

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

Volume Title: Reform, Recovery, and Growth: Latin America and the Middle East

Volume Author/Editor: Rudiger Dornbusch and Sebastian Edwards, eds.

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-15745-4

Volume URL: <http://www.nber.org/books/dorn95-1>

Conference Date: December 17-18, 1992

Publication Date: January 1995

Chapter Title: Trade Policy, Exchange Rates, and Growth

Chapter Author: Sebastian Edwards

Chapter URL: <http://www.nber.org/chapters/c7649>

Chapter pages in book: (p. 13 - 52)

1 Trade Policy, Exchange Rates, and Growth

Sebastian Edwards

1.1 Introduction

After decades of protectionist policies, most of Latin America began to open up to the rest of the world in the late 1980s. This process, pioneered by Chile, is perhaps the most impressive achievement of the structural adjustment programs of the last decade. It has effectively put an end to more than four decades of generalized import substitution policies aimed at encouraging an industrial sector, that turned out to be largely inefficient.¹

The process leading to these trade reforms has not been easy. As recently as in the mid-1980s the protectionist view was still dominant in many parts of Latin America. In fact, the debt crisis of 1982 provided a new impetus to the protectionist paradigm. Initially, many analysts interpreted the crisis as a failure of “the world economic order” and argued that the only way for Latin America to avoid the recurrence of this type of shocks was to further isolate itself from the rest of the world, through selective protectionism and government intervention. This sentiment was compounded by the fact that a number of observers considered the experiences of the Southern Cone countries—Argentina, Chile, and Uruguay—with liberalization reforms during the 1970s as

Sebastian Edwards is chief economist for Latin America and the Caribbean at the World Bank. He is also the Henry Ford II Professor of International Business Economics at the Anderson Graduate School of Management, University of California, Los Angeles, and a research associate of the National Bureau of Economic Research.

The author is grateful to discussants at the conference for helpful comments and to participants at a seminar at the Instituto Tecnológico Autónomo de México (ITAM), Mexico City, for helpful discussions. He thanks Fernando Losada for excellent research assistance.

1. Even though the experiences of the individual Latin American countries varied during 1950–80, in the majority of them some variant of inward-looking development was the dominant policy. Since the early 1960s a number of trade liberalization attempts have taken place in the region. Almost every one of them has ended in frustration. In fact, until the late 1970s–1980s very little progress was made in this area.

a failure. This view has been clearly synthesized by Lance Taylor (1991, 119), who has argued that the “trade liberalization strategy is intellectually moribund” and that there are “no great benefits (plus some costs) in following open trade and capital market strategies” (141). From here he goes on to say that “development strategies oriented internally may be a wise choice towards the century’s end” (141).

Immediately following the eruption of the debt crisis, it seemed that increased protectionism was indeed the path that Latin American countries had chosen as a possible way out of their problems. Even Chile, the strongest supporter of free trade, tripled its import tariffs.² As a result of this, in the mid-1980s Latin America had one of the most distorted external sectors in the world, with extremely high import tariffs and, in some cases, quantitative restrictions that covered every single import item (see table 1.1).

However, by 1987–88 it became increasingly apparent that a permanent solution to the region’s economic problems would require a fundamental change in its development strategy. In particular, policymakers began to realize that the long-standing protectionist trade policy was central to the region’s problems. The poor performance of the Latin American countries offered a dramatic contrast to the rapidly growing East Asian countries that had aggressively implemented outward-oriented strategies. With the help of the multilateral institutions, a larger and larger number of countries began to reduce their levels of protection during the late 1980s and early 1990s. This trade reform process has been supplemented with broad deregulation and privatization, and is proceeding at an increasingly rapid pace. Tariffs have been drastically slashed, in many cases import licenses and prohibitions have been completely eliminated, and a number of countries are actively trying to sign free trade agreements with the United States.

Latin America’s long tradition with protectionist policies molded the region’s economic structure in a fundamental way, creating a largely inefficient manufacturing sector.³ Tariffs and prohibitions also generated a severe anti-export bias that discouraged both growth and diversification of exports.⁴ This process took place through two main channels. First, tariffs and other forms of protection increased the cost of imported intermediate materials and capital goods used in the production of exportable goods, reducing their effective rate of protection. Second, and perhaps more important, the maze of protectionist policies resulted in massive real exchange rate “overvaluation” that reduced

2. However, as I argued in Edwards (1988a), in many countries this increase in protectionism was dictated by necessity.

3. There has long been a literature documenting the consequences of protectionism in the Latin American economies. For recent studies, see the Latin American cases covered in the Michaely, Choski, and Papageorgiou (1991) project.

