

WIDER WORKING PAPERS

Economic Openness – Problems to the Century's End

Lance Taylor

WP 41

April 1988

*World Institute for Development Economics Research
of the United Nations University*

Massachusetts Institute of Technology

Economic Openness -- Problems to the Century's End

by Lance Taylor*

*Research support from the World Institute for Development Economics Research is gratefully acknowledged. Previous drafts were substantially improved, thanks to comments by Amit Bhaduri, Gerry Helleiner, Steve Marglin, Perry Mehrling, and Ajit Singh.

How open a national economy should be to foreign goods and financial flows is an antique question--to a large extent the conflicting answers of mercantilists and anti-mercantilists are with us after 300 years. For developing countries, controversy about openness to goods has always been present, but sharpened in the 1970's, as eminent trade theorists turned to policy advice. Starting with the publication of a book called Industry and Trade in Some Developing Countries by Little, Scitovsky, and Scott (1970), the notion that trade liberalization is an optimal development strategy has come to dominate the mainstream. Openness to international capital also has its defenders--most notably Cline (1984) who acknowledges the 1982 debt crisis but puts the best face possible upon it. Finally, the role that the developing world plays in the international system has gathered both attackers and admirers (or at least advocates of the potential advantages inherent in the poor countries' position). Consistent with the conservatism of the times, the latter group is more numerous now than it was some years ago.

One more essay on these topics is not going to end the debate. Nonetheless, in wake of the debt crisis and the apparent failures of many liberalization attempts, it is appropriate to rethink the issues. The last reconnaissance was by the late Carlos Diaz-Alejandro (1978)--it amply reflected his scholarly breadth. He concluded that a case can be made for partly severing an economy's international links, with the ones subject to the knife to be selected as much for political as economic reasons. On more narrowly technical grounds, partial delinking is also the recommendation here--criteria are suggested to single out connections bringing the least benefits or exacting the greatest costs.

Thinking about openness involves several levels of abstraction--empirical, theoretical in the sense of bourgeois economics, political, and ideological. Diaz-Alejandro walked tightropes across them all. The present

review is less audacious, concentrating on empirical and theoretical economics per se. The central theme is that arguments for and against openness are meaningless outside a country's (and the world's) historical and institutional context, especially its dynamics of growth and change. However, at the present time for many developing countries, the following arguments seem decisive:

First, structuralist models of both commodity and capital flows suggest that openness or hands-off policy in either market will not necessarily lead to faster growth or less costly adjustment to external shocks. These conclusions are at variance with much theoretical work in international economics, and are spelled out at length.

Second, empirical evidence implies that neither observed greater openness to trade nor absence of trade distortions is linked with higher growth or reduced external vulnerability.

Third, open capital markets have led in important recent cases to financial crises requiring painful macroeconomic adjustment and large burdens of foreign debt.

Fourth, these observations point to the advisability of selective international delinking--industrial and trade policies directed to growth in selected sectors, exchange controls, and veiled non-repayment of interest and amortization on debt. On practical grounds, such steps are far easier for large economies than small, more open ones, pointing to potential gains for international cooperation among countries of the South.

The reasoning behind these conclusions is set out mostly at the national level, with excursions into the global macroeconomics of South-North trade and debt relationships where they are required to set the stage. In what follows, sections deal with different components of the balance of

payments as an organizational device. The first takes up commodity and service trade, asking whether openness in the form of high proportions of trade (especially exports) in GDP or liberal policy accelerates growth. Data are presented which suggest that neither proportions nor policy strongly affects growth performance. Orthodox arguments to the contrary are then reviewed critically, and a structuralist model which sets out mechanisms through which commercial policy affects steady state growth is described. The model shows that "liberal" policy in the sense of equal incentives to all economic activities is not optimal. The section closes with a related model which illustrates the difficulties of moving toward liberal trade policy in the short run. The analysis is further developed with regard to short-term effects of external shocks in section two.

That section begins with a review of the global economic forces acting upon poor countries in the last two decades, drawing upon a theoretical framework developed further in section three. How individual countries respond to shocks is illustrated with simple models--the problems arise from foreign exchange dearths and gluts, and risks inherent in unduly open capital markets. An empirical overview of developing country adjustment experience concludes the section, in an attempt to quantify the effects of external shocks upon more or less open economic systems. Openness is shown to provide no very resilient cushion.

Although the main focus of the paper is on country-level experience, the first part of section three provides necessary global background on their foreign debt position. Slow worldwide growth and secular "revulsion" of the industrialized countries from lending to the Third World are argued to be likely prospects, making inward orientation of policy and non-repayment of debt increasingly attractive options. The section closes with an overview of

how poor countries may choose to regulate their current and capital accounts in a non-bountiful medium run.

Morals from all these stories are drawn in section four, and the algebra of the planning model used in section one appears in an appendix.

1. Perspectives on Trade from an LDC

Evidence rarely carries the day in economics, since it is so easy to invent a theoretical twist to rationalize any inconvenient fact. Nonetheless, knowledge of the quantitative aspects of international linkages is prerequisite for sensible discussion. We begin with trade and trade policy at the country level, asking empirically how they affect growth. We then turn to the theorists' rather abstract arguments for openness in the long run, beginning with the views of the presently middle-aged, and passing on to those of somewhat more flexible younger colleagues. A more pragmatic model is proposed, which simply asks under what conditions the steady state growth rate is likely to go up in response to commercial policy interventions. Short term difficulties in rigging policy are discussed (using an import quota as an example) and the section closes with initial conclusions about trade.

1.1 The Role of Trade

Table 1, drawn from McCarthy, Taylor, and Talati (1987), shows average trade proportions of GDP for a sample of fifty developing countries in the period 1980-82 (with growth rates over the period 1964-1982). The countries are classified into four groups by per capita GNP (below and above \$1,000) and "performance." The latter is measured by whether a country lies above or below a regression line of growth rate on per capita GNP over 1964-82 (shown

TABLE 1: CURRENT ACCOUNT COMPONENTS AS A PERCENTAGE OF GDP, 1980 - 1982

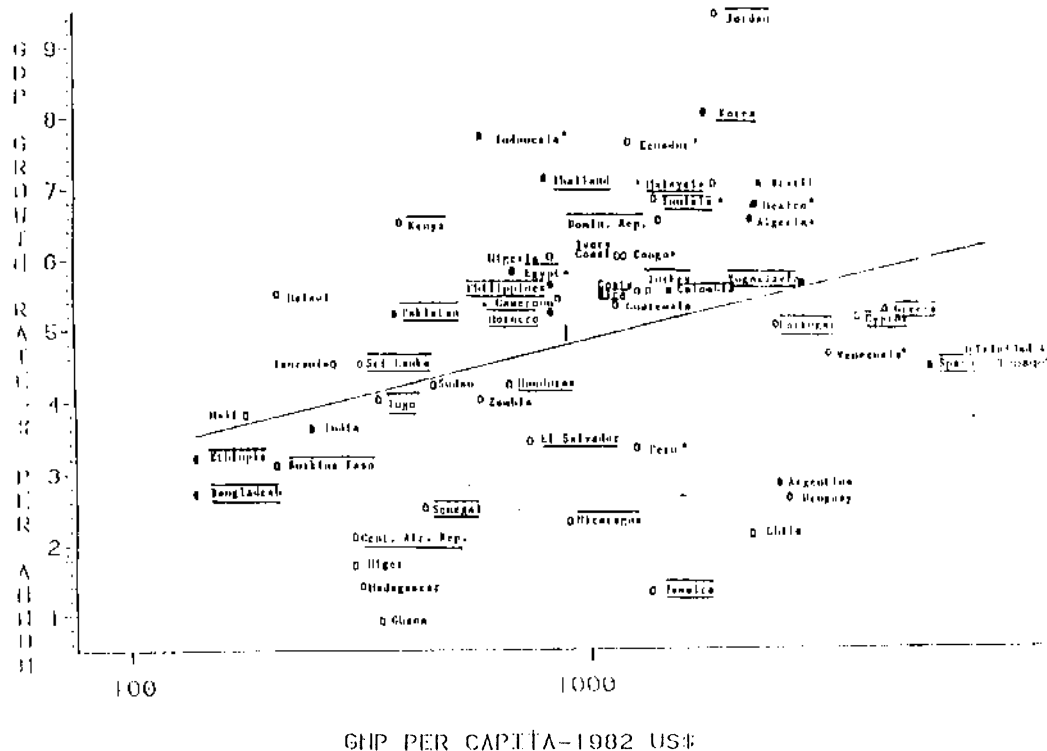
Country	Population (Millions)	GDP Growth Rate (%) 1984-1982	GDP per Capita (\$)	Primary Exports	Net Oil Exports	Industrial Exports	Net Serv. Exports	Non-Cap. Goods Imports	Capital Goods Imports	Net Commo- dity Trade Surplus	Current Account (net of trans.)	Net Transfers
I. Low income, low performance												
* Madagascar	9.2	1.4	320	9.94	- 1.60	0.02	- 7.34	- 9.57	- 6.19	- 6.60	-13.94	1.06
* Niger	5.9	1.7	310	27.68	- 6.10	0.62	-10.53	-17.26	- 6.74	- 1.00	-12.33	0.00
* Central African Rep.	2.4	2.1	310	10.30	- 0.18	3.66	-20.00	- 7.60	- 2.37	3.81	-16.19	10.00
Mozambique	2.9	2.3	900	14.76	- 6.98	1.91	- 3.44	-21.32	- 6.00	-17.63	-21.07	3.39
Senegal	6.0	2.5	440	9.92	- 5.18	3.48	- 0.22	-20.62	- 6.59	-18.99	-19.21	3.80
Bangladesh	91.6	2.7	140	1.99	- 1.53	4.00	- 6.36	-11.03	- 3.38	- 9.95	-16.31	9.26
Burkina Faso	6.5	3.1	210	5.92	- 4.10	0.86	- 7.09	-18.68	- 5.46	-21.46	-29.35	25.62
Ethiopia	32.6	3.2	140	8.63	- 3.52	0.06	0.42	- 8.40	- 4.68	- 3.49	- 7.49	2.18
El Salvador	4.8	3.4	740	10.01	- 4.91	7.36	5.78	-19.70	- 3.18	-10.42	- 4.61	1.54
India	705.7	3.6	250	1.87	- 3.78	3.10	0.30	- 3.55	- 1.10	- 3.46	- 3.16	2.05
Togo	2.8	4.0	350	20.19	- 3.80	3.65	3.60	-34.70	- 9.22	-23.88	-20.28	8.47
Sudan	19.0	4.2	460	5.82	- 2.43	0.05	- 1.30	- 9.91	- 3.48	- 9.95	-11.25	3.02
Honduras	4.0	4.2	670	26.14	- 5.95	3.52	- 5.43	-22.03	- 9.32	- 7.64	-13.07	0.95
II. Low income, high performance												
Tanzania	19.3	4.5	200	9.09	- 4.90	1.51	- 1.54	- 8.41	- 6.84	- 9.55	-11.09	3.05
Sri Lanka	15.2	4.5	320	14.86	- 8.13	8.24	- 4.80	-22.52	- 8.47	-16.02	-20.82	7.97
Pakistan	87.0	5.2	300	3.02	- 4.93	5.36	- 3.59	- 9.71	- 4.08	- 9.54	-13.13	9.97
Morocco	21.6	5.2	820	9.60	- 6.53	5.16	- 6.17	-14.66	- 5.25	-11.68	-17.85	6.82
Cameroon	8.9	5.4	850	9.05	4.93	1.20	- 3.33	-12.73	- 6.24	- 2.99	- 6.32	0.02
Malawi	6.5	5.5	210	19.36	- 4.98	1.63	- 6.95	-17.79	- 8.22	-10.00	-16.95	5.26
Philippines	50.7	5.6	820	8.15	- 6.16	4.24	- 1.12	- 8.23	- 4.64	- 6.64	- 7.76	1.26
* Egypt	44.3	5.8	600	3.06	7.14	1.34	10.07	-21.29	- 6.80	-16.55	- 6.40	0.00
Kenya	18.1	6.5	390	10.07	- 6.10	2.18	2.94	-15.00	- 8.58	-17.51	-14.57	2.00
Thailand	40.5	7.1	890	13.54	- 7.99	5.98	- 2.21	-10.65	- 5.90	- 5.02	- 7.23	1.90
* Indonesia	152.6	7.7	580	5.20	18.17	0.90	-12.09	- 7.91	- 5.20	11.16	- 0.53	0.06

* Service Trade Shares for 1978-90.

TABLE 1 (continued): EXTERNAL ACCOUNTS CONTRIBUTES TO A PROJECTION OF 1990 - 1992

Country	Population (Millions)	GDP Growth Rate (%) 1961-1982	GDP per Capita (\$)	Primary Exports	Net Oils Exports	Industrial Exports	Net Serv. Exports	Govt-Cap. Goods Imports	Capital Goods Imports	Net Commo- dity Trade Surplus	Current Account (net of trans.)	Net Transfers
III. High income, low performance												
Jamaica	2.2	1.3	1350	21.39	-16.00	12.40	- 7.87	-24.01	- 3.24	-12.23	-20.10	3.82
Chile	11.5	2.1	2210	13.60	- 3.21	3.01	- 6.55	-10.17	- 4.37	- 1.03	- 7.58	0.41
Uruguay	2.9	2.6	2650	7.05	- 4.40	4.62	- 1.36	- 7.14	- 3.00	- 3.17	- 4.53	0.10
Argentina	28.6	2.8	2520	5.77	- 0.35	1.06	- 4.15	- 1.23	- 2.43	0.62	- 3.53	0.01
Peru	17.5	3.3	1250	7.76	2.09	2.00	- 3.40	- 8.59	- 4.25	0.61	- 4.87	0.71
Spain	38.5	4.4	3320	2.50	- 6.28	0.00	- 2.32	- 7.53	- 2.50	- 5.73	- 3.41	0.92
* Venezuela	15.9	4.6	3229	1.30	27.05	0.50	- 7.70	-11.85	- 5.74	11.34	3.64	- 0.83
* Trinidad & Tobago	1.2	4.6	6450	1.19	31.56	3.79	- 2.0	-20.72	-11.09	4.73	2.73	- 0.85
Portugal	9.9	5.0	2490	4.00	- 0.97	15.70	- 3.25	-21.00	- 8.55	-18.66	-21.91	12.11
Cyprus	0.6	5.1	3740	10.35	- 9.66	19.66	12.14	-36.19	- 8.01	-24.05	-11.89	3.28
Greece	9.8	5.2	4281	4.37	- 4.05	7.10	3.27	-12.29	- 6.56	-12.24	- 8.97	0.81
IV. High income, high performance												
Gustavia	7.7	5.3	1130	11.44	- 4.55	4.14	- 0.04	-11.38	- 3.26	- 5.61	- 5.65	1.22
Costa Rica	2.4	5.5	1260	20.64	- 6.27	0.71	- 8.77	-21.59	- 6.92	- 5.43	-14.20	0.88
Turkey	47.5	5.5	1350	4.71	- 6.55	3.55	2.12	- 4.95	- 1.72	- 6.40	- 8.12	4.16
Colombia	27.0	5.5	1470	6.61	- 1.44	2.39	- 0.62	- 7.40	- 4.36	- 4.20	- 4.82	0.52
Yugoslavia	22.7	5.6	2040	2.90	- 5.12	13.32	- 2.44	-11.07	- 5.41	- 5.30	- 7.74	6.44
Ivory Coast	8.8	6.0	1140	23.31	- 3.5	3.05	-11.30	-16.20	- 5.25	1.86	- 9.44	- 7.28
Congo	1.7	6.0	1100	2.05	45.63	3.61	-40.28	-15.90	- 4.56	30.03	- 9.45	0.0
Dominican Republic	5.8	6.5	1400	9.77	- 5.83	1.02	- 3.87	- 9.82	- 3.23	- 8.09	-11.96	2.70
* Algeria	20.3	6.5	2200	0.53	37.27	0.07	- 7.54	-16.96	- 8.77	12.14	4.60	0.75
* Tunisia	6.7	6.8	1370	3.40	6.06	13.69	6.84	-24.82	- 9.74	-11.41	- 4.57	4.62
Malaysia	14.5	7.0	1040	26.00	5.70	10.00	-12.56	-23.10	-15.34	4.22	- 8.34	- 0.12
Brazil	122.7	7.0	2310	4.42	- 3.01	3.03	- 4.31	- 2.84	- 1.49	- 0.69	- 5.00	0.04
Ecuador	8.9	7.6	1210	5.74	10.01	0.57	- 7.86	- 8.03	- 6.39	1.93	- 5.93	0.12
South Korea	39.6	8.0	1760	2.03	-11.56	35.25	- 0.31	10.69	8.53	- 0.60	- 8.91	0.78
Jordan	3.3	9.4	1660	7.05	-14.09	5.69	11.35	-45.14	-20.67	-67.12	-55.77	56.75

GDP GROWTH RATE V. GNP PER CAPITA



in Figure 1), to take into account the fact that middle income countries on the whole grew more rapidly than poorer ones during the 1960's and 1970's. Data for trade in both merchandise and services are combined in the table. The primary source for the former is the United Nations; for the latter, the International Monetary Fund.

