 and 1979-83) compared with the average during the immediate pre-shock periods (1971-73 and 1976-78) is viewed as the magnitude of a terms-of-trade shock. Similarly, the difference between the average interest rates during 1976-78 and the average during 1979-83 is viewed as the magnitude of an interest rate shock. The magnitude of the shock to foreign demand for a country's export is identified as any deviation from its pre-shock share in the trend value of world exports. It is not easy to specify the anticipated or expected path (or more precisely the stochastic process)

of the exogenous variables so that departures from it could be deemed a shock. But, it seems somewhat of an extreme to postulate static expectations. Adjustment policies consisted of export promotion (increases in export market shares), increased borrowing (relative to past trends), import substitution (decreases in income elasticity of import demand compared with the period 1963-73), and deflation (reduction in income growth relative to the 1963-73 trend).

Mitra quantifies shocks through an open economy macroeconomic model of each country studied (50,51). The model was estimated using annual data for 1963-81 and introduced a dummy variable in the slopes and intercepts of each of the four structural equations of the model to distinguish the shock and adjustment period 1974-81 (dummy taking the value 1) from the pre-shock period of 1963-73 (dummy taking the value zero). The predictions from the model for the period 1974-81 are compared with the predictions for the same period obtained by assuming that the coefficients of the slope and intercept dummy were zero, that assuming that the pre-shock structure prevailed in the post-shock period and that there was no shock to the exogenous variables. The difference in the two predictions for each of the relevant macroeconomic variables is the impact of the shock. It is then decomposed through straightforward accounting into price and quantity changes.

The exogenous variables were (1) the trend value of the export and trade-weighted average of GDP in the three most important trading partners of a country, (2) the index of the price of its exports relative to the price of manufactured exports of OECD countries (that is a deflator of nominal export earnings used to obtain its purchasing power), (3) the index of the price of its imports relative to the same numeraire, (4) real investment, and (5) real net factor income from abroad. Absence of shock is assumed to imply that the first variable continued along its 1961-73 trend in the first period, the second and third stayed at their 1971-73 values, share of real investment in real GNP stayed at its 1971-73 value, and real factor income in the first shock period equaled its actual value. Thus, Mitra's counterfactual is a combination of Balassa's static expectations and extrapolation of past trends with respect to some variables and perfect foresight in respect to real factor incomes.

Mitra groups countries into five groups according to their modes of adjustment. Group 1 (Chile, Costa Rica, the Philippines, Singapore, South Korea, and Taiwan) adjusted principally through export expansion and public resource mobilization (that is, policies affecting the response of public consumption and revenues to income). Group 2 (Argentina, Brazil, Guatemala, Honduras, India, Kenya, Malawi, Mali, Thailand, Turkey, and Uruguay) relied on either export expansion or public resource mobilization. Group 3 (Jamaica, Portugal, and Yugoslavia) adjusted through import substitution and negative public resource mobilization. Group 4 (El Salvador, Mexico, Morocco, Pakistan, and Spain) resorted to financing without domestic adjustment. The last group (Benin, Bolivia, Colombia, Indonesia, the Ivory Coast, Malaysia, Niger, Nigeria, and Tunisia) was lucky enough to have experienced favorable shocks. The underlined countries in each group are semi-industrial, and their adjustment to shock is analyzed in Mitra (51).

The magnitude of the shocks and the adjustments as per the Balassa and Mitra methodologies are shown in tables 4 and 5. I very much agree with Balassa's a priori arguments that outward-oriented economies are better placed to adjust to external shock even though the very fact that they are integrated to a greater extent with the rest-of-the-world than the inward-oriented ones tend to magnify their external shocks. For instance, in the inward-oriented economies, the import control regimes usually would have succeeded in eliminating all imports other than those related to the operation and expansion of productive capacity (mostly industrial and infrastructural capacity), and in establishing high cost, uneconomically sized plants producing domestic substitutes. It is also likely that their steps toward attenuating some of the deleterious effects of excessive import substitution through export promotion are also likely to involve direct subsidization of

Table 4--External shocks and policy repsonses to those shocks for groups of developing economies