4. In the 1960s some countries decided to implement export promotion schemes based on government support and adjustable exchange rates. To some extent this was partially successful in Brazil. However, as Fishlow (1991) has pointed out, this development did little to reduce Brazil’s vulnerability to foreign shocks.

Table 1.1 Import Protection in the Developing World, 1985 (%)

	Total Tariff Protection ^a	Non-tariff Barriers Coverage ^b
South America	51	60
Central America	66	100
Caribbean	17	23
North Africa	39	85
Other Africa	36	86
West Asia	5	11
Other Asia	25	21

Source: Erzan et al. (1989).

Note: The data on both tariffs and NTBs reported here are weighted averages.

^aIncludes tariffs and paratariffs.

^bMeasures as a percentage of import lines covered by NTBs.

the degree of competitiveness of exports.⁵ Paradoxically, the policies that were supposed to reduce Latin America's dependency on the worldwide business cycle ended up creating a highly vulnerable economic structure, where the sources of foreign exchange were concentrated on a few products intensive in natural resources (Fishlow 1985).

The trade liberalization programs implemented during the last decade have two basic policy objectives. First, these reforms have sought to reduce the anti-export bias of commercial policies. It is expected that, once negative effective rates of protection and overvalued exchange rates are eliminated, exports will not only grow rapidly but will also become more diversified.

The second fundamental objective of trade reforms is to transform international trade into "the engine of growth." The new literature on "endogenous" growth has stressed the role of openness in explaining cross-country growth differentials over the long run.⁶ For example, Romer (1989) has argued that more open economies can take advantage of larger markets, increasing their degree of efficiency and their rate of growth. Other authors, including Grossman and Helpman (1991a, 1991b) and Edwards (1992b), have recently argued that openness affects the speed and efficiency with which small countries can absorb technological innovations developed in the industrial world. This idea, based on an insight first proposed by John Stuart Mill, implies that countries

5. Krueger (1978) documents these developments for a large number of countries. Diaz-Alejandro (1975, 1978) argues that real exchange rate overvaluation was one of the most negative economic developments in Argentina. For an analysis of a large number of Latin countries, see Bianchi (1988). For an early discussion on the Chilean case, see Behrman (1976). Since 1967 Colombia pursued a crawling-peg exchange rate policy explicitly aimed at avoiding overvaluation. The overall degree of protection, however, remained high (Garcia-Garcia 1991).

6. Traditional neoclassical growth models concentrated on the effect of national economic policies on the level of income per capita. The new generation of endogenous growth models have shifted attention to the relationship between different policies and the rate of growth of the economy. See Lucas (1988).

with a lower level of trade distortions will experience faster total factor productivity growth and thus will grow faster than countries that inhibit international competition.⁷

The purpose of this paper is to explore, from different perspectives, the relationship between trade liberalization and growth. The analysis deals with both long-run and transitional issues. I first concentrate (section 1.2) on the long-run relation between trade regimes and productivity growth. I use a broad fifty-four-country data set to investigate the way in which trade distortions have affected productivity growth in the 1971–82 period. The results obtained support the view that more open economies tend to have faster rates of productivity growth than countries that have distorted international trade. In sections 1.3 and 1.4, I discuss some of the most important problems faced during the transition by countries engaged in trade liberalization programs. While in section 1.3 I focus on general transitional issues at an analytical level, in section 1.4 I deal with the recent Latin American trade reforms. I first document the extent of trade liberalization. Second, I investigate whether, as predicted by some authors, these reforms have been associated with faster productivity growth. In section 1.5 I discuss the recent behavior of real exchange rates in Latin America, emphasizing the way in which they are likely to affect the sustainability of the trade reforms. Finally, in section 1.6 I present a summary of the paper, and I discuss some of the unresolved issues related to Latin American trade policy.

