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SEQUENCING OF ECONOMIC LIBERALIZATION POLICIES IN DEVELOPING COUNTRIES: A SURVEY OF PRINCIPAL ISSUES AND RESULTS*

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The need for more »outward looking« foreign trade policies for most developing countries is now generally accepted within the economics profession. More controversial is the nature of efficient liberalization strategy. The postwar history of less developed countries is replete with attempts to liberalize foreign trade — frequently with substantial aid from the IMF or other consortia of international lenders from wealthy countries. Nevertheless, few such liberalizations have been sustained, and regression back to more repressive tariffs and exchange controls is commonplace. (McKinnon, 1973, p. 4.)

1. INTRODUCTION

This paper surveys literature in the field of sequencing of trade liberalization policies in developing countries. Although the idea of trade liberalization has a relatively long history in economics literature, that is briefly surveyed in the next section, research in the area of sequencing of liberalization policies has begun only recently, primarily in response to disappointing outcomes of major liberalization attempts undertaken by Argentina, Chile, and Uruguay between 1973 and 1982. Reform packages that were proposed and implemented in these countries conformed to a large extent to the stylized facts of an »appropriate« liberalization program, but for various reasons they were all eventually abandoned.

In spite of its failure in the Southern Cone of Latin America, the approach of liberalizing domestic markets and the external sector did not come into question, because the success of countries in Pacific Asia

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that followed this development strategy could not be denied. What the economists did discover from this episode, however, was that they know very little about the timing and sequencing of liberalization policies, or, more generally, about the process of dynamic adjustments in the second-best environment. For, in a textbook economy with no imperfections, the question of the appropriate order of trade liberalization is trivial: current and capital accounts should be liberalized immediately and simultaneously. But in real-world economies, with uncertainty, adjustment costs, market imperfections, externalities, and other distortions, there are both economic and political reasons why an immediate and simultaneous liberalization may be neither feasible nor desirable. It is in this context that the appropriate order of liberalization is an important issue, from the theoretical and the policy-making perspectives alike.

At the outset we might want to ask why a country should liberalize its economy in the first place. Basically, this claim can be supported by three groups of arguments that will be exploited in greater detail in the next section. First, there are arguments related to the well-known theory of the gains from trade. According to this theory, international trade enables specialization along the lines of comparative advantage, offers greater opportunities to exploit economies of scale, increases the productive capacity of the economy (and thereby employment), creates competitive environment for the domestic producers that stimulates economic efficiency, etc. Second group of arguments is based on the »demonstration effect« imparted by the development succes of several countries in Southeast Asia, where the growth of trade has played a particular role. Finally, there is a realization that the world economy is becoming increasingly integrated and interdependent, so that countries have been drawn into closer economic relationships whether expressly desired or not.

Given that in the long run liberalization of the external sector in developing countries is practically unavoidable, the question arises what consequences does it have for liberalizaton of the domestic markets (and vice versa). An important point is that the two forms of liberalization acually imply one another: it is not possible to conceive of free competition in the domestic market if transactions with foreign markets are tightly regulated; and vice versa, free commodity and capital flows require the removal of domestic distortions if severe economic disequilibria are to be avoided. This, in turn, brings us to the definition of economic liberalization. According to one meaning of this word, liberalization implies a movement toward a laissez-faire economy, with fewer interventions of any kind. A second, narrower meaning of liberalization is that it is the process of moving from reliance on *quantitative* restrictions to *pricing* interventions. For the purpose of this paper, we shall adopt this second meaning, and, following Krueger (1983), define liberalization as *any policy that reduces the restrictiveness of economic controls,* including, for example, devaluation under a regime of import licensing. The economic rationale for this definition is that under a more *restrictive* set of controls, agents are prepared to pay a ***higher*** price to carry out transactions that are not permitted, so any policy

that reduces the restrictiveness of controls, also reduces the scarcity value attached to restrictions. In this connection, goals of liberalization can be operationalized as well, and instead of general objectives — like increasing economic efficiency, stimulating growth, and raising the national income — we can talk about the specific and precise goal of removal of distortions in such a way that the present value of the expected costs of this operation is minimized.

Having defined economic liberalization and specified its objective, we need only one additional parameter in order to characterize this survey of literature: the criterion of systematization of works in this area. Papers in the field published so far can be categorized in three main groups: (i) a large number of desciptive-explanatory studies, mainly on experiences of particular countries, or sectors within countries, with market and trade liberalization reforms; (ii) a small but growing number of papers dealing with the positive theory of economic liberalization, asking questions like: What happens in a particular model if we allow for capital flows before we reduce tariffs? and (iii) a couple of ventures into the issues of normative theory of liberalization, exploring optimal speed and ordering of trade liberalization policies. There is a considerable overlap of the subject matter among the studies in these three categories, since almost all the authors evoke experiences of Southern Cone countries, and discuss some positive and normative questions at one point or another. Moreover, many authors repeal the same or slightly different arguments in several works, and they typically discuss a number of seemingly unrelated issues under the same heading, thus rendering an effort at systematizing this literature much more difficult.[1] For this reason, the approach that we shall adopt is to concentrate on issues surrounding what seem to be the three critical stages of liberalization: (1) stabilization of the domestic markets, (2) opening of the current account, and (3) opening of the capital account. Justifying this particular ordering of liberalization policies and the speed at which these are to be implemented will quickly bring us to the very frontier of research in this area, providing us at the same time with a fairly complete picture of the existing literature.

The remainder of this paper is organized as follows. In Section 2 we present a brief historical account of the idea of liberalization in economics literature. Section 3 is devoted to the study of recommendations for stabilization and liberalization of the domestic markets, while Section 4 addresses the issue of optimal phasing out of restrictions on current and capital accounts. The survey concludes with a summary of main results, and some thoughts for future research.

[1] A brief look at the titles of works on the list of references is sufficient to persuade the reader of the small variation in the contents of some articles by the same authors.

2. A BRIEF HISTORY OF THE IDEA OF LIBERALIZATION IN THE ECONOMICS LITERATURE

The prevailing view of the development process during the 1940s. 1950s, and early 1960s was that the market failures in less developed countries were so pronounced that an open market system simply could not surmount them. The main proponents of such a vision included Gunnar Myrdal, Ragnar Nurkse, Raul Prebisch, Paul Rosenstein-Rodan, and Hans Singer. Although each had differing opinions on specific aspects of asserted market failures, all of them shared distrust for the market mechanism in developing countries. Part of this »export pessimism« was certainly justified, since it came from the slump of the 1930s and the Second World War, that increased the risks of being an open economy through numerous fluctuations in commodity prices, protectionist policies in developed countries, balance of payments crises, and the need to seek for credits and to accept the terms on which they were available. But various forms of »structuralism« were also popular: developing countries were believed to be characterized by pronounced »structural inflexibility« in resource allocation, with supplies and demands for goods, services, and factors of production — including the entrepreneurship — barely responsive to economic incentives. Standard results from the theories of gains from trade and comparative advantage were simply believed not to hold in the context of developing countries. For some reason, poor people were supposed to be less responsive to opportunities for improving their economic situation than were the more affluent people.

Not surprisingly, the disbelief in price mechanism generated considerable enthusiasm for various forms of government regulation, including the central planning of inputs, outputs, exports, imports, and investment activities. Moreover, government-enforced industrialization at the expense of agriculture and handicraft production was very widespread, since the manufacturing sector, in contrast to agriculture, allegedly possessed the »nice« properties of constant and increasing returns to scale, high propensity to save, and rapid technological progress. The alternative to industriallization, it was frequently assented, were the infamous »underdevelopment equilibrium trap«, or the »vicious cycles of poverty«. An inevitable companion to these views was also the idea that the entire manufacturing sector ought to be treated as an »infant industry«, which deserved to be protected from foreign competitors by high tarrifs and other barriers to trade.

Perhaps the greatest achievement of this approach to development process was an increase in aggregate saving and investment ratios to some 20—25 percent of GNP in most developing countries. But increases in employment of about 3.5 percent and labor productivity of about 1.6 percent per year in the period 1960—83 were somewhat more modest, while the results concerning economic efficiency and the overall growth performance turned out to be rather disappointing. (Lindbeck, 1987). It has become evident that the same rates of capital accumulation can give rise to much higher rates of growth of GNP and of consumption if the allocative efficiency of investment

and production is improved and foreign trade is liberalized. Specifically, a much better record of economic performance was established by several countries in Pacific Asia (Taiwan, South oKrea, Hong Kong, Singapore) that relied heavily on economic incentives and on outward-looking development strategy. Although the governments of these countries also engaged in various forms of indicative planning, stimulating growth and economic efficiency by way of institutional reforms, redistribution of assets, and investments in infrastructure, what clearly differentiated them from other countries was the fact that they *supported* rather than restricted the initiatives and activites of the private sector.

Over the past decade or two it has thus become increasingly understood that, contrary to previous assertions, both the macro and the micro structure of the economies of the developing countries respond quite strongly to economic rewards, including profitability prospects and relative prices and wages — if governments allow such a response (Lindbeck, 1987). This realization came not only in reaction to the better track record of the more market-oriented developing economies, but also because the potentialities of import substitution in manufacturing were rapidly exhausted in most countries, due to the smallness of the domestic markets. Moreover, having mobilized significant resources and built large infrastructure, it seemed natural for the governments to turn to questions of economic efficiency, for which the central planning model was obviously ill-suited. Markets thus started to assume an increasingly important role in resource allocation, while the role of government planning was finally settling around planning of the physical and psychological *environment* of economic agents, rather than around planning of what those agents are supposed to do.

Since the mid-sixties we thus have faced a marked shift towards a more outward-oriented philosophy of economic development, that was embraced as the official policy even by the institutions like the International Monetary Fund and the World Bank. This endorsement got a strong threoretical and emplrical support, first in a seven country comparative study *Industry and Trade in some Developing Countries*, commissioned by the OECD in the late 1960s (see Little, Scitovsky, and Scott, 1970), and then in a ten-country study *Foreign Trade Regimes and Economic Development* that was conducted under the auspices of the National Bureau of Economic Research in the first half of the 1970s, and summarized in now famous books *Liberalization Attempts and Consequences* by Anne Krueger and *Anatomy and Consequences of Exchange Control Regimes* by Jagdish Bhagwati (both published in 1978). The main conculsion of these volumes is that the export-promoting development strategy has great advantages over the import-substituting strategy in terms of allocative efficiency, providing of incentives for rapid growth, and the job-creating potential. Specifically, it is argued that export oriented policies lead to resource allocation according to comparative advantage, allow for greater capacity utilization, permit the exploitation of economies of scale, generate technological improvements in response to competition abroad, and, in

labor-surplus countries, contribute to increased employment. Furthermore, it is argued that an increase in exports may loosen a binding foreign exchange constraint and thus allow increased imports of productive intermediate goods that result in growth of output; that the competitive pressure may reduce X-inefficiency and may lead to better product quality; and that the exchange control liberalization and the export growth it produces are likely to reduce the allocative inefficiencies prevalent under exchange controls. On the financial side, capital flows accompanied by approriate exchange rate and interest rate policies can set limits to domestic inflation, increase financial savings, augment the stock of capital, and induce competition and efficiency in the domestic financial sector.[2]

Research by Krueger and Bhagwati stimulated a large literature on the relationship between exports and growth (e.g., Balassa 1978, 1980 and 1985; Bardhand 1970; Heller and Porter 1978; Jung and Marshall 1985; Michaely 1977; Ram 1985). Most studies published so far are unanimous in underlying the growth-generating effects of exports, both direct and indirect, through improved efficiency and better resource allocation. Balassa (1980) shows, for example, that countries adopting »outward-looking« development strategies have fared far better in terms of economic growth, employment, economic efficiency, and adjustment to external shocks than those engaged in »inward-looking« strategies. In an earlier study by the present author (Mihaljek, 1983) it was found that out of twenty-one countries with highest rates of growth of real per capita GDP in the period 1952—1981, twenty were also on the list of countries with the highest rates of growth of the volume of exports. The Spearman coefficient of correlation between the two ranks is 0.43, which indicates a fairly strong relationship between the two ranks.

Apart from the opinions that reforms aimed at liberalization were themselves misconceived and were not really relevant for developing countries, three main explanations for the failure of Southern Cone programs emerged thus far. First, there are authors who accept the neoclassical premise that opening-up is desirable in the long run, but who argue that it was the implementation of liberalization policies that was at fault (Corbo, 1987; Corbo and de Melo, 1985 and 1987; Diaz-Alejandro, 1981; Edwards and Cox-Edvards, 1987; Fasano-Filho, 1986; Harberger, 1982 and 1987). Second opinion states that the countries involved were subject to numerous external shocks in the reform period, that eventually forced the governments to reverse the policies originally intended (Khan and Zahler, 1983, 1985, and 1987; van Wijnbergen 1987). Finally, a view was expressed that the domestic policies that were put in place were basically inconsistent. In other words, the proponents of this view (Edwards, 1985a; Edwards and Cox-Edwards, 1987; Sjaastad, 1983; and Dornbusch, 1984 and 1986) argue that the issue of sequencing and timing of these policies was completely neglec-

[2] For useful overviews of extensions of some problems studied by Krueger and Bhagwati see McKinnon (1979), Brock and Tower (1987), and Lal and Rajapatirana (1987).

ted, so that they interacted in unpredicted and counterproductive ways. The upshot of this whole debate seems to be that all the elements of these arguments were present to some degree, and that it would be difficult to pick any one as being the predominant cause for the failure of the liberalization experiments.

Independently of these developments in the Southern Cone, in the aftermath of the oil-price shocks of 1973 and 1979, a growing sentiment of the »new export pessimism« has emerged in the developing countries. Many of them expressed hesitation in adopting an export-promoting reform strategy, this time not because of an unwarranted assessment of the role that »natural« or market forces supposedly play (or do not play) in their development, but because of the growing protectionism on the part of developed industrial nations. Faced with domestic recession, most OECD countries severely restricted the access to their markets of agricultural products, raw materials, and manufactures from developing countries (see for example van Wijnbergen (1985), Ray (1987), and conference volumes edited by Cline (1980), Conolly and McDermott (1985), Grassman and Lundberg (1981), and Snape (1986)). A concurrent increase in market interest rates raised significantly the debt burden of the developing countries, so with the two main sources of foreign exchange drying up, governments of developing countries had little choice but to cut drastically their imports, and thereby return to more or less isolationist policies (see for example papers in Kim and Ruccio (1985), and Smith and Cuddington (1985)).

Thus, in the second half of the 1980s the idea of liberalization seems to be lingering once again. With new pathbreaking theoretical results still in the air, and no optimistic signs regarding the prospects for revival of world trade, a recent call by Bhagwati (1988), for the developing nations »to forcefully join with the developed countries in an effort to contain protectionist threats, and to preserve and expand an open trading system so as to reassert the export-promoting policy as the preferred option«, sounds fairly pathetic. As the following quote from Little, Scitovsky, and Scott shows, the same string of mobilization calls flutters at least since 1970, which naturally raises some questions of progress in this area of research.

> Developed countries have made a more open economy worth striving for by reducing the risks associated with it. They have done much and they can do more: by maintaing high levels of economic activity; by providing developing countries with more adequate short-term finances to meet temporary fluctuations in their balances of payments; and by opening their own economies more to imports from developing countries. They can also encourage a more balanced development by making foreign finance more readily available for agricultural projects. Not only will this encourage semi-industrial countries to overcome the difficult problems of transition, but also it may induce those smaller countries just embarking on industrialization to avoid the route of high protection, which is most unlikely to be in their long-term interest. (Little, Scitovsky, and Scott 1970, p. 391.)