Item	Terms of trade effects	Export volume effects	External shock total	Interest rate effect	Together	Additional net external financing	Export promotion	Import substitution	Effects of lower GDP growth
	---------Percent of GNP--------					---------Percent of external shock----------			
Outward-oriented:									
NIC's--									
1974-78	6.5	2.9	9.4	- -	9.4	-50.1	54.0	71.7	24.4
1979-83	8.9	6.1	15.0	1.8	16.8	-24.7	29.3	29.1	66.3
LDC's--									
1974-78	5.9	1.2	7.0	- -	7.0	57.0	29.8	11.5	1.7
1979-83	7.0	1.4	8.4	1.3	9.7	53.3	27.5	1.6	17.6
NIC's and LDC's--									
1974-78	6.3	2.4	8.8	- -	8.8	-26.5	48.7	58.5	19.4
1979-83	8.4	4.9	13.3	1.7	15.0	-11.5	29.0	24.5	58.1
Inward-oriented:									
NIC's--									
1974-78	3.6	.8	4.5	- -	4.5	58.5	-13.6	41.2	13.9
1979-83	2.1	.4	2.5	2.0	4.6	5.1	22.8	15.4	56.7
LDC's--									
1974-78	3.4	1.0	4.4	- -	4.4	150.6	17.6	-36.5	3.5
1979-83	4.5	.9	5.4	.7	6.1	96.7	-9.0	-.6	12.9
NIC's and LDC's--									
1974-78	3.6	.9	4.5	- -	4.5	89.0	-14.9	15.4	10.5
1979-83	2.8	.6	3.4	1.6	5.0	37.6	11.5	9.8	41.2

- - = Not applicable.
Source: Private communication from B. Balassa.

nontraditional exports, while continuing to penalize their traditional exports. This means that when an external shock hits the economy very few imports can be cut without jeopardizing growth and further import substitution or export promotion (the same lines as before the shock) can be achieved only by increasing costs. Thus, inward orientation can substanitially increase the cost of adjustment.

It is not clear, however, whether the increased cost of inward orientation can be inferred from the a posteriori results of table 4. After all is said and done, these portray the effects on two sides of an accounting equation. On one side, external shocks affect export earnings, import payments, and interest on foreign debt. On the other side, adjustment involves financing (without domestic adjustment), domestic adjustments that relate to export supplies, import demands, and those that relate to components of GDP. The fact that components relating to adjustment differed between countries does not, in and of itself, indicate whether all modes of adjustment were feasible for all countries, and even more important is, whether a particular mode was more or less costly in some well-defined sense than the other.

Table 5--Balance-of-payments effects of external shocks and modes of adjustment as a percentage of local currency, gross national product

Item	Group I		Group II		Group III		Group IV		Group V	
	1974-78	1974-81	1974-78	1974-81	1974-78	1974-81	1974-78	1974-81	1974-78	1974-81
					Percent					
A. External shocks										
1. International price effects--										
a. Export price:										
(i) Direct	-1.97	-2.87	-.63	-.45	-3.86	-3.24	-3.26	-2.31	-7.59	-9.26
(ii) Indirect	-2.38	-3.05	-.37	-.37	-2.87	-2.34	-1.75	-1.06	-2.93	-3.57
Difference (=(i)-(ii))	.41	.18	-.27	-.8	-.99	.89	-1.41	-1.25	-4.66	-5.69
b. Import Price										
(i) Direct	6.08	8.06	3.16	3.71	4.55	4.98	2.03	1.28	2.03	2.41
(ii) Indirect	4.81	5.80	1.44	1.72	3.20	3.47	1.03	.53	.90	1.24
Difference (=(i)-(ii))	1.27	2.25	1.72	2.00	1.34	1.51	1.00	.75	1.13	1.17
Sum (1a + 1b)	1.68	2.43	1.45	1.91	.35	.61	-.41	-.50	-3.53	-4.52
2. Recession-induced Effect--										
a. Export volume	1.97	2.04	.60	.69	1.18	1.30	1.22	1.46	.73	1.27
b. Import saving	1.27	1.28	.30	.39	.84	0.91	.65	0.81	.08	.33
Difference (=(i)-(ii))	.70	.76	.30	.34	.39	0.57	.66	0.65	.65	.93
3. Net interest rate effect:										
a. Payments Effect--										
(1) Medium and long term	-.11	.68	-.9	.18	.05	0.72	.06	.45	.10	.75
(11) Short term	-.1	.87	-.1	.16	.00	0.40	-.03	.22	-.01	.15
Sum (=(1) + (11)	.10	1.54	-.10	.34	.04	1.12	.03	.68	.09	.90
b. Receipts Effect	.1	.76	-.1	.9	-.10	-0.15	.00	.06	.00	.28
Difference (=3a - 3b)	.10	.78	-.9	-.25	-.14	1.27	.04	.62	.09	.63
4. Total Shock (= 1 + 2 + 3)	2.48	3.98	1.66	2.47	.83	2.27	.20	.77	-2.79	-2.96
B. Modes of adjustment										
1. Trade Adjustment										
a. Exort expansion										
(1) Direct effect	12.79	17.05	.75	1.66	-7.60	-7.31	-.63	.02	-.02	.25
(11) Import augmenting effects	9.09	11.60	.18	.55	-5.41	-5.23	.32	-.13	-.91	.58
Difference (=(1) - (11))	3.70	5.45	.57	1.11	-2.19	-2.08	.31	.15	.89	.83
b. Import substitution										
(i) Direct effect	.97	-4.20	.87	.85	4.68	4.43	-3.32	-3.28	-3.88	-5.04
(ii) Indirect effect	1.45	-2.59	.36	.38	3.38	3.13	-1.55	-1.28	-.17	-.36
Difference (=(1) - (11))	-.48	-1.61	.50	.48	1.31	1.30	-1.77	-2.00	-3.71	-4.68
Sum (= 1a + 1b)	3.22	3.84	1.07	1.59	-.88	-.78	-1.46	-1.86	-2.82	-3.85
2. Resource mobilization										
a. Private	1.08	.54	-.61	-.44	-1.53	-.96	.72	.65	.98	1.27
b. Public										
(1) Public consump. restraint	-.09	.19	-.69	-.88	-2.93	-4.04	.61	-.87	.25	.16
(11) Tax Incensification	.49	.49	-.10	-.12	.28	.39	-.25	-.24	-.86	-1.14
Sum (=(1) + (11))	.40	.68	-.79	-1.00	-2.65	-3.64	-.86	-1.11	-.61	-.98
Sum (= 2a + 2b)	1.48	1.22	-1.39	-1.44	-4.18	-4.61	-.14	-.46	-1.37	.29
3. Investment Slowdown	-1.13	-1.91	-.46	-.69	2.48	2.78	-1.60	-.84	-1.31	-1.74
4. Net Additional Ext. Financing	-1.09	.83	2.45	3.01	3.41	4.88	3.39	3.93	.97	2.34
5. Total (= 1 + 2 + 3 + 4)	2.48	3.98	1.66	2.47	.83	2.27	.20	.77	-2.79	-2.96