Several points relevant to the prospects of developing countries are apparent (and can be backed up by fuller econometric analysis). First, trade proportions vary widely. As is well-known, countries with smaller populations typically have higher trade shares. Asian countries have larger shares of industrial exports, while African economies are specialized in primary product exports and are substantial net importers of services. From the four-way classification in the table, there is no obvious relationship between performance and overall openness to trade.

Second, the importance of primary exports diminishes with per capita income. Poorer countries are more fettered by the commodity terms of trade than richer ones -- a point pursued in section two. The mean ratios of industrial to primary trade by group are I, 0.45; II, 0.42; III, 1.29; IV, 1.80 (but 1.04 without South Korea, a distinct outlier in the sample). Industrial exports rise with per capita income, but independently of rates of output growth. This fact strikes the eye in Figure 1, where countries with high shares of industrial exports for their size and income level are underlined. Note the scattering of observations above and below the growth rate/per capita GNP regression line.

Third, in contrast to mainstream assertions, export-led growth does not stand out. As we have seen, the ratio of industrial to primary exports is not correlated with growth rates, nor are overall export ratios higher in the high performance economies. If shares of exports in GNP rose more rapid-

ly with income in fast- than in slow-growing countries, then trade expansion might naturally be associated with good performance. From the paper by McCarthy, et. al. share elasticities take the following values by group:

	<u>Low Performance</u>				<u>High Performance</u>		
	<u>All Countries</u>	<u>All</u>	<u>Low Inc.</u>	<u>High Inc.</u>	<u>All</u>	<u>Low Inc.</u>	<u>High Inc.</u>
Primary	-0.18	-0.20	0.63	-1.16	-0.15	0.02	0.06
Industrial	0.34	0.30	0.36	-0.28	0.42	-0.08	0.0
Services	-0.08	-0.07	-0.49	-0.74	-0.04	0.34	0.07

Export-led growth in the sense of strong positive relationships of shares with income (even in high income, high performance countries) does not characterize our sample. Finally, in line with literature on the Dutch disease (section 2.3) even the net oil exporters marked with stars in Figure 1 are spread across the growth rate spectrum.

A fourth observation is that most developing countries are highly dependent on net service imports (which, perhaps, explains the resistance of the Third World to liberalization of trade in services in the Punta del Este GATT round scheduled for the late 1980's). The exceptions are large exporters of tourism and/or labor power to industrialized countries and the Persian Gulf. But more disaggregated data show that gross service imports of these countries are large as well.

Fifth, with a few large, import-substituting exceptions (India, Brazil, etc.), almost all countries devote upwards of five percent of GDP to capital goods imports. Current account deficits (including all service transactions except transfers) typically exceed capital goods purchases from abroad so that at least in the early 1980's financial capital and transfer

flows to poor countries exceeded their physical counterpart. The transfer component is shown in the final column. Its magnitude varies widely across countries, in relation to the size of their emigrant labor forces and geopolitical position, among other factors.

Sixth, size bears some relationship to growth, but capital inflows do not. In Figure 1, nations with populations exceeding 20 million are indicated with darkened circles and smaller countries with open ones. More large countries lie above the regression line than below. Recipients of above-normal capital inflows have an overbar. Many are slow growers, lying below the performance line. However, causation could as easily run from slow growth to high foreign transfers as the other way round.

Seventh, the countries in the sample largely engage in non-competitive merchandise trade, buying and selling commodities which do not loom large in domestic production and consumption activity. Primary exports dominate in most countries. The mean GDP share of merchandise imports is 22 percent in the entire sample, with primary products and intermediates making up 9.1 percent and capital goods 5.4 percent. A large fraction of the remaining import categories will be non-competitive as well.

The central conclusion is that trade does not seem to be closely related to the way economies perform. Fast-growing countries are more or less open, have diverse patterns of specialization, and their success is not obviously led by exports, industrial or otherwise. However, it is also true that observed trade shares are "output" variables, resulting from the general equilibrium of economic forces and policy choice. Could it be that eliminating distortions to trade--tariffs, subsidies, quotas and the like--will lead to more rapid growth from the policy "input" side?

1.2 Irrelevant Distortions

Historically, there is no dearth of liberalization experiments to be examined. Indeed, they were the grist from which trade theorists milled their defense of liberal policy. Beginning with Little, Scitovsky, and Scott (1970), several rounds of country studies tried to sort out the effects of commercial policy changes. Despite the enthusiasm of the investigators, their results were none too strong. An early (and long-lasting) proponent of liberalization and co-director of one of the projects, Anne Krueger (1978, p. 277), was circumspect: "... while there are numerous microeconomic changes that accompany devaluation, liberalization, and altered [trade policy] bias, it was not possible to detect significant effects of these changes on growth performance." Later experiments with extreme liberalization, as under the military regimes in the 1970's in South America's Southern Cone or in Zaire and Mexico with IMF tutelage in the 1980's, suggest that such policies can disable an economy for years. Recent applied experience does not substantiate claims about liberalization's beneficial effects.

The case is not much stronger on the basis of cross-country data. Table 3 in section 2.5 presents a list of "open" and "closed" economies based on Balassa (1985a). There, it is shown that differences in trade policy orientation had little to do with how successfully countries responded to the external shocks of the past decade. One can also ask if there is any relationship between orientation and the performance categories in Table 1. The contingency table goes as follows:

	<u>Open</u>	<u>Closed</u>
High perf.	8	11
Low perf.	2	7

Slowly growing economies partially escaped Balassa's gaze. But for the countries classified, it is clear that trade orientation is uncorrelated with performance. The point remains valid for plausible reassignments of country policy lines, as the reader can check out.

Another piece of evidence is a recent World Bank study, summarized with fanfare in the Bank's 1983 World Development Report and the Economist magazine. In the formal publication, Agarwala (1983) reports a negative relationship between a "distortion index" based on seven indicators and growth in a sample of 31 developing countries in the late 1970's.

Agarwala's analysis can be criticized on several grounds. For example, his choice of period makes slow-growing Argentina, Chile, and Uruguay appear highly distorted, even though all were undergoing major liberalization experiments in the latter half of the decade. Even if we accept his data, however, later work by Aghazadeh and Evans (1985) shows that only two of his index's indicators--real exchange rate appreciation and real wage growth in excess of productivity gains--bear a negative relationship with output growth. The other indicators--tariff distortions for agricultural and industrial products included--are unrelated. Aghazadeh and Evans argue that institutional variables such as military spending and planning capacity do influence growth. Since strongly trending real wages and exchange rates also reflect institutional factors such as open distributional conflict or the onset of Dutch disease, one can conclude that an economy's historical circumstances affect its performance. Trade and other distortions don't play much of a role.

1.3 Trade Theorists and Development -- The Mainstream View

The data just reviewed suggest that trade patterns in developing countries have distinctive characteristics. First and foremost, the commodities they exchange internationally are non-competitive--exports are not consumed in large quantities at home and imports are not produced. The implication is that trade theory's "Law of One Price" will play a minor role in determining resource allocation. First, the law itself will not apply insofar as large numbers of competitive traders for the same commodity do not exist both within and without a poor country's borders. Second, even if arbitrage occurs, it will not enforce competition among domestic producers. To put the point more succinctly, the share of effectively non-traded goods in the production basket of most developing countries is high. Chenery (1975) notes that development usually involves a secular shift from non-competitive toward competitive trade; as we will see shortly, his observation has strong implications for policy in the medium run.

Further points to be stressed include the fact that poor countries are strongly dependent on imports of capital goods. With very few exceptions (South Korea, India, Brazil) they have had no success in penetrating export markets for such commodities. Finally, size and history strongly influence a country's trading role--bigger economies are more self-sufficient, and many small and poor ones suffer from their inherited dependence on primary commodity trade.

Trade theory disdains such empirical regularities. Rather, it starts from the opposite position--a hypothetical open economy with tastes and technology uncontaminated by history and a preponderance of traded goods subject to the Law of One Price. Strictly speaking, the theorems demonstrate the static welfare benefits that accrue to consumers from liberalizing trade

under such conditions--for advocacy purposes, these gains are supposed to manifest themselves in the form of faster growth. "Old" arguments for the gains from trade are familiar, but since they have dominated development policy during the past decade, bear close review. "New" trade theorists, though they accept many postulates from their elders, are less dogmatic about the costs of protection. Their perspective is taken up in section 1.4. Both groups are oblivious to the evidence about the irrelevance of both trade and trade distortions to growth presented above, but then that is the strength of theory. Myriad other forces may simply be intervening to prevent the numbers from coming out right.

It is useful to start analysis of the role of trade with an old idea: Schumpeter's (1934) definition of development as a transition of the economy between states of circular flow. Circular flow might well involve output expansion, and when considered nowadays it is usually interpreted as some sort of steady growth. Since institutional rules may change between states of circular flow, Schumpeter's notion encompassed more than simple expansion, and bore some resemblance to a mode of production in Marx's terms. How does an economy switch from one circular flow or production mode to another, involving different technology, changed social relations, and perhaps a higher rate of growth? This question has long been debated in terms of links between changes in the productive structure and international trade.

The first heirs of Schumpeter--Rosenstein-Rodan (1943) and Nurkse (1953)--adopted his metaphor in discussing vicious and virtuous circles of development. "Balanced growth" for them was a change in the organization of production in which all sectors of the economy would participate in a massive expansionary burst. Hirschman (1958) and Streeten (1959) countered with a dose of imbalance to shock the system from low level circular flow. In their

view, the development process is characterized by uneven advance of different sectors, disproportions and disequilibria, with inflationary and balance of payments tensions arising at different points. Instead of promotion of over-all balance, investment strategies should be directed toward self-propulsion, correcting imbalances that arose at earlier stages and creating new ones. Some imbalances could arise in connection with the economy's international transactions and some not.

These theories are far from neoclassical since they don't focus on price signals or price-mediated general equilibrium. Nor are they congenial to mainstream development economics in the mid-1980's. However, they can be rephrased in neoclassical idiom, as by Scitovsky (1954) in a subtle paper. He emphasized externalities such as economies of scale and imperfect tradability of most goods that prevent price signals from leading the economy to even an n -th best dynamically efficient point. For Walrasians who assert that price reform is a guarantee for growth, Scitovsky brings an unwanted waft of realism from within the camp.

Present-day neoclassicals obscure Scitovsky's institutional insights by embellishment with optimizing agents and emphasis on market choice. Their stress on trade liberalization is a response to the questions raised by Nurkse and Rosenstein-Rodan, which tries to bring their balanced planning or Hirschman's unbalanced spontaneity within the fold of a Walrasian market game.

There are two fronts to the orthodox position. One stresses export-led growth, and is taken up below. The other, closer to the Paretian core of neoclassical thought, asserts that poor countries are inefficient because they suffer from distortions or gaps between observed prices and some optimal set. "Getting prices right" becomes the neoclassical slogan, with special

emphasis on equating internal price ratios with those ruling in the markets of the world. An immediate corollary is that there should be equal incentives for exporters and import substituters, as in Bhagwati's (1986) recent formulation. We will see in section 1.5 that this suggestion is sub-optimal in a realistic growth model, but here we want to ask if it even is worth pursuing on the trade theorists' own terms.

At first glance, the neoclassical appeal to the welfare improvements that should result from relative price realignment does not look promising. Walrasian circular flow presupposes full employment and a near approach to Pareto efficiency. The "surpluses" (for producers, consumers, or whomsoever) that result from removing distortions under such circumstances are measured by the famous little triangles in the demand-supply diagram. Such welfare gains are trivial in magnitude, as Harberger (1959) noted to his chagrin back in the era of balanced growth.

The implication of small calculable welfare losses from distortions is that neoclassicals are forced to a position like Schumpeter's. The economy can leap forward from one circular flow to another under appropriate incentives--specifically, those that result from getting prices right. The international marketplace has the right stuff, and internal price relatives should be steered toward external ones. Calculations of effective rates of protection and domestic resource costs can map the route. The propaganda for such policies is usually couched in terms of the gains to be realized from trade. But the Harberger problem of triviality remains. Moreover, as already noted the theoretical basis for the neoclassical case is artificial, if factor availability, technologies or demand patterns are determined by the patterns of specialization evolving in historical time. Given the weakness of its visible foundation on the gains from trade, the true support of the neoclas-

sical case can only be Schumpeterian.

Does that pillar hold? The cautions raised by Scitovsky become relevant here. He showed in an otherwise purely Walrasian context that if economies of scale are important and if commodities are not competitively traded (in the sense of having ample import supplies and export demand at the same well-defined international prices), then price signals will not lead to optimal investment decisions, though they might guide day-to-day market operations. Common sense suggests that Scitovsky's conditions apply. Economies of scale are rife in industry, and we have already noted that for most commodities in developing countries, non-competitive trade is the rule. In particular, as Pack and Westphal (1986) argue, mastery of technology is largely non-tradable as well time- and resource-consuming in practice. Since technical innovation and transfer are required for productivity gains and are also closely tied to capital accumulation, price-guided investment decisions will neither maximize welfare in the standard neoclassical model, nor lead to jumps between circular flows. Schumpeter's entrepreneurs were supposed to choose their innovations on the basis of benefit-cost calculations at market prices, but that turns out not to be advantageous on social grounds. His theory is not damaged (and possibly improved) if price signals are replaced by "vision." But then, the question is whether an environment in which national prices are equated to international ones enhances clairvoyance in a non-convex, uncertain world. We come to an impasse, at least as far as theory is concerned.

The ambiguity is not resolved by facts, as we have seen in section 1.2. Nor is the case stronger for export-led growth, the other component of the mainstream cure. A theoretical problem is why more rapid export expansion should stimulate output at all. If, as neoclassicals suppose, the eco-

nomy is at full employment, faster growth of one source of demand can only lead to slower growth of another. If investment suffers, for example, over-all capacity expansion may be slowed in the medium run. In demand-driven models, more exports may accelerate growth, as noted by Hobson (1902) in his theory of imperialism long ago. Moreover, export expansion does not run into a balance of payments restriction, as might other exogenous injections of demand (from investment or public expenditure).

However, simple demand expansion or the use of extra exports to break the trade constraint does not seem to be what neoclassicals have in mind. Rather, they argue that by enhancing competition with the world, opening the economy through exports leads to greater enterprise efficiency and faster technical progress. The price mechanism is said to be involved, though the details are rarely spelled out.

Given this lack of theoretical clarity, most arguments for export-led growth are presented along empirical lines. Indeed, showing a positive regression coefficient of output growth on export growth has become a thriving cottage industry in recent years, e.g., Balassa (1985b). From the national accounts, the output growth rate can be expressed as an average of growth rates of the components of final demand (consumption, investment, exports etc.) with the weights being shares of output. The export coefficient in regression studies often takes a value like an export share. It can be beefed up by making export growth "explain" the residual from the standard decomposition of the output growth rate into a weighted average of primary input growth rates (Feder, 1983). The results from regressing one trending variable on another are statistically significant but the rationale is hardly convincing. McCarthy, Taylor, and Talati (1987) run the regression the other way--export shares disaggregated by type on output growth, with per capita

GNP, population, and other variables as controls. As we saw in section 1.1, they find no strong relationships aside from a tendency of low-income countries to specialize more in primary exports than richer ones. Their further test of export-led growth by trends in shares of total exports or some categories as per capita income rises in fast-growing countries also fails. From a fancier statistical point of view, exports can be shown not to temporally lead or "Granger cause" LDC output expansion (Jung and Marshall, 1985).

A more reasonable approach is to ask along with Pack and Westphal (1986) whether a strong export orientation fits naturally into a planning framework. South Korean experience suggests that export targets are easy to verify, and ease communication between exporters and policy-makers who push exports. But the Korean system is highly dirigiste (as in most other countries that have favored export-led growth) and price signals do not play a central role in its process of taking investment decisions. Productivity growth, as a definitional matter, is high in Korea, but more as a result of a long history of industrialization, high work norms coming from both labor's own motivation and an effectively interventionist state (unions report to the Central Intelligence Agency), aggressive macro policy, and centralized pressures on exporters to perform, than of getting prices "right."

The conclusion would seem to be that exports may play a role in speeding growth by producing foreign exchange, adding to aggregate demand, and fitting into the planning process, but there is no guarantee that they will do so. Like the argument about benefits from removing trade distortions, the neoclassical case for export promotion runs into an empirical cul-de-sac.

1.4 New Theories of Trade

Little-Scitovsky-Scott, Krueger, Bhagwati, and epigones all operate on the basis of Heckscher-Ohlin trade theory--the aeschylean version. Over the past decade, however, revisionist trade models have sprouted up. To the non-initiate's eye, the recent work seems to provide a clear rationale for policy intervention even though its authors argue to the contrary. It makes sense to sort out why they are not likely to be right.

The basic theoretical line is product diversification, following Linder (1961). Trade (at least in final goods) depends on similarity of taste in the partner countries. The formal models divide the economy into competitive, homogeneous (H) sector and a diversified (D) sector in which monopolistic competition prevails. Mark-up pricing rules, with each firm producing a single design under increasing returns. The mark-up depends on the elasticity of substitution between designs. Countries with similar factor endowments typically interchange D-products.