3. STABILIZATION AND LIBERALIZATION OF THE DOMESTIC MARKETS

Having finished the last section on a rather pessimistic note, it would seem more than appropriate to begin the new one with some strong results and elegant theorems. Unfortunately, each developing country has its own specific distortions, so apart from some general principles, no theorems or recipes for »appropriate« liberalization of the domestic markets are available. Given a large variety of developing countries, we are therefore forced to focus our attention on a select group of economies that share some common characteristics. More studies published so far deal with middle-income economies that prior to liberalization reforms were characterized by (1) fairly high inflation; (2) large fiscal deficits; (3) relatively high unemployment and wage rigidities (4) controlled prices in agriculture; (5) very limited domestic securities markets; (6) high barriers to foreign trade; and (7) controls on capital movements in and out of country. Since a fairly large number of countries can be included in this sample, many liberalization principles discussed here will apply for a majority of developing economies. Note also that in presence of distortions (1)—(7) the stabilization topic becomes unavoidable.[3]

The main hypothesis of this section is that unless domestic markets are reasonably stabilized (which implies that they be reasonably liberalized, too), opening of the current and capital accounts will produce severe disequilibria and often chaos in the economy. Specifically, we shall argue that at least the following (necessary) conditions must be fulfilled before any serious attempt at liberalization of the external sector is contemplated:

1. Domestic inflation should be brought under control.
2. Fiscal deficits should be reduced and financed by taxes other than the inflation tax.
3. Domestic real interest rates must be raised, and the banking sector reasonably liberalized.
4. A decisive movement toward the »right« real exchange rate should be initiated.

Regarding the *order* of liberalization of the markets, it will turn out that the domestic factor markets should be liberalized *before* the domestic commodity markets, the reason for this being that wages, interest rates, and the exchange rate play an incomparably more important role in macroeconomic resource allocation than any single output price does. Thousands of independent production decisions have to be made on the basis of only few factor prices, so if these key price signals do not reflect true opportunity costs, the entire price system will be distorted as well. We shall also see that most authors have fairly good ideas about liberalization procedures for individual markets, but very few of them address the question which markets (and how fast) should be liberalized first, and which ones can wait

[3] For a useful overview of domestic distortions in developing countries see Balassa, 1987a.

(and for how long) for the removal of their distortions. One reason for this can be found in the generalized theory of the second best, which tells us that whenever there are significant links between markets, it is in general impossible to ascertain the direction in which welfare will change as the result of a small reduction in the distortion in a single market.

From these remarks it follows that we shall survey the works on stabilization and liberalization by looking at individual markets in developing countries, analyzing their main distortions, and trying to justify the above necessary conditions for the success of trade liberalization policies. Space limitations preclude us from considering agricultural and labor markets in greater detail at this time, so in this paper we shall concentrate mainly on financial, fiscal, and trade aspects of liberalization and stabilization policies.

3.1. DOMESTIC INFLATION AND CURRENCY OVERVALUATION

Inflation has been a substantial problem in most developing countries, often for reasons very similar to those in the developed market economies. However, since distortions prevail in all the key markets in developing countries, the main policy response to inflation is direct price and wage controls. In developed economies, on the other hand, inflationary pressures usually have been permitted to be released through price increases, so few direct controls have acompanied the inflationary process. Even so, the efforts of industrial nations to reduce inflationary pressures have been at best partially successful, and have required a very determined political resolve for an extended period of time. It is therefore surprising that many developing countries have tried to combine the already very complex anti-inflationary programs with even more complex and less well understood liberalization reforms. The risks of such a policy approach are obvious, since experience suggests that inflation and balance of payments problems will most likely be aggravated when price controls and other kinds of regulation are removed. But from the purely theoretical point of view, exchange rate policy in conjunction with onthodox budget policies can help stop inflation (see Dornbusch, 1986). There are two main approaches to this policy. One was used in Chile in the early 1980s, and it relied on outright *fixing* of the exchange rate, while the other approach — a preannounced timetable of devaluations, the now famous *tablita*, was initiated in Argentina under Economics Minister Martinez de Hoz starting with December 1978. Both experiments eventually foundered upon the failure to prevent an extreme overvaluation of the domestic currency, that was the cause for pronounced speculation in the foreign exchange market.

As Dornbusch (1986) points out, exchange rate pegging was thought to help bring inflation under control through at least two channels. Firts, international prices would tend to curb down domestic price increases, perhaps not by the literal operation of the law of one price, but still in a very effective manner. Second, fixing of the exchange

rate would contribute to stabilization of inflationary expectations, and thereby of price levels, especially in those sectors that are price setters rather than price takers.

The Chilean disinflation strategy almost turned out to be successful: the inflation rate fell from 30 percent in 1979 to zero in 1981. But in the process strong disequilibrium pressures were generated, primarily because the wages were indexed backward: each year's wage increases were determined by the preceeding year's consumer price inflation (see also Alizenman and Frenkel, 1986). This real-wage policy was one of the tools the military dictatorship used to sustain its support, since it implied rising real wages. Formally, Dornbusch describes the mechanics of overvaluation in a model of cost-determined price inflation. Let p be the rate of consumer price inflation, w the rate of wage inflation, and e the rate of currency depreciation, and let p* denote a given world inflation rate measured in dollars. Assuming zero productivity growth, the consumer-price inflation rate is given by a weighted average of wage inflation and international inflation measured in pesos:

$$p_t = aw_t + (1-a)\ e_t + p^*), \tag{1}$$

where a is the share of labor in total costs. Using the indexing rule $w_t = p_{t-1}$, and the exchange rate rule $e_t = 0$, we can rewrite (1) as:

$$p_t = ap_{t-1} + (1-a)\ p^* \tag{2}$$

According to equation (2), wage and exchange rate policies gradually yield a declining rate of inflation that ultimately converges to the world inflation rate p*. The smaller the weight of wages and the larger the weight of international prices in determining home inflation, the more rapid is the convergence. Therefore, increasing the degree of openness of the economy speeds up and reinforces the disinflation strategy. However, as shown by equation (3), the indexing rule implies that real wages rise for as long as the lagged domestic inflation exceeds the international inflation:

$$w_t - p_t = p_{t-1} - p_t = (1-a)\ \ p_{t-1} - p^*) \tag{3}$$

With the foreign trade liberalized, the gradual slowdown in inflation and a steady increase in the real wage will cause a deterioration in the trade balance, a loss of competitiveness, and adverse effects on employment and profitability. In other words, even as the war on inflation is being won, a serious problem of cummulative overvaluation is developing. Eventually the rising current account deficit will force the government to stop fixing the exchange rate, and return to more drastic means of controlling the inflation.[4]

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[4] Dornbusch wonders how Chilean policy makers, almost all of whom are Chicago graduate students, therefore brought up on Haberler's classic »The Case of the Three Numéraires« — which made the basic point that separate exchange-rate and wage targets are incompatible — could demonstrate such an »arrogant stupidity« by watching »growing overvaluation without recognizing the fatal flaw early on or preparing for the inevitable collapse«. (Dornbusch, 1986, pp. 4 and 5.)

In the case of Argentina, the inflation rate stood at 120 percent, so an outright fixing of the exchange rate seemed implausible. Instead, the government committed itself to a preannounced timetable of currency depreciation, in the hope that it would help in stabilizing expectations in line with a declining inflation trend. But, as in Chile, domestic inflation did not decline in line with the rate of depreciation (probably because of a highly protected domestic industry and large budget deficits), so a huge real appreciation took place between 1978 and 1980. Since the capital account had been completely opened at that time, a massive flight into foreign financial assets was observed: being fully aware that the overvaluation of the exchange rate will ultimately have to come to an end, Argentinians fled into dollar assets, U.S. currency, and real estate in Brazil or Uruguay. This, of course, implied the loss of reserves for the central bank, which had to be financed through foreign borrowing.[5] In his study of the problems of capital flight, Cuddington (1986) estimates the amount of the capital flight from Argentina in this period to about $16 billion. Some other Latin American countries have lost even more private capital through this channel: Cuddington estimates that in the late 1970s and the early 1980s, Mexico lost about $25 billion, and Venezuela more than $16 billion. Given these facts, Dornbusch (1986) draws a very strong conclusion that, even at the best of times, there is not much of a case to be made for free capital outflows from a developing country, while during stabilization it definitely is not a priority.

To summarize, in Chile the overvaluation played itself out through the trade balance as the combined effects of overvaluation and current account liberalization cheapened the imports in real terms to an unprecedented extent. Since there was a growing doubt that such a situation was sustainable in the long run, people soon came to believe that the access to cheap imports would ultimately disappear. As a result, there was an explosion in imports: in the 1980—81 period imports of automobiles doubled, imports of consumer appliances increased by 60 percent, and imports of breeding stock more than tripled (Dornbusch, 1986; Edwards and Cox-Edwards, 1987). In Argentina speculation took place via the capital account. With devaluation lagging behind domestic inflation, a real overvaluation — and the corresponding high expectations of a real *devaluation* — were produced. At the same time, due to unrealistically low domestic interest rates, the (ex ante) *domestic* real interest rate was perceived to be well below the (ex ante) *world* real interest rate, so with the capital account completely opened, a massive capital outflow took place.

Note that one could rationalize overvaluation by the fact that it is very popular in initial stages, for politicians and consumers alike. Diaz-Alejandro (1963) and Krugman and Taylor (1978) have emphasized that devaluations can be deflationary inasmuch as they entail cuts in the purchasing power of wages in terms of tradables. With increasing overvaluation this effect works in the opposite direction: the pur-

[5] See Obstfeld (1986) for a formal model of the Argentinian tablita experiment.

chasing power of wages augments, thereby creating a period of prosperity, during which everyone gains by purchasing imported durables or shifting into foreign assets. However, this »miracle« can last only as long as the central bank can afford to put foreign exchange on sale, or as long as the income effect of higher real wages dominates the substitution away from overpriced domestic labor, whichever comes first. Once the substitution effect becomes dominant, firms go bankrupt, and unemployment rises. And once the central bank has depleted its reserves and has to pay the bill, sharp measures of austerity and real depreciation are called for in order to generate trade surpluses for financing of the foreign debt. The excessive standard of living in the period of prosperity is then paid for by a long period of deprivation, which can fall especially heavily on the backs of the poor, who were not equally able to take advantage of overvaluation. This situation can be further complicated if the bankruptcy of firms is not feasible for political reasons, as is the case in Yugoslavia and other socialist countries. Not surprisingly, the efforts to keep afloat unprofitable businesses are bound to slow growth and escalate inflation, as was indeed the case in Yugoslavia, where the growth rate of real GDP fell from more than 7 percent in the period 1952—1979, to about 1 percent in the period 1980—1986, and inflation jumped from less than 10 percent in the 1970s to more than 120 percent in 1987.

Such experiences prompted Dornbusch (1986) to suggest the following necessary conditions for success of the exchange-rate induced deflationary policies:

(1) monetary and fiscal fundamentals must be consistent with the exchange-rate target;

(2) maximum effort must be made to pursue an incomes policy consistent with the exchange-rate policy, rather than rely passively on economic slack and expectations to influence the exchange rate;

(3) government must actively block losses of reserves induced by speculation in consumer durables or foreign assets. The former can be stopped by transitory taxes on consumer durables, while free capital flows simply should not be allowed during stabilization.

Against this background, the preferred policy option for stopping inflation in developing countries seems to be the removal of price controls. Krueger (1981 and 1984) argues that liberalization is more likely to be achieved by inflationary programs designed to assure that the government will not resort to direct controls, rather than by programs aimed at recording the lowest rate of price increases over the short term. Similarly, Lindbeck (1987) suggests removal of price index clauses in wage contracts, and the introduction of new contract forms with bonus systems that tie wage increases to productivity increases or profits, as well as letting trade unions and firms, in each separate industry, bear the bulk of the unemployment insurance costs, rather than shifting these costs onto the taxpayers. We may note, however, that to the extent that firms operate under a »soft« budget constraint (i. e., under very small threat of bankruptcy), or face controlled prices of inputs and outputs, the removal of some wage and price restrictions may achieve very little in relieving inflationary pressures.

3.2. THE ROLE OF FISCAL REFORM IN STABILIZATION AND LIBERALIZATION

An important source of distortions in many developing economies originates in the area of public expenditures and taxation. Large fiscal deficits can be historically explained by the heavy reliance on government intervention in the development process. If a country starts to rely more heavily on markets, economic incentives, and decentralized private initiatives, as opposed to administrative controls, three classical roles for the government spending come into forefront: (i) infrastructure investment in physical and human capital; (ii) the supply of public goods, including the legal system, education, basic research, and environment protection; and, since people in poor countries cannot be helped much by tax reductions, (iii) redistribution policies. All of these represent, of course, long-term functions of the public finance, and as such they might seem to be relatively unimportant in the process of economic stabilization and liberalization. But economic stabilization and liberalization are themselves long-term undertakings, in which the government's commitment to reforms and the degree of credibility it imparts in the eyes of the agents play crucial roles. One could also argue that precisely *because* the policy makers and theoretical economists tended to neglect these issues, the gap between the developing and the developed countries has been widening so dramatically over the past few decades. For this reason we shall first make some remarks on the long-term aspects of public expenditures and taxation policy, and then turn to the issues of macroeconomic management of the public debt and the inflation tax, which are among the most important obstacles for a successful liberalization.

3.2.1. Long-term aspects of public finance

In a very insightful paper, Lindbeck spells out some innovative ideas for the removal of long outstanding distortions in the area of public expenditures. In the area of infrastructure investment, Lindbeck emphasizes the importance of the accumulation of human resources in a wide sense of the word, including not only education, but also health, sanitation, and food supply to the poor. Since it is increasingly recognized that the social rates of return in most developing countries are higher for primary education and vocational training than for the most of the higher level education, Lindbeck argues for a change in the composition of public spending on education in favor of the former. In the field of technology transfer, research and development, active government involvement is necessary because of the public good character of output of these activities. Lindbeck also emphasizes the importance of treating managerial skills and entrepreneurial initiatives as a specific collective good, since they represent one of the most important bottlenecks in production in developing countries. Regarding redistribution policies, the most effective way to remove numerous distortions stemming from the widespread use of subsidies for

food, housing, and other necessities seems to be a transition to direct transfers, which would remove production disincentives in agriculture and housing, that often have disastrous consequences for urban and rural life. Lindbeck also warns againts the dangers of »premature welfare states«, that is, countries whose economic foundations are too weak to support an elaborate structure of social security, transfer payments, and redistributions among large population groups. (Uruguay is often mentioned as an example.)

On the expenditure side, Lindbeck stands out strongly against the approach of optimal tariffs, taxes, and subsidies in developing countries, both on theoretical (extremely restrictive assumptions), and on practical grounds (great informational and statistical requirements; stimulate rent-seeking behavior), and proposes instead a few simple rules of thumb, like shortening of the time lags in tax collection and adjusting the tax brackets for inflation; broadening of the tax base and lowering of tax rates (so as to avoid erosion of the tax base and prevent penalizing individuals by higher tax liabilities for inflation-induced increases in nominal income); promoting of uniformity as the basic rule of taxation; and providing a special treatment via investment tax credits for wealthier individuals and corporations that are the main source of savings in developing countries. Uniformity of taxes seems to play an outstanding role in this context, since it eliminates all sorts of rent-seeking behavior, and imposes binding rules on behavior of politicians, who typically have their own objectives, which may not bear much relation to the ideas that lie behind calculations by economists of optimum tax or tariff structures.