1.2 Openness and Growth: Cross-Country Evidence

1.2.1 A Simple Model

A number of researchers have found that factor accumulation explains between one-half and two-thirds of long-run growth (Fischer 1988). The large unexplained residual in growth accounting exercises has been attributed to “technological progress” or “productivity gains.” From a policy perspective a key question is what determines these productivity improvements. In particular, it is important to understand whether national domestic policies—including financial and trade policies—can affect the pace of productivity growth. If this is the case, policymakers will have additional degrees of freedom to pursue those avenues that will enhance long-run performance.

The recent interest on “endogenous” growth models has generated a revival in applied research on the determinants of growth. Some authors have empha-

7. In chapter 17 of his *Principles of Political Economy* (1848) Mill said that “a country that produces for a larger market than its own can introduce a more extended division of labor, can make greater use of machinery, and is more likely to make inventions and improvements in the process of production.” Arthur Lewis makes a similar proposition in his 1955 classic book on economic growth. See Tybout (1992) for a survey on the early empirical work in this area.

sized the role of openness in determining the pace at which countries can absorb technological progress originating in the rest of the world.⁸ Edwards (1992), for example, has recently assumed that there are two sources of total factor productivity (TFP) growth: (1) a purely domestic source stemming from local technological improvements (innovation); and (2) a foreign source related to the absorption of inventions generated in other nations (imitation). More specifically, assume that the country's ability to appropriate world technical innovations (or to imitate) depends on two factors: positively on the degree of openness of the economy and, also positively, on the gap between the country's level of TFP and "the world's" stock of TFP. The first channel is the "openness effect" discussed by Lewis (1955): more open countries have an advantage in absorbing new ideas generated in the rest of the world. In this context "more open" should be interpreted as referring to a less distorted foreign trade sector. The second channel is a "catch-up" effect, common to growth models based on "convergence" notions.

If the aggregate production function is defined as $y_t = Af(K_t, L_t)$, then TFP is $A_t = y_t/f(\cdot)$, and total productivity growth is (\dot{A}/A) . The role of the two sources of technical progress discussed above—innovation and imitation—can be captured by the following simple expression:

$$(1) \quad \frac{\dot{A}}{A} = \alpha + \left[\beta\omega + \gamma \left(\frac{A^* - A}{A} \right) \right],$$

where α and γ are positive parameters, A^* is the level of world's (appropriable) TFP, and ω is the rate of growth of world's TFP (that is, $A_t^* = A_0^* e^{\omega t}$). β is a parameter between zero and one that measures the country's ability to absorb productivity improvements originating from the rest of the world, and is assumed to be a negative function of the level of trade distortions in the economy (δ).

$$(2) \quad \beta = \beta(\delta); \beta' < 0,$$

where δ is an index of trade distortions that takes a higher value when international trade, both in imports and/or exports, becomes more distorted.

Parameter α is the basic rate of domestic productivity growth or innovation, which for simplicity is assumed to be exogenous. On the other hand, $(\gamma(A^* - A)/A)$ is the "catch-up" term that says that domestic productivity growth will be faster in nations whose stock of knowledge lags further behind the world's accumulated stock of appropriable knowledge.⁹

In this setting the path through time of domestic TFP will be given by¹⁰

8. Grossman and Helpman (1991a) provide a series of elegant models along these lines.

9. I assume that not all inventions generated in the world can be freely appropriated. In that sense, A^* could be interpreted as the accumulated stock of innovations in the more advanced countries that have spilled over to the rest of the world.

10. This, of course, is the solution to differential equation (1).

$$(3) \quad A_t = \left[A_0 - \left(\frac{\gamma}{\gamma + \omega(1 - \beta) - \alpha} \right) A_0^* \right] e^{-(\gamma - \alpha - \beta\omega)t} + \left(\frac{\gamma}{\gamma + \omega(1 - \beta) - \alpha} \right) A_0^* e^{\omega t}.$$

It follows from equation (3) that the long-run rate of growth of domestic TFP will depend on whether $(\gamma - \alpha - \beta\omega) \leq 0$. If $(\gamma - \alpha - \beta\omega) > 0$, in the steady-state TFP will grow at the rate of world's productivity ω . This means that the level of domestic TFP (and of GDP) will be a function of the degree of trade intervention, with higher trade distortions resulting in a lower level of real income. A key implication of this result is that countries that engage in trade liberalization programs will be characterized, during the transition between two steady states, by higher rates of productivity growth and thus by faster rates of GDP growth.