Superficially, such theories seem to make liberalization desirable since increased trade in D-goods brings both greater variety and decreasing costs. However, the transition toward a liberalized regime may be difficult, if firms in the home country must shut down. Indeed, protection may be beneficial in a small country, if the closest substitutes to home designs come from abroad (Lancaster, 1984). Tariffs raise profits at home, but entry into the industry follows. Domestic competition and economies of scale may lead in the long run to lower domestic prices, encouraging the export of D-goods.

Further implications are drawn by Stewart (1984). First, if demand for D-goods rises with income, the South's dependence on the North for their supply will lead to trade gap problems of the type traditionally emphasized by the structuralist school (see section two). Second, if development of

designs is costly, they will conform to the larger economy's or Northern tastes--for both consumer and capital goods. Northern technology may prove too capital-intensive for Southern needs, leading to the "structural technological heterogeneity" of LDC's emphasized by Prebisch (1952) long ago. Finally, expanded variety and price reductions can go hand-in-hand with greater South-South trade. However, Stewart rightly points out that realizing these potential advantages requires institutional change. In the North it was associated with market liberalization and the rise of transnational corporations which broke the tendency of trade to organize within national boundaries. In the South, such innovations are still lacking.

Arguments for liberal policy in the "new" trade theories are traditional. Long ago, Eastman and Stykolt (1962) argued that protection of D-goods may lead all firms to raise prices and profits, leading to excessive entry. The outcome would be a congeries of small firms wiping up extra profits through efficiency reductions due to unutilized economies of scale. This sort of problem has some verisimilitude in the developing world, but it can be overcome by licensing policy. Appropriate state intervention can also obviate Bhagwati's (1969) argument that industrial policy based on import quotas is even worse than tariffs on economic efficiency grounds. His story is that a quota creates a "rent" leading under monopolistic competition to a higher domestic price and lower output than a tariff which allows the same level of imports. Quantitative production and export targets have helped successful industries around this temptation in Brazil, Korea, and other corners of the world. The key question is which sectors are likely to be successful in keeping up investment and making productivity gains (thus meriting protection) in the long run.

The following section presents some suggestions along these lines in model form. However, sensible authors correctly emphasize that historical processes are involved, e.g., Amsden (1986) chronicles the redirection of labor-intensive Japanese exports from initial developing country markets toward developed countries over time. Learning in LDC markets is a plausible dynamic vehicle for Japanese market diversification. Similarly, Westphal (1981) and Krugman (1984) observe that if exports are a final objective, then import protection for the relevant commodities may be necessary to secure an adequate market for the initial production at a satisfactory rate of return. Quantitative restrictions may be preferable to tariffs, since they secure the market. Dumping should perhaps be encouraged, and selectivity of sectors to be granted protection is surely necessary. Restating the Eastman-Styckolt argument to fit LDC institutional realities, Ocampo (1986) points out that free trade is unlikely to be undesirable, if "... the private sector tends to spread resources in an excessively diversified manner, without being able to accumulate in any industry the level necessary to start a process of cumulative causation."

1.5 Planning Trade Interventions in the Long Run

The message to this point is that neither openness nor trade liberalization fosters income growth--the empirical and even theoretical linkages are simply not observed. Why serious scholars believed that openness to trade favored growth is a bit of a mystery--the bias of mainstream economists in favor of competition (whether or not it can practically apply) and their lack of comprehension of the developmentalist state in "success" cases like Korea and Brazil may have played some role. Also, neoclassical analysis has strong imperialistic tendencies. The problem is that like many empires, when it

expands into a new area it tends to overlay quaint cultural artifacts (Schumpeter, Rosenstein-Rodan, Hirschman, etc.) with its own way of looking at the world.

Is there any way that earlier insights can be recovered? If non-liberal interventions to make growth cumulate are possible, how should their prospects be judged? The answers to such questions depend to a large extent on institutions. Designing effective schemes to stimulate entrepreneurial forces has never been a strong suit of the economics profession--at best the theory points the directions in which incentives may run. A simple model is sketched here (and set out formally in the appendix) to illustrate how growth with interventions may proceed, assuming that investors respond to profit stimuli. They might respond better to more explicit state-administered carrots and sticks, but we ignore those possibilities here. Hughes and Singh (1986) give a more general view.

Causality in the model runs from the side of demand. If there is more demand pressure on a sector, either its sales rise (when there is excess capacity) or its product price goes up. Either way, the sector's profits increase and are assumed to stimulate investment. Feedbacks through the general equilibrium system affect profitability in other sectors in the short run, and the overall rate of growth over time. Emphasis is placed on steady-state growth rates in this section, and on short-term macro adjustments later in the paper.

From the data presented in section 1.1, it makes sense to set up an illustrative model with three sectors--home goods, an import-substitution industry, and exports. All capital goods are treated as imported, largely to save notation. We do not consider non-intermediate imports that are in imperfect competition with home goods along the lines of the last section,

although they could easily be added for countries where they are relevant to policy choice (mainly the middle income newly industrializing countries, or NICs).

Once installed in a sector, capital stock stays put. Let X stand for home goods output, J for import substitutes, and E for exports; the corresponding capital stocks are K_x , K_j , and K_e respectively. Resource allocation across the economy is described by the two ratios $\lambda_j = K_j/K_x$ and $\lambda_e = K_e/K_x$. We assume that the X -sector has mark-up pricing and a horizontal supply curve within the relevant range, and that the J -sector has a horizontal or rising supply curve. Export supply is determined by available capital, and the world market price declines as export volume goes up. Home goods production (and perhaps that of exports as well) depends on intermediate inputs that are either imported or produced at home--foreign and national intermediates are imperfect substitutes. All these assumptions about market structure could be modified without changing the tenor of the results.

Capital stock growth in each sector requires investment, which responds to rates of profit. In home goods, treated as the economy's central sector, the capital stock growth rate g_x rises as a function of the profit rate r_x along the lines of most theories of investment demand. A simple, easily generalizable hypothesis is that growth of capital stock in the import substitution sector, g_j , responds to the differential profit rate $r_j - r_x$ --the rationale is that investors need an extra incentive to enter non-standard activities like import substitution. A similar assumption applies to investment in the export sector.

Causality in the model is straightforward. A steady state equilibrium has $g_j = g_e = g_x$ --equal growth rates in all sectors. The steady state is characterized by constant capital stock ratios λ_i ($i = j$ or e) since the

growth rate of each (denoted by a "hat") is $\hat{\lambda}_1 = g_1 - g_x$. At long run equilibrium $\hat{\lambda}_j = \hat{\lambda}_e = 0$. The state has two policy instruments--a tariff on intermediate imports (at rate σ) and a subsidy for exports (at rate ξ). We want to know how the long run growth rate responds to policy changes via adjustments in the λ_1 . The mediating variables are the profit rates, which determine investment demand. How are they affected by movements in λ_j , λ_e , σ , and ξ ? The answers go as follows:

In the export sector, more capital increases supply, which drives down the external price. Per unit of capital, profits fall: $\partial r_e / \partial \lambda_e < 0$. If export demand has a greater than unitary elasticity, total revenue rises with λ_e . Part will be directed toward home goods so that $\partial r_x / \partial \lambda_e > 0$. However, world demand may be inelastic, in which case $\partial r_x / \partial \lambda_e < 0$. An increase in the export subsidy rate ξ directly or indirectly raises both rates of profit.

In the import-substitution sector, an increase in λ_j reduces the profit rate at constant revenue: $\partial r_j / \partial \lambda_j < 0$. If the supply curve is horizontal, profits in the home goods sector don't depend on capital in import substitution, and are unaffected: $\partial r_x / \partial \lambda_j = 0$. However, more capital shifts a rising supply curve outward, cutting home goods costs: $\partial r_x / \partial \lambda_j > 0$. An increased tariff on imported intermediates which compete with the home-produced kind raises overall costs in the X-sector: $\partial r_x / \partial \sigma < 0$. On the other hand, import-substituters' profits go up: $\partial r_j / \partial \sigma > 0$. If the export sector also uses the intermediate, then $\partial r_e / \partial \sigma < 0$.

Algebraically, changes in the steady state growth rate decompose independently into responses to σ and ξ (if cross-sector linkages are ignored, e.g., the effect of σ on r_e). Figure 2 illustrates what happens when the import tariff is increased. To understand the initial slopes of the sched-

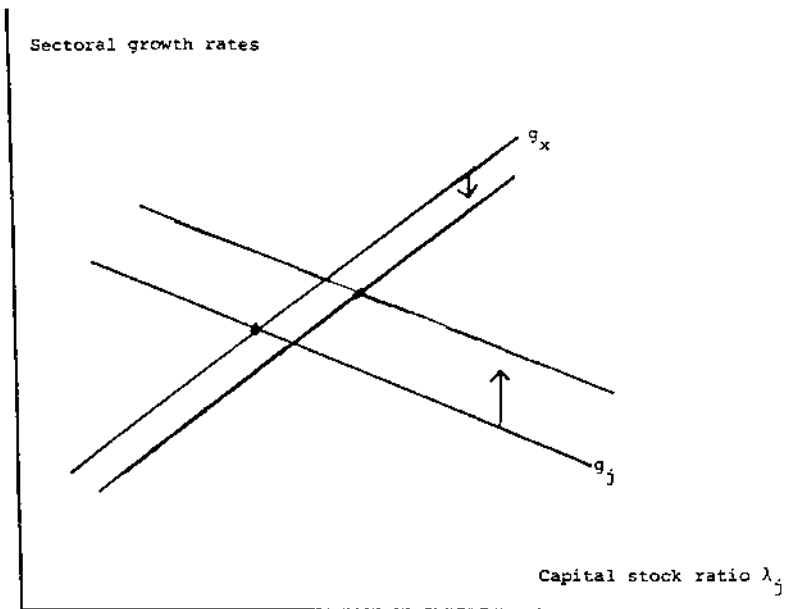


Figure 2: Response of the steady state growth rate and import substitution capital stock ratio to an increase in the import tariff σ . More capital is allocated toward import substitution, and the growth rate rises if increased investment demand from higher profitability in the sector offsets a lower profit rate and reduced investment demand in home goods.

ules, note that with an upward-sloping intermediate commodity supply curve, r_x responds positively to λ_j . Capital stock growth in the sector rises with the higher profit rate, as shown by the g_x schedule in the figure. Growth of the import substitution industry is stimulated by r_j (which declines with λ_j) and held back by a higher r_x . Hence the growth rate g_j is a decreasing function of λ_j , as shown. Steady state equilibrium resides at the intersection of the two schedules. It is easily seen to be stable, since for example an increase in λ_j from its equilibrium value raises g_x , reduces g_j , and makes $\dot{\lambda}_j < 0$. Around the equilibrium, we want to ask how λ_j and the growth rate adjust to changes in the tariff rate σ .

To see what happens, first note that a higher tariff cuts profits in home goods, so the g_x schedule shifts downward. Import substitution is stimulated, so g_j shifts up. From the figure, it is clear that resources migrate toward import substitution, as λ_j rises in the new equilibrium. However, the growth rate may adjust either way. It tends to rise with more responsive import substitution investment (a big shift in the g_j schedule) and if the intermediate supply curve slopes strongly upward (more capital shifts the curve outward and reduces home goods costs). The outcome in the long run depends on cumulative effects from short-run profitability changes through the investment demand functions.

The story for a higher export subsidy is similar. The growth rate may fall if world export demand is sufficiently inelastic, but will go up otherwise. If the cross-sector negative effect of an import tariff on exporters' profitability is introduced, r_e and g_e will fall with an increase in σ . In the three-sector system involving λ_j and λ_e as state variables, the outcome could be slower growth.

To summarize, the discussion shows that long run growth can respond with either sign to changes in commercial policy. In the specification sketched out here, it is likely to slow down with increased tariffs if domestic supply of import substitutes is quite elastic and/or if the export sector uses intermediate inputs intensively. Slowdowns in response to export subsidies may occur if world demand for national products is price-inelastic. When the growth rate accelerates in response to policy changes, its responses to changes in tariffs and subsidies will differ. Real devaluation--or equiproportionate changes in the "forces" of tariffs ($1 + \sigma$) and subsidies ($1 - \xi$)--will not affect growth as strongly as individually designed sectoral policies.

These results show that a liberal, equalized incentives policy stance will not maximize growth. This conclusion would be strengthened if scale economies and non-price-mediated intersectoral linkages were brought into the specification. More positively, the model provides a basis for computing effects on growth of policy changes in a practical format. The procedure could be readily quantified to explore likely effects of potential interventions on growth.

1.6 Relaxing Import Quotas

The foregoing discussion suggests that attempts to guide resource allocation through trade policy changes can have substantial effects in the long run. But rigging policy to generate beneficial results is a non-trivial task.

The same observation applies to policy moves in the conjuncture. They require administrative effort, and must be designed to be institutionally feasible in a world of conflicting interest groups and seekers for rents. It

this context, the macroeconomic implications of changes in directed policies such as export subsidies, and import tariffs and quotas deserve to be explored. Since quotas are widely applied in practice, in this section we work through a simple model to show how relaxing them can be counterproductive in the short run.

Import quotas are complicated analytically. Their macroeconomic ramifications have not been widely discussed, although there is an enormous literature in trade theory damning them on rent-seeking and efficiency-loss grounds--Bhagwati's (1969) elegant statement of the argument has already been noted in section 1.4. In development economics, the trade theorists who took up policy advice in the 1970s stressed the allegedly beneficial effects of lifting quotas. Nonetheless, in Krueger's (1978) well-known survey of country experience, only four of 22 episodes of devaluation-cum-liberalization ("phase III liberalization" in her terminology) did not result in a fall in output, faster inflation, or renewed balance of payments problems. It makes sense to ask why such responses occurred.

Recent papers on quota liberalization include Ocampo (1985) and Barbone (1985). The former emphasizes direct effects of quota changes on domestic absorption, while the latter works through a quota rent story à la Bhagwati (1969) and Krueger (1974). We follow Barbone here for compactness of exposition--his model is close to that of the preceding section and Appendix A. Two market-clearing processes are involved. The level of output of domestic "industrial" goods is determined by demand, while its price follows from a mark-up on wage and intermediate input costs. The internal price of intermediate goods required by the industrial sector varies to equate demand and supply. Intermediates are either produced at home or imported subject to a quota.

On the supply side of the market for intermediate goods, assume that the import quota is set at the level \bar{J} . For simplicity, let domestically produced and imported intermediates substitute perfectly. Then if the internal price of intermediates is P_j and the border price is eP_j^* (e is the nominal exchange rate and P_j^* the world price of intermediates), people with access to imports get a total "rent" $(P_j - eP_j^*)\bar{J}$ from internal resales resulting from their control of quotas.

Suppose that in an attempt at liberalization, the quota \bar{J} is increased. Comparative statics appear in Figure 3. The slopes of the curves can be explained as follows: Higher capacity utilization in the industrial sector increases demand for the intermediate and causes its price to rise along the Quota schedule. At the same time, a higher price P_j generates incomes for quota-holders and import substituting entrepreneurs, raising available saving. To maintain macro equilibrium with investment fixed, less saving from mark-ups on commodity production is required. Hence P_j and capacity utilization u trade off inversely along the Internal balance line. A higher domestic price for a key intermediate input dampens aggregate demand.

The effects of raising the import quota \bar{J} are shown by the shifts in the curves. In the internal market at the initial price P_j , aggregate demand falls since higher ex ante saving comes from a greater volume of quota rents. At the same time, the intermediate price P_j falls due to excess supply. Both changes lead to a lower P_j but the net effect on aggregate demand is unclear. Capacity utilization u will decline unless P_j falls sharply, leading to lower final prices, an increased real wage and a strong export response. Expansion requires a low supply elasticity in import substitution (so that a slight decline in sales volume leads to a big price drop) or a high elasticity of export demand. There is no particular reason to expect these conditions to

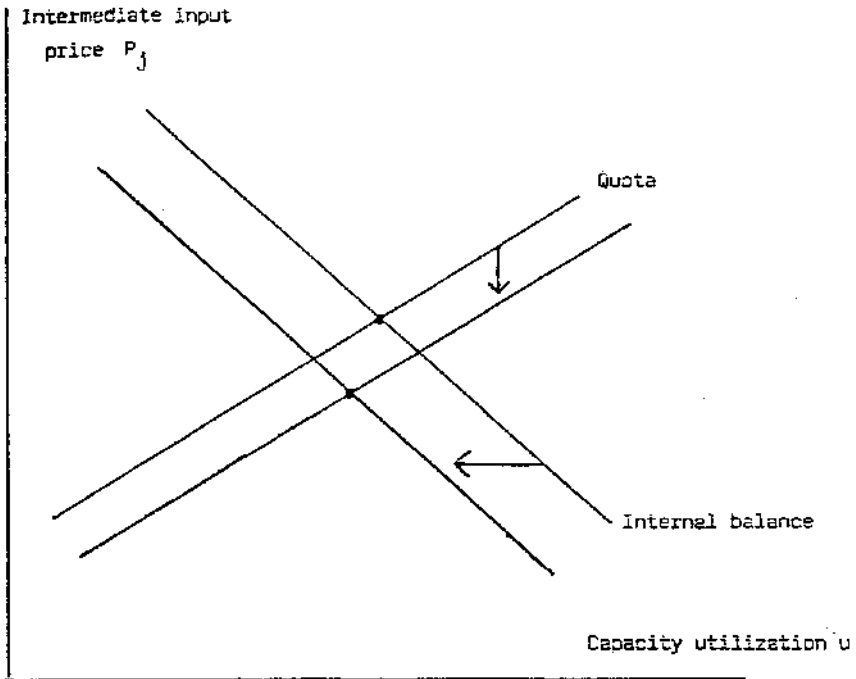


Figure 3: Effects of quota liberalization for intermediate imports.