These considerations favor the use of a consumption based (indirect) tax, among which the value-added tax (VAT) is the preferred option, since it avoids the vertical integration bias and the consumption bias of the cascade type indirect taxes. In a recently concluded World Bank study on value-added tax in developing countries, summarized by Gillis, Shoup, and Sicat (1987), VAT got a strong endorsement, too. This study emphasizes VAT's production efficiency (it taxes productive inputs equally, and does not promote distortion of production choices), its non-distortionary effect with respect to current and future consumption (unlike the income tax, which penalizes capital accumulation and economic growth), its uniformity, and its pronounced income-generating effects.

3.2.2. Public debt management and the mechanics of the inflation tax

In his classic 1923 work *A Tract on Monetary Reform*, Keynes praised the features of the inflation tax as being costless to implement, efficient in revenue-generating terms, and fairly equitable, since it hits relatively more heavily the wealthier individuals. However, Keynes also warned against the many dangers of this tax, quantifying them vividly on examples of German and Russian hyperinflations. In the context of stabilization and liberalization efforts, these dangers were first described by McKinnon (1973) and McKinnon and Mathieson (1981). With

large fiscal deficits financed by inflation tax, the stock of high powered money (which is the »tax base« for inflation tax) must not be eroded, since otherwise the government will have to accelerate inflation in order to finance the deficit. This erosion of the »tax base« can be prevented either by high reserve requirements, or by low deposit rates. Now, if capital account is opened, domestic capital will obviously leave the country in search of the higher foreign rates of return, which reduces the »tax base«, hence the tax revenues of the government. In such a situation the government will obviously have to resort to the money press more and more frequently, thereby breeding hyperinflation.

Formally we can explain this government dilemma with the aid of a model developed by McKinnon and Mathieson (1981). They government's optimization problem consists in choosing the reserve requirement κ so as to minimize the inflation rate π, subject to the following market-clearing conditions:

(Private loanable funds)

$$L/P = (1-\kappa)\, D/P = h(\pi, i_l) = (1-\kappa)\, q(\pi, i_a) \tag{4}$$

(Official deficit finance)

$$Z/P = (\kappa q + f)\,(\pi + g) \tag{5}$$

(Bank competition)

$$i_l\,(1-\kappa) - i_a = 0 \tag{6}$$

where L/P is the demand for real loans; D/P is the demand for real deposits, $D/P = q(\pi, i_a)$; i_l and i_a are the lending and the deposit rates of interest, respectively; f denotes the demand function for currency, $f = C/P$, where C is currency; Z/P is the government deficit; and g is the rate of income growth. This optimization procedure determines the endogenous variables i_l, i_a and π. Starting from equation (5), the real government deficit Z/P is exogenously given and must be financed by issuing base money against both term deposits q and (100 precent reserve) currency f. As κ increases, relative tax burden is shifted toward the term deposit part of the market; how much depends on the elasticity of response of depositors and borrowers. Given the inflation rate π, the more inelastic is the demand for term deposits and for real loans with respect to a fall in i_a and a rise in i_l, the greater will be the optimal reserve requirement. Conversely, the more inelastic is the demad for currency, the lower will be the optimal reserve requirement, as more of the inflation tax burden is shifted toward currency holders. According to commonly acepted canons of public finance, one taxes where the inelasticity of demand is most pronounced so as to minimize the erosion of the tax base. Thus, the more inelastic the demand for either financial asset, the lower will be minimum necessary inflation rate, and rate of base money creation. Similarly, from equation (5), the higher the natural real rate of growth and the flow

of non-inflationary seignorage in the economy, the lower will be the minimum necessary inflation rate and the lower will be the corresponding rate of base money creation necessary to finance the given fiscal deficit. (McKinnon and Mathieson, 1981, p. 12.)

Similar conclusions are reached in a study by van Wijnbergen (1987). He analyzed three recent puzzles in developing economies that could not be explained by standard macroeconomic models. The first puzzle is that inflation is often stable at a given rate for several years, then suddenly jumps to a new plateau, stays there for several years, then jumps again, and so on. The second puzzle van Wijnbergen addressed was that the attempts to stabilize inflation by exchange rate policies similar to those applied in Argentina often lead to even higher inflation after the collapse of these programs, while the third puzzle relates to balance of payments crises apparently caused by jumps in inflation. Van Wijnbergen builds a model with rational, optimizing, and forward-looking consumers with perfect foresight; at the center of analysis stands the government's budget constraint, that is linked to rational speculative behavior of consumers in order to endogenize the expected regime switch on the part of the government. This model has the spirit of recent literature on public finance approach to macroeconomics, whose main research focus is on the current effects of future policy changes. In this context, the three puzzles are explained in the following way. (1) In presence of external public debt, exogenous shocks (like increases in world interest rates) lead to a deterioration of the government deficit. This, in turn, leads to higher inflation through the residual role of the inflation tax in a floating exchange rate regime. Unless taxes are increased or spending is cut, this brings about plateau changes in inflation. (2) The explanation of the second puzzle is rather subtle, and is related to the loss of interest earnings on the foreign assets of the central bank. These losses are occasioned during the speculative attacks and the ensuing decline in profit transfers from the central bank into the government budget constraint. (3) The above result on deterioration of the government budget also sheds light on the link between jumps in inflation and balance of payments crises. Both are triggered-off by fiscal policy inconsistencies, and the fact that they occur simultaneously is not necessarily an argument againts the theory linking inflation to fiscal policy. Thus, van Wijnbergen also draws the conclusion that fiscal reform is not only necessary for success of anti-inflationary programs, but should come up front.

3.3. PROBLEMS OF FINANCIAL LIBERALIZATION IN DEVELOPING COUNTRIES

The point of departure in any study of interest rates and financial markets in developing countries is the seminal analysis of McKinnon (1973, especially Chapters 7 and 11). His discussion, while extraordinarily insightful, was entirely verbal and intuitional in character. McKinnon coined the term *financial repression* to describe the main dis-

tinguishing characteristics of financial markets in developing countries. Key structural aspects of the financial repression syndrome emphasized by McKinnon were:

(a) the adverse effects of high inflation and low nominal deposit rates on the extent of financial intermediation achievable by the commercial banking system;

(b) the resulting limited availability of the bank loans for financing of investment in working capital by productive enterprises with constricting effects on the level of aggregate output;

(c) the aggravation of these by the maintenance of an overvalued exchange rate, which severely limits the amount of foreign exchange available for imports of intermediate productive inputs.

Institutionally, such financial repression arises primarily from the fact that in developing countries the role of open markets for securities is insignificant. This situation does not itself constitute a distortion, but merely reflects the low level of per capita income and the resulting small scale of individual acts of saving and investment. For this reason, the monetary system in developing countries plays a relatively more important role in financial intermediation between savers and investors than it plays in developed market economies. Namely, the bulk of savings consists of currency and deposits with the commercial banks, savings and loans associations, and postal-savings depositories, and the control over the flow of loanable funds actually represents the control of such deposits and the issue of currency. What is purely a supervisory and monetary-control role for the governments of developed countries, thus becomes a highly activist credit-allocating role for governments of developing countries.

As pointed out by McKinnon and Mathieson (1981), there is a fiscal root to this difference in the role of monetary policy, too, since most developing country governments feel constrained in the amount of revenue they can raise by taxing income, sales, or property, in order to maintain desired levels of expenditure on current and capital accounts. Therefore, apart from foreign borrowing — which is often stimulated by an exhange rate policy that keeps the domestic currency overvalued — the only instruments available to market nonmonetary debt of the government are: (i) forced sales of the debt to the banking sector, accomplished by imposing an elaborate system of reserve requirements; (ii) comprehensive restrictions on both deposit and lending rates of interest, which allow the monetary authorities to give credit subsidies to preferred claimants without having such subsidies appear in the official Treasury acounts; and, if sufficient resources cannot be generated at a stable price level to cover these explicit and implicit deficits in the public finances, (iii) the inflation tax.

With credit rationing widespread, and access to official lenders difficult, informal credit markets started to flourish in many developing countries. Vinmani (1985) studied government policy toward these markets, and posed the problem of appropriate policies for setting up of new financial institutions, control of existing institutions, and credit allocation. His main conclusion is that interest subsidy, subsi-

dized rediscounting, and credit guarantee policies are better than interest ceiling and minimum lending policies. Balassa (1987a) considers informal credit markets as a normal step in the development of financial intermediation, since they permit bringing together of lenders and borrowers in cases when the costs of doing so through formal channels would be too high because of lack of information, distance, and other factors.

Consider now a situation in which the government of a repressed economy embarks on a route of financial stabilization and liberalization, and suppose that in the process it decides to lift some controls on capital account transactions. Financial liberalization inevitably brings about an initial discrete *increase* in the nominal interest rate paid on bank deposits. However, while the resulting real deposit rate perceived by domestic residents is equal to the difference between the nominal rate and the expected rate of *inflation*, that perceived by foreigners is equal to the difference between the nominal rate and the expected rate of *repreciation* (Kapur, 1983). Hence, if the exchange rate is fixed during the transition process, a situation might be created whereby a nominal deposit rate that was high enough to meet domestic liberalization objectives, would provoke speculative capital inflows that are sufficiently strong to generate a loss of domestic monetary control, thereby undermining the entire stabilization program.[6]

These considerations prompted McKinnon and Mathieson (1981) to advance a second-best strategy for managing a financially repressed economy, the principal components of this strategy being as follows:

(1) Government authorities should replace general interest-rate restrictions with direct interest subsidies to certain preferred borrowers, and these should be included in the Treasury accounts. Once other interest rates are freed, the true fiscal deficit can be calculated more accurately.

(2) In the open part of the capital market, a comprehensive non-interest bearing reserve requirement against term deposits should vary directly with the size of the deficit.

(3) Flows of private capital both to and from the rest of the world should be subject to exchange controls, or reserve requirements.

(4) If the minimum necessary rate of domestic inflation exceeds that of the country's principal trading partners, the exchange rate should be indexed by a passive downward crawl.

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[6] McKinnon's proposed solution to this policy dilemma is worthy of extended quotation: Although nominal interest rates are raised sharply at first, they should gradually be reduced as the actual and expected inflation in the Wholesale Price Index slackens. To help maintain external balance, however, there is a case for also having the foreign exchange rate depreciate slowly in a predictable way after the initial surprise devaluation. Instead of devaluing fully to »the« equilibrium exchange rate associated with free trade, suppose the authorities undertake a somewhat smaller discrete devaluation. Then the exchange rate begins to depreciate smoothly, at an annual percentage rate that reflects the difference between foreign and domestic rates of interest — with a suitable risk premium subtraced from the latter. A large inflow of foreign short-term capital is avoided because users and lenders of foreign short-term capital (trade credit) take the continuing deprecation into account. (McKinnon, 1973, pp. 166—7.)

The »extraordinary« capital inflows following a financial liberalization stand at the center of McKinnon's analysis, and are one of the principal reasons for the proposed sequence of liberalization of the external sector. Namely, under a fixed exchange rate, capital inflows will be monetized and will result in inflation and a real appreciation of the domestic currency (see Diaz-Alejandro, 1981). Under a floating exchange rate, the inflows will result in an appreciation of the nominal and real exchange rates.[7] Since financial markets adjust much faster than goods markets, this real appreciation will be quite abrupt, as pointed out by Frenkel (1982 and 1983).

While the opening of the capital accoount may generate a real *appreciation* of the domestic currency, successful liberalization of the trade account requires a real *depreciation*, in order to help the expansion of the exportables sector in a situation where the old protective structure of relative prices is replaced by a new, more open structure (see Balassa, 1980, 1982a, 1982b). With appreciation generated by the opening of the capital account, the dismantling of the protected sectors will become more difficult, too. From this it follows that capital and current acounts should *not* be opened simultaneously, and, moreover, capital inflows should be tightly controlled during the transition period after trade has been liberalized, so as to avoid the pressure on resources in the tradable-goods sector to move in opposite directions at a moment when this sector (or that part of it involved in import substitution) is going through a costly readjustment (Edwards, 1984b).

Additional complications arise if we include in this analysis the nontradables sector. As pointed out by McKinnon (1976) and Harberger (1982), whenever a fraction of additional foreign funds is spent on nontradable goods, their absorption will require an *increase* in the relative price of nontradables and a real *appreciation* of the domestic currency. At least in the short run, the tradables sector will expand, while the importables and the exportables sectors will contract. This actually happened in Argentina, Chile, and Uruguay, where the construction sector was booming after these countries opened their capital accounts (Edwards, 1984b). If the nominal price of nontradables is inflexible downward, and the exchange rate is fixed, once the capital inflows have stabilized, the country may run into difficulties similar to those in Chile, described in Section 3.1. Opening of the current account, on the other hand, will result in expansion of the exportables sector, a contraction in the production of importables, and either an expansion or a contraction of the nontradables sector.

The problems of financial liberalization and the concurrent increase in real interest rates were formalized, amond others, by Edwards and Cox-Edwards (1987).[8] They were interested in explaining an enor-

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[7] Harberger (1982) actually calculated that the increase in capital inflows into Chile is capable of »explaining« a real appreciation of the peso up to 25 percent betwen 1979 and 1981.

[8] Other references include Blejer and Sagari (1987), Diaz-Alejandro (1987), Duahajre (1987), Edwards (1983), Edwards and Khan (1985), Kapur (1976 and 1983) and Mathieson (1978).

mous increase in real interest rates (up to 40 percent) that occurred in Chile during the implementation of this country's stabilization program in late 1970s. In their model, a jump in equilibrium short-term interest rates is explained by a combination of these factors: increases in demand for real credit, primarily on the part of the expanding sectors (nontradables and exportables); higher expectations of devaluation; a higher risk-premium assigned to the country by the international lenders; and a reduction in the expectations of the domestic inflation; and higher world interest rates.

Sjaastad (1985) studied the mechanism of transmission of the fluctuation in world interest rates on interest rates developing countries. His main hypothesis is that owing to certain asymmetries in the degree to which purchasing power holds in the short-run, fluctuation in the value of the dollar vis-à-vis other major currencies leads to corresponding fluctuations in real rates of interest in the small, exchange-rate pegging economices, that are greater in amplitude than those in larger countries. (Chile and Uruguay had experienced particularly violent swings in real interest rates.) Sjaastad built a model of world markets for traded goods, and investigated if an exchange rate regime could be set up such that small economies could be insulated from real interest rate fluctuations. He showed that this was not possible unless strong purchasing power parity, or strong interest rate parity between major currencies holds. Thus, interest rate instability is to be reconciled with by the small developed economies, implying financial (or real) autarky as the alternative. This is certainly a rather pessimistic conclusion, but it highlights all the difficulties surrounding financial liberalization in developing countries.

3.4. EXCHANGE RATE MANAGEMENT AND THE DOMESTIC STABILIZATION

The preceeding sections have already indicated the importance of proper exchange rate management for success of domestic stabilization policies. The literature in this area of our topic is very rich, and we shall survey it acording to four main issues surrounding the attempts to get the »right« real exchange rate:[9] (i) determining the degree of overvaluation and therefore the size of the real depreciation require; (ii) achiveing the target value for the real exchange rate; (iii) establishing the effects of a change in the real exchange rate; and (iv) deciding what exhange rate regime or rule to adopt.