Source: (50,Table 4.1).

Balassa was careful to define his indicator of success of adjustment as GDP growth rate, and he relates the adjustment path as revealed by the magnitude of different components in table 3 to growth performance. Yet, without a well specified model of the relationship between the set of feasible paths of adjustment and the development strategy adapted by a country, it is hard to assess his argument that in response to the initial shock of 1973 the outward-oriented economies did not increase their external debt but relied on output increasing polices of export promotion and import substitution after initially deflating their economies. Table 4 reveals the dominant response of outward-oriented LDC's was external financing and import substitution played a minor role. In the case of outward-oriented NIC's, deflation was the dominant mode of adjustment in 1979-83. Even when the outward-oriented NIC's and LDC's are put together, the dominant response in 1979-83 is not output-raising policies but the output-reducing policies of lower GDP growth.

The analysis of Mitra is, based on a macroeconomic structural model that incorporates a behavioral response to the evolution of exogenous variables (and with the break in the structure after 1973) as well as to shocks in their evolution. The structural system is driven only by gross national income (corrected both for capital gains and losses on net debt as well as terms-of-trade changes). This is admittedly a simple framework for analyzing adjustments. He concludes that in many semi-industrial countries attempts to adjust to exogenous external shocks were compromised by domestic public sector profligacy and the use of exchange rate policy to counter inflation generated by such profligacy was counter productive. These are of important policy significance, if they are confirmed by a more elaborate analysis including more countries.