Initially, a greater quota generates increased rental income for import license-holders, leading potential saving to rise and the output level consistent with internal balance to decline. Simultaneously, excess supply in the intermediate goods market makes the price P_j fall. The outcome involves a lower P_j and a reduced level of activity unless P_j goes down sharply due to a low elasticity of domestic supply. Contraction could also be offset by a high elasticity of exports to a lower domestic price level resulting from cheaper intermediate input costs.

apply. In other words, quota liberalization can easily prove contractionary in the short run. Rational Economics Ministers with typically short time horizons would have every reason not to pursue such a policy change. The same point carries over to many other liberalizing moves. In the longer run, as the model of Section 1.5 emphasizes, growth may be the victim.

1.7 Initial Summary About Trade

The conclusions from the initial review of trade-related issues are the following:

First, the case for a positive association between trade liberalization and economic performance as measured by growth is primie facie difficult to make, and is not supported by cross-sectional or time-series evidence.

Second, arguments are not much stronger for export-led growth. A few fast-growing countries have had rapid export expansion, but the correlation does not extend to the group of developing economies as a whole.

Third, the model of Section 1.5 shows that probable directions of effects on growth of policy changes can be discussed formally. The signs of growth rate responses make economic sense, but depend on technical and institutional details of the economy at hand. In practical terms, finding "right" prices or policy interventions is a non-trivial exercise, let alone imposing them on a functioning economic system. Short- to medium-run repercussions may be counter-productive, as illustrated in the macroeconomic example presented in Section 1.6.

Fourth, perhaps in recognition of such difficulties, economic decision-making in the "success" cases is highly dirigiste; one can further argue that rapid growth is a major component in their process of political legitimation. Planners in South Korea, for example, have not used

international prices as the keystone for investment decisions.

On the basis of the foregoing arguments, it is fair to say that in the mid-1980s the trade liberalization strategy is intellectually moribund, kept alive by life support from the World Bank and International Monetary Fund. But that does not mean trade policy issues have gone away. They may be clarified by the new micro theories being developed--see the review in section 1.4. Models like the one in section 1.5 could be implemented numerically to help trade and industrial planning. And in broader perspective, the implications of Chenery's (1975) suggestion that the process of development is characterized by a shift from non-competitive (unsubstitutable imports of intermediates and capital goods, primary product exports) to competitive trade should be explored. The issues are urgent; what has been lacking are sensible ways to address them.

2. External Shocks -- The Current Account

The next step is to consider current account adjustment--how economies respond to unexpected changes in either trading relationships or capital movements. Since all poor countries were affected by global macroeconomic conditions over the past two decades, we begin with a brief historical overview. Illustrative models are presented of the macroeconomic implications at the country level of foreign exchange dearths and gluts, and of the risks inherent in unduly open capital markets. A review of developing country adjustment experience concludes the section, focusing on the question of how painful external shocks are likely to be in more or less open national systems.

2.1 Global Macroeconomics

An impressive growth performance in the developing world was rudely interrupted in the early 1980s. More generally, the global economic balance of forces has shifted markedly over the past quarter century. These events can be organized in terms of a simple macro model based upon the patterns of developing country trade noted in section 1.1. The key factors are the dependence of poor countries on imports of intermediates and capital goods to support production and investment respectively. Their primary export specialization, further, renders them vulnerable to terms of trade fluctuations and other external shocks.

The situation in the not too distant past was more favorable than it is today. In the two decades between 1970 and 1980, the developing countries made impressive economic progress. As shown in Table 2, developing market economies grew at 5.2 percent per year between 1961 and 1973, and a still solid 3.8 percent between 1974 and 1980. These rates were above those of the developed market economies in the same periods, and substantially higher than the historical speed of expansion of the now industrialized countries.

This achievement has been put in jeopardy by the world recession that began in 1980. As Table 2 shows, the story of the current decade is slow or negative growth tempered by a mild recovery in 1982-84 which may have tailed off in 1985. The few bright spots include India and China among the poorer countries, East Asian middle-income economies and Brazil since 1985. For the rest of the Third World, the recent record has been bleak.

At root, the poor growth performance of the developing countries is caused by the economic slump of the industrialized world. Their main short run problems are

Table 2: Population GDP per capita, and GDP growth rates
by major world regions

	Population (millions)	GDP per capita in 1980	Growth rates of GDP (percent)						
			1961- 1973	1974- 1980	1981	1982	1983	1984	1985
Developing Market Economies	2160	546	5.2	3.8	1.3	0.4	0.2	3.3	2.5-3.5
Africa	440	459	6.1	4.3	-0.2	-0.6	-0.5	2.1	1.0-2.0
East and South Asia	1248	251	4.8	6.0	6.6	3.5	5.5	5.7	3.0-4.0
West Asia	124	1593	7.3	5.1	-3.5	-4.6	-1.3	1.2	2.0-3.0
Western Hemisphere	349	1343	4.8	6.0	0.7	-1.4	-2.6	2.6	3.0-4.0
Developed Market Economies	763	6347	4.9	3.2	1.4	-0.2	2.5	4.6	2.0-3.0
<u>Selected Countries</u>									
Ivory Coast	8	322	7.6	6.7	1.4	-3.8	-4.2	-2.2	2.0
Kenya	16	420	7.1	4.8	3.9	1.6	3.8	0.9	2.0 *
Sudan	19	410	0.9	9.0	3.2	4.2	-2.1	-2.4	-8.0
Zambia	6	560	3.9	0.3	6.2	-2.8	-2.0	-1.3	2.0
Egypt	40	1001	4.7	9.4	7.8	5.9	5.4	5.2	3.0
Turkey	45	1470	6.2	4.6	4.4	5.0	3.7	5.8	4.0
Sri Lanka	15	270	4.2	4.8	5.8	5.1	5.0	5.0	4.0
India	673	240	3.6	4.1	5.8	2.9	7.7	4.5	4.0
Bangladesh	89	130	2.0	6.1	5.9	1.1	2.9	4.5	4.0
Thailand	47	670	8.0	7.5	6.3	4.1	5.9	6.0	5.0
South Korea	38	1520	9.0	8.6	6.9	5.5	9.5	7.9	6.0
China	977	290	7.1	5.4	4.9	7.7	9.6	14.0	11.0
Brazil	119	2050	6.9	6.8	-1.6	0.1	-3.2	4.5	7.0
Mexico	70	2090	7.7	6.2	7.9	-0.5	-5.3	3.5	2.0
Peru	17	930	4.5	2.4	3.9	0.4	-10.9	4.8	2.0
Jamaica	2	1040	4.9	-2.6	2.5	1.0	2.0	-0.4	-4.0

Sources: United Nations, World Bank

(a) Reduction in world demand for primary products stemming from slow growth in the OECD economies.

(b) A fall in prices for these commodities which is deeper and more sustained than simple demand contraction would predict. There may be a secular shift away from the use of many materials in production (Larson, Ross and Williams, 1986) which could signal a long downward trend in poor countries' terms of trade.

(c) An increase in foreign payment obligations for amortization and interest on outstanding debt, made especially acute by extremely high interest on floating rate debt since 1980. As discussed further in section 3.1, related longer term handicaps include a reduction in foreign aid and revulsion of the private banking sector from loans to the Third World since 1982.

Factors (a) through (c) have played havoc with the current account deficits of the non-oil developing countries, which rose to around \$100 billion in 1980-81, but fell back to \$50 billion or less thereafter. On trade account, after interest and other factor payments are subtracted from the current deficit, poor countries were running a historically unprecedented surplus of \$15 billion by 1984. These changes after 1982 are directly related to the slow growth rates shown in Table 2. We will see below that a time-tested method to improve the external account is to reduce the internal level of economic activity, exactly what foreign exchange constrained economies have done. They have also made extreme efforts to increase the exportability of their products and reduce import coefficients. As discussed further in section 2.5, a study sponsored by the United Nations shows that in the period 1978-81/82, twelve of fourteen countries that suffered adverse external shocks pushed up their export market shares. Expressed as a ratio of the absolute dollar value increase to GNP, the mean (median) export improvement

was 3.0 (2.9) percent--a remarkable achievement (Helleiner, 1986). Eight of the countries also reduced import ratios. However, there was generalized reduction in gross capital formation in the study's sample countries after the second set of worldwide economic shocks in the late 1970s. Such a decrease in investment did not occur after the first oil shock in 1973, as the solid growth rates of the developing countries until 1980 testify. Further improvements in "tradeability" and adequate growth will be impossible unless the investment cuts are restored. The problem is that the surest way to improve the current account by economic contraction is to limit import-intensive capital formation. A vicious circle appears--cutting investment to improve the current account in the short run makes potential foreign exchange shortfalls more severe in the future. Many economies are on this self-destructive treadmill.

2.2 External Strangulation

It makes sense to trace through the processes of macroeconomic adjustment in more detail. There are characteristic patterns of short- and medium-run response, which can be modeled along the lines laid out in sections 1.5 and 1.6. Scenarios for achieving demand-supply balance at the macro level are sketched here and in the following two sections. Longer term issues are taken up below.

The simplest way to think of a shock to the balance of payments is as a transfer to or from a country. Either flowing in or out, transfers create adjustment problems. We begin with the one prevalent at the moment--"external strangulation" from combined adverse movements in the current and capital accounts.

The label was coined by the United Nations Economic Commission for Latin America in the 1960s to describe the state of economies in which growth and/or output is limited by shortage of foreign exchange. The malady is widespread in the 1980s after the debt crisis and stagnation of foreign aid-- Finance Ministers and Central Bankers must scramble for every penny. Here we describe some of the symptoms of strangulation, on both the real and financial sides of the economy.

Suppose that the trade surplus t (measured per unit of home goods capital) is specified exogenously, say from a strict limit by bankers on the amount that can be borrowed externally. Fixing t imposes a restriction on the macro system--what variable adjusts? In practice, several possibilities arise.

One mode of adjustment is via inflation. Tight bounds on the use of foreign resources create bottlenecks and lead to inflationary pressures. If key inputs into non-traded sectors (energy sources for example) are restricted, then price increases may be triggered along the lines of Figure 5 below at the same time as output is held down. If aggregate demand responds negatively to inflation, contraction will be so much the worse. A foreign resource inflow can ease the situation, as discussed by Taylor (1987).

A second policy option is to cut back public or private consumption via fiscal spending reductions or tax increases. The level of output declines, reducing intermediate import requirements and improving the trade balance.

A third option is to sacrifice public investment. As discussed above, this move became more frequent as the external shocks for the developing world deepened over time. We can illustrate the implications in a one-sector model in which output, unless externally strangled, would adjust to the level

of aggregate demand. If there is an external constraint, then state investment per unit of home goods capital (call it z) becomes an endogenous variable in the short run.

The simplest way to tell the story is by decomposing macro adjustment into a demand injection and a saving response. Components of the injection are public spending on current and capital account (the latter is z) and private investment. In line with accelerator theories or the model of section 1.5, private capital formation is stimulated by higher capacity utilization u . Also, since questions of investment finance are important in the current context, we assume that a fraction $1 - \theta$ of capital goods must be imported. The rest (typically, the construction part of investment) is made in the home goods sector.

Saving comes from wage and profit incomes--its total is an increasing function of u . Exports, for present purposes, are best treated as a negative element of saving (consistent with the notion that an export surplus is equivalent to negative "foreign saving"). Macro balance occurs when the injection and saving are equal, as shown in Figure 4. If capacity utilization is the adjustment variable, the equilibrium will be stable when demand responds less strongly to increased capacity utilization than saving supply. This requirement is satisfied by the schedules in Figure 4. The curves for Total imports in the diagram show that a given import bill is made up of capital goods and intermediates to support production--if one component rises, the other must fall.

If there is no foreign trade constraint, output expansion in the model is driven in the direction of the arrows by increased demand from government current spending or capital formation. Capacity utilization increases along the saving schedule, and total imports rise. If imports must be curtailed

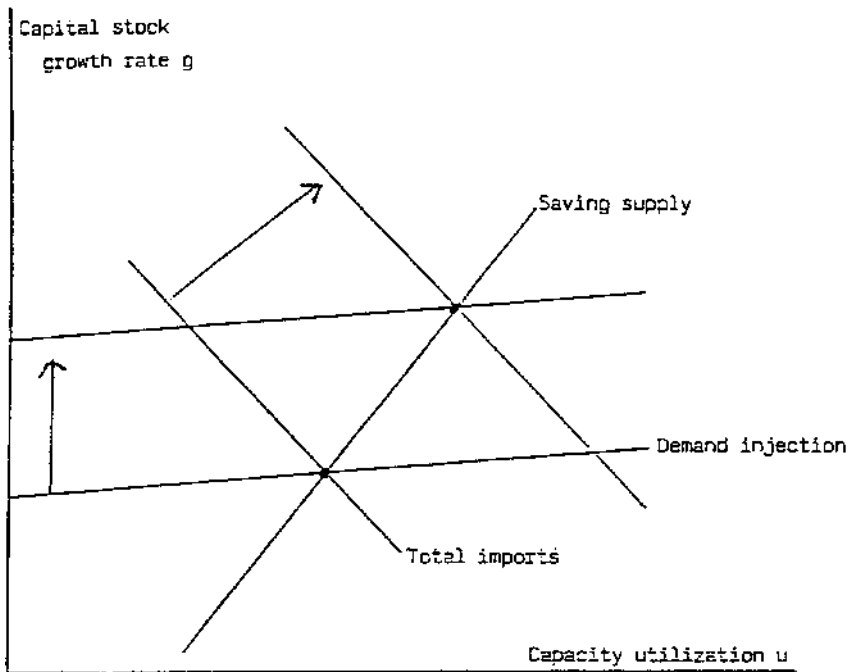


Figure 4: Macro adjustment involving trade. A demand injection increases capacity utilization and the growth rate if total imports can increase. In another causal pattern, a cut in imports can force less demand by curtailing government capital formation (the schedules move opposite to the arrows).

due to a foreign exchange bottleneck the schedules shift the other way. Government investment turns into an endogenous variable, and its reduction permits the demand injection locus to shift downward. Along the lines of the classic two-gap paper by Chenery and Bruno (1962), one can show that $dj/dt < -1$, or an increase in the trade surplus forces a greater than one-for-one reduction in government investment. The reason is that the import content of capital formation is the fraction $1 - \theta$. Cutting foreign resources forces investment to be cut by even more--for the algebra see Taylor (1983) or Bacha (1984).

On the financial side of the economy, the easiest analytical way to deal with external strangulation is to assume that \hat{F}^* , the growth rate of the state's foreign obligations (assumed to dominate borrowing) is predetermined. Ignoring reserve changes, the trade surplus per unit of capital stock will be proportional to $i^* - \hat{F}^*$, where i^* is the interest rate on debt. For many developing countries in the 1980s $i^* > \hat{F}^*$, so that they have to run positive trade balances. Also, for a given government fiscal deficit, reduced foreign credit inflow forces state borrowing within the country to go up. This is the financial side of the transfer problem. To pay interest on foreign debt the country has to run a trade surplus. To "finance" the external surplus the government has to resort to extensive internal borrowing. Two exchanges enter the transfer, not just one.

To measure the full effects of the transfer, one also has to take macroeconomic adjustment into account. The fiscal deficit may not stay constant, for example. The argument in connection with Figure 4 suggests that a higher trade surplus t makes government investment z decline more than one-for-one. Hence, a reduction in \hat{F}^* would make growth slow down enough to permit the internal public sector borrowing requirement to fall!

This conclusion perhaps shows that results from models should not be taken too literally. As noted above, what happens in the real world is that a binding trade constraint can be met by many devices--forced import substitution, reduction of inventories, policy changes such as imposition of quotas, even finding oil. All these moves plus reduced public capital formation help the economy reach a higher level of t , and all will have different implications for fiscal spending. The cut in investment is the one that will affect the borrowing requirement most. In the mid-1980s some countries like Korea and Brazil have pursued export promotion and import substitution so aggressively in the wake of the debt crisis that they seem to have a structural trade surplus. For such economies, finding sources of domestic borrowing to meet the excess of i^* over F^* ^{\wedge} becomes a major issue. Elsewhere, less fortunate countries have cut government investment z so drastically that recourse to domestic credit is minimized. The real blessing for them would be faster growth of external debt (or lower interest rates), a reduction in their required trade surpluses, and the possibility to grow again.