[9] See Edwards (1987b) for alternative definitions of the real exchange rate and the concept of equilibrium real exchange rate. A valuable collection of analytical papers on exchange rates in developing countries is Edwards and Ahamed (1986).

3.4.1. *Determining the extent of adjustment*

Even for industrial countries, determining the extent to which an exchange rate is overvalued is an extremely complicated task. As prices in developing countries often rise faster than in industrial countries, it has become common practice to employ various kinds of purchasing power parity calculations, based on a combination of import and export weights with the country's main trading partners. These incides give policy makers a fairly good impression of the size of devaluation that is needed in a particular situation, but as Khan (1987) points out, they must be warned againts paying too much attention to *small* changes in PPP indices, as their usefulness is limited unless considered with other information. An additional problem with the PPP calculations arises when we allow for the fact that the real exchange rate is an *endogenous* variable that responds to factors like foreign shocks, worsening of the terms of trade, an increase in foreign real interest rates, or a slowdown in the world economy. Khan and Knight (1981, 1983, 1986) and Khan and Zahler (1983, 1985, 1987) have extensively analyzed the effects of these external shocks on the evolution of the time paths of real exchange rates, the balance of payments, and other variables, and have found that the long-run real exchange rate will tend to depreciate under their influence. In a similar vein Edward (1987a) studied the equilibrium path of the real exchange rate in the Southern Cone countries in the late 1970s and early 1980s. Contrary to conclusions of a large number of analysts — who argued on the basis of PPP calculations that the real appreciation of these conutries' currencies represented an unsustainable real overvaluation — Edwards found that the overvaluation may well have reflected the long-run evolution of the equilibrium real exchange rate.

3.4.2. *Achieving a target rate*

Having determined the scope of devaluation, the next step in getting the right real exchange rate is to choose the appropriate policies to achieve it. As our previous discussion has shown, holding the exchange rate constant and adopting deflationary policies to force down domestic prices and wages, although possible in principle, is not feasible in practice, since it is likely to cause substantial falls in output and employment. We also saw that a nominal devaluation will not work unless supported by appropriate fiscal measures that limit the increase in domestic prices. In both cases we observed only a transitory effect on the real exchange rate, with domestic prices rising in the long run and the real exchange rate returning to its original (overvalued) level. As we known from the elasticities approach to the balance of payments, to calculate the effects of a devaluation on the real exchange rate requires information on substitution elasticities between tradable and nontradable goods in consumption and in production, and on the share of tradables in total consumption. But this represents only the first-round effect of devaluation, which will be

sustained only if supporting policies are adopted. To determine the real exchange rate in the long run requires detailed infformation on these supporting policies; without it, as Khan (1978) points out, the real exchange rate for a given nominal devaluation cannot be determined.

3.4.3. *Establishing the effects of devaluation*

By now there is already a rich empirical litereature on the effects of devaluation in developing countries (see Balassa (1987b) for an overview). One of the arguments *againts* devaluation as a policy of adjustment is that it increases unemployment and tends to induce stagflation (Diaz-Alejandro, 1965; Cooper, 1971; Krugman and Taylor, 1978; Hanson, 1983). The standard argument *in favor* of devaluation states, however, that as long as devaluation alters the real exchange rate by raising product prices in domestic currency relative to factor incomes, it will raise output, to the extent that the short-run marginal cost curves of the tradables goods industries are upward sloping. The longer a real devaluation persists, the greater will be the benefiits. Funthermore, if wealth and distributional effects of devaluation stimulate savings and investment, they may produce a long-run gain of increased capacity.

These theoretical controversies inspired a number of authors to conduct empirical studies on output and employment effects of devaluations. Perhaps the best-known study in this field is Cooper (1971). He analyzed 24 devaluations that took place between 1953 and 1966 by looking at the behavior of principal components of aggregate demand, and discovered that devaluation often initially tends to depress economic activity. Another well-known study is Krueger (1978), who found that in most cases studied under the NBER project on foreign trade regimes, devaluations had been associated with expansions in the level of economic activity.

Gylfason and Schmidt (1983) have constructed a small macromodel with intermediate goods, where devaluation has two conflicting effects: first, it generates an expansion through aggregate demand, but at the same time it induces an upward shift in the aggregate supply curve through its impact on the costs of imported intermediate inputs. The final effect of devaluation can thus be either contractionary or expansionary. Gylfason and Schmidt empirically analyze the implications of their model by imputing plausible values to the corresponding parameters for a group of five developed and five developing countries. With the exception of the United Kingdom and Brazil, their results suggest that, as postulated by the more traditional views, devaluations have a positive overall effect on aggregate output. Similarly, Gylfason and Risager (1984) developed a model for a small country which stresses the effect of devaluations on interest payments on the foreign debt. Using imputed parameter data they find that in developed countries devaluations are generally expansionary, while in developed countries they are likely to be contractionary. The problem with

this kind of approach is that the imputed parameter values used in simulations are obtained from very differenc sources, and are likely to be inconsistent among themselves.

Connolly (1983) considered a group of 22 countries, and regressed (for the cross-country data set) the change in the rate of real growth on the change in the nominal exchange rate. The coefficient obtained was positive and marginally significant, providing some support to the hypothesis of expansionary devaluations. However, Connolly argues that his results are subject to selectivity bias, since countries that devalue typically do so after having entered into recession.

Some authors have constructed country-specific simulation models to analyze the effectiveness of devaluations as stabilization policy tools. For example, Branson (1986) has constructed a small simulation model for Kenya (he found important contractionary effects of devaluation), while Taylor and Rosenweig (1984) built a computable general equilibrium model of the Thai economy, and obtained results indicating, among other, that a 10 percent devaluation *increases* real GDP by 3.3 percent.

More recently, Edwards (1986b) offers a study of 30 devaluations which takes into account the behavior of key variables in three-year periods before and after devaluations. He found that, by and large, the evidence was mixed, and depending on which variable one looked at, some countries experienced a fall in real activity while the others experienced an increase in the level of aggregate output. He also tried to control for the effect of policy variables not included in analysis by estimating an equation for aggregate output for a group of 12 countries, using pooled data (Edwards, 1986a). In addition to the possible effect of the exchange rate on output, this equation incorporates the role of the monetary policy, fiscal policy, and exogenous terms of trade changes. His results indicate that, ceteris paribus, devaluations have a small contractionary effect in the short run, while in the long run they appear to be neutral both with respect to employment, and with respect to real output.

In summary, the effects of devaluation on real economic activity seem to be fairly sensitive on the specification of the model and the data used. The best policy advice that one can give is that the issue of contractionary or expansionary effects of devaluations should be resolved on the individual country level, where one most clearly sees the effects of other policies affecting the outcome of devaluations.

3.4.4. *Deciding on exchange rate system*

Very few developing countries operate a freely floating exchange rate system. Most either maintain fixed parities or follow some type of crawling-peg rule. Problems with fixed exchange rates — a high probability of chronic overvaluation — were already discussed. On the other hand, high inflation countries have continual devaluations built into their economic system as one form of indexation. In that respect, the key policy decision is not what exchange rate *regime* to

choose, but at what *rate* the domestic currency should depreciate. The choice of an exchange rate regime appears, however, when countries are faced with persistent balance of payments problems. In such a situation some countries have resorted to dual exchange rate systems. Under the dual exchange rate system, some transactions take place at an official exchange rate maintained by intervention, while the rest of them takes place at a generally lower, »free« or »parallel« exchange rate, usually determined by the market forces. As a study by Kiguel and Lizondo (1986) indicates, dual exchange rate markets have not always been successful in achieving their objectives, mainly because they were largely ineffective in preventing speculative outflows of capital, overinvoicing of imports, and underinvoicing of exports. In addition, dual exchange rates are equivalent to a series of implicit subsidies and taxes, that may undermine other government objectives (for example, commodities that are assigned to the official market may face an implicit tax on exports, while at the same time the government may be seeking to promote exports). Even more pronounced problems arise in centrally planned economies, whose currencies are not freely convertible into hand currencies (see van Brabant (1985) for a survey of exchange rates in centrally planned economies), or in countries where currency substitution is a widespread problem. All this points to great difficulties surrounding the issues of stabilization and liberalizaton of foreign exchange markets, and underlines the fact that in many small open economies the exchange-rate is the key tool of the entire monetary policy.

4. OPENING OF THE CURRENT AND THE CAPITAL ACCOUNT

In the light of results from the preceeding section, stabilization and liberalization of a developing economy seem to be such an ambitious task that, if achieved, any other development target, including liberalization of the external sector, could be achieved, too. Perhaps this is true, because the countries that have succeeded in putting their domestic markets in order (e. g., South Korea and Taiwan) also turned out to be successful trade-liberalization stories. Almost all other liberalization attempts appear to have failed because of domestic policy mistakes. However, liberalization of the sector brings with itself new difficulties, perhaps even more complex and less clearly understood. The principal reason for this lies in the fact that once the current and the capital accounts are opened, domestic policy makers lose some control over events in the economy. And today, with the world economy becoming increasingly integrated, this loss of control is largely unavoidable. It is therefore not surprising that the trade liberalization problems are today as high on the agenda of developing countries as they ever were. Moreover, the most important questions in this context still seem to be the ones formulated by Diaz-Alejandro in 1975: Under what conditions will free trade (or more trade) increase per capita growth? Under what conditions will free trade (or more trade) bring less developed countries closer to their other objectives? Can

less developed countries by their own actions influence how much they trade? How to quantify the effects of trade policies on development targets? These questions actually define a whole new area of research, and the most that we can do in this paper is to approach them from the narrow perspective of the sequencing problem. Like other studies in this area, papers dealing with opening of the current and the capital accounts are not systematized in a very clear-cut fashion. For this reason, our approach to opening of the current and the capital accounts will follow the general idea of this survey, that is, we shall concentrate on welfare consequences of parciular policy sequences.

Analysis in the preceding section already indicated what might be the appropriate sequence of liberalization policies, so in this section we look more closely at reasons behind the proposition that the current account should be opened before the capital account. However, we shall also examine the arguments in favor of simultaneous opening of the two acounts, or in favor of the »capital account first« proposition. In most parts of this section we shall assume that the domestic economy has already been reasonably stabilized (in the sense of the preceeding section), and that the policy makers now have to decide which sequence of trade liberalization policies to adopt. First we shall examine positive issues of different sequencing scenarios, and then we shall turn to more normative questions of reduction in trade and capital account restrictions.

4.1. DIFFERENT SEQUENCING SCENARIOS: A POSITIVE ANALYSIS

We start this section with a brief overview of standard results in trade theory relating to liberalization of the external sector, and then we continue with a survey of several characteristic studies in this area. As we shall see, these studies typically ask very precise questions in the context of trade liberalization, tyring to ascertain its impact on the evolution of variables of interest.

The main effects of partial removal of restrictions on trade and capital movements can be studies with the aid of Figures 1 - 4. We shall consider a simple dynamic general equilibrium model, developed by Khan and Zahler (1983, 1985, 1987), with three goods: exportables, importables and nontradables. The domestic price of exportables Px is taken to be equal to the product of the international price of tradables P* and the exchange rate E. The domestic price of importable goods, allowing for tariffs, is given by the familiar expression: Pi = $= (1 + t)EP^*$, where Pi is the domestic price of importables and t is the tariff. We assume that the country is small, so it cannot affect Px and Pi. It follows that disequilibrium in the tradable goods markets results in changes in imports and exports. Imports are defined as the difference between domestic demand and domestic supply of importables; and, similarly exports are equal to the domestic excess supply of exportables. As usually, the price of nontradables is deter-

mined endogenously, and is assumed to respond positively to excess demand for nontradable goods and variations in foreign prices.

Capital flows, aside from an autonomous component, are assumed to be determined by the differential between domestic and foreign interest rates, adjusted for expected exhange rate changes and a country risk premium. The presence or degree of controls on capital movements is represented by a parameter b, which scales the explanatory variables in the following way:

$$KF = \overline{KF} + (b[g(r - r^* - \dot{E} - R)]$$

where KF is the flow of capital, ($\overline{KF}$ represents its autonomous component); r and r* are the domestic and the foreign interest rates, respectively; $\dot{E}$ is the expected rate of depreciation; and R is the risk premium. Parameter g reflects the response of capital flow to the deviations in interest parity. Obviously, if $b = 0$ the economy is completely closed, and for $b > 0$ capital flows are assumed to respond to variations in the explanatory variables. To allow for the possibility of an upward sloping supply curve of foreign credits, the risk premium is made a function of the ratio of external debt to income:

$$R_t = R_o + R_1(D/Y)$$

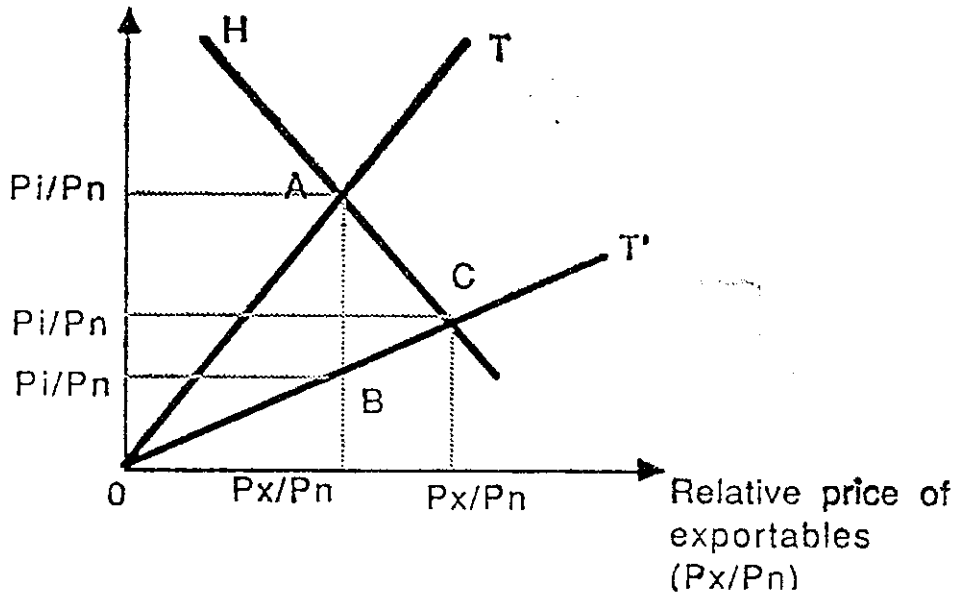
where R_o is a constant, D is the stock of external debt, and Y is the level of income. The parameter R_1 is assumed to be positive, so that as the ratio D/Y rises, the risk premium will also increase. This will reduce net capital inflows to the country even though domestic and foreign interest rates (and the expected exhange rate) remain unchanged.