A second case appears when $(\gamma - \alpha - \beta\omega) < 0$. Long-run TFP growth (\dot{A}/A) will depend on how large the world's rate of growth of TFP (ω) is relative to the domestic rate of productivity improvement. If $\omega > (\alpha - \delta)/(1 - \beta)$, domestic TFP will grow in the steady state at the world rate ω . If $\omega < (\alpha - \gamma)/(1 - \beta)$, and $(\gamma - \alpha - \beta\omega) < 0$, however, the long-run equilibrium rate of TFP growth will be equal to $(\alpha + \beta\omega - \delta)$ ¹¹ and will depend negatively on δ , the country's level of trade distortions. That is, in this case more open countries (those with low δ) will grow faster during steady-state equilibrium. This is because in this case the domestic source of technological inventions is strong enough to drive, even in the steady state, the aggregate rate of technological innovations.¹²

The model developed above suggests that TFP growth will depend on the degree of trade distortions in the economy, and on a catch-up term that measures the gap between the country's and "the world's" level of productivity. I constructed a cross-country data set to test these implications of the model. More specifically, I estimated equations of the following type:

$$(4) \quad \rho_n = b_0 + b_1 \delta_n + b_2 g_n + \sum a_i x_{in} + \mu_n,$$

where ρ_n is the average rate of growth of TFP in country n ; δ_n is, as before, an index of trade distortions; g_n is the catch-up term; the x_i are other possible determinants of TFP growth; and μ is an error term.

Recently, Barro (1991), Edwards (1992), and Roubini and Sala-i-Martin (1992), among others, have suggested that, in addition to the degree of openness, productivity growth will also be affected by the following factors: (1) human capital, usually measured by schooling attainment; (2) the importance of government in the economy measured by schooling attainment; (2) the im-

11. Of course, in this case, $(\alpha + \beta\omega - \delta) > \omega$.

12. In Grossman and Helpman's (1991a) micromodel of technological progress, it is also possible that, under some circumstances, more open economics will exhibit higher long-run growth.

portance of government in the economy measured by the ratio of government expenditure to GDP; (3) the degree of political instability; and (4) the inflation rate.¹³ In the estimation of equation (4) reported below, I have incorporated these variables as possible determinants of productivity growth.

1.2.2 Data Definitions and Sources

TFP growth. A problem faced in the estimation of equations of the type of (4) refers to the measurement of TFP growth. In particular, it is difficult to obtain long time series of capital stocks for a large number of countries. In this paper I deal with this problem by constructing three measures of TFP growth from the residuals of country-specific GDP growth regressions. These indices are denoted TFP1, TFP2, and TFP3. The specific methodology used in constructing each of these indices is presented in appendix A.¹⁴

Trade distortions. Traditionally, studies that have investigated the relationship between trade policy and economic performance have had difficulties measuring the extent of trade distortions. In this paper I tackle this problem by using two variables. In most of the basic estimates I use the ratio of total revenue from taxes on foreign trade—import tariffs plus export taxes—over total trade as a proxy for trade distortions. This variable is measured as an average for 1971–82. Since this variable, denoted TRADETAX, measures the “true” extent of trade distortions with error, in the estimation of the TFP growth equation I also use an instrumental variable technique that tries to correct for measurement error. The second proxy I use is the 1971–82 average trade dependency ratio—imports plus exports as a percentage of GDP. These two indices of trade distortions were constructed with raw data obtained from the International Monetary Fund (IMF).

Catch-up term. Following the recent literature on endogenous growth (Barro 1991; Edwards 1992), I use initial GDP per capita—for year 1971 in this case—as a measure of the gap between a particular country’s level of productivity and that of the world. This variable is denoted as GDP71; the data were obtained from Summers and Heston (1988). The coefficient of this variable is expected to be negative, indicating that countries with a lower initial per capita GDP have more “catching up” to do and thus will grow faster.

Human capital. I use two indices. The first one is the attainment of secondary education in 1981. The second one is the increase in secondary education coverage between 1961 and 1981. When alternative indices, such as secondary and higher education, were used, the results obtained were not altered. The

13. See, for example, Barro (1991).

14. Naturally, these indices are at best proxies for TFP growth. formally, we can think that they measure TFP growth with error. To the extent that this measurement error term is additive, it can be collapsed into disturbance μ in equation (4).

data were obtained from the World Bank's *World Development Report*. The coefficient of this variable is expected to be positive.