2.3 Foreign Exchange Bonanzas

Given the dire straits of externally strangled countries, an ample supply of foreign exchange might be taken as a blessing. Regrettably, such may not be the case. Readily available foreign resources can lead to exchange appreciation, and declines in both export diversity and internal economic activity as competitive imports flood in. The phenomenon has been rediscovered by academics in recent years (it was first noted by the Australian economist J. E. Cairns in connection with that country's gold boom in the middle of the last century) and gives rise to a large literature on the "Dutch Disease." Countries which borrowed massively in the 1970s were not

immune to its effects.

The initial symptoms are easy to trace in Figure 4. Import capacity shifts outward, and a corresponding demand injection is not difficult to (over) achieve. Capacity utilization and the growth rate will initially rise. However, resource limitations may begin to bind. One common bottleneck centers around goods whose supply within the country cannot easily be supplemented by imports--non-tradeables and semi-tradeables.

We can illustrate the problem using a model like the one in section 1.6. Assume that imported intermediate inputs to domestic industry are limited in supply (say by a quota) or are unavailable. Supply of domestically produced intermediates rises with their price P_j , but the curve may be shifted by wage increases or shortage of essential imported inputs. Comparative statics are in Figure 5 where the slopes of the schedules have the same rationales as in Figure 3.

As mentioned last section, lack of essential imports can squeeze home goods supply, shifting the intermediate locus upward. The price P_j rises (perhaps setting off inflation, as discussed shortly) and activity drops off. A foreign exchange bonanza has different effects. Not all the extra dollars can be spent abroad, and demand for nationally produced goods will rise. The internal balance schedule shifts outward, and P_j goes up. The higher cost of the intermediate is passed along into final goods prices, and the real wage falls.

Both the upward shift of the intermediate locus (from strangulation) and the rightward shift of the internal balance locus (from a bonanza) are inflationary. The reason is that the reduced real wage just noted is likely to feed into an inflation from conflicting claims. With their real purchasing power cut back, workers bid up money wages. These are passed through a

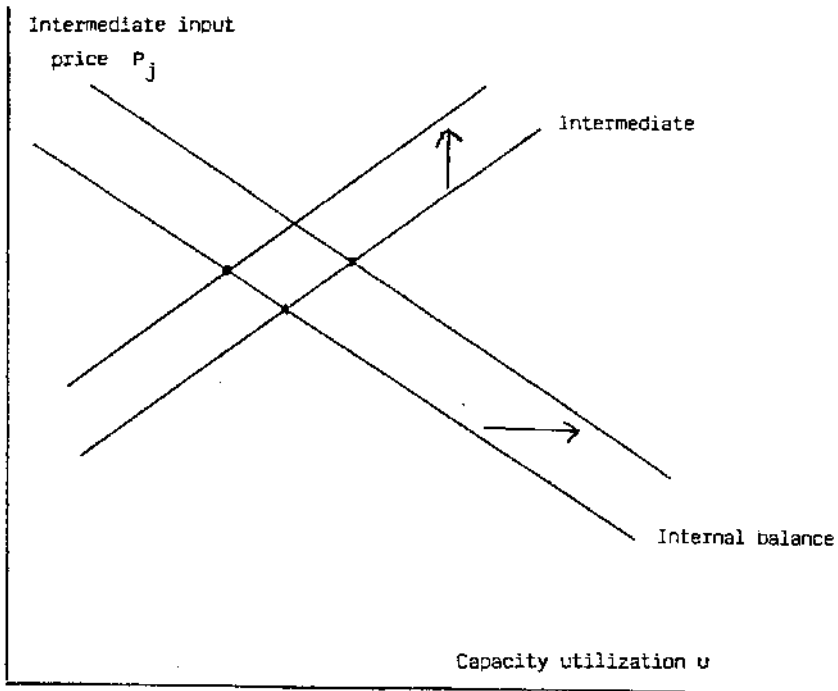


Figure 5: Demand pressure against a non-traded intermediate good. An outward shift of the Internal Balance locus from extra demand leads to a higher intermediate price, with the increase being greater as the intermediate is in inelastic supply and the corresponding schedule is steep. The upward shift of the Intermediate locus could result from difficulty in obtaining required imported inputs when there is external strangulation. A higher intermediate price and potential inflation are the outcomes.

mark-up into higher prices, and a spiral can be set off. It will be more acute if the economy is highly inflation-indexed, as many developing countries were in the 1970s. The inflation will also be worse when increasing intermediate goods supply is difficult because investment projects of great size and/or long gestation are required.

If inflation were the only problem caused by the bonanza, it would be tolerable. However, there is often little incentive to devalue or adopt a crawling peg; after all, foreign exchange appears not to be a problem. The outcome is real appreciation. At best, lagging exports and reverse import substitution may result; at worst, unstable dynamic processes like the one illustrated in Figure 7 below can be set off, imperiling prospects for growth in the medium run. Unless sensible policy measures like promotion of non-traditional exports, import controls, and sterilization of some part of the "free" foreign inflows are pursued, outcomes after a time can be painful--especially after the bonanza ebbs. Wealth is a blessing, but one has to ponder how to use it well.

2.4 Opening Capital Markets

Just as current account liberalization can lead to unfavorable short-run developments, liberalizing capital controls can also be destabilizing. The effects may be insidious, since they initially look beneficial but can lead near disaster in the medium run.

Experiments in the Southern Cone of South America in the late 1970s combined open capital markets with a slower rate of exchange depreciation meant to reduce "inflationary expectations." The unhappy story of resulting financial instability has been recounted by Diaz-Alejandro (1981) and Frenkel (1983); the model sketched here roughly follows Frenkel's.

Assume that nationals hold three assets -- loans to domestic firms which carry an interest rate i , bank deposits at zero interest, and foreign assets with a return of $i^* + \hat{e}$ ($= R$) where i^* is the world interest rate and \hat{e} is the pre-announced rate of nominal exchange depreciation. In the financial market, a credible reduction in \hat{e} switches asset demand from foreign holdings to deposits. Hence, the interest rate must rise to maintain the level of loans to firms. However, there are strong general equilibrium off-sets, as illustrated in Figure 6. In that diagram (relating i with foreign holdings Y^*), the interest rate schedule slopes upward since an increase in Y^* represents a capital outflow. It must be met by a reduction in bank reserves and tighter domestic credit. In the foreign asset market, an increase in i makes holdings abroad less attractive, and Y^* declines along the corresponding curve.

Now consider a decrease in R , the foreign return. There are portfolio substitution and asset composition effects of opposite sign. As noted above, lower foreign returns tend to increase the cost of credit to firms, in a substitution response (the Interest rate locus shifts upward). Second, asset portfolios shift away from holdings abroad. The resulting capital inflow adds to the stock of bank reserves. The money supply rises, and i declines in a leftward shift of the Foreign Asset schedule. The latter adjustment is more important in Figure 6, and empirically in practice.

The conclusion is that, other factors being equal, a slower crawl in liberalized capital markets may be associated with reduced interest rates and economic expansion; faster nominal depreciation could cause desired portfolios to shift toward foreign holdings, draining reserves and creating tighter money. The "other factors" will of course include the state of confidence in the regime, with political and economic uncertainty leading to capital flight.

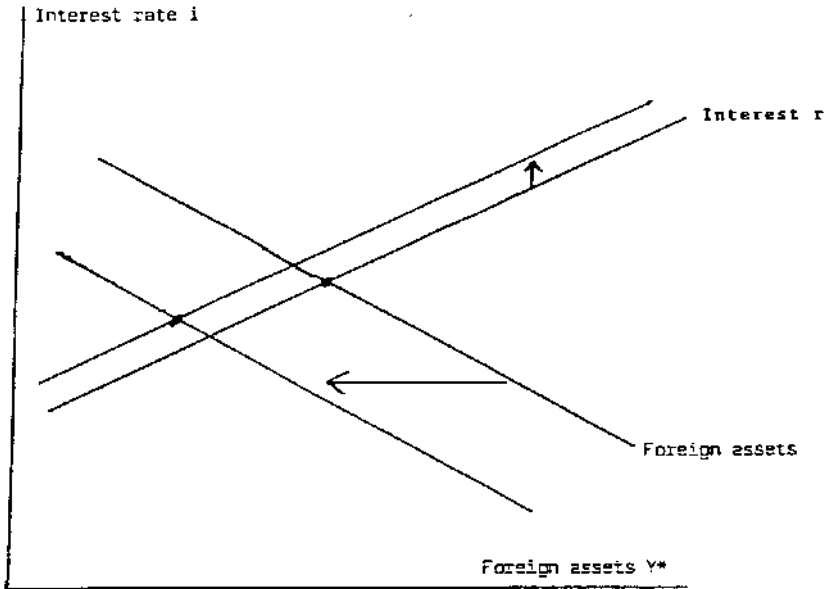


Figure 6: Adjustment in asset markets to a fall in the return to holding foreign assets induced by a slower rate of exchange depreciation. A substitution response would tend to increase domestic interest rates. However, bank foreign reserves increase as the public trades in foreign currency, the money supply expands, and interest rates can fall.

Diaz-Alejandro (1981) makes clear that in the Southern Cone the initial slow-down of the crawling peg brought foreign exchange euphoria to the region. Reducing the return to foreign assets stimulated the domestic economy, making foreign holdings less attractive still. There was positive feedback of the initial reduction of the return to holding foreign assets into itself--a classic symptom of financial instability.

A model is easy to set up in terms of changes in the foreign asset return R and the economy's total foreign assets J^* ($= Y^* + \text{bank foreign exchange reserves } R^*$). Consider how the rates of increase \dot{R} and \dot{J}^* respond to changes in the levels of the two variables:

$\partial \dot{R} / \partial R > 0$: An initial downward jump in R from slowing the crawl increases visible national reserves R^* , cuts interest rates and stimulates growth. National assets look even more attractive and R falls more, making the partial derivative positive.

$\partial \dot{R} / \partial J^* < 0$: Higher foreign assets from any source also make R fall.

$\partial \dot{J}^* / \partial R > 0$: An increase in R pulls the public toward foreign holdings, reducing domestic activity by driving up interest rates and increasing the trade surplus. The country's total foreign claims rise, or \dot{J}^* goes up.

$\partial \dot{J}^* / \partial J^* < 0$: Higher foreign assets lead to more reserves R^* and monetary expansion. The trade balance worsens so that $\dot{J}^* < 0$.

The positive own-derivative $\partial \dot{R} / \partial R$ can underlie a crisis linking the financial and real sides of the economy, along the historical/institutional lines set out by Minsky (1982) and Kindleberger (1978), and in a model by Taylor and O'Connell (1985). A phase diagram appears in Figure 7, where

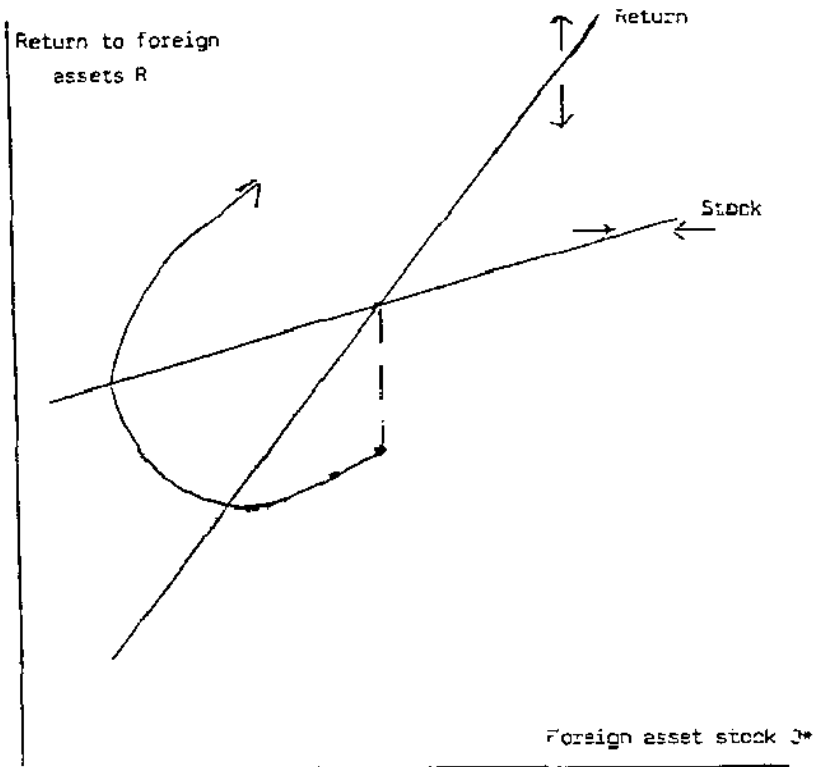


Figure 7: Potentially unstable dynamics of the return to foreign assets. An initial downward jump from a slower crawl sets up a process with declining asset stocks from an increased trade gap and (after a period of decrease) a rise in the return. Capital flight, decreased foreign reserves in the banking system, and domestic stagnation are the outcomes.

potential instability is signalled by the fact that R goes up (or down) when it is already above (or below) that Return locus along which $\dot{R} = 0$. Slowing a crawling peg makes R jump down from an initial steady stage. Foreign assets J^* begin to fall immediately from a reduced trade surplus due to higher activity. However, R continues to decline for a time until the drop in J^* (signalled by a widening trade deficit and over-expansion at home) begins to frighten investors. The return to foreign assets begins to rise as the trajectory crosses the Return schedule. The central bank starts losing reserves, reversing the process in Figure 7. The likely outcome is national economic stagnation before foreign asset stocks start to rebuild through a trade surplus. In practice, the agony is often cut short (or made more acute) by a maxi-devaluation before the trajectory reaches the Stock schedule along which \dot{J}^* equals zero. At that point, speculators are rewarded and currency may start to flow home.

This sad story repeats itself with some frequency in the Third World. There is no certain way to avoid its repetition as long as attractive asset markets exist abroad. However, controls on capital movements can temper destabilizing flows while a sensible crawling peg policy helps keep foreign and domestic asset returns (not to mention profits for exporters or import substituters) stable relative to each other over time. Steady asset market signals reduce the likelihood of the unstable dynamics of Figure 7. Opening capital markets and dramatically altering returns--the recipe applied by Southern Cone monetarists of the 1970s--may make instability much more likely. Also, exchange controls are difficult to reestablish, once dismantled. Attempts to set up controls are underway in all countries that suffered capital flight, but their successful imposition will take a long time. The wealthy scan accustomed financial horizons in making portfolio choice. Once

they start looking abroad, it may take years of good returns and barriers to capital outflow to make them shift their gaze largely toward domestic assets.

2.5 Strangulation and Openness

Macro adjustment to balance of payments shocks in the developing world combines elements of external strangulation and foreign exchange bonanzas with instabilities rooted in open capital markets. Recounting the histories of scores of countries to back up this generalization is impossible here, but on the other hand we can use the models to throw light on the recent past.

Countries subject to bonanzas and capital market instabilities were in the minority, so we take them up below. Regarding strangulation, several recent studies use a broadly similar methodology of "differentiating the balance of payments" to try to quantify its causes and effects. In line with the discussion in Section 2.1, the sources of balance of payments deterioration usually emphasized are foreign interest rate increases, adverse terms-of--trade shifts and the slowdown in world trade that occurred over the late 1970s and early 1980s.

The responses of afflicted countries can be decomposed in terms of Figure 4. Reductions in consumption and investment shift the Demand injection schedule downward, export increases shift Saving supply downward and permit Total imports to rise, and import substitution permits a lower total import level for given capacity utilization and growth. None of the studies fully link external shocks with macro adjustment as in Figure 4, but implicitly that is their goal.