Consider first the case where a country has some positive tariff $t > 0$, which it gradually reduces to zero. Following Dornbusch (1974) the relative price effect on this measure can be analyzed with the aid of Figure 1. The HH schedule represents the locus of points where Income = Expenditures, so by Walras Law, along HH the excess demand for nontradables is zero as well. Northeast of HH the relative price of nontradables is too low and there is an excess supply of tradable goods (trade surplus)- and an excess demand for nontradables. Similarly, southwest of HH there would be a trade balance deficit and an excess supply of nontradable goods. With $t > 0$, and the exchange rate fixed at unity, the initial equilibrium is at point A, where the ray OT (with slope equal to the domestic relative price Pi/Px) intersects HH. If t is reduced to zero, the domestic price of importables falls, and rotates the ray to OT'. Assuming that Pn is unchanged, the initial effect of trade reduction is represented by a movement from A to B, which involves an appreciation of the real exchange rate, defined as $E = Pn/P^*$. Obviously, B is only a temporary equilibrium, because at B there is an excess demand for tradable goods and an excess supply of nontradables. Hence, Pn will fall along OT' so as to restore general equilibrium at point C, with $Pn^1 < Pn^o$

The movement from B to C has been identified in the literature as the real exchange rate depreciation associated with trade liberalization. Although at point C the trade account is in balance with both imports and exports above their respective values in the original equilibrium A, it should be recognized that the initial effect of opening-up (point) B) generates a trade balance deficit.

Changes in relative prices and their effects on demands and supplies that result from tariff removal correspond to production and expenditure switching effects. However, it should be noted that opening-up also creates an expenditure increasing effect. Assuming that inflation is zero initially, the fall in prices of importable and nontradable goods causes a reduction in the general price level, which in turn creates an excess supply of money, and a fall in the domestic interest rate. This stimulates expenditures, that reinforce the trade balance effect and, in the short run, dampen the fall in the relative price of nontradable goods.

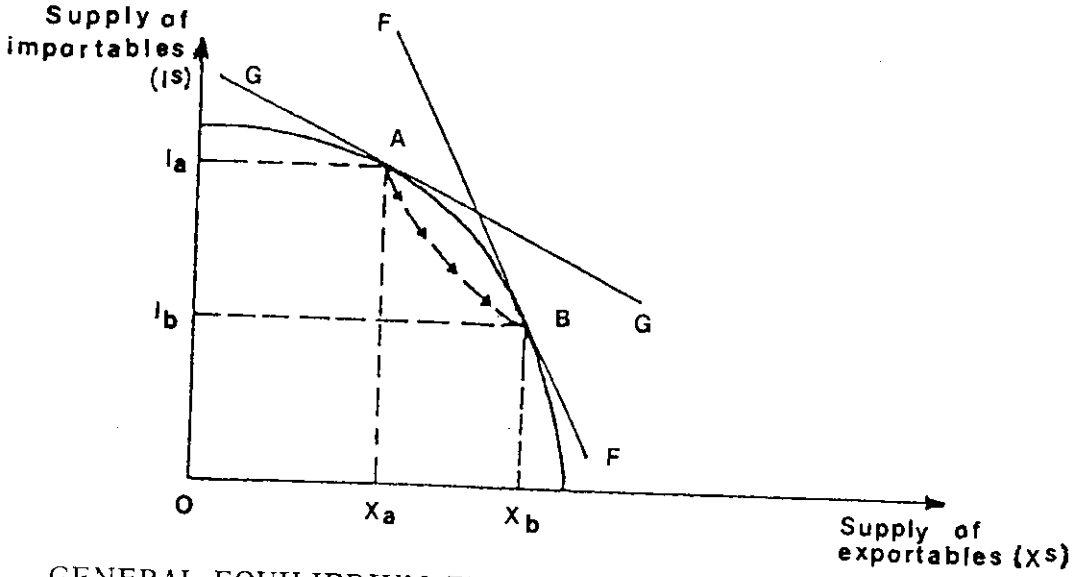
FIGURE 1



PARTIAL EQUILIBRIUM EFFECTS OF TRADE LIBERALIZATION

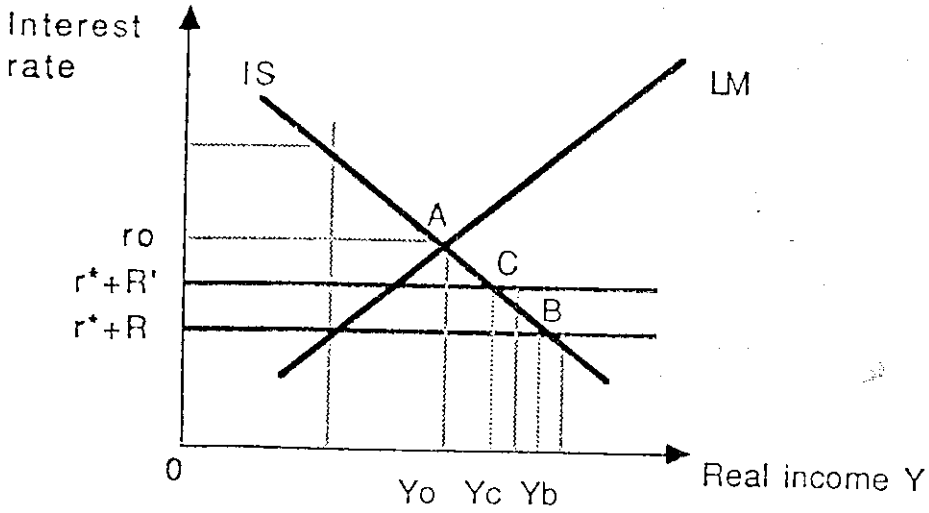
General equilibrium effects of trade liberalization are illustrated in Figure 2, where we assume that production of nontradables remains constant. At an initial relative price GG the economy would be at point A, producing X_a of exportables and I_a of importables. When the tariff on imports is reduced to zero, the country will face a new domestic terms of trade FF and the new equilibrium will be at B. If adjustment were instantaneous, we would simply move along the transformation curve from A to B, and output of tradables would be unchanged. The dashed line represents a situation in which reduction in production of importables is faster than the expansion of exportables. In such a case, during the transition process the economy will be operating below its productive potential, creating greater re-

FIGURE 2



GENERAL EQUILIBRIUM EFFECTS OF TRADE LIBERALIZATION

FIGURE 3



EFFECTS OF FINANCIAL LIBERALIZATION

source unemployment and a larger output gap than in the long-run equilibrium.

To summarize Figure 1 and 2, tariff reduction results in a trade balance deficit, a loss of international reserves, an increase in both imports and exports, a lowering of the relative price, a fall (rise) in the nominal (real) interest rate, and, assuming that production of importables adjusts faster than production of expontables, a temporary decline in output and an increase in resource unemployment.

The effects of financial opening-up are analyzed in Figure 3. We start from an initial equilibrium in which the domestic interest rate

is above the foreign rate plus a risk premium, and capital movements are completely ($b = 0$). Financial liberalization takes the form of increasing the value of b, and capital movements then take place as long as $r > r^* + R$. In the traditional IS-LM framework the initial equilibrium point would be A, with real income at Y_o, domestic interest rate equal to r_o and zero foreign debt. With a constant risk premium and a given foreign interest rate, a small country faces an infinitely elastic supply of international financial capital which, when monetized, makes the effective LM curve horizontal. The short-run effect of financial opening-up is therefore represented by shifting LM to KK. At point B expenditures Y_b exceed income Y_o, and they induce a current account deficit. Whether international reserves rise or fall obviously depends on the size of the capital inflows relative to the current account deficit. As a consequence of a capital inflow, the stok of foreign debt would naturally rise.

The effects of capital account liberalization can also be described with the aid of Figure 4. Following Edwards (1884b) we assume that the capital flows DK respond to the following partial adjustment equation:

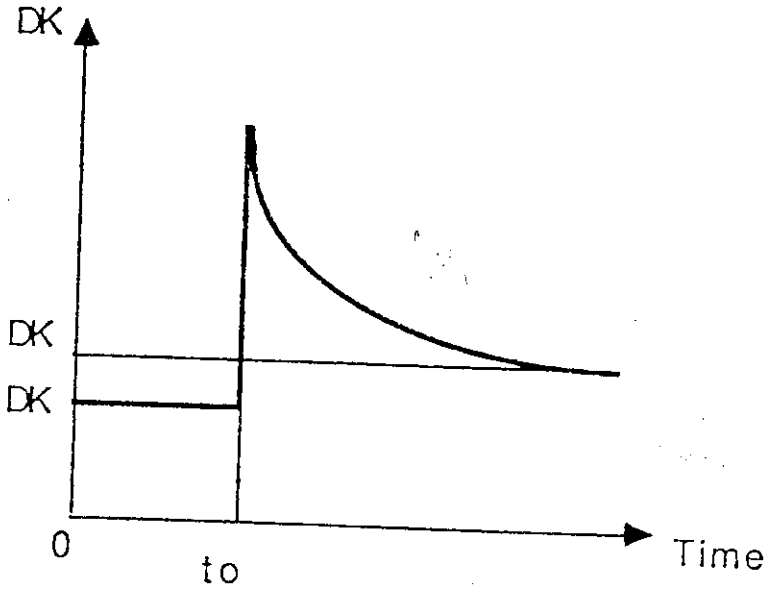
$$DK = min\ [\mu(D^* - D_{-1})\ ,\ \bar{DK}]$$

where D^* is the desired or sustainable level of external debt, D_{-1} is the actual stock of external debt in the previous period, μ is partial adjustment coefficient, and $\bar{DK}$ is the maximum (possibly zero) amount of net capital inflow allowed by the government in each period. The term $\mu(D^* - D_{-1})$ embodies the idea that there is a long-run equilibrium ratio of foreign debt to GDP: if GDP grows at g percent annually, so will the desired stock of debt. If the real interest rate on external debt is r, net capital inflows will then grow at rate $(g - r)$. Clearly, if $\bar{DK} < \mu(D^* - D_{-1})$, the gap between desired and actual debt will increase though time. Once restrictions on capital inflows are lifted, actual inflows will become equal to $\mu(D^* - D_{-1})$. That means that, immediately following the opening of the capital account, capital flows will jump to a fraction μ of the accumulated gap between the desired and the actual debt. As this gap is closed, the level of capital inflows will slowly fall, until it reaches a new equilibrium level. For the case of a simple economy, the time path of capital flows that emerges from this formulation is represented in Figure 4. (We could also assume that once capital account is liberalized, the perceived profitability of domestic investment will dramatically increase. This will result in a substantially higher D^* and the same sort of jump in the level of capital inflows shown in Figure 4.)

Keeping these results in mind, we now turn to a number of representative studies dealing with positive aspects of trade liberalization policies.

Timing and sequencing of trade liberalization were extensively analyzed by Mussa (1984). He considers the effects of adjustment costs incurred in moving resources out of previously protected industry on

FIGURE 4



BEHAVIOR OF CAPITAL FLOWS FOLLOWING A CAPITAL ACCOUNT LIBERALIZATION

the time path of the »appropriate« trade liberalization. In the absence of such costs, the economy could adjust immediately to the new long-run equilibrium position consistent with its optimal long-run commercial policy. Intuitively, one would expect that in presence of adjustment costs there is a case for moving more *gradually* from the policy of protectionism to a liberal trade policy. However, Mussa shows that if (i) private agents who control the disposition of resources have rational expectations, which allow them to calculate correctly the values of locating these resources in alternative activities; and (ii) if there are no distortions of the adjustment process that would cause these agents to perceive private adjustment costs differently from adjustment costs; then the adjustment process following an *immediate* change of comercial policy to its long-run optimum would be socially efficient. Therefore, a gradual implementation of trade librealization policies, which would reduce the privately perceived incentive to relocate resources out of previously protected industries, would result in a socially less desirable path for the economy.

A second important result obtained by Mussa is that when there are distortions that affect the adjustment process, then *gradualism* becomes a preferred option. In general, for a large number of relevant distortions, there is no indication of how the time path of commercial policy should deviate from the policy of an immediate move to the best long-run commercial policy. A general case for gradualism in trade liberalization can also be based on a desire to limit income and weath losses suffered by owners of factors initially employed in protected industries. This occurs, however, at some cost in terms of the efficiency of the economy's adjustment path, so that a tradeoff situation for policy makers appears. Finally, Mussa shows that the

appropriate time-path of comercial policy in a program of trade liberalization may be influenced by the possibility that resources employed in protected industries may become unemployed as a consequence of reduction in the level of protection. This issue is analyzed in the framework of a reduced form relationship between the rate at which resources are moved out of protected industries, and the amount of unemployment experienced by resources that continue to seek employment in these industries. A peculiar »overshooting« behavior might appear in this context, whereby in the optimal program of trade liberalization the level of protection is initially reduced to below its long-run optimal level (and perhaps to below zero), and subsequently raised back to its optimal long-run level.

Calvo (1987) presents a simple model in which he cautions against *temporary* liberalization and stabilization programs. As he points out, the text-book proof that free trade Pareto dominates tariff in a small economy is usually static, and its superficial interpretation might mislead one to conclude that it is optimal to remove tariffs at a given point in time even if they are bound to be raised in the future. A correct procedure to extend the static gains from trade theorem to a dynamic setting is to make the dynamic scenario look like the static one, and this can be achieved by the general equilibrium »trick« of distinguishing goods according to the point in time when they are consumed, delivered, or used in production. With this convention, the static gains-from-trade theorem implies that it is optimal to eliminate *all* trade barriers, on *all* present and future goods. The cost of temporary liberalization/stabilization policies may therefore be substantial, and temporariness may retain its harmful power even if tariffs are expected to be kept for a (surprisingly) long period of time.

Macroeconomic effects of reduction in tariffs and removal of controls of capital movements are at the focus of a number of valuable works by Khan and Zahler (1983, 1985, 1987), and Khan and Knight (1981, 1983, 1986). These authors typically use a dynamic general equilibrium model in which they subject the model's real and financial variables to various exogenous shocks like increase in foreign interest rates, deterioration in terms of trade, a decline in foreign real income, etc., and then analyze the equilibrium path of the relevant variables with respect to some »control« simulation. For example, in Khan and Zahler (1987) they analyzed the impact of internal and external shocks on the time-path of trade liberalization policies, with the idea of trying to ascertain whether, in case of failures, liberalization itself was at fault, or whether the primary blame is to be put on exogenous shocks. The general conclusion of their paper is that it is impossible to say if liberalization without external shocks would be successful in the long run, but in presence of shocks the probability of a reform failure is significantly increased. Similarly, in Khan and Knight (1986), a model of the dependence of exports on imports is presented, which tries to capture the effects of import compression policies in developing countries. Governments faced with foreign debt problems typically limit the amount of imports in a given year, neglecting a technological dependence of export industries on imports of intermediate goods and

raw materials. In this way a vicious cycle of decreasing exports and decreasing imports is set into motion. Khan and Knight estimated this model on a sample of thirty-four developing countries in presence of external shocks, and established, among other results, that a ten percent reduction in the volume of imports reduces exports by two percent in the short run, and by five percent in the long run. Policies that they proposed to deal with this problem include increasing transfer of resources to developing countries, and lifting protectionist measures to imports, from developing countries.

In a study of welfare effects of trade and capital market liberalization, Edwards and van Wijnbergen (1983, 1986, 1987b) draw on recent work on the relation between temporary tariffs and private savings via the consumption rate of interest, in order to analyse the question of »cold turkey« versus gradualism in trade liberalization. in particular in those cases where external rationing falls disproportionately on investment. They established unambigously that under those circumstances gradualism is the optimal strategy. This conclusion is of great policy relevance, because most examples of trade liberalization took place under external balance constraints, and in most cases of external balance constraints investments took a disproportionate part of the adjustment burden.