Role of government. This index is defined as the share of government over GDP and is taken from Summers and Heston (1988). Barro (1991) has argued that this coefficient should be negative, capturing the effect that greater government activities tend, in general, to crowd out the private sector.

Political instability. This variable is defined as the average perceived probability of government change and is obtained from Cukierman, Edwards, and Tabellini (1992).¹⁵ Its coefficient in the TFP growth equations is expected to be negative, reflecting the fact that in politically unstable situations economic agents do not devote their full energies to pursue economic objectives.

Inflation tax. This variable is defined as the average collection of inflation tax for 1971–82 and is computed as πm , where π is the rate of inflation and m is the ratio of M1 to GDP. The coefficient of this variable is expected to be negative, reflecting the effects of higher inflation on uncertainty and economic activity.

1.2.3 Econometric Results

Tables 1.2 and 1.3 summarize the results obtained from the estimation of several versions of equation (4). Table 1.2 contains weighted least squares estimates—with population in 1971 as weight—for all three measures of TFP growth;¹⁶ table 1.3 presents instrumental variables regressions for the TFP1 definition of productivity growth. (When the other two indices were used, the results were not altered significantly.)

As can be seen from these tables, the results are highly satisfactory. Almost every coefficient has the expected sign and is significant at conventional levels. Particularly important for the discussion pursued in this paper is that in every regression the proxies for trade distortions and openness are highly significant. Moreover, the computation of standardized beta coefficients indicate that trade impediments are the second most important explanatory variable of TFP growth, after the catch-up term.¹⁷

As pointed out above, both the TRADETAX coefficient and the trade dependency ratio are imperfect proxies of trade distortions. In particular, they do not capture directly the role of quantitative restrictions on trade. In order to deal with this measurement error problem I estimated instrumental-variables ver-

15. These authors computed this index from a probit analysis on government change using pooled data for 1948–81.

16. In simple ordinary estimates, least squares heteroskedasticity was detected. Barro (1991) and Edwards (1992), among others, also used weighted least squares in equations of this type.

17. In equation (4.1) the standardized beta coefficient of TRADETAX is -0.75 ; that of GDP71 is -0.78 .

Table 1.2 Total Factor Productivity Growth Regressions: Cross-Country Results (weighted least squares)

	Eq. 4.1	Eq. 4.2	Eq. 4.3	Eq. 4.4	Eq. 4.5	Eq. 4.6
Definition of TFP growth ^a	TFP1	TFP1	TFP2	TFP2	TFP3	TFP3
Constant	-0.013 (-1.041)	-0.012 (-1.326)	-0.018 (-1.418)	-0.005 (-0.439)	0.074 (6.163)	0.030 (1.772)
GDP71	-1.9E-06 (-3.433)	-7.3E-07 (-1.929)	-1.8E-06 (-2.960)	-1.1E-06 (-2.451)	-3.7E-06 (-3.673)	-1.5E-06 (-2.187)
TRADETAX	-0.076 (-3.033)	—	-0.074 (-2.620)	—	-0.199 (-4.902)	—
Trade dependency	—	0.017 (3.147)	—	0.025 (3.910)	—	0.025 (2.480)
Government	-6.1E-04 (-2.429)	-4.2E-04 (-1.708)	-6.5E-04 (-2.292)	-4.1E-04 (-1.433)	-2.0E-03 (-5.157)	-2.0E-03 (-4.827)
Education	1.19E-04 (1.536)	1.56E-07 (2.130)	5.90E-05 (0.675)	1.30E-04 (1.560)	—	1.20E-04 (0.895)
Δ Education	—	—	—	—	1.60E-04 (1.453)	—
Political instability	-0.017 (-2.117)	-0.017 (-2.480)	-0.026 (-2.846)	-0.043 (-5.253)	-0.014 (-1.607)	-0.023 (-1.802)
Inflation tax	—	8.3E-05 (0.540)	—	8.8E-05 (0.487)	—	-2.7E-05 (-0.921)
R ²	0.400	0.351	0.492	0.487	0.598	0.416
N	54	52	54	52	52	52

Notes: t-statistics in parentheses. *N* is the number of observations; *R*² is the coefficient of determination. See appendix B for a list of the countries considered in this regression.