Table 3 presents the results of one decomposition exercise, reported by Helleiner (1986) and with methodology due to Edmar Bacha. The numbers are

Table 3: Responses to External Shocks as Shares of GNP

	1973 - 1978						1978 - 1982				
	<u>Domestic</u>			<u>Trade</u>			<u>Domestic</u>			<u>Trade</u>	
	<u>Contraction</u>			<u>Improvement</u>			<u>Contraction</u>			<u>Improvement</u>	
<u>Outward-Oriented</u>	<u>Shock</u>	<u>Inv</u>	<u>Cons</u>	<u>Exps</u>	<u>Imps</u>		<u>Shock</u>	<u>Inv</u>	<u>Cons</u>	<u>Exps</u>	<u>Imps</u>
Chile	16.3	0.5	-2.9	-9.3	2.1		3.8	-1.3	1.7	-5.0	2.6
Costa Rica	-2.8										
Indonesia	-6.8						-14.1				
Korea	8.2	3.4	-2.6	-19.8	11.4		9.2	-2.2	0.7	-7.2	-0.2
Pakistan	3.1	-0.2	0.2	2.4	0.9		7.6	-0.1	-0.1	-2.9	-2.3
Sri Lanka	-3.0						65.9	5.7	-10.1	-11.4	-42.1
Thailand	10.6	0.8	-1.4	-4.4	-3.2		9.5	-1.7	0.4	-8.8	-3.2
Uruguay	11.3	1.6	-2.4	-6.8	1.0		0.7	0.2	0.1	-2.0	2.3
<u>Inward-Oriented</u>											
Argentina	1.9	0.1	-0.4	-2.5	0.2		-0.9				
Brazil	1.2	-0.2	0.4	0.5	-1.5		4.4	-0.4	-0.0	-1.7	-1.1
Colombia	-0.9						3.7	0.6	0.1	1.8	0.8
Domin. Rep.	5.5	0.3	0.2	-0.2	1.2		4.6	-1.0	1.1	-0.8	-4.5
Egypt	14.9	1.8	-4.0	-5.0	2.1		-0.9				
India	1.4	0.1	-0.2	-1.5	-0.1		1.5	0.0	0.1	-0.8	2.4
Ivory Coast	-3.7										
Mexico	0.2	0.1	-0.1	-1.0	0.2		-0.9				
Morocco	4.4	1.6	0.6	4.8	1.3						
Peru	3.2	-1.1	-0.1	-1.7	-6.5		-1.6				
Philippines	7.3	1.7	-0.8	-0.1	1.3		4.8	-0.3	0.2	-2.9	0.2
Sudan	3.8	0.5	1.2	5.0	-2.4		-1.3				
Tanzania	-3.6						8.9	0.4	-2.6	-5.4	-5.2
Turkey	3.0	0.5	-0.4	1.8	-3.7		4.7	-0.5	0.2	-3.6	1.4
Venezuela	-11.7						-13.2				
Zaire	5.8	-2.5	-6.9	11.2	-12.5						
Zambia	29.9	-6.1	2.0	5.0	-12.9		10.0	-6.3	8.7	8.6	-14.2

Sources: Decompositions of shocks from Helleiner (1986); country classification based on Belassa (1985) and Belassa and McCarthy (1984).

percentage shares of actual GNP; adverse shocks are positive and responses which offset the shock are negative. Thus, Chile had an external shock of 16.3 percent of GNP in 1973-1978. It further worsened its balance of payments 0.5 percent by increasing investment, improved it 2.9 percent by cutting consumption, and so on. To Helleiner's reported results we have added a further breakdown of countries by whether their overall policy was "inward-oriented" or "outward-oriented." As already noted in Section 1.2, such classifications are treacherous. Nonetheless, they are widely discussed and for this reason we include one. The policy orientation split is based on Balassa (1985a) as supplemented by Balassa and McCarthy (1984) and personal judgment, and is allegedly relevant for the mid-1970s. It also bears noting that the countries in the table are mostly middle-income and fairly large; data were simply not available to do decompositions for the smaller, poorer countries that were probably more severely affected by external events.

The first point that stands out in the numbers is that countries increasingly cut back investment to restrain import demand in 1978-82 as opposed to 1973-78--the potentially unfavorable effects on future growth have already been noted in section 2.1.

Second, most countries in the sample at least partially offset the shocks by improving their trade performance, raising export penetration in world markets and/or cutting import shares in GNP. Very broadly speaking, trade improvements outweighed domestic contraction as the main adjustment mechanism for both groups of countries, especially in the latter period.

Third, adjustment data for the two groups are presented in summary form in Table 4. As a share of GNP, shocks were greater in the outward-oriented group, perhaps not surprising insofar as their initial trade shares were higher (presumably this was one of Balassa's criteria for classifica-

Table 4: Summary of Responses to External Shocks by Policy Orientation

		1973 - 1978						1978 - 1982					
		<u>Domestic</u>			<u>Trade</u>			<u>Domestic</u>			<u>Trade</u>		
		<u>Contraction</u>			<u>Improvement</u>			<u>Contraction</u>			<u>Improvement</u>		
	<u>Number</u>	<u>Shock</u>	<u>Inv</u>	<u>Cons</u>	<u>Exps</u>	<u>Imps</u>		<u>Number</u>	<u>Shock</u>	<u>Inv</u>	<u>Cons</u>	<u>Exps</u>	<u>Imps</u>
<u>Outward-</u>													
<u>Oriented</u>	5						6						
Mean		9.9	1.2	-1.8	-7.6	2.4		16.1	0.1	-1.2	-6.2	-7.1	
Median		10.6	0.8	-2.4	-6.8	1.0		9.3	-0.7	0.2	-6.1	-1.1	
<u>Inward</u>													
<u>Oriented</u>	13						8						
Mean		6.3	-0.0	-1.0	1.3	-2.6		4.7	-0.9	1.0	-0.6	-2.5	
Median		3.8	0.1	-0.1	-0.1	0.2		4.7	-0.4	0.2	-0.8	-0.5	

Source: Table 3.

tion). Their ratios of trade improvement to GNP are also higher than those of the inward-oriented group. However, if one considers ratios of improvements to shocks, the outward-oriented countries were not substantially more successful in promoting trade. Their record on maintaining investment demand was not better either, when one discounts Sri Lanka's success in keeping the externally financed Mahaveli irrigation project underway during the latter period. We have already seen in section 1.2 that presence or absence of trade distortions does not influence growth. The results in Table 4 further suggest that outward orientation (which is at least highly correlated with absence of distortions in the eyes of the orthodox) is no buffer against external shocks. Relative to GNP, the shocks themselves may be greater; relative to the size of the shock, trade improvement may be no stronger with an outwardly than inwardly oriented policy stance. This point is developed more fully in terms of the historical experience of specific countries in Hughes and Singh (1986).

Finally, it bears repeating the large economies are over-represented in Table 3. The only countries with populations markedly less than the convenient cut-off point of 20 million are Chile, Costa Rica, Sri Lanka, Uruguay, Dominican Republic, Ivory Coast, Peru, Venezuela, and Zambia. Their external shocks were large relative to GNP, reflecting the difficulties inherent in a small economy's unavoidable openness when the external environment turns harsh.

2.6 Further Aspects of Adjustment

Beyond countries' efforts to deal with acute foreign exchange shortages, several other aspects of the adjustment process are worth noting.

First, the major debtors in some ways enjoyed a foreign exchange bonanza, and reacted as the model of section 2.3 predicts. They enjoyed rapid, debt-led growth associated with exchange rate appreciation, and faced a difficult readjustment process in the 1980s. Before even their versatile economies recovered, major debtors like Korea and Brazil had spells of slow growth.

Second, the adjustment was more difficult for large debtors with open capital markets. They suffered capital flights of billions of dollars--Mexico lost \$26.5 billion, Venezuela \$22 billion and Argentina \$19.2 billion according to the World Bank's 1985 World Development Report. By contrast, exchange losses in Brazil, Colombia, and Korea which have traditionally maintained functioning (if imperfect) controls on the capital market were far smaller. For the open countries, the dynamic sequence is roughly described by Figure 7--euphoria and capital inflows in the 1970s followed by massive outflows thereafter.

Third, as Hughes and Singh (1986) point out, India and China have traditionally followed conservative foreign borrowing practices. Until it started dabbling with import-led growth in 1984 and 1985, China also had massive reserves. Both giant nations rode out the crises well. Southeast Asian countries on the whole borrowed more prudently than the Latin Americans, and this aspect of not being completely open made their position in the 1980s less difficult.

Finally, with regard to inflation, 15 of 26 economies receiving adverse shocks in 1979-82 according to Balassa and McCarthy (1984) saw their inflations accelerate, eight had rates which stayed essentially stable (within a range of two percent per year) and three experienced declines. Though the period was one of inflation worldwide, the accelerations in many cases

were large, suggesting that the mechanisms discussed in section 2.2 were at work. Favorable external shocks were associated with faster inflation in three of five countries, including Mexico which had a classic bonanza.

3. Capital Markets and Debt

Openness in capital markets was intimately related to the exponential growth of foreign debt in many developing countries before 1982. In this section, we briefly take up implications of this unfortunate past for country policy in future years.

Three stylized observations about the debt accumulation process are worth making at the outset:

First, the share of debt from public sources in GNP declined for many middle income countries (especially in Latin America) that "graduated" from foreign assistance programs in the 1970s. However, obligations to foreign, public creditors rose sharply in smaller, poorer countries. A hidden feature of the debt crisis takes the form of the extremely high obligations (as shares of GNP and exports) to both public and private creditors of many of the poorest countries of the world. Some of the major recipients of public loans are in Asia and the Western Hemisphere, but African countries in the 1970s rapidly caught up. Their situation became more difficult in the 1980s, as overseas development assistance and other official credits stagnated in current dollars and fell in real terms. According to World Bank data, overseas development assistance from OECD countries and other official capital flows in current dollars were 1980, \$32.6 billion; 1981, 32.1; 1982, 35.1; 1983, 32.5; 1984, 32.2. Flows from OPEC countries fell from \$9.7 billion in 1980 to \$6.8 billion in 1982. This slowdown in foreign aid efforts marked a significant reversal in a trend of growth that began in the 1950s.

Second, debt from private sources increased rapidly for most countries. The South Asian region lagged in this process, but the ratio of private credit to GNP rose sharply elsewhere (especially in Africa and the Latin American/Caribbean zone). Ratios of private debt to GNP or exports are higher for many smaller countries than for the major debtors (Brazil, Mexico, Korea, etc.). The same is true of interest obligations, since all developing economies pay floating, current interest rates on the bulk of their private debt.

Third, these observations suggest that countries which borrowed heavily from private sources fall broadly into two groups. At one extreme, some small, open economies took enough credit to raise their debt/GNP ratios by large increments. Such increases are especially notable in African and Western Hemisphere countries hit hard by external shocks. For most of the poorer economies, recourse to foreign debt is best seen as an attempt to cushion the decade's adverse developments in trade.

Larger borrowers in absolute magnitude had smaller increases in their private debt shares of GNP. One can argue that their borrowing was of a more discretionary nature as well. They were offered large loans and chose to take them. Some of the larger Asian economies and a few from Africa either were more prudent or did not get as much access to Eurodollar credits. They started out with lower private debt ratios, and increased them less.

Without losing sight of these immediate problems, it makes sense to place the debt issue of the 1980s against a long-term background, to enquire whether secular or merely conjunctural forces underlay the crisis that began in 1982. The natural time of reference is the "long" 19th century that culminated in World War I. During that period foreign capital flows originated largely in Britain, France and (later) Germany. Now developed economies were

the major debtors, with annual inflows ranging up to 10 percent of GNP and one-half of capital formation in peak years in Canada, Australia, and the Scandinavian countries. Poorer nations (many still colonies) also received some international investment. By 1914 Latin American, African and Asian countries accounted for 43 percent of outstanding foreign capital (Kuznets, 1966).

Flows diminished drastically in the decades between the wars, including the depression years. In 1913 prices, international capital movements in the early 1900s were on the order of a billion dollars per year. On average, annual flows dropped to \$100-200 million between 1920 and 1940, and then recovered to about three billion (seven billion in current dollars) in the late 1950s. By that time the United States had emerged as the major creditor.

There were also changes in forms of finance. Long-term bonds originating in London and Paris were the chosen vehicle in the 19th century. Private bondholders predominated, and the issues were usually tied to investment projects in recipient countries--to this day trolleycars in Rio de Janeiro are called "bondis" in honor of a long-forgotten British loan. After 1945 there was a shift toward direct foreign investment and (especially) official donations and loans, which accounted for over one-half of annual flows in the late 1950s.

The process of bond finance was by no means tranquil. Numerous scholars have detected cycles of capital flows to different parts of the world, with a time period of decades. For example, Kindleberger (1985) observes that "... the bond market experienced spurts of lending--for Latin America in the 1820s, the United States in the 1830s, for Latin America again in the 1850s, Canada from 1900 to 1913, Latin America and Australia (plus Germany)

in the 1920s--but ... foreign lending to a particular area died away between spurts ... it is perhaps fair to say that after a boom in lending to LDCs followed by default, European capital markets lost interest for roughly 30 years before lending again." (Emphasis added.)

If the historical pattern holds, the current "revulsion" from bank-intermediated private lending to developing economies may persist for a decade or so before credit flows begin another upswing (though of course individual countries may get access to capital markets in the meantime--again consistent with historical experience). The situation is also more complex than in the 19th century because syndicated Eurocurrency (predominantly Euro-dollar) credits bear floating as opposed to fixed interest rates. Specifically, the London Interbank Offered Rate, or LIBOR, rules the developing country market for loans. After a spell of being low or negative in the middle of the decade, real interest rates rose sharply after 1979. How much of the increase was due to restrictive OECD monetary policy, and how much to revulsion is not clear. Were revulsion the key factor, the shrinkage of loans in the 1980s bodes ill for developing country borrowing for the rest of this century.

3.2 The Infeasible Transfer

As the situation stands now, poor countries are making net transfers to the North by running trade surpluses to pay interest and retire some small portion of their obligations. Proposals beyond number for changing this situation have been floated, but not one has been put into practice beyond "muddling through." The policy stasis seems unlikely to budge. On the other hand, many feel that large transfers from the poor countries will not persist. If they do, two conditions must be satisfied:

First, the South would agree to divert \$50-60 billion northward on a permanent basis to meet interest obligations alone; the North would accept strong currencies vis-a-vis the South and deindustrializing payments deficits. Neither action is politically attractive. Second, the fiscal/financial counterparts to the permanent transfer would involve internal fiscal surpluses in the South, deficits in the North, and secure international price relationships to allow the payments to be made. Again, stability of such arrangements is not in the cards.

If flow transfers break down, what other options are available? Historically, large outstanding obligations between countries have in many cases not been met. Debt has been liquidated in four ways. The first is by financial recycling (Kindleberger, 1984). Examples are the Thiers rente and the Dawes/Young plans for recycling reparations payments after the Franco-Prussian War and World War I respectively. New financial vehicles have been proposed along these lines, but without enough detail about what sources of new credit may be tapped to refinance developing country paper. The possibly permanent Japanese and German trade surpluses are one possibility (Okita, Jayawardena, and Sengupta, 1986) but how channels would be cleared to direct them toward developing countries is not apparent.

The three remaining options are repudiation (broadly construed along the lines laid out in Section 3.3), inflation of the currency in which the debt is denominated, and overall cancellation of obligations in the aftermath of war. All hope desperately that the last alternative will not arise. Discreetly veiled repudiation appears to be underway, and as the United States swings into a net debtor position it will find exchange depreciation and inflation with appropriately controlled interest rates to be increasingly

appealing options. With their dollar-denominated obligations, LDCs would gain from an American inflationary gambit. The dislocations of wealth and income flows that all these possibilities present will become acute unless the world economic scenario is extremely favorable, or serious steps are taken toward recycling. Meanwhile, poor countries would be well advised to postpone payments, and concentrate on internally oriented development at the national or regional level. Otherwise they may find it impossible to maintain any sort of acceptable growth between now and the century's end.

3.3 Debt Management at the Country Level

It is not obvious what a country faced with large external liabilities is supposed to do. Its overall debt burden may be on the order of 10-20 percent of GDP. At ten percent interest, the required transfers abroad (disregarding amortization) are one or two percent of GDP. These figures should be compared to the commodity trade data for developing countries in Table 1. Typical trade deficits there are ten percent of GDP, yet meeting debt obligations in the absence of other resource inflows calls for trade surpluses. The obvious question is whether resources will flow to developing countries to enable them to roll over their liabilities on paper. If not--if interest and repayment obligations really bind--can they achieve the degree of resource reallocation required to pay? Recall from Section 2.2 that at least two major allocational shifts are involved--a trade surplus has to be arranged, and an internal transfer from the private to public sectors has to be organized to permit the latter to meet its sovereign debts.

As just argued, a sensible view is that poor nations will not meet their payments on debt in the absence of new transfers from the industrialized world. The trade pattern for the past two hundred years has involved

deficits for poor countries and surpluses for rich. This rule seems unlikely to break down, but if it does not the debt will not be paid. The mutual obligations of debtors and creditors are after all nothing but a set of conventions, functional only so long as both parties choose to stay in the game. In the present conjuncture, the conventions can readily fail. Standard economic theory is useless under the circumstances, since it is designed to deal with anything but abnormal events. On common sense grounds, however, a half-dozen points for policy consideration at the national level can be raised.

First, debt repudiation is obviously an option. The term can be applied, albeit imprecisely, to several kinds of policy moves. Partial repayment of some obligations (possibly with magnitudes linked to export receipts, etc.) is one example. The repayments could be varied by type of creditor, e.g., public or private, short-term or long-term. Costs and benefits differ with the various options.

Second, regarding short-term debt, the usual view is that it is largely used for trade finance. When its imports and exports are large relative to GNP, a country may be loath to repudiate foreign debt if the act cuts off trade credits. A highly neoclassical counterargument can be mounted on reasoning like that underlying the Coase (1960) theorem: If there is money to be made from trade and its finance, someone (probably from Switzerland) will provide the required services. The experience of South Africa and (then) Rhodesia under trade sanctions suggests the argument has force. Even North Korea--a socialist country that defaulted long ago and refuses to come to terms with bankers--seems to find trading relationships tolerable on the basis of cash. More recently, Peru has opted not to meet full obligations on its long-term debt but meets short-term obligations scrupulously. The country's trade credits have not dried up.