Edwards (1987a) analyzed the effects of current and capital account liberalization on the behavior of equilibrium real exchange rate in an intertemporal general equilibrium model of a small economy. He obtained several important results. (1) Contrary to traditional static partial equilibrium models, a tariff reduction will not necessarily generate an equilibrium real depreciation. (2) Assuming that all goods are gross substitutes in consumption, both intra and intertemporally, and that the substitution effect dominates the income effect, a temporary tariff reduction will result in an equilibrium real depreciation in both periods. (3) Expected future tariff changes will generally affect the current equilibrium real exchange rate. More specifically, under the above conditions, an expected future increase in tariffs will appreciate the equilibrium real exchange rate today. (4) Assuming no or very low initial tariffs, a capital account liberalization will generate an equilibrium real appreciation. (Some interesting results on the interrelation between tariffs, terms of trade, and the real exchange rate also are obtained in Edwards (1987c) and Edwards and van Wijnbergen (1987b)).

4.2. WHY SHOULD THE CURRENT ACCOUNT BE OPENED BEFORE THE CAPITAL ACCOUNT?

So far there seem to exist at least three answers to this question. The first explanation comes from a comparison of welfare effects of distortions remaining if only one account is opened. This argument is based on the belief that the negative welfare effect of opening the capital account in presence of trade distortions will be more pronounced than negative effects arising from the opposite sequence. We have

already presented the views of McKinnon (1973) and McKinnon and Mathieson (1981) on this issue. Krueger (1984, p. 416) notes that:

> since exchange of assets is exchange of capitalized values of income streams, income streams generated by distorted prices are probably the inappropriate ones at which to trade. It would then follow that capital-account liberalization should not be undertaken unless both current account and domestic financial transactions are already liberalized.

Similarly, according to Frenkel (1983, p. 167):

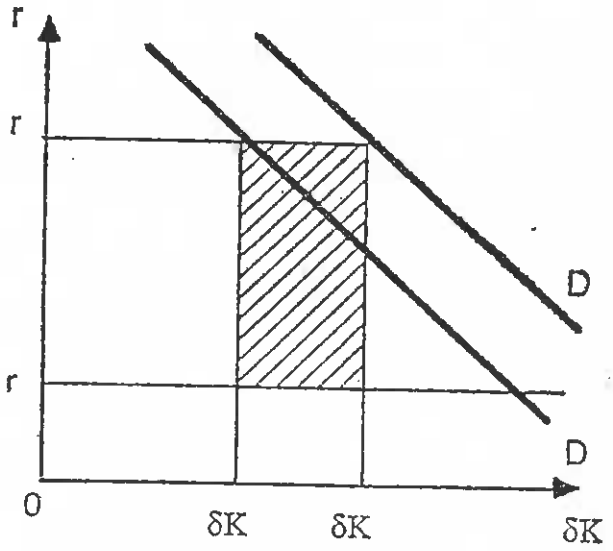
> When the trade account is opened first, the cost of the remaining distortion (i. e., the closed capital account) ... is likely to be relatively small. On the other hand, when the capital account is opened up first, the cost of the remaining distortion (i. e., the closed trade account) ...is likely to be very large. Thus, a comparison of the costs of distortions ... supports the proposition that the trade account should be opened first.

This proposition can be easily explained with the aid of Figure 5, which is taken from Edwards (1984b). Suppose that the capital account remains closed, while the current account is opened. Then welfare could decrease under two circumstances: (a) if the restrictions on the capital account take the form of a tax on foreign borrowing, a wedge between foreign and domestic interest rates would be introduced; and (b) if for some reason the current-account liberalization reduces demand for foreign borrowing. Welfare costs of these distortions are given by the shaded rectangle in Figure 5. Note, however, that both (a) and (b) are implausible: tax on foreign borrowing is not a typical current account distortion; usually it takes the form of rationing of foreign credit, in which case there is no indirect welfare loss, since the (vertical) demand curve stays put. Futhermore, trade liberalization usually starts by lowering tariffs, in which case the demand for imports increases. Part of this increase in demand is typically financed by additional foreign borrowing, i.e., the demand curve in Figure 5 would shift to the right.[10] These considerations therefore tend to support the »current account first« proposition even if distortions in the capital account remain.

The second explanation in favor of the current-account-first sequence comes from the literature on immiserizing capital accumulation initiated by Johnson (1967), which focuses on welfare effects of opening the capital account in presence of trade distortions. Thus, if there are tariffs and the importable good is capital-intensive, capital accumulation resulting from foreign transfers in the form of machines

[10] Speed of tariff reductions is an important element here: As Edwards and van Wijnbergen (1983) show, if a slow tariff reform is announced today, borrowing may decrease as the public postpones consumption until tariffs are lower.

FIGURE 5



will increase production of capital-intensive goods (by Rybczynski Theorem), and the negative welfare effect of the pre-existing distortion will be reinforced. As Johnson (1967) showed, this effect could be strong enough to result in a reduction in welfare. Note an important asymmetry between private and social benefits and costs that stands at the root of this result: since domestic return to capital will exceed the world real interest rate by the amount of the tariff, accumulation of capital will be beneficial from private perspective, although less desirable — or even immiserizing — from the social perspective.

Welfare effects of foreign transfers in the presence of tariffs that are relevant for the order of liberalization were also studied by Brecher and Bhagwati (1982) and Brecher and Diaz-Alejandro (1977). The latter authors have shown that a small amount of foreign investment will always reduce welfare if foreign capital is paid its marginal product and the import-competing good is capital-intensive; moreover, this will happen even if conditions for Johnson (1967) immiserization do not hold. As Edwards (1984b) points out, these welfare effects also can be analyzed within the context of literature on factor trade (Grossman, 1983, Brecher and Findlay, 1983; Bhagwati and Srinivasan, 1983b). If the private domestic rate of return to capital exceeds the world rate of return *before* liberalization takes place, liberalizing the capital account will result in some of these funds being used for the importation of machines, which is formally equivalent to allowing *trade* in machines *today*.

One obvious problem with the preceding arguments against the capital-account opening is that they ignore the possibility that a fraction of new borrowing could be used to increase consumption. In this case welfare will not decrease provided that the domestic rate of time preference is greater than the world interest rate before liberalization. As Edwards and van Wijnbergen (1983, 1986, 1987b) note, if we think of borrowing as a positive transfer at date t, and the re-

payment of debt as a larger but negative transfer at date t + 1, welfare will increase under the above condition even in presence of tariffs. From this is also follows that borowing for investment purposes — empirically a very important case — should be taxed, while borrowing for consumption purposes should not, which is certainly a surprising result. In their 1983 paper these authors derived a simple expression linking the cost of capital market distortions to the square of the induced interest rate differential, and the (compensated) interest elasticity of savings and investment. They used this expression to demonstrate that the distortionary cost of transfer will increase if a greater proportion of foreign funds is used for investment than for consumption. However, these authors show that if investment decisions are based on shadow prices rather than on tariff-distorted market prices, there will be no need to tax capital inflows used to finance investment.

The third group of arguments supporting the delayed opening of the capital account is related to the foreign indebtedness problem and the phenomenon of soft budget constraints. Central questions in this connection are if liberalization of the capital acount will lead to overborrowing on the part of the private sector, and if the private debt will be converted into the public debt. Theoretically, overborrowing — or borrowing of the private sector over and above the socially optimal level — is unlikely, because in a liberalized economy private agents would face »correct« market signals, and borrow only if the marginal return obtained from these funds exceeds the cost of the loans. In such an environment free interplay of domestic agents and foreign banks should result in optimal borrowing and lending strategies (see Dornbusch, 1983a). But in practice and in sophisticated models there are several reasons to believe that this will not be the case. First, in many developing countries firms operate under the so-called soft budget constraint, i.e., they continue to operate even if the are unprofitable, their losses being covered by the state, that for various reasons (for example, paternalism) regularly bails out the failing firms. Insofar as the firms are aware of this fact and take it into account in their borrowing decisions, they will tend to overborrow, knowing that, ultimately, the difference between the private and the public debt will disappear.[11] This is precisely what has happened in Yugoslavia during the 1970s, when comercial banks (whose founders are business firms) heavily borrowed in the Eurodollar market. Once the debt crisis set in, this private debt was simply passed onto the central bank, which has been struggling to repay it ever since.

Another reason why overborrowing is likely stems from the fact, further elaborated below, that, contrary to the textbook case, even small countries cannot borrow infinite amounts at the given world

[11] It is interesting how Edwards, who also is a Chicago graduate, and hence brought up in a strict neoclassical tradition, comes very close to the idea of soft budget constraints without being aware of it: »To the extent that the private sector knows that it will be bailed out by the government, moral-hazard-type behavior becomes highly likely.« (Edwards, 1984b, p. 17, emphasis added.)

interest rate. Lenders typically nation credit, charging the interest rate that is an increasing function of the amount borrowed.[12] This means that many developing countries face an upward-sloping supply curve for foreign credit, which also will induce the private sector to overborrow once the capital account is opened.[13] Finally, a lack of credibility in the government's commitment to the reform effort might result in overborrowing, too. If the private sector expects tariffs to be raised in the future, it will consider the consumption interest rate (measured as the interest rate at which the agents can exchange traded goods between today and tomorrow) to be very low, and will thus tend to increase its foreign borrowing. Also, if it looks that the reform is likely to be reversed in the future, the parties that stand to lose from permanent changes — like owners of capital in the import-competing industries — might use foreign funds obtained though the opening of the capital account to keep their firms functioning, hoping that their losses will be only temporary. According to Rodriguez (1983, quoted in Edwards, 1984b, p. 15) this is precisely what has happened in Argentina:

> »As a consequence of the lack of credibility of the continuity of the economic program, many firms — which would have disappeared due to the tariff reductions — decided to go into debt in order to keep operating while waiting for a change in economic strategy«.

Alternatively, foreign funds might be used to finance lobbying activities, aimed at persuading government officials to abandon liberalization attempts. This is again an optimal strategy from the private point of view, but it is quite undesirable from the social perspective.

In summary, we identified three groups of arguments in favor of the delayed opening of the capital account: the costs of remaining distortions, the immiserizing capital transfer, and the overborrowing. Next we turn to study of arguments favoring the opposite scenario, or a simultaneous opening of the two accounts.

4.2. ARGUMENTS IN FAVOR OF PRIOR OR SIMULTANEOUS OPENING OF THE CAPITAL ACCOUNT

Arguments against the delayed opening of the capital account deal with two groups of problems: adjustment costs, and the exchange rate behavior during the transition process. The adjustment cost issue ari-

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[12] On the issue of credit rationing — a refusal by lenders to accept some borrowers' offer of a higher-than-average interest rate, because of the perceived high probability of default of the borrowers — there is a growing literature on optimal debt contracts. See for example Gale and Hellwig (1985 and 1986), and Stiglitz and Weiss (1981 and 1983).

[13] In such a situation there is an argument for imposing an optimal tax on borrowing, which should be equal to 1/e, where e is the elasticity of supply of foreign funds. On this see McDonald (1982), Edwards (1984a, 1984c) and Harberger (1982).

ses because during the liberalization process firms have to restructure their production, and labor must acquire new skills in order to compete more successfully on foreign markets. To enhance the probability of success of the trade reform Michaely (1982, quoted in Edwards, 1984b), Little, Scitovsky, and Scott (1970), and Clark (1982, also quoted in Edwards, 1984b) all favor opening of the capital account prior to, or concurrently with, opening of the current account. Namely, foreign assistance would enable a smoother transition of capital and labor from the import-competing to export-oriented sectors, and in this manner the potentially large costs of unemployment in the initial stages of liberalization could be avoided. Theoretically, these arguments are similar to arguments for providing adjustment assistance to industries that are negatively affected by exogenous changes in the terms of trade. Recently the National Bureau of Economic Research commisioned a study (edited by Bhagwati, 1982), to analyze the adjustment-assistance issue in the broad context of import-competing industries. The main analytical difficulty with this problem is that in order to analyze the adjustment-assistance process it is necessary to know the entire future path of relative prices that results from future terms-of-trade or tariff changes. In most international trade models that are currently used, resources move costlessy between the sectors, even in response to infinitesimally small changes in relative prices. But, as we saw in Mussa (1984), in more complex models, there are costs to this movement, so that reallocation takes place more slowly, possibly resulting in short-term losses of output (see also Mussa (1974, 1978, 1982) and Neary (1978, 1982)). Depending on the nature of adjustment costs, intervention in the form of adjustment assistance may or may not be justified on efficiency grounds. For example, to the extent that adjustment costs are related to labor market imperfections that have to be reconciled with, such as minimum wages, there is some justification for assistance. However, if these costs are related to the activity of moving resources between the sectors, as in Mussa (1978) model, and there are no externalities, there is no welfare-related reason to provide adjustment assistance. On the other hand, if income-distribution considerations are important, adjustment assistance might be called for even in absence of other distortions (see Leamer, 1980).

The second argument in favor of prior opening of the capital account was advanced by Lal (1984). He argues that since the behavior of the exchange rate is critical during the transition from the protected to the liberalized economy, it is better not to let the government manipulate it in the process. This claim is based on the belief that poor exchange-rate management was ultimately responsible for the failure of some liberalization attempts, in particular in Argentina. Consequently, Lal argues that a floating-exchange-rate system with full currency convertibility should be implemented before the trade reform takes place, which means that the capital account should be opened *before* the trade account. There are at least two problems with this argument. First, we saw in the preceding section that most developing countries lack the institutional infrastructure that could successfully handle this kind of exchange rate regime. And second, Lal does

not explain how to handle the real appreciation problem that will result from opening of the capital account, nor does he specify how much in advance of the trade account it should be opened.[14]

4.3. FULL OR PARTIAL LIBERALIZATION?

An important problem related to welfare effects to liberalization is whether the external sector should be liberalized fully or only partially, and if partially, which restrictions on current and capital account transactions should be retained and for how long.[15]

From a theoretical perspective, complete liberalization is justified only if the country cannot influence world prices. If this is not the case, there is always an optimal import tariff or optimal export tax argument in favor of retaining some controls on the trade account (see Bhagwati and Srinivasan, 1983a). Furthermore, restrictions on current and capital accounts may be the best way of dealing with some domestic distortions. As Johnson (1965) showed, although they represent a third-best solution, they may be the *only* ones available.

A further argument in favor of partial liberalization stems from the process of foreign lending that was already touched upon in our discussion. Though the idea of taxing capital inflows seems counterintuitive, it can be rationalized on several grounds. As we said, many developing countries face borrowing limits on world financial markets, and are charged a premium interest rate that is positively related to the degree of perceived country risk.[16] The existence of the country-risk premium implies that even small countries face an upward-sloping supply curve for foreign funds, where the interest rate at which they borrow will increase with the country's level of indebtedness (see for example Eaton and Gersovitz, 1980; and Citron and Nickelsburg, 1987). This suggest that there is a negative externality associated with the process of foreign borrowing, stemming from the divergence between the average and marginal costs of borrowing from abroad. From a policy perspective, the best way to deal with this problem is to impose a tax on capital imports. Since the lenders typically perceive a larger probability of default than borrowers, there is

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[14] Note that Lal implicitly assumes that the domestic financial markets prior to liberalization operate reasonably efficiently. If this is not the case, then Lal seems to ignore the presence of McKinnon's financial repression syndrome in developing countries, which includes the overwhelming preponderance of the foreign-debt constraint, high domestic inflation, low or negative real rates of return on savings deposits, currency substitution, and similar phenomena. Any idea of full currency convertibility in such an environment is clearly an anathema to central bankers, who would see their foreign currency reserves deplete, perhaps, in a matter of days.