Some Recent Theoretical Models of Trade and Development

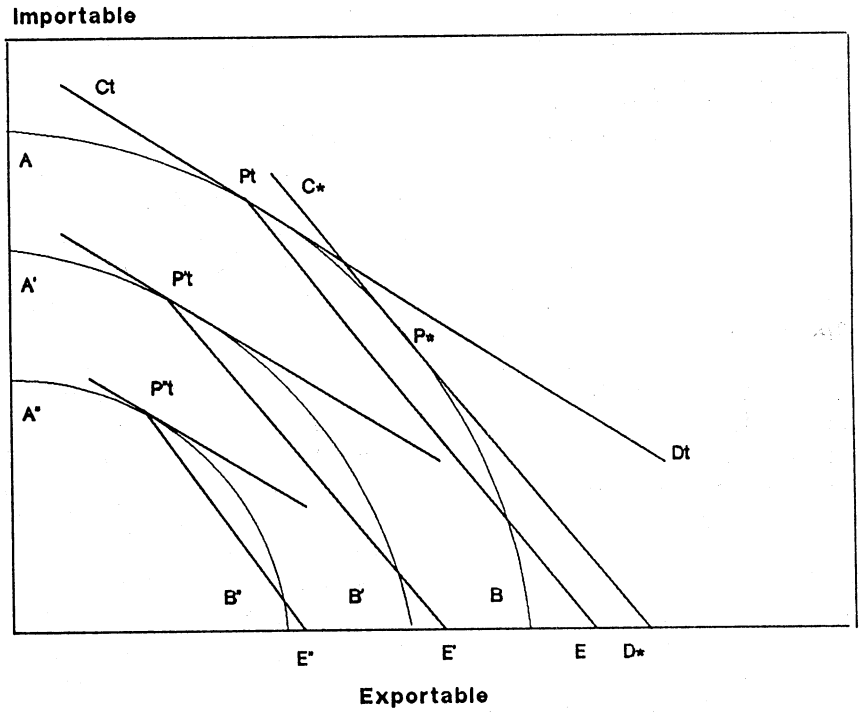
Rent-Seeking and DUP Activities

It was noted that policy instruments used to implement an inward-oriented strategy of development are likely to trigger rent-seeking activities. Since Anne Krueger's (39) classic article on the diversion of resources toward rent seeking, an analytical framework for integrating such activities, which have been characterized by Bhagwati (9) as DUP (directly unproductive profit-seeking activities), into traditional models of trade theory has emerged. With this framework, a number of diverse theoretical results and empirical observations (such as immiserizing growth (7), negative value added at world prices of heavily protected domestic activities in developing countries, negative shadow prices for factors in project evaluation, the impact of rent and revenue seeking on domestic welfare and, on the ranking alternative policy interventions for achieving noneconomic objectives) can all be seen as arising from basically the same underlying structural feature of a distorted economy. Thus, given an existing distortion (such as an import tariff in a small open economy or some other nonoptimal tax), any addition to factor supplies through accumulation or diversion of factors from their existing use toward a project (or for rent seeking, revenue seeking and lobbying) can reduce welfare. This can be seen in the case of immerizing growth, by accentuating the effects of that distortion or improve welfare and, in the case of negative shadow price for a factor, by attenuating them. It also turns out that if the diversion of resources to rent seeking are of the same value in equilibrium as the rents sought, then a policy, such as an import tariff, which has a higher welfare cost in the absence of revenue seeking than a production tax for achieving a noneconomic objective of raising the output of a sector (beyond the level achieved in a laissez-faire equilibrium), can become superior to it with revenue seeking present (14).

One implication of the presence of rent seeking was already mentioned. The gains to those policies that eliminate distortion that triggered the rent seeking could be substantially greater than the cost estimates of the same distortion in the absence of rent seeking. If we also include the resources devoted to lobbying for the adoption of the distortionary policy in the cost of distortion, it can be substantial. This is easily illustrated by using the traditional approach to the cost of protection. In figure 1, AB represents the production possibility (PP) curve of a small open economy if all its resources are devoted to production activities. C^*D^* represents an iso-value line at world prices. The economy will operate at P^* under free trade. If a tariff is imposed by the government without anyone lobbying for its imposition or for the diversion of revenues it generates once imposed, the iso-value line becomes C^tD^t and the economy will produce at Pt and the production cost of protection is measured by the difference ED^* between the value at world prices of P^* as compared with P^t. Now, first introduce lobbying for the tariff rather than it being imposed autonomously. The resources diverted to the lobbying activity (which remains diverted because a tariff once imposed may not remain in place unless the lobby continues to plead for it) shrinks the PP curve to A'B' and the production point shifts to P'^t. If there is resource using struggle for the disposition of the revenue

Figure 1

Cost of protection and DUP activities



generated by the tariff, the PP curve shrinks further to A"B" and the production point moves to $P^{"t}$. The total production cost of protection then is E"D*, consisting of the sum of cost of revenue seeking E"E', the cost of lobbying for the tariff E'E, and the traditional cost ED*.

If rent seeking had the effect of reducing the cost of the distortion that triggered it as in some of the examples above, the gains from elimination of the distortion may be less. Indeed, some forms of corruption and extra legal transactions in developing countries and some centrally planned economies may even improve the efficiency of an otherwise extremely inefficient bureaucratic allocation system. In such cases, the economic gains toward a less bureaucratic allocation system may be less than what might seem on the surface.