Third, regarding type of creditor, the obvious question is what future benefits may be forthcoming from each one. Cross-default clauses apply to loans from private banks--if one syndicated Eurocurrency credit goes into default the others are called as well. This institutional fact leads countries to deal with banks as a group--outcomes in the mid-1980s were a few "multi-year rescheduling agreements" at not very favorable terms. The International Monetary Fund and (to a lesser extent) the World Bank acted as interlocutors in the negotiations. There seems no pressing institutional need for them to continue to do so, as countries and groups of banks become more familiar with dealing directly. Indeed, given their current policy biases, the absence of the Bank and Fund in these discussions might further a poor country's cause.

Fourth, IMF and World Bank loans involve conditionality--demand contraction of the usual monetarist variety applied by the Fund and exhortations to get prices right by the Bank. Historically, acceptance of Fund conditionality has been a "seal of approval" to get loans from commercial banks. However, if new private bank credits are unlikely to materialize (the revolution thesis developed above), then the Fund's approval is not useful; its own loans are not very large. Hence, more independently-minded developing countries may find it convenient not to deal with the Fund (nor repay what they owe it?) while they strike their own deals with private banks. The resources provided by the World Bank are massive--one can put up with the attached preaching if the institution lets its funds go to useful purposes. Historically, the Bank has also not been averse to rolling over delinquent credits in cases of need.

Fifth, since developing country loans trade among private banks at discount the banks themselves do not anticipate complete repayment. What has

not yet occurred are explicit write-downs of LDC loans, in part because of difficulties created by American regulatory practices. Changes of the relevant legislation on the side of the United States would be helpful, and might ease the recognition that few developing countries are in a position to pay full value on their debt in the foreseeable future. Otherwise, partial repayment schemes a la Peru, large build-ups of arrears as in the case of many African nations, and other modes of not meeting foreign obligations will continue to spread.

Sixth, debt from public sources is often renegotiated at international gatherings, e.g., loan consortia for specific countries or sessions of the Paris Club. For a specific country, meeting its official obligations will bring benefits if new money is likely to be forthcoming. Small, poor countries probably have no choice but to pay: richer ones which have "graduated" from the aid process have every incentive to string the proceedings along forever.

The gist of the above arguments is that in the mid-1980s it makes sense for poor countries to take a careful look at what they gain from meeting all the burden of their debts. The trend seems to be toward operating on the basis that they do not necessarily have all to be paid. How such a choice would affect the global macro system is of course a relevant question, to which the answers are extremely obscure.

4. Morals for Policy Lines

To begin with global macroeconomic analysis, it seems clear from section two that medium-term foreign trade stimulus to developing country growth from OECD expansion and changes in other variables such as interest rates and the dollar exchange is a chancy prospect. Nor are capital flows likely to

surge, if a revulsion on the part of rentiers from LDC lending is occurring, as argued in section 3.1. Finally, the arguments of sections one and two suggest that there were no great benefits (plus some loss) in following open trade and capital market strategies in developing countries even in the retrospectively well-favored decades of the 1960's and 1970s. What does all this say about policy prospects in the future?

The obvious moral is that development strategies oriented internally may be a wise choice toward the century's end. However, such a path is not easy to follow. Arranging appropriate sectoral policies is difficult at the abstract level, as section 1.5 shows, and even harder in practice. Nor are short-run and long-run implications of policy moves of similar magnitude, let alone direction (section 1.6). When problems of implementation in a typical developing country are factored into the equation, one may despair of any action except "hands off." Nonetheless, bearing in mind the failures of extreme liberalization attempts in recent years, the inwardly oriented resource allocation strategy seems the least risky, especially for large countries.

As far as capital account transactions are concerned, historical experience provides justification for limitations--inevitably imperfect but nonetheless of some impact--on private capital movements (section 2.4). Regarding sovereign debt, the best guess is that in the long run it will not be paid. Some points applicable to countries attempting to put a cap on the burden are set out in section 3.3. Pending an inevitable global solution--recycling, inflation, or cancellation--veiled repudiation seems to be the order of the day. Repayment by a continual transfer from South to North of around a hundred billion dollars per year is not on the cards, but on the "revulsion" hypothesis, neither are major flows the other way in the next

decade or so. We are driven on capital account toward a situation of relatively balanced trade and inwardly oriented strategy.

The key question is what does "inwardly" mean? For India and China--large, closed economies--the issue is almost academic. In a smaller nation, more openness becomes inevitable. The constraint may bind at a population of (say) 20 million--surely no less. Integration of the myriad small countries of the South into regional systems (as opposed to global exploitation) becomes a vital issue. South-South trade may provide some help, but it is not likely to be a complete solution. The main losers from a less dynamic global system in the late 1980s and 1990s will be the small, poor economies. Finding ways to ease their plight may be a major international problem.

APPENDIX

Trade Policy and Growth

As discussed in the text, there is no reason to argue for liberalizing trade policy in the sense of providing equal incentives for all production activities when growth and income distribution are major economic objectives. Rather, trade and industrial strategy should be designed to fit the structure and institutions of the economy at hand. A simple Kaleckian model is laid out here, to illustrate these points. The specification follows Boutros-Ghali (1980) and conclusions similar to the ones here are derived in a more neoclassical framework by Buffie (1986).

There are three sectors--home goods, an industry producing intermediate inputs in competition with imports, and exports. Each sector has fixed capital stock (or production capacity) in the short run, and an independent investment demand. We assume excess capacity and mark-up pricing in the home goods and intermediate input sectors, while exports use all that sector's available capital stock. The main thrust of our dynamic results will go through under alternative specifications.

The home goods output level is X , with price P_x given by

$$P_x = (1 + \tau_x)(wb_x + \tilde{P}_j a) \quad (A.1)$$

where τ_x is the mark-up rate (assumed constant), w is the wage, b_x is the X -sector's labor-output ratio, and a is the input-output coefficient for intermediates. The price \tilde{P}_j is for an aggregate intermediate product made up of domestically produced and imported goods. Details on its composition appear shortly.

Let K_x be the home goods capital stock. In line with the North-South trade models discussed in the text we assume (without much loss of generality) that all capital goods must be imported. The sector's profit rate r_x is given by mark-up income divided by the value of the capital stock, or

$$r_x = \frac{\tau_x (w b_x + \tilde{P}_j a) X}{e P_k^* K_x} = \frac{\tau_x}{1 + \tau_x} \frac{P_x}{e P_k^*} u_x \quad (A.2)$$

In the denominator after the first equality, e is the nominal exchange rate and P_k^* is the world price of capital goods (assumed to be importable tariff-free). After the second equality, u_x stands for the output-capital ratio (or "capacity utilization") X/K_x . The ratio $\tau_x/(1 + \tau_x)$ is easily shown to be the share of mark-up income in output; the profit rate is the profit share times the output-capital ratio (scaled by the home goods/capital goods relative price). Profit rates like r_x influence sectoral investment demands and the steady state growth rate in our dynamic specification. We show how r_x is determined after discussing the other sectors.

Intermediate inputs come either from domestic industry at price P_j or from imports at price $e(1 + \sigma)P_j^*$, where P_j^* is the world price and σ is the tariff for such goods. Domestic and imported intermediates are assumed to be imperfect substitutes. The usual way of describing such a situation is to let the two sorts of goods combine to form an aggregate product \tilde{J} which is demanded by the home goods sector according to the rule $\tilde{J} = aX$. If imports and national goods trade off to form \tilde{J} with a constant elasticity of substitution (the production function is CES), then its price \tilde{P}_j will also be a CES function of the input prices

$$\tilde{P}_j = \tilde{P}_j [P_j, e(1 + \sigma)P_j^*] \quad (A.3)$$

Explicit functional forms for aggregates like \tilde{J} and \tilde{P}_j are readily available in the literature, e.g. Taylor (1979), Appendix D.

Demand levels for domestic and imported intermediates (J and M respectively) are given by the equations

$$J = \alpha_j (P_j / \tilde{P}_j) aX \quad (\text{A.4})$$

and

$$M = \alpha_m [e(1 + \sigma) P_j^* / \tilde{P}_j] aX \quad (\text{A.5})$$

where the input coefficients α_j and α_m decline as their arguments (or relative cost ratios) rise. For example, a higher tariff σ will increase the aggregate \tilde{P}_j from (A.3), but less than proportionately. The cost ratio in (A.5) will go up, while the one in (A.4) will decline. Hence, α_m will fall and α_j will rise as import substitution occurs. Since \tilde{P}_j rises, the cost of production of home goods goes up, and so does the output price P_x from (A.1). The overall cost decomposition for intermediates can be written as

$$\tilde{P}_j = P_j \alpha_j + e(1 + \sigma) P_j^* \alpha_m, \quad (\text{A.6})$$

an expression that will be useful below.

As with home goods, we assume that pricing in the intermediate sector follows a mark-up rule,

$$P_j = (1 + \tau_j) w b_j \quad (\text{A.7})$$

where τ_j is the mark-up rate and b_j the sector's labor-output ratio (it uses no intermediates itself). For the most part we assume a constant mark-up or horizontal supply curve for intermediates, though the effects on growth of a rising supply curve are taken up below. After some manipulation, the sector's profit rate r_j can be expressed as

$$r_j = \frac{\tau_j w b_j J}{e P^* K_j} = \frac{\tau_j w b_j a \alpha_j}{\tau \lambda_j P_x} \frac{1 + \tau_x}{\tau_x} r_x. \quad (\text{A.8})$$

After the first equality, K_j is the intermediate sector's capital stock; after the second one it appears relative to home goods capital, or $\lambda_j = K_j/K_x$. The profit rate in intermediate production is proportional to the one in home goods, since demand for intermediates is proportional to the X-sector's output level.

Exports are produced using only capital stock K_e (with implications of what happens when the technology requires intermediates discussed below).

The sector operates at full capacity, so its output E is given by

$$E = \phi_e K_e \quad (\text{A.9})$$

where ϕ_e is the technically fixed output-capital ratio (such ratios in the other two sectors fluctuate according to demand). The export profit rate r_e is

$$r_e = \frac{(P_e - w b_e) E}{e P^* K_e} = \frac{(P_e - w b_e)}{e P^* K_e} \phi_e \quad (\text{A.10})$$

where P_e is the domestic price of exports, and b_e the labor-output ratio.

The country is assumed to face less than fully elastic demand for its exports-- P_e falls as E rises. For ease in setting up steady states, assume that world demand for "our" exports is scaled to the size of the national economy as measured by K_x ,

$$\frac{E}{K_x} = \varepsilon_0 + \varepsilon_1 \frac{e P_e^*}{P_e (1 - \xi)} \quad (\text{A.11})$$

In this expression, the price of exports placed abroad is $(1 - \xi)P_e/e$, where

ξ is the rate of export subsidy. If this price rises relative to P_e^* , the world price of foreign "similars," exports fall. The demand function has an elasticity exceeding unity if the constant ε_0 is negative.

If $\lambda_e = K_e/K_x$, then $E/K_x = \lambda_e \phi_e$ and the demand function in (A.11) can be inverted to give

$$P_e = \frac{\varepsilon_1 e P_e^*}{(1 - \xi)(\lambda_e \phi_e - \varepsilon_0)} \quad (A.12)$$

This formula shows that when λ_e rises as more capital resources are devoted to exports, the price P_e and profit rate r_e fall. An increased subsidy rate ξ gives opposite results.

So far, we have derived expressions for the profit rates r_j and r_e in intermediate and export production, which in turn will affect these sectors' investment demand. For home goods, profitability is determined by domestic demand. Suppose that all consumer goods are produced at home (a convenient simplification that does not do excessive violence to the facts). Let all wage income go for consumption, while a fraction s of profits (regardless of sector of origin) is saved. Then if government consumption is G , the condition that excess demand for home goods should equal zero can be written as

$$\begin{aligned} P_x G + w(b_x X + b_j J + b_e E) + (1 - s)[\tau_x(wb_x + \tilde{P}_j a)X + \tau_j w b_j J \\ + (P_e - w b_e)E] - P_x X = 0. \end{aligned} \quad (A.13)$$

To convert (A.13) to an expression for the profit rate r_x , we can add and subtract $P_j a X$ to the left side, note from (A.6) that

$$\tilde{P}_j aX - P_j J = e(1 + \sigma)P_j^* a \alpha_m X,$$

and divide every term by $P_x K_x$. Then after much shuffling, we arrive at the equation,

$$qP_k^* \left[s + q(1 + \sigma)P_j^* a \alpha_m \frac{1 + \tau_x}{\tau_x} \right] r_x = \gamma - sqP_k^* \lambda_j r_j \quad (A.14)$$

$$+ q\lambda_e \left[\frac{\varepsilon_1 P_e^* \theta_e}{(1 - \xi)(\theta_e \lambda_e - \varepsilon_0)} - sP_k^* r_e \right]$$

where $q = e/P_x$ is the real exchange rate, $\gamma = G/X_k$, and expressions for r_j and r_e appear in (A.8) and (A.10) respectively. This equation is a Keynes/Kalecki multiplier, with r_x measuring the home goods activity level and rising in response to demand injections from government spending or exports. The variables that affect r_x in (A.14) are the capital stock ratios λ_e and λ_j , the export subsidy ξ , and the intermediate import tariff σ . We want to find the signs of the corresponding multipliers.

With regard to the intermediate capital stock ratio λ_j , note from (A.8) that it cancels out in the second term after the equals sign in (A.14). Hence, $\partial r_x / \partial \lambda_j = 0$ —the story is that intermediates have a horizontal supply curve, so that total capital in the sector is irrelevant to profitability in home goods production. A more neoclassical specification with a rising intermediate supply curve would make τ_j go up in response to a lower λ_j (less capital drives up the mark-up). From (A.8), r_j would decline more than in proportion to an increase in λ_j , and from (A.14) r_x would go up: $\partial r_x / \partial \lambda_j > 0$. We consider both kinds of supply curve in the discussion of steady state growth paths which follows. With either, $\partial r_j / \partial \lambda_j < 0$.

As noted above, an increase in the tariff rate drives up the price of intermediates. The impacts can be gauged from the coefficient of r_x in (A.14) when r_j is replaced from (A.8). The coefficient becomes

$$qP_k^* \left[s + q \frac{1 + \tau_x}{\tau_x} a \left(-\frac{s\tau_j w b_j \alpha_j}{P_x} + (1 + \sigma) P_j^* \alpha_m \right) \right]$$

Here, an increase in σ reduces q , drives up P_x , reduces α_m , increases α_j and the term $(1 + \sigma)$. With plausible intermediate input ratios and CES parameters, the positive effects dominate and the coefficient rises. Hence, to maintain equality in (A.14), r_x must fall: $\partial r_x / \partial \sigma < 0$. By driving up input costs, tariffs on intermediates make home goods production less profitable. On the other hand, the increase in α_j is likely to divert enough demand toward domestic production to make J-sector returns rise: $\partial r_j / \partial \sigma > 0$.

Turning to the export sector, recall that an increase in the capital stock ratio makes the price level P_e and profit rate r_e fall. An increase in the subsidy rate has opposite effects. We have $\partial r_e / \partial \lambda_e < 0$ and $\partial r_e / \partial \xi > 0$. The term involving λ_e in (A.14) can be written as

$$(\theta_e / e) [(1 - s)P_e + swb_e] \lambda_e,$$

using (A.12) for P_e . When $\varepsilon_0 < 0$ and export demand is more than unit elastic, it is easy to see that the whole expression increases with λ_e ; even with $\varepsilon_0 > 0$, the term swb_e can make the derivative positive. If the export commodity is "industrial" with fairly elastic world demand, it is likely that income from extra export revenue will stimulate the domestic economy, or $\partial r_x / \partial \lambda_e > 0$. However, if the main exports are price-inelastic primary products, increasing their output might cut revenue enough to be counter-productive, or $\partial r_x / \partial \lambda_e < 0$. An increased subsidy is helpful in either case, $\partial r_x / \partial \xi > 0$.

The overall conclusions are that in the short to medium run, an increased import tariff (export subsidy) rate will increase the profit rate in the import substitution (export) sector. The home goods profit rate will

go up with the export subsidy and decline with the import tariff. A higher capital stock ratio (sector capital divided by home goods capital) will reduce the sector's profit rate and can affect the home goods profit rate in several ways--it may stay unchanged if the supply curve of domestic intermediates is horizontal, or fall if world demand for exports is sufficiently price-inelastic. The next step is to relate these changes to investment demands and growth rates of the different sectors.

We assume the economy is "large" in the sense that home goods is its major sector. Along standard neo-Keynesian lines, investment by home goods producers should respond to the profit rate. If we let g_1 stand for I_1/K_1 --the ratio of investment to capital or the capital stock growth rate--in each sector, the home goods investment demand function is

$$g_x = g_0 + \phi_x r_x \quad (\text{A.15})$$

where ϕ_x is a response coefficient.