^aFor exact explanations on how TFP1, TFP2, and TFP3 were constructed, see appendix A.

sions of some of these equations. In reestimating equation (4) I used the trade penetration ratio of imports to GDP as instruments for TRADETAX.¹⁸ The results obtained are presented in table 1.3. As can be seen, they confirm those discussed previously and provide additional support to the view that, after controlling for other factors, countries with more open and less distorted foreign trade sectors have tended to exhibit a faster rate of growth of TFP, over the *long run*, than those nations with a more distorted external sector. The results presented in tables 1.2 and 1.3, however, provide no information on the transition from a closed economy to one that is more open and integrated to the rest of the world. I turn to those issues in sections 1.3–1.5.

18. The instruments themselves don't have to be measured free of error. Of course, the use of instrumental variables is not the only way of dealing with measurement error. In Edwards (1992) I use reversed regressions to construct intervals for a different proxy of openness in standard growth equations for a group of thirty countries.

Table 1.3 Total Factor Productivity Growth Regressions: Instrumental Variables (dependent variable TFP1)

	Eq. 4.7	Eq. 4.8
Constant	0.036 (1.689)	0.050 (2.037)
GDP71	-3.4E-06 (-2.766)	-3.7E-06 (-2.677)
TRADETAX	-0.171 (-2.432)	-0.185 (-2.314)
Government	-4.9E-04 (-1.708)	-5.5E-04 (-2.292)
Education	3.00E-05 (2.130)	4.80E-05 (0.675)
Political instability	-0.029 (-2.333)	-0.040 (-2.823)
Inflation tax	-8.1E-05 (-0.776)	-2.5E-05 (-0.939)
R^2	0.248	0.392
N	52	52

Notes: t -statistics in parentheses. N is the number of observations; R^2 is the coefficient of determination. The following instruments were used: a constant, GDP71, government, education, trade dependency, imports/GDP ratio, political instability, and inflation tax. These equations were weighted by population in 1971.

1.3 Policy Issues during a Trade Liberalization Transition

The analysis presented in section 1.2 provides support for the hypothesis that in the *long run* more open economies have experienced faster productivity growth than countries that distort international trade. However, as the former communist countries have recently found out, designing a strategy for moving from a controlled to a liberalized economy is not an easy task.

Two fundamental problems have to be addressed in the transition toward freer trade. First, it is important to determine what is the adequate speed of reform. For a long time analysts argued for gradual liberalization programs (Little, Scitovsky, and Scott 1970; Michaely 1985). According to these authors gradual reforms would give firms time for restructuring their productive processes and thus would result in low dislocation costs in the form of unemployment and bankruptcies. These reduced adjustment costs would, in turn, provide the needed political support for the liberalization program. Recently, however, the gradualist position has been under attack. There is increasing agreement that slower reforms tend to lack credibility, inhibiting firms from actually engaging in serious restructuring. Moreover, the experience of Argentina in the 1970s has shown that a gradual (and preannounced) reform allows those firms negatively affected by it to (successfully) lobby against the reduction in tariffs. According to this line of reasoning, faster reforms are more credible and thus tend to be sustained through time (Stockman 1982).

The thinking on the speed of reform has also been influenced by recent empirical work on the short-run unemployment consequences of trade liberalization. Contrary to traditional conventional wisdom, a study directed by Michaely, Choski, and Papageorgiou (1991) on liberalization episodes in nineteen countries strongly suggests that, even in the short run, the costs of reform can be small. Although contracting industries will release workers, those expanding sectors positively affected by the reform process will tend to create a large number of employment positions. The Michaely, Choski and Papageorgiou study shows that in sustainable and successful reforms the *net* effect—that is, the effect that nets out contracting and expanding sectors—on short-run employment has been negligible. A key question, then, is what determines a successful reform? Most historical studies on the subject have shown that maintaining a “competitive” real exchange rate during the transition is one of the most, if not the most, important determinants of successful trade reforms. A competitive, that is depreciated, real exchange rate encourages exports, and helps maintain external equilibrium at the time the reduction in tariffs has made imports cheaper.

The second problem that has to be addressed when designing a liberalization strategy refers to the sequencing of reform (Edwards 1984). This issue was first addressed in the 1980s in discussions dealing with the Southern Cone experiences, and emphasized the macroeconomic consequences of alternative sequences. It was generally agreed that resolving the fiscal imbalance and attaining some degree of macroeconomic reform should constitute the first stage of a structural reform. On subsequent steps, most agreed that the trade liberalization reform should precede the liberalization of the capital account, and that financial reform should be implemented simultaneously with trade reform.