North-South Models

The so called north-south models build on assumed structural difference between the developed north and developing south. In the Findlay version, each region is specialized in producing its export good (28). The north produces a single homogeneous manufactured goods under a constant returns to scale neoclassical technology with capital and labor as inputs, saves a fixed proportion of its output, and fully employs its exponentially growing labor force in a competitive market for goods as factors. The part of the output that is not saved or invested is spent either on domestic manufacturers or on imports of primary products from the south. South's technology for the production of exports is again neoclassical with capital and labor as inputs, except that labor supply to the export sector is infinitely elastic at a fixed product wage. Southern workers consume all their wages, and capitalists save part of their profits. Consumption expenditures of workers and capitalists are divided between spending on home produced primary products and imported manufacturers, depending upon relative prices.

A unique steady-state equilibrium in which north and south grow at a rate equal to the growth rate of the effective supply of labor in the north is shown to exist. Also, convergence to this steady state from arbitrary initial conditions is established. The comparative dynamics (that is, impact on the steady-state equilibrium) of increases in the northern propensity to save and improvements in its technology are simply that its per

capita income increases and its terms of trade improve, while the south loses on both counts. As Findlay himself admits, the assumptions of the model such as the absence of capital mobility in response to differing profit rates between north and south, production specialization, and unlimited labor supply at a fixed real wage in the south are very restrictive. I would add the exogenously specified savings propensities and population growth rates to his list. But the fundamental problem is that while these rigidities and fixities may make some sense in the short or even medium run, to keep them fixed forever and take the comparative dynamics of the long-run steady states emerging from them as stylized development stories is seriously misleading. Besides the intertemporal gains or losses along the transitional path toward the new steady state are ignored in focusing exclusively on the steady state. Such gains or losses may reverse the conclusions derived from steady-state comparisons.

Another north-south model that builds in even more rigidities than Findlay's is attributed to Kaldor (71). In this model, the north is specialized in producing an industrial output, using capital and labor in fixed proportions to output. Real wages are exogenous and fixed, and any surplus of output over sales to the southern and northern consumption is invested. The south is specialized in producing an agricultural good, using land, labor, and capital. Capital-labor ratio is fixed. In the short run and intermediate run, diminishing returns arising from the fixity of land are assumed absent so that the capital-output ratio in agriculture is constant. In the long run, substitution (at a diminishing marginal rate) between land and labor is allowed. Southern real wage is also fixed (in terms of the agricultural good). Wages and rents are consumed in agricultural goods, while all profits are invested. Thus, the agricultural surplus of the south is exchanged for northern capital goods. Northern workers do not save but split their consumption between the industrial good and agricultural good, depending on relative prices.

It is shown that in the short run, with given stocks of capital in the north and south, the two regions do not grow at the same rate, the two growth rates are determined by the equilibrium terms of trade, with more favorable terms of trade for the south leading to its faster growth. In the medium run, the equilibrium capital stocks as well as the terms of trade are jointly determined. The two capital stocks grow at the same equilibrium rate depending on capital productivity in the two regions and on their share of consumption in output. In the long run, the growth rate of the system is the same as that of the effective stock of agricultural land. Another feature of this model is that adjustments to an exogenous fall in southern productivity may involve overshooting in the sense that the terms of trade rise above their medium-run equilibrium value and gradually fall toward it. Further, the path toward longrun equilibrium value of the ratio of capital stocks in the two regions and the land to capital ratio in the south may involve cyclical behavior. The overshooting and cyclical adjustment are viewed by Vines as formally establishing Kaldor's indictment of the price mechanism as a perverse and slow acting mechanism that creates unnecessary cycles in world industrial activity. As in Findlay's model, the extreme assumptions of this model appear to be ill suited to an analysis of the long-run development process (71).

Vines and Kanbur (72) use a simpler version of the Vines model in which southern output of agriculture is price-inelastic and northern macroeconomy is Keynesian to argue that benefits to the stabilization of agricultural prices through a buffer stock operation can yield substantial benefits to the north if northern real wages are sticky. Buffer stock operation avoids a deflationary policy that would otherwise be necessary to contain inflation whenever agricultural prices rise because of harvest failure in the south. By ignoring private stock operations and the role of price expectations, speculation, and by exaggerating the inflexibilities in the system (besides real wage inflexibilities) through the assumption of fixed propensities, the model is likely to exaggerate the gains that accrue from publicly funded buffer stocks.

Recent Models of International Trade

Turning now to developments in the theory of international trade, only two will be briefly noted. One is the application of Neo-Ricardian time-phased models and neo-Marxian analysis (under the broad theme of unequal exchange) of international trade. Evans offers a perceptive critique of these models (28). The second is the intellectual arbitrage between industrial organization theory and international trade theory by Krugman and Helpman (38,43,44,45) and others. Stewart has attempted to derive some implications for the south from this theory (68).