[15] Main references in this area are Edwards (1984b, 1987d), and Krueger (1984, 1985).

[16] Recently Edwards (1984a) found a significant and robust relation between the spread charged over the London interbank offered rate (LIBOR) on foreign loans to developing countries, and the level of foreign indebtedness.

a genuine first-best argument for imposing such a tax, hence for not liberalizing the capital account first. (If lenders and borrowers make the same assessment of the probability of default, the country-risk premium is not a real part of the cost of borrowing, and no tax should be imposed on these grounds.) This important idea is due to Harberger (1982), who notes that:

> The corrective for such externality [the difference between the marginal cost of international credit and its average cost] is something that will lead economic agents to internalize it. In the present case, a tax would be the obvious instrument for accomplishing this task. (Harberger, 1982, p. 13.)

But the most persuasive argument favoring complete and expedient liberalization relates to what might be *the* crucial ingredient of any policy reform, namely, the degree of *credibility* of the reform. As Krueger (1984) puts it:

> There are some grounds for believing that the rapid removal of all controls may be the least painful way of proceeding: new signals in place will prevent resource misallocation in response to altered signals before the transition is complete; instaneous adjustment may prevent political opposition to the move from diluting it; and, since there is considerable evidence that uncertainty about the likelihood that policy initiatives can be sustained causes delays in the responses to altered policy signals, an immediate transformation of the economic environment may reduce uncertainty. If these considerations are overriding ,the issues of timing and sequencing do not arise except in a second-best context. (Krueger, 1984, p. 421.)

It is important to emphasize that the degree of credibility is an *endogenous* variable, determined by the track record of the government in past reforms, and the overall consistency of the policies it advocates. As such, credibility cannot be gained or enhanced overnight; creating it is a slow, painful, and a very long process. Political stability is certainly one of its components, but perhaps even more important are anthropological and cultural considerations like the dominant value system, work habits, religion, and ideology.[17] History has often demonstrated that success stories are not those that are written by the wisdom of economists, but those that are ultimately carried out by the ingenuity of politicians and the sweat of the working people.

5. CONCLUSION

It has generally been recognized that opening the economy to the rest of the world is an integral part of any economic reform. Policy

[17] One anecdotal explanation of the fact that East Germany is the most developed socialist country is that no one has yet invented a system which will force the Germans not to work.

advice of the World Bank and the IMF often emphasizes reduction or elimination of distortions, for example, raising of real interest rates, reduction of import tariffs, elimination of import quotas, and increasing the degree of integration of domestic economies with international financial markets. While there is no disagreement about the general desirability of such reforms, the problem of recommending a specific *sequencing* for these policies continutes to be theoretically unresolved, in spite of the fact that it must be faced by the policy makers on a continuing basis. Oftentimes political or other constraints preclude a simultaneous liberalization of both the trade and the capital accounts — which is a first-best policy in a textbook economy free of imperfections — so that the question of sequencing becomes very important. Although there are no strong theorems or recipies for appropriate sequencing, few general principles are applicable in almost every case. Specifically, survey of literature in this field has suggested the following broadly-accepted results:

1. *International capital controls should be lifted after the domestic financial markets have been reformed and the domestic interest rates have been raised. In turn, interest rates can be raised only after the fiscal deficit is under control, i.e., after the financial discipline has been restored.*

This proposition follows from the fact that if the capital account is libralized when domestic interest rates are fixed at arbitrarily low or negative levels (appropriately corrected by the expected devaluation), an outflow of capital from the country will result. Furthermore, the existence of a large fiscal deficit financed by inflation tax requires that bank reserves be kept high and interest payments on deposits be kept low, so that the stock of base money (which is the base on which the inflation tax is collected) is not eroded. If the interest rates are raised when the fiscal deficit is *not* under control, then the inflation tax base will shrink. This will, in turn, necessitate an increase in the rate of inflation if the government wants to collect the same amount of resources.

2. *It is more prudent to liberalize the current account before relaxing capital controls.*

In general, the opening of the capital account in a situation where domestic financial markets were brought in order will result in significant inflows of foreign capital, triggered by perceived differentials between the domestic and foreign returns to capital. These inflows of foreign capital will be monetized and, under a fixed exchange rate, will result in inflation and a real *appreciation* of the domestic currency. (Under a floating exchange rate, the result would be appreciation of the nominal *and* the real exchange rates.) Since financial markets adjust much faster than commodity markets, this real appreciation could be abrupt. On the other hand, successful liberallization of the trade account (i.e., reduction of import tariffs and elimination of im-

port quotas) will generally require a real *devaluation* of the domestic currency. However, the opening of the capital acount might preclude this real devaluation, and thus make the adjustment of the export and the import sectors to a freer environment very difficult. Consequently, the capital and the trade accounts should *not* be opened simultaneously, moreover, in the transition period after the trade has been liberalized, capital inflows should be tightly controlled in order to avoid a steep real appreciation.

3. *In order to increase the probability of success (i. e., nonreversal) of trade reform, adjustment costs related to reform should be minimized by implementing (1) a gradual liberalization of trade; and (2) the provision of adjustment assistance to both the import and the export sectors.*

These arguments follow from the fact that every major structural change results in pressure groups lobbying to defend their interests. A crucial element in this context is the degree of *credibility* the trade reform has. If a reform announcement is credible, firms and investors will anticipate future movements in prices and relative returns to investment, and will act accordingly, mobilizing resources domestically and abroad and investing them in the new export industries. But if the reform is not credible, and the agents believe that some reversal of the reform is possible in the future, foreign funds obtained through opening of the capital account may be used by the importing firms to offset their (presumably temporary) losses. Fundamental to establishing the reform's credibility is, of course, the internal consistency of the government's fiscal, monetary, and exchange rate policies.

4. *If all domestic distortions cannot be eliminated, then caution should be given to the fact that in the second-best world full liberalization of the trade and the capital accounts might not be desirable from the welfare point of view.*

For example, most developing countries face borrowing limits in international financial markets, and are charged a premium corresponding to the perceived degree of country risk. Thus, the interest rate at which a country borrows increases with the level of foreign indebtedness, which is a distortion associated with the process of borrowing from abroad. In such circumstances individual firms will borrow more than is socially optimal, since when one firm borrows more, the cost of funds to all borrowers increases. From a policy perspective, the best way to deal with this overborrowing problem is to impose a tax on capital importation. This tax represents a kind of capital control, but there is an obvious argument for retaining such controls even after the liberalization.

These four results certainly do not exhaust the list of useful recommendations for »appropriate« strategies of domestic and external liberalization, but they are representative of the current state of art in this field. Since sequencing of trade liberalization policies takes

place in an inherently unstable environment, we would hope to see much more analytical work to be devoted to questions of dynamic adjustments in presence of random shocks. So far only few authors have adressed these issues, and usually in a fairly simple framework, with only one exogenous shock operating at a time. Questions of investment and growth in such environments have not been studied at all, although they are of paramount importance for the success of liberalization policies. Furthermore, serious analytical work on phenomena like weak responsiveness to price signals (so-called soft budget constraint problems) also is missing. While much more could be said about the new frontiers for research, it is importantt to keep in mind that unlike some other areas of economics, the issues of liberalization are intimately connected with broader questions of political decision-making and commitment to announced policies. As Krueger points out:

> The major problem with liberalization, as with so many other economic policy problems, is that politicians, government officials and the informed public can readily foresee those interests that are likely to be damaged in the short run by any liberalization effort; they cannot as readily see the economic activities that were harmed, and hence did not prosper, because of regulations. Moreover, even some who would in the long run benefit by liberalization (as for example the Korean businessmen who became exporters in the 1960s but were entrepreneurs in the 1950s) perceive the short-run harm that it would cause their interests and fail to recognize the new opportunities that would arise in the long run ... While it is clear that further research can increase our understanding of the ways in which the costs of transition can be reduced, it seems likely that determined leadership in individual countries is necessary if successful liberalization efforts are to be undertaken.

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REFERENCES

Aizenman, Josua and Jacob A. Frenkel, »Wage Indexation, Supply Shocks, and Monetary Policy in a Small, Open Economy«, in S. Edwards and L. Ahamed, eds., *Economic Adjustment and Exchange Rates in Developing Countries*, Chicago, University of Chicago Press, 1986.

Balassa Bela, »Exports and Economic Growth: Further Evidence«, *Journal of Development Economics*, June 1978, 5, 181—189.

Balassa Bela, *The Process of Industrial Development and Alternative Development Strategies*, Princeton Essays in International Finance no. 141, Princeton: Princeton University Press, December 1980.

Balassa Bela, *Development Strategies in Semi-Industrial Economics*, Oxford: Oxford University Press, 1982a.

Balassa Bela, »Structural Adjustment Policies in Developing Countries«, *World Development*, January 1982b, 10, 114—36.

Balassa Bela, »Exports, Policy Choices, and Economic Growth in Developing Countries After the 1973 Oil Shock«, *Journal of Development Economics*, March 1985, 18, 23—35.

Balassa Bela, »The Interaction of Domestic Distortions with Development Strategies«, World Bank Development Research Department Discussion Paper no. 249, February 1987a.

Balassa Bela, »The Effects of Exchange Rate Changes in Developing Countries«, World Bank Development Research Department Discussion Paper no. 291, May 1987b.

Bardhan Pranab K., *Economic Growth, Development, and Foreign Trade: A Study in Pure Theory*, New York: John Wiley and Sons, 1970.

Bhagwati Jagdish, *Anatomy and Consequences of Exchange Control Regimes*, New York: National Bureau of Economic Research, 1978.

Bhagwati,Jagdish, ed., *Import Competition and Response*, Chicago: University of Chicago Press, 1982.

Bhagwati, Jagdish, »Export-Promoting Trade Strategy: Issues and Evidence«, forthcoming in *World Bank Research Observer*, January 1988, 3.

Bhagwati, Jagdish, and Trent N. Srinivasan, *Lectures in International Trade*, Cambridge, Mass.: MIT Press, 1983a.

Bhagwati, Jagdish, and Trent N. Srinivasan, »On the Choice between Capital and Labor Mobility«, *Journal of International Economics*, May 1983b, 14, 209—22.

Blejer, Mario and Silvia Sagari, »The Structure of the Banking Sector and the Sequencing of Financial Liberalization«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America*, New York: Praeger, 1987.

van Brabant, Jozef, *Exchange Rates in Eastern Europe: Types, Derivation, and Application*, World Bank Staff Working Paper no. 788, Washington: The World Bank, 1985.

Branson, William H., »Stabilization and Investment Incentives: The Case of Kenya 1975—80«, in S. Edwards and L. Ahamed, eds., *Economic Adjustment and Exchange Rates in Developing Countries*, Chicago, University of Chicago Press, 1986.

Brecher, Richard and Jagdish Bhagwati, »Immiserizing Transfers from Abroad«, *Journal of International Economics,* August 1982, 13, 353—64.

Brecher, Richard and Carlos Diaz-Alejandro, »Tariffs, Foreign Capital and Immiserizing Growth«, *Journal of International Economics,* November 1977, 7, 317—22.

Brecher, Richard and Ronald Findlay, »Tariffs, Foreign Capital and National Welfare with Sector Specific Factors«, *Journal of International Economics,* May 1983, 14, 277—88.

Brock, Philip and Edward Tower, »Economic Liberalization in Less Developed Countries: Guidelines from the Empirical Evidence and Clarification of the Theory«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America,* New York: Praeger, 1987.

Calvo, Guilermo A., »On the Costs of Temporary Liberalization/Stabilization Experiments«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America,* New York: Praeger, 1987.

Citron, Joel-Tomas and Gerald Nicklesburg, »Country Risk and Political Instability«, *Journal of Development Economics,* September 1987, 25, 385—92.

Clark, Paul, »Step-by-Step Liberalization of a Controlled Economy: Experience in Egypt«, unpublished paper, 1982.

Cline, William R., *Trade Policy in the 1980s,* Washington: Institute for International Economics, 1983.

Connolly, Michael, »Exchange Rates, Real Economic Activity, and the Balance of Payments«, in E. Classen and P. Sahlin, eds., *Recent Issues in the Theory of Flexible Exchange Rates,* Amsterdam: North Holland, 1983.

Connolly, Michael and J. McDermott, eds., *The Economics of the Carribean Basin,* New York: Praeger, 1985.

Cooper, Richard N., Currency Devaluation in Developing Countries, Princeton Essays in International Finance no. 86, Princeton: Princeton University Press, June 1971.

Corbo, Vittorio, »The Use of Exchange Rate for Stabilization Purpose: The Case of Chile«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America,* New York: Praeger, 1987.

Corbo, Vittorio, and Jaime de Melo, »Liberalization with Stabilization in the Southern Cone of Latin America: Overview and Summary«, *World Development,* 8/1985, 13, 5—15.

Corbo, Vittorio, and Jaime de Melo, »Lessons from the Southern Cone Policy Experiments«, *World Bank Research Observer,* July 1987, 2, 111—143.

Cuddington, John T., *Capital Flight: Estimates, Issues, and Explanation,* Princeton Studies in International Finance no. 58, Princeton Universinty Press, December 1986.

Diaz-Alejandro, Carlos F., »A Note on the Impact of Devaluation and the Redistributive Effect«, *Journal of Political Economy,* December 1963, 71, 577—80.

Diaz-Alejandro, Carlos F., *Exchange Rate Devaluation in a Semi-Industrialized Economy: The Experience of Argentina 1955—1961,* Cambridge, Mass.: Cambridge University Press, 1965.

Diaz-Alejandro, Carlos F., »Trade Policies and Economic Development«, in P. B. Kennen, ed., *International Trade and Finance: Frontiers for Research,* Cambridge, Eng.: Cambridge University Press, 1975.

Diaz-Alejandro, Carlos F., »Southern Cone Stabilization Plans«, in W. R. Cline and S. Weintraub, eds., *Economic Stabilization in Developing Countries,* Washington, Brookings, Institution, 1981.

Diaz-Alejandro, Carlos F., »Good-bye Financial Repression, Hello Financial Crash«, *Journal of Development Economics,* January 1987, 19, 1—24.

Dornbusch Rudiger, »Tariffs and Nontraded Goods«, *Journal of International Economics,* August 1974, 177—85.

Dornbusch, Rudiger, »Stabilization Policies in Developing Countries: What Lessons Have We Learned?« *World Development,* 9/1982, *10,* 701—30.

Dornbusch, Rudiger, »Real Interest Rates, Home Goods and Optimal External Borrowing«, *Journal of Political Economy,* February 1983a, *91,* 141—53.

Dornbusch, Rudiger, »Remarks on the Southern Cone«, *IMF Staff Papers,* March 1983c, *30,* 173—6.

Dornbusch, Rudiger, »External Debt, Budget Deficits, and Disequilibrium Exchange Rates«, in G. Smith and J. Cuddington, eds., *International Debt in the Developing Countries,* Washington: The World Bank, 1985.

Dornbusch, Rudiger, *Inflation, Exchange Rates, and Stabilization,* Princeton Essays in International Finance no. 165, Princeton: Princeton University Press, October 1986.