Investors in the other sectors compare their profit rates to r_x , the "base" rate in the economy, in making investment decisions. Hence we have

$$g_j = g_0 + \phi_j (r_j - r_x) \quad (\text{A.16})$$

for the import substitution sector, and

$$g_e = g_0 + \phi_e (r_e - r_x) \quad (\text{A.17})$$

for exporters. When either sector's profit rate rises above the base rate, its investment demand is stimulated.

To see the implications of this investment demand specification, we can consider accumulation in the import substituting sector. The growth rate of its capital stock ratio λ_j is $\hat{\lambda}_j = g_j - g_x$. Substitution from (A.15) and

(A.16) gives

$$\hat{\lambda}_j = (\phi_j + \phi_x)(\rho_j r_j - r_x) \quad (\text{A.18})$$

where

$$\rho_j = \phi_j / (\phi_j + \phi_x) .$$

By definition, the economy is at a steady state when $\hat{\lambda}_j = 0$, or $g_j = g_x$. At steady state, profit rates are not equalized, since import substituting industries require extra incentives to keep up investment, $r_j = r_x / \rho_j > r_x$.

The question we want to ask is whether or not a tariff increase will stimulate overall growth. Around an initial steady state, we can linearize the growth equation as

$$d\hat{\lambda}_j = \left(\rho_j \frac{\partial r_j}{\partial \lambda_j} - \frac{\partial r_x}{\partial \lambda_j} \right) d\lambda_j + \left(\rho_j \frac{\partial r_j}{\partial \sigma} - \frac{\partial r_x}{\partial \sigma} \right) d\sigma. \quad (\text{A.19})$$

From the first term, the steady state is stable, since $\partial r_j / \partial \lambda_j < 0$ and $\partial r_x / \partial \lambda_j > 0$, i.e. if λ_j is shocked upward from equilibrium, λ_j becomes negative and returns to its original level. Setting the right side of (A.19) to zero gives a solution for λ_j as a function of σ at steady state, as illustrated in Figure 2 in the text.

The story is that an increase in λ_j reduces the import substitution profit rate r_j and increases (or leaves unchanged) r_x . Investment demand in home goods thus rises with λ_j , while investment in import substitution declines, as illustrated by the g_x and g_j schedules in the figure. A higher tariff rate stimulates g_j and cuts back on g_x . The outcomes are a higher capital stock ratio λ_j in the new steady state, and a change of uncertain

sign in the growth rate. If home goods profitability is severely penalized by higher intermediate import costs, steady state growth could be slowed. An analytical expression for the change in r_x (and for g_x from (A.15)) can be derived by solving (A.19) for $\partial\lambda_j/\partial\sigma$, and plugging the result into the total differential expression for dr_x . One finds that r_x rises in response to a higher σ when

$$\frac{\partial r_j}{\partial \sigma} \frac{\partial r_x}{\partial \lambda_j} - \frac{\partial r_x}{\partial \sigma} \frac{\partial r_j}{\partial \lambda_j} > 0. \quad (\text{A.20})$$

There is a negative response if the supply curve of domestically produced intermediates is horizontal, since $\partial r_x/\partial\lambda_j = 0$ under such circumstances. With a rising supply curve, the steady state growth rate can go up--the increase in λ_j across steady states cuts back on input costs and makes home goods production more profitable.

Without going through the details, it is clear that similar results apply with regard to an export subsidy. The condition for an increased steady state growth rate in response to a higher subsidy is

$$\frac{\partial r_e}{\partial \xi} \frac{\partial r_x}{\partial \lambda_e} - \frac{\partial r_x}{\partial \xi} \frac{\partial r_e}{\partial \lambda_e} > 0 \quad (\text{A.20})$$

The whole second term here is positive ($\partial r_x/\xi > 0$ and $\partial r_e/\partial\lambda_e < 0$) so the sign depends on the first term. Sufficiently inelastic foreign demand could make $\partial r_x/\partial\lambda_e$ negative enough to slow the steady state growth rate; otherwise, it will rise when ξ is increased. Also note that cross-effects between sectors can be introduced. For example, if the export industry uses intermediate inputs, then r_e would fall with an increase in σ . In the two-variable growth rate system involving λ_j and λ_e as state variables, the outcome could be slower long-term growth.

References

- Agarwala, Ramgopal (1983) "Price Distortions and Growth in Developing Countries," Washington, D.C.: World Bank Staff Working Paper No. 575.
- Aghazadeh, Esmail, and David Evans (1985) "Price Distortions, Efficiency, and Growth," Brighton: Institute of Development Studies, University of Sussex.
- Amsden, Alice (1986) "The Direction of Trade--Past and Present--and the 'Learning Effects' of Exports to Different Directions," Journal of Development Economics, 23: 249-274.
- Bacha, Edmar L. (1984) "Growth with Limited Supplies of Foreign Exchange: A Reappraisal of the Two-Gap Model," in Moshe Syrquin, Lance Taylor, and Larry Westphal (eds.) Economic Structure and Performance: Essays in Honor of Hollis B. Chenery, NY: Academic Press.
- Balassa, Bela (1985a) "Outward Orientation," Washington, D.C.: Development Research Department, World Bank.
- _____ (1985b) "Exports, Policy Choices, and Economic Growth in the Developing Countries after the 1973 Oil Shock," Journal of Development Economics, 18: 23-36.
- _____, and F. Desmond McCarthy (1984) "Adjustment Policies in Developing Countries, 1979-1983," Washington, D.C.: World Bank.
- Barbone, Luca (1985) "Essays on Trade and Macro Policy in Developing Countries," Cambridge, MA: Department of Economics, Massachusetts Institute of Technology, unpublished Ph.D. dissertation.
- Bhagwati, Jagdish (1969) "On the Equivalence of Tariffs and Quotas," in Trade, Tariffs, and Growth, Cambridge, MA: MIT Press.
- _____ (1986) "Rethinking Trade Strategy," in John P. Lewis and Valeriana Kallab (eds.) Development Strategies Reconsidered, New Brunswick, NJ: Transaction Books.
- Boutros-Ghali, Youssef (1980) "Essays on Structuralism and Development," Cambridge, MA: Department of Economics, Massachusetts Institute of Technology, unpublished Ph.D. dissertation.
- Buffie, Edward (1986) "Commercial Policy, Growth, and the Distribution of Income in a Dynamic Trade Model," Philadelphia: Department of Economics, University of Pennsylvania.
- Chenery, Hollis B. (1975) "The Structuralist Approach to Development Policy," American Economic Review, Papers and Proceedings, 65: 310-316.
- _____, and Michael Bruno (1962) "Development Alternatives in an Open Economy: The Case of Israel," Economic Journal, 72: 79-103.

- Cline, William R. (1984) International Debt: Systemic Risk and Policy Response, Washington, D.C.: Institute of International Economics.
- Coase, Ronald H. (1970) "The Problem of Social Cost," Journal of Law and Economics, 3: 1-44.
- Diaz-Alejandro, Carlos (1978) "Delinking North and South: Unshackled or Unhinged?" in Albert Fishlow, et. al., Rich and Poor Nations in the World Economy, NY: McGraw-Hill.
- _____ (1981) "Southern Cone Stabilization Plans," in William Cline and Sidney Weintraub (eds.) Economic Stabilization in Developing Countries, Washington, D.C.: Brookings Institution.
- Eastman, Harry, and S. Stykolt (1962) "A Model for the Study of Protected Oligopolies," Economic Journal, 70: 336-347.
- Feder, Gershon (1983) "On Exports and Economic Growth," Journal of Development Economics, 12: 59-73.
- Frenkel, Roberto (1983) "Mercado Financiero, Expectativas Cambiales, y Movimientos de Capital," Trimestre Económico, 50: 2041-76.
- Harberger, Arnold (1959) "Using the Resources at Hand More Effectively," American Economic Review, Papers and Proceedings, 49: 134-46.
- Helleiner, G.K. (1986) "Balance of Payments Experience and Growth Prospects in Developing Countries: A Synthesis," World Development, 14: 877-908.
- Hirschman, Albert O. (1958) The Strategy of Economic Development, New Haven: Yale University Press.
- Hobson, John A. (1902) Imperialism: A Study, London: J. Nisbet.
- Hughes, Alan and Ajit Singh (1986) "The World Economic Slowdown and the Asian and Latin American Economies: A Comparative Analysis of Economic Structure, Policy and Performance," Faculty of Economics, University of Cambridge.
- International Monetary Fund (1984) World Economic Outlook, Washington, D.C.
- Jung, Woo S., and Payton J. Marshall (1985) "Exports, Growth, and Causality in Developing Countries," Journal of Development Economics, 13: 1-12.
- Kindleberger, Charles (1978) Manias, Panics, and Crashes: A History of Financial Crises, NY: Basic Books.
- _____ (1984) A Financial History of Western Europe, London: George Allen and Unwin.
- _____ (1985) "Historical Perspectives on Today's Third World Debt Problem," Economies et Sociétés, 19: 109-134.

- Krugger, Anne O. (1974) "The Political Economy of the Rent-Seeking Society," American Economic Review, 64: 291-303.
- _____. (1978) Liberalization Attempts and Consequences, NY: National Bureau of Economic Research.
- Krugman, Paul (1984) "Import Protection as Export Promotion," in Henryk Kierzkowski (ed.) Monopolistic Competition and International Trade, Oxford: Oxford University Press.
- Kuznets, Simon S. (1966) Modern Economic Growth, New Haven: Yale University Press.
- Lancaster, Kelvin (1984) "Protection and Product Differentiation," in Henryk Kierzkowski (ed.) Monopolistic Competition and International Trade, Oxford: Oxford University Press.
- Larsen, Eric D., Marc H. Ross and Robert H. Williams (1986) "Beyond the Era of Materials," Scientific American, 254 (No. 6): 34-41.
- Linder, Staffan Burenstam (1961) An Essay on Trade and Transformation, Stockholm: Almqvist and Wicksell.
- Little, Ian M.D., Tibor Scitovsky, and Maurice Scott (1970) Industry and Trade in Some Developing Countries: A Comparative Study, London: Oxford University Press.
- Marglin, Stephen A., and Amit Bhaduri (1986) "Distribution, Capacity Utilization, and Growth," Cambridge, MA: Department of Economics, Harvard University.
- McCarthy, F. Desmond, Lance Taylor and Cyrus Talati (1987) "Trade Patterns in Developing Countries, 1964-1982," Journal of Development Economics to appear.
- Minsky, Hyman (1982) Can "It" Happen Again? Essays on Instability and Finance, Armonk, NY: M.E. Sharpe.
- Nurkse, Ragnar (1953) Problems of Capital Formation in Underdeveloped Countries, Oxford: Basil Blackwell.
- Ocampo, Jose Antonio (1986) "New Developments in Trade Theory and LDCs," Journal of Development Economics, 22: 129-170.
- _____. (1987) "The Macroeconomic Effects of Import Controls: A Keynesian Analysis," Journal of Development Economics, to appear.
- Okita, Saburo, Lal Jayawardena, and Arjun Sengupta (1986) "The Potential of the Japanese Surplus for World Economic Development," Helsinki: World Institute of Development Economic Research.
- Pack, Howard, and Larry Westphal (1986) "Industrial Strategy and Technological Change: Theory vs. Reality," Journal of Development Economics, 22: 87-128.

- Prebisch, Raul (1952) "Problemas Teoricas y Praticos del Crecimiento Económico," Santiago: Economic Commission for Latin America.
- Rosenstein-Rodan, Paul N. (1943) "Problems of Industrialization in Eastern and South-Eastern Europe," Economic Journal, 53: 202-211.
- Schumpeter, Joseph A. (1934) The Theory of Economic Development, Cambridge, MA: Harvard University Press.
- Scitovsky, Tibor (1954) "Two Concepts of External Economies," Journal of Political Economy, 62: 143-151.
- Stewart, Frances (1984) "Recent Theories of International Trade: Some Implications for the South," in Henryk Kierzkowski (ed.) Monopolistic Competition and International Trade, Oxford: Oxford University Press.
- Streeten, Paul (1959) "Unbalanced Growth," Oxford Economic Papers, 11: 167-190.
- Taylor, Lance (1979) Macro Models for Developing Countries, NY: McGraw-Hill.
- _____, (1983) Structuralist Macroeconomics, New York: Basic Books.
- _____, (1985) "A Stagnationist Model of Economic Growth," Cambridge Journal of Economics, 9: 383-403.
- _____, (1987) "Macro Policy in the Tropics: How Sensible People Stand," World Development, to appear.
- _____, and Stephen O'Connell (1985) "A Minsky Crisis," Quarterly Journal of Economics, 100: 871-884.
- Westphal, Larry (1981) "Empirical Justification for Infant Industry Protection," Washington, D.C.: World Bank Staff Working Paper No. 445.

WIDER WORKING PAPERS

- WP 1. Amartya Sen: Food, economics and entitlements, February 1986
- WP 2. Nanak Kakwani: Decomposition of normalization axiom in the measurement of poverty: a comment, March 1986
- WP 3. Pertti Haaparanta: The intertemporal effects of international transfers, April 1986
- WP 4. Nanak Kakwani: Income inequality, welfare and poverty in a developing economy with applications to Sri Lanka, April 1986
- WP 5. Pertti Haaparanta: and Juha Kähkönen: Liberalization of Capital Movements and Trade: Real Appreciation, Employment and Welfare, August 1986
- WP 6. Pertti Haaparanta: Dual Exchange Markets and Intervention, August 1986
- WP 7. Pertti Haaparanta: Real and Relative Wage Rigidities – Wage Indexation* in the Open Economy Staggered Contracts Model, August 1986
- WP 8. Nanak Kakwani: On Measuring Undernutrition, December 1986
- WP 9. Nanak Kakwani: Is Sex Bias Significant? December 1986
- WP 10. Partha Dasgupta and Debraj Ray: Adapting to Undernourishment: The Clinical Evidence and Its Implications, April 1987
- WP 11. Bernard Wood: Middle Powers in the International System: A Preliminary Assessment of Potential, June 1987
- WP 12. Stephany Griffith-Jones: The International Debt Problem – Prospects and Solutions, June 1987
- WP 13. Don Patinkin: Walras' Law, June 1987
- WP 14. Kaushik Basu: Technological Stagnation, Tenurial Laws and Adverse Selection, June 1987
- WP 15. Peter Svedberg: Undernutrition in Sub-Saharan Africa: A Critical Assessment of the Evidence, June 1987
- WP 16. S. R. Osmani: Controversies in Nutrition and their Implications for the Economics of Food, July 1987
- WP 17. Frédérique Apffel Marglin: Smallpox in Two Systems of Knowledge, Revised, July 1987
- WP 18. Amartya Sen: Gender and Cooperative Conflicts, July 1987
- WP 19. Amartya Sen: Africa and India: What do we have to learn from each other? August 1987
- WP 20. Kaushik Basu: A Theory of Association: Social Status, Prices and Markets, August 1987
- WP 21. Kaushik Basu: A Theory of Surplus Labour, August 1987
- WP 22. Albert Fishlow: Some Reflections on Comparative Latin American Economic Performance and Policy, August 1987
- WP 23. Sukhamoy Chakravarty: Post-Keynesian Theorists and the Theory of Economic Development, August 1987
- WP 24. Georgy Skorov: Economic Reform in the USSR, August 1987
- WP 25. Amartya Sen: Freedom of Choice: Concept and Content, August 1987
- WP 26. Gopalakrishna Kumar: Ethiopian Famines 1973–1985: A Case-Study, November 1987
- WP 27. Carl Riskin: Feeding China: The Experience since 1949, November 1987
- WP 28. Martin Ravallion: Market Responses to Anti-Hunger Policies: Effects on Wages, Prices and Employment, November 1987

- WP 29. S. R. Osmani: The Food Problems of Bangladesh, November 1987
- WP 30. Martha Nussbaum and Amartya Sen: Internal Criticism and Indian Rationalist Traditions, December 1987
- WP 31. Martha Nussbaum: Nature, Function and Capability: Aristotle on Political Distribution, December 1987
- WP 32. Martha Nussbaum: Non-Relative Virtues: An Aristotelian Approach, December 1987
- WP 33. Tariq Banuri: Modernization and its Discontents A Perspective from the Sociology of Knowledge, December 1987
- WP 34. Alfred Maizels: Commodity Instability and Developing Countries: The Debate, January 1988
- WP 35. Jukka Pekkarinen: Keynesianism and the Scandinavian Models of Economic Policy, February 1988
- WP 36. Masahiko Aoki: A New Paradigm of Work Organization: The Japanese Experience, February 1988
- WP 37. Dragoslav Avramovic: Conditionality: Facts, Theory and Policy – Contribution to the Reconstruction of the International Financial System, February 1988
- WP 38. Gerald Epstein and Juliet Schor: Macropolicy in the Rise and Fall of the Golden Age, February 1988
- WP 39. Stephen Marglin and Amit Bhaduri: Profit Squeeze and Keynesian Theory, April 1988
- WP 40. Bob Rowthorn and Andrew Glyn: The Diversity of Unemployment Experience Since 1973, April 1988
- WP 41. Lance Taylor: Economic Openness – Problems to the Century's End, April 1988