The time-phased Ricardian models are viewed by their builders as repairing what they consider two damaging features of traditional models of trade and growth, namely, their treatment of capital as a homogeneous aggregate and their ignoring the time lags involved in production. By adopting Von-Neumann's formulation of production in terms of activities that transform a vector of inputs into a vector of outputs one period later, they address both these concerns.[5]

They focus only on the steady state (the state of balanced growth) of the system. The two conclusions of this theory are worth nothing: first, for a small open economy the steady state associated with autarky (or with restrictions on international trade) may yield higher consumption every period than that associated with free trade; and second, the commodity pattern of trade can change along the approach to the steady state. Indeed it can be reversed; a commodity exported at one point can be imported at another. It should be noted that neither conclusion depends on the Ricardian time-phased structure of the model: a standard two-commodity, two-factor, Heckscher-Ohlin-Samuelson model in its dynamic version in which one of the commodities is an investment good and with no-time lags in production can be used to derive them. The fact that trade restrictions lead to higher consumption than free trade in a steady state does not imply that restricting trade is intertemporally optimal. Indeed, the contrary is true for a small open economy under free trade (17,59).

In the literature on unequal exchange (27), the north is the center and the south is the periphery. The process of international exchange and investment is assumed to equalize the rate of return to capital in the center and the periphery. The return to labor is not equalized, and this inequality is alleged to grow. Since the exchange between the center and the periphery is voluntary, it is not clear that unequal wages between regions should be viewed as indicating that the commodity exchange itself is unequal. However, if one is prepared to define suitably the content of "socially necessary labor" in commodities being exchanged (using a model that will enable one to do so unambiguously), one can arrive at a precise definition of "unequal exchange" as exchange of commodities of unequal content of socially necessary labor. Roemer follows this route (55). Few would be bold enough to infer policy relevant conclusions from the existence of unequal exchange in the sense of Roemer.

The intellectual arbitrage between industrial organization theory and international trade theory came about initially as an attempt to explain (better than conventional theory) certain stylized facts of international trade. These facts were: first, even at the most

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[5]The issue of heterogeneity of capital attracted some extensive attention in the so called Cambridge (MA) versus Cambridge (England) controversies in capital theory. A few of the uninformed have somehow come to the conclusion that neoclassical economic theory stands or falls on the validity of the homogeneity of capital. Malinvaud in his seminal paper on capital accumulation had, among other things, given a perfectly rigorous meaning for the concept of marginal productivity of capital in a model in which capital goods were heterogeneous (48). This paper apparently was not read by many of the Neo-Ricardians or Sraffians. Hahn lucidly exposes the misunderstanding and confusion that surround the Neo-Ricardian discussion of the neoclassical economics (33).

disaggregated level, the trade among industrialized countries appear to consist largely of intraindustry trade, each country exporting as well as importing commodities that would be classified as falling within the same industrial category; second, significant economies of scale in production appeared to characterize the technology of some of these industries; and third, such industries in many countries appeared to be highly concentrated, often with very few firms. Recent theories explain the above stylized facts by drawing on the model of monopolistic competition in an industry producing a set of differentiated products under increasing returns to scale and setting it in the context of international trade. An interesting result is that in contrast to traditional theories, gainful exchanges will arise even between two economies that are identical in every respect. Given economies of scale, each country will produce a different set of (differentiated) products of the same industry, but consumers in each will be able to buy products produced in both. This raises consumer welfare in both countries, compared with what could be achieved by each country under autarky. A consequence of the oligopolistic equilibrium that characterizes international exchange in some of the models is that it would be in the interest of each country to attempt to capture more of the oligopolistic rents that arise from the divergence between equilibrium prices and marginal costs. This brings in a role for active strategic trade interventions that is not present in traditional theories.

The implications of the above for the developing countries are far from obvious. First, the case for strategic intervention and the type of intervention are very sensitive to the specification of the model and the concept of the equilibrium used. Second, the arguments for trade interventions that the new theory allows cannot to be taken as analytical support for the particular interventions that developing countries have imposed in totally different contexts. Starting from the premise that few developing countries will be able to establish a viable industry producing differentiated products under economies of scale, Stewart has suggested that the south as a group could, however, do so if each country specialized in one or at most a few products and traded them with each other. This argument for the south-south trade, however, does not follow the above theory, except in that there is a common assumption that the greater the variety of products consumed, the greater is consumer welfare. Since the argument also assumes protection against imported products of the same industry from the north, it really involves diverting northern trade and creating trade among southern countries. There is no presumption that this is necessarily welfare improving for the south.