Duahajre, Andrés, »Financial Reform in a Small Open Economy with a Flexible Exchange Rate«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America,* New York: Praeger, 1987.

Eaton, Jonathan, and Mark Gersovitz, *Poor Country Borrowing in Private Financial Markets and the Repudiation Issue,* Princeton Studies in International Finance no. 47, Princeton: Princeton University Press, June 1981.

Edwards, Sebastian, »The Short-Run Relation between Inflation and Growth in Latin America: Comment«, *American Economic Review, June* 83, 73, 477—82.

Edwards., Sebastian, »Less Developed Countries Foreign Borrowing and Default Risk: An Empirical Investigation«, *American Economic Review.* September 1984a, 74, 726—34.

Edwards, Sebastian, *The Order of Liberalization of the External Sector in Developing Countries,* Princeton Essays in International Finance no. 156, Princeton: Princeton University Press, December 1984b.

Edwards, Sebastian, »The Role of International Reserves and Foreign Debt in the External Adjustment Process, in J. Muns, ed., Adjustment, Conditionality and International Financing«, Washington: IMF, 1984c.

Edwards, Sebastian, »Stabilization with Liberalization: An Evaluation of Ten Years of Chile's Experience with Free Market Policies«, *Economic Development and Cultural Change,* January 1985, 33, 223—54.

Edwards, Sebastian, »Are Devaluations Contractionary?« *The Review of Economics and Statistics,* August 1986a, 501—8.

Edwards, Sebastian, »Terms of Trade, Exchange Rates and Labor Markets Adjustments in Developing Countries«, World Bank Development Research Department Discussion Paper no. 234, November 1986b.

Edwards, Sebastian, »The Liberalization of the Current and Capital Accounts and the Real Exchange Rate«, NBER Working Paper no. 2162, February 1987a.

Edwards, Sebastian, »Economic Liberalization and the Equilibrium Real Exchange Rate in the Developing Countries«, NBER Working Paper no. 2179, March 1987b.

Edwards, Sebastian, »Tariffs, Terms of Trade, and the Real Exchange Rate in an Intertemporal Optimizing Model of the Current Account««, NBER Working Paper no. 2175, March 1987c.

Edwards, Sebastian, »Sequencing of Economic Liberalization in Developing Countries«, *Finance and Development,* March 1987d, 26—29.

Edwards, Sebastian and Liaquat Ahamed, eds., *Economic Adjustment and Exchange Rates in Developing Countries,* Chicago: University of Chicago Press, 1986.

Edwards, Sebastian and Alejandra Cox Edwards, *Monetarism and Liberalization: The Chilean Experiment,* Cambridge, Mass.: Ballinger, 1987.

Edwards, Sebastian and Mohsin S. Khan, »Interest Rate Determination in Developing Countries«, *IMF Staff Papers,* September 1985, 32, 377—403.

Edwards, Sebastian and Sweder van Wijnbergen, »The Welfare Effects of Trade and Capital Market Liberalization: Consequences of Different Sequencing Scenarios«, NBER Working Paper no. 1245, December 1983.

Edwards, Sebastian and Sweder van Wijnbergen, »The Welfare Effects of Trade and Capital Market Liberalization«, *International Economic Review*, February 1986, *27*, 141—8.

Edwards, Sebastian and Sweder van Wijnbergen, »Tariffs, the Real Exchange Rate and the Terms of Trade: On Two Popular Propositions in International Economics«, *Oxford Economic Papers*, 1987a, *39* 458—64.

Edwards, Sebastian and Sweder van Wijnbergen, »On the Appropriate Timing and Speed of Economic Liberalization in Developing Countries«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America*, New York: Praeger, 1987b.

Fasano-Filho, Ugo, *Currency Substitution and Liberalization*, Hants, Eng.: Gower, 1986.

Frenkel, Jacob, A., »The Order of Economic Liberalization: A Comment«, in K. Brunner and. A. H. Meltzer, eds., *Economic Policy in a World of Change*, Amsterdam: North Holland, 1982.

Frenkel, Jacob, A., »Remarks on the Southern Cone«, *IMF Staff Papers*, March 1983, *30*, 164—73.

Gale, Douglas and M. Hellwig, »Incentive-Compatible Debt Contracts: The One-Period Problem«, *Review of Economic Studies*, 1985, *52*, 647—63.

Gale, Douglas and M. Hellwig, »The Optimal Debt Contract: A Comparative Static Analysis«, unpublished paper, University of Pennsylvania, 1986.

Gillis, Malcolm, Carl Shoup, and Gerardo D. Sicat, »Lessons from Value-Added Taxation for Developing Countries«, World Bank Development Research Department Discussion Paper no. 238, February 1987.

Grassman, Sven and Erik Lundberg, eds., *The World Economic Order:* Past and Prospects, New York: St Martins Press, 1981.

Grossman, Gene, »The Gains from International Factor Movements«, unpublished paper, May 1983.

Gylfason, Thorvalden and M. Schmid, »Does Devaluation Cause Stagflation?« *Canadian Journal of Economics*, 1983, 641—654.

Gylfason, Thorvalden and O. Risager, »Does Devaluation Improve the Current Account?«, *European Economic Review*, 1984, *25*, 37—64.

Hanson, James, »Contractionary Devaluation, Substitution in Production and Consumption and the Role of the Labor Market«, *Journal of International Economics*, February 1983, *14*, 179—189.

Herberger, Arnold, »The Chilean Economy in the 1970s: Crisis, Stabilization, Liberalization, Reform«, in K. Brunner and A. H. Meltzer, eds., *Economic Policy in a World od Change*, Amsterdam: North Holland, 1982.

Harberger, Arnold, »A Primer on the Chilean Economy«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America*, New York: Praeger, 1987.

Heller, Peter S. and Porter Richard C., Exports and Growth: An Empirical Re-Investigation«, *Journal of Development Economics*, June 1978, 5.

Johnson, Harry G., »Optimal Trade Intervention in the Presence of Domestic Distortions«, in R. Caves et al., eds., *Trade Growth, and Balance of Payments*, Chicago: Rand McNally, 1965.

Johnson, Harry G., »The Possibility of Income Losses from Increased Efficiency or Factor Accumulation in the Presence of Tariffs«, *Economic Journal*, March 1967, 77, 151—54.

Jung, Woo S. and Marshall, Peyton J., »Exports, Growth and Causality in Developing Countries«, *Journal of Development Economics*, March 1985, *18*, 1—12.

Kapur, Basant K., »Alternative Stabilization Policies for Less Developed Economies«, *Journal of Political Economy*, August 1976, 84, 777—95.

Kapur, Basant K., »Optimal Financial and Foreign Exchange Liberalization for Developing Countries«, Quarterly *Journal of Economics*, February 1983, 97, 41—62.

Khan, Mohsin S., »Macroeconomic Adjustment in Developing Countries: A Policy Perspective«, *World Bank Research Observer*, January 1987, 2,23—42.

Khan, Mohsin S. and Malcolm D. Knight, »Stabilization Programs in Developing Countries: A Formal Framework«, *IMF Staff Papers*, March 1981, 28, 1—53.

Khan, Mohsin S. and Malcolm D. Knight, »Determinants of Current-Account Balances of Non-Oil Developing Countries in the 1970s: An Empirical Analysis«, *IMF Staff Papers*, December 1983, 30, 819—42.

Khan, Mohsin S. and Malcolm D. Knight, »Import Compression and Export Performance in Developing Countries«, World Bank Development Research Department Discussion Paper no. 197, October 1986.

Khan, Mohsin S. and Malcolm D. Knight, »Import Compression and Export ges in Barriers to Trade and Capital Flows: A Simulation Analysis«, *IMF Staff Papers,* June 1983, 30, 223—82.

Khan, Mohsin S. and Roberto Zahler, »Trade and Financial Liberalization Given External Shocks and Inconsistent Domestic Policies«, *IMF Staff Papers,* March 1985, 32, 22—55.

Khan, Mohsin S. and Roberto Zahler, »The Liberalization of Trade and Capital Flows in Developing Countries: Some Theoretical and Empirical Issues«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America,* New York: Praeger, 1987.

Kiguel, Miguel A. and Jose Saul Lisondo, »Theoretical and Policy Aspects of Dual Exchange Rate Systems«, World Bank Development Research Discussion Paper no. 201, October 1986.

Kim, K. S. and D. F. Ruccio, eds., *Debt and Development in Latin America,* Notre Dame: University of Notre Dame Press, 1985.

Krueger Anne O., *Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences,* New York: National Bureau ot Economic Research, 1978.

Krueger, Anne O., »Interactions Between Inflation and Trade-Regime Objectives in Stabilization Programs«, in W. R. Cline and S. Weintraub, eds., *Economic Stabilization in Developing Countries,* Washington: Brookings Institution, 1981.

Krueger, Anne O., »Problems of Liberalization«, in A. Harberger, ed., *World Economic Growth,* San Francisco: ICS Press, 1984.

Krueger, Anne O., »How to Liberalize a Small Open Economy?« in M. Connolly and J. Mc Dermott, eds., *The Economics of the Carribean Basin,* New York: Praeger, 1985.

Krugman, Paul, and Lance Taylor, Contractionary Effects of Devaluation«, *Journal of International Economics,* August 1978, 8, 445—56.

Lal, Deepak, »The Real Aspects of Stabilization and Structural Adjustment Policies: An Extension of the Australian Adjustment Model«, World Bank Staff Working Paper no. 636, March 1985.

Lal, Deepak, and Sarath Rajapatirana, »Foreign Trade Regimes and Economic Growth in Developing Countries«, *World Bank Research Observer,* July 1987, *2,* 189—218.

Leamer, Edward E., »Welfare Computations and the Optimal Staging of Tariff Adjustments in Models with Adjustment Costs«, *Journal of International Economics,* February 1980, *10,* 21—36.

Lindbeck, Assar, »Public Finance for Market-Oriented Developing Countries«, World Bank Development Research Department Discussion Paper no. 212, January 1987.

Little, Ian, Tibor Scitovsky, and Maurice Scott, *Industry and Trade in Some Developing Countries: A Comparative Study*, London: Oxford University Press, 1970.

McKinnon, Ronald I., *Money and Capital in Economic Development*, Washington, Brookings Institution, 1973.

Mc Kinnon, Ronald I., »International Transfers and Non-traded Commodities: The Adjustment Problem«, in D. M. Leipziger, ed., *The International Monetary System and the Developing Nations*, Washington: Agency for International Development, 1976.

McKinnon, Ronald I., »Foreign Trade Regimes and Economic Development: A Review Article«, *Journal of International Economics*, 1979, 9, 429—52.

McKinnon, Ronald I., »The Order of Economic Liberalization: Lessons from Chile and Argentina«, in K. Brunner and A. H. Meltzer, eds., *Economic Policy in a World of Change*, Amsterdam: North Holland, 1982.

McKinnon, Ronald I. and Donald J. Mathieson, *How to Manage a Repressed Economy*, Princeton Essays in International Finance no. 145, Princeton: Princeton University Press, December 1981.

Mathieson, Donald J., »Financial Reform and Capital Flows in a Developing Economy«, *IMF Staff Papers*, September 1978, 25, 450—89.

de Melo, Jaime, »Financial Reforms, Stabilization, and Growth under High Capital Mobility: Uruguay 1974—1983«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America*, New York: Praeger, 1987.

Michaely, Michael, »Exports and Growth: An Empirical Investigation«, *Journal of Development Economics*, March 1977, 4, 49—54.

Michaely, Michael, »The Sequencing of Liberalization Policies: A Preliminary Statement of Issues«, unpublished paper, 1982.

Mihaljek, Dubravko, »A Review on the Course of Economic Growth in South European and Some Non-European Countries, 1952—1981«, *Economic Analysis*, 3/1983, 17, 279—308.

Mussa, Michael, »Tariffs and the Distribution of Income: The Importance of Factor Specificity«, *Journal of Political Economy*, November 1974, 82, 1191—1203.

Mussa, Michael, »Dinamic Adjustment in the Heckscher-Ohlin-Samuelson Model«, *Journal of Political Economy*, November 1978, 86, 775—92.

Mussa, Michael, »Government Policy and the Adjustment Process«, in J. Bhagwati, ed., *Import Competition and Response,* Chicago: University of Chicago Press, 1982.

Mussa, Michael, »The Adjustment Process and the Timing of Economic Liberalization«, NBER Working Paper no. 1458, September 1984.

Mussa, Michael, »Macroeconomic Policy and Trade Liberalization: Some Guidelines«, *World Bank Research Observer,* January 1987, 2, 61—78.

Neary, Peter, »Short-Run Capital Specificity and the Pure Theory of International Trade«, *Economic Journal,* September 1978, *88,* 448—510.

Neary, Peter, »Capital Mobility, Wage Stickiness and the Case for Adjustment Assistance«, in J. Bhagwati, ed., *Import Competition and Response,* Chicago, University of Chicago Press, 1982.

Obstfeld, Maurice, »Capital Flows, the Current Account and the Real Exchange Rate: The Consequences of Stabilization and Liberalization«, in S. Edwards and L. Ahamed, eds., *Economic Adjustment and Exchange Rates in Developing Countries* Chicago: University of Chicago Press, 1986.

Ram, Rati,»Exports and Economic Growth: Some Additional Evidence«, *Economic Development and Cultural Change,* January/February 1985, 415—25.

Ray, Edward J., »Trade Liberalization, Preferential Agreements, and their Impact on U. S. Imports from Latin America«, in M. Connolly and C. Gonzalez, eds., *Economic Reform and Stabilization in Latin America,* New York: Praeger, 1987.

Rodriguez, Carlos A., »Politica de Estabilization en la Economia Argentina 1978—1982«, *Cuadernos de Economia,* April 1983, 19, 322—40.

Sjaastad, Larry A., »Failure of Economic Liberalization in the Southern Cone of Latin America«, *World Economy,* March 1983, 6, 5—27.

Sjaastad, Laary A.,»Exchange Rate Regimes and the Real Rate of Interest«, in K. S. Kim and D. F. Ruccio, eds., *Debt and Development in Latin America,* Notre Dame: University of Notre Dame Press, 1985.

Smith, G. and J. Cuddington, eds., *International Debt in the Developing Countries,* Washington: The World Bank, 1985.

Snape, R. H., ed., *Issues in World Trade Policy,* New York, St. Martin's Press, 1986.

Stiglitz, Joseph and Andrew Weiss, »Credit Rationing in Markets with Imperfect Information«, *American Economic* Review, 1981, 71, 393—410.

Stiglitz, Joseph and Andrew Weiss, »Incentive Effects of Terminations: Applications to the Credit and Labor Market«, *American Economic Review*, 1981, 73, 912—927.

Taylor, Lance and Jeffrey Rosensweig, »Devaluation, Capital Flows and Crowding-Out: A CGE Model with Portfolio Choice for Thailand«, Working Paper, The World Bank, 1984.

Virmani, Arvind, »Credit Markets and Credit Policy in Developing Countries: Myths and Reality«, World Bank Development Research Department Discussion Paper no. 175, August 1985.

van Wijnbergen, Sweder, »Interdependence Revisited: A Developing Countries Perspective on Macroeconomic Management and Trade Policy in the Industrial World«, *Economic Policy*, November 1985, 1, 81—114.

van Wijnbergen, Sweder, »Fiscal Deficits, Exchange Rate Crises, and Inflation«, NBER Working Paper no. 2130, January 1987.