Trade among the developed industrialized economies with similar tastes, technologies, and factor endowments is largely intra-industry, two-way trade (and this is the starting point of newer theories of trade); however significant intra-industry trade takes place among developing countries as well. Havrylyshyn and Civan find in a regression analysis that per capita income and the diversity of manufactured goods exports, besides membership in a successful trading group (such as the EC), explain a significant proportion of the variation in intra-industry trade among countries (34). The stage of development matters. While 60-80 percent of all trade in industrialized countries is intra-industry, the percentage is between 40-50 percent in the newly industrialized countries and is only between 10-20 percent in other developing countries. The authors argue that this link with stage of development of intra-industry trade in differentiated products implies that as development proceeds the penetration of developing countries into the developed country markets will be diffused over a number of products. As such, such penetration may appear less threatening and invoke less of a protectionist response from the developed countries. This is not entirely convincing. After all the differentiated products presumably come from the same set of industries and lobbying for protection is likely to be industry based rather than product based. There is no reason to believe that such lobbying will be blunted.

A few words about trends in south-south trade are in order in concluding this section. It is sometimes suggested by Stewart (68) that the patterns of financial, transport, and marketing arrangements developed during the colonial era have precluded developing

countries from changing their colonial trade patterns to trading among themselves to greater mutual benefit. This argument is not valid for all developing countries, if it is at all valid for any. For example, India was able to change, fairly soon after its independence, the geographical concentration of its exports from the United Kingdom to other developed countries (such as the United States and USSR), although not as much to other developing countries. Havrylyshyn and Wolf show that the share of nonfuel trade among developing countries did not change between 1963 and 1977 (35). However, this constant share is the sum of a falling share of manufacturers and a rising share of primary products. Furthermore, they did not find any bias against trade among developing countries other then the effect of their own trade restrictions. Exports of manufacturers from developing countries to other developing countries are found to be more capital-intensive than exports to developed countries, a pattern consistent with multicountry generalizations of Heckscher-Ohlin theory. However, the pattern may also have been influenced by trade restrictions in developing countries (40). It is not clear, however, whether promoting south-south trade through distortionary restrictive trading arrangements will mean that gains from trade creation will outweigh the losses from trade diversion and distortions.

International Factor Movements

The welfare implications of international factor mobility have been analyzed extensively by trade theorists in the past several years. The so called brain-drain from developing countries, foreign investment in such countries and the use of immigrant labor in declining industries in developed countries, as a way of reducing labor costs in an attempt to remain viable in the face of competition from other developing countries have all been analyzed. Models used in the analysis have been varied, including the traditional Heckscher-Ohlin model, the specific factors model, and models incorporating increasing returns and monopolistic competition. Even lobbying activities have been incorporated in the analysis. First best and second best policies towards factor movements have also received attention.

In the standard Heckscher-Ohlin-Samuelson (H-O-S) two-factor, two-commodity small open economy model, under conditiona of free trade if foreign investors of imported capital (or immigrant laborers) are paid their marginal value product in the importing country and these returns are repatriated, such factor imports do not change consumer welfare as long as the economy remains incompletely specialized before and after the import of capital (labor). Welfare increases if the economy becomes specialized in the capital (labor) intensive good after capital (labor) imports from an initial position of incomplete specialization (or specialization in the labor (capital) intensive good). In such a situation, the additional capital (labor) import at the margin reduces the economies marginal product, thereby, reducing its cost in terms of payments to intramarginal units of foreign capital (labor).

Brecher and Diaz-Alejandro (20) were the first to show that the above favorable welfare consequences of inflow of foreign factors need not hold if the economy is not following its optimal free trade policy. Indeed, given an existing import tariff, if importables are capital (labor) intensive, even if the economy is not specialized before and after foreign capital (labor) inflow, there is a welfare loss associated with factor imports. To the extent developing countries protect their capital-intensive manufactures and such protection induces "tariff-jumping" foreign investment, the Brecher and Diaz-Alejandro result points to additional welfare loss (over and above the primary loss associated with the protective tariff in the absence of foreign investment) that inward-oriented policies generate. Bhagwati and Srinivasan have argued that outward-oriented policies, on the other hand, are likely to attract welfare, improving foreign investment that takes advantage of relative cheapness of a country's more abundant factor (15).

A number of subsequent studies have examined the welfare of consequences for the home economy of alternate trade policies (first best and second best) in the presence of

foreign-owned factors of production (11,19,63). Other authors consider the choice between emigration of home labor (investment abroad of home capital) and attracting foreign investment (attracting foreign workers). They extend and generalize a result originally due to Ramaswami (53,54). He considered a model in which a single homogeneous commodity was produced under constant returns to scale in two countries using capital and labor as inputs. Although there is no incentive for commodity trade in this model, incentives for factor movements arise because of different factor endowment ratios in the two countries. He showed that for the capital poor country that can optimally tax earnings of foreign capital or the income of its nationals working abroad, the optimal policy is to attract and tax foreign capital rather than let home workers emigrate and tax their earnings. This result or variants of it in more general contexts are in studies by Bhagwati and Srinivasan (17), Calvo and Wellisz (23), Jones, Coelho and Easton (38), Wong (74), Saavedra-Rivano and Wooton (57). Except for Saavedra-Rivano and Wooton who worked with a dynamic north-south model of the Findlay (28) type, the analyses of the above authors are static. Buiter (21), on the other hand, analyzes the pattern of capital formation, balance-of-payments behavior, and welfare in a dynamic, two-country, over-lapping generation, general equilibrium model in which countries differ only in their pure rates of time preference and there is perfect international capital mobility. With a positive rate of natural growth, the low-time preference country runs current account surplus (exports capital) in the steady state though not necessarily outside it. The ranking of steady-state utility levels under autarky and free trade and capital mobility is ambiguous. Galor (29) independently of Buiter uses essentially the same model to analyze the implications of international migration. He finds that there is unilateral migration from the high- (low) time preference to the low- (high) time preference country if the autarkic steady-state equilibrium in both countries is characterized by under (over) investment relative to the Golden Rule. Bilateral migration occurs if the two countries are located on the opposite sides of the Golden Rule. In contrast with the other analyses discussed above, Galor's model of unilateral migration impoverishes the nonmigrants in the immigration country, while nonmigrants in the emigration country are no worse off.

Leontief (45) suggested that an unilateral transfer of income from one country to another in a two-country, two-commodity, pure-exchange world may impoverish the recipient, while enriching the donor. Samuelson (58) showed that such a possibility cannot arise unless the equilibrium is Walrasian stable. This so called transfer paradox has recently received independent attention from several authors. By introducing a third country or by introducing domestic distortions, one can resurrect the transfer paradox even in a stable equilibrium. The possibility arises that both the donor and the recipient are enriched by the transfer. However, some researchers may jump to the conclusion that the transfer paradox has the implication that foreign aid can impoverish developing countries. Such a conclusion would be hasty, in part, because the transfer-induced change in equilibrium terms of trade on which the paradox depends is unlikely since aid is quantitatively very small relative to the value of global trade and, in part, because the above analyses ignores policy responses (such as removal of distortion) that can negate the paradoxical outcome.

One particular institutional arrangement under which international investments and technology transfer have taken place is the multinational corporation, which has received theoretical and empirical attention (36). For brevity, this literature and that on direct-foreign investment (49) are not discussed here.

In concluding this section, recent experience with international migration must be mentioned. The boom in the oil rich west Asian countries after the first oil shock induced a substantial emigration of labor from south and east Asia, as well as the Arab world, to these countries. At their peak, the remittance to their families by these emigrant workers constituted a half or more of the foreign exchange earnings of many of the countries of origin. With the decline in oil prices and the contraction of investment in oil-exporting countries, growth in the use of immigrant labor in these countries is unlikely in the near

future and, in fact, the net flow will probably turn negative. The investment of remittances by the families of emigrants in housing, small enterprises, and other activities has transformed some parts of south Asia with an unusual concentration of such emigrants. The returning emigrants brought with them, in addition to their savings, the skills, knowledge, and an altered outlook acquired during their sojourn abroad. (70,75).

Conclusion

The development of sharper theoretical and econometric tools and the accumulation of a large and growing body of economic data relating to developing countries have enabled a number of analysis to compare outward- and inward-oriented strategies of development. Most analysts, though not all, have concluded that countries that followed an outward-oriented strategy not only did better by most indicators of development but also better weathered the shocks to the world economy. Recent policy changes in the two giants of the developing world (India and China) toward economic liberalization suggest that the lessons of three decades of development have been learned. Some pessimists argue that if the two giants and the rest of the developing countries were to adopt an outward orientation, it will exacerbate the rising tide of protectionism in the industrialized world besides imposing terms-of-trade losses on the developing countries. However, given the fact that manufactured exports of the developing world still accounts for less than 5 percent of the apparent consumption of such commodities in the developed world, and the recovery in the industrialized world continues, such fears seem exaggerated. This is not to say, however, that problems cannot arise with regard to particular commodities or countries.

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