The behavior of the real exchange rate is at the heart of this policy prescription. The central issue is that liberalizing the capital account would, under most conditions, result in large capital inflows and in an appreciation of the real exchange rate (McKinnon 1982; Edwards 1984; Harberger 1985). The problem with an appreciation of the real exchange rate is that it will send the “wrong” signal to the real sector, frustrating the reallocation of resources called for by the trade reform. The effects of this real exchange rate appreciation will be particularly serious if, as argued by Edwards (1984), the transitional period is characterized by “abnormally” high capital inflows, and the economy is characterized by high adjustment costs. If the opening of the capital account is postponed, however, the real sector will be able to adjust, and the new allocation of resources will be consolidated. According to this view, only at this time should the capital account be liberalized.

More recent discussions on the sequencing of reform have expanded the analysis and have included other markets. An increasing number of authors have argued that reform of the labor market—particularly removal of distortions that discourage labor mobility—should precede trade reform, as well as relaxation of capital controls. It is even possible that liberalization of trade

in the presence of highly distorted labor markets will be counterproductive, generating overall welfare losses in the country in question (Edwards 1992b).

As the preceding discussion has suggested, there is little doubt that the behavior of the real exchange rate is a key element during a trade liberalization transition. According to traditional manuals on "how to liberalize," a large devaluation should constitute the first step in a trade reform process. Bhagwati (1978) and Krueger (1978) have pointed out that in the presence of quotas and import licenses a (real) exchange rate depreciation will reduce the rents received by importers, shifting relative prices in favor of export-oriented activities and thus reducing the extent of the antiexport bias.¹⁹

Maintaining a depreciated and competitive real exchange rate during a trade liberalization process is also important in order to avoid an explosion in imports growth and a balance-of-payments crisis. Under most circumstances a reduction in the extent of protection will tend to generate a rapid and immediate surge in imports. On the other hand, the expansion of exports usually takes some time. Consequently, there is a danger that a trade liberalization reform will generate a large trade balance disequilibrium in the short run. This will not happen, however, if there is a depreciated real exchange rate that encourages exports and helps maintain imports in check. However, many countries have historically failed to sustain a depreciated real exchange rate during the transition. This failure has mainly been the result of expansionary macroeconomic policies, and has resulted in speculation, international reserves losses, and, in many cases, the reversal of the reform effort. In the conclusions to the massive World Bank project on trade reform, Michaely, Choski, and Papageorgiou (1991) succinctly summarize the key role of the real exchange rate in determining the success of liberalization programs: "The long term performance of the real exchange rate clearly differentiates 'liberalizers' from 'non-liberalizers'" (119). Edwards (1989) used data on thirty-nine exchange rate crises and found that in almost every case real exchange rate overvaluation gave rise to drastic increases in the degree of protectionism.

1.4 Recent Trade Liberalization Reforms in Latin America

During the last few years trade liberalization reforms have swept through Latin America; every country in the region has today a significantly more open trade sector than in the early and mid-1980s. The pioneer in the liberalization process was Chile, which between 1975 and 1979 unilaterally eliminated quantitative restrictions and reduced import tariffs to a uniform level of 10%. After a brief interlude with higher tariffs (at the uniform level of 30%) Chile currently has a uniform tariff of 11% and no licenses or other forms of quantitative controls. Uruguay implemented a reform in 1978 and, after a brief reversal, pushed forward once again in 1986. Bolivia and Mexico embarked on their

19. See Krueger (1978, 1981) and Michaely, Choski, and Papageorgiou (1991).

reforms in 1985–86, followed by a series of countries in the late 1980s. At the current time a number of countries, including Brazil, are proceeding steadily with scheduled rounds of tariff reduction and the dismantling of quantitative restrictions. However, it is still unclear whether all these reforms will be sustained, becoming a permanent feature of the Latin economies, or whether some of them will be reversed. Developments in Argentina in October 1992 indeed suggest that in some countries higher tariffs may be implemented, once again, in the near future.

The Latin American trade reforms have been characterized by four basic elements: (1) the reduction of the coverage of nontariff barriers (NTBs), including quotas and prohibitions; (2) the reduction of the average level of import tariffs; (3) the reduction of the degree of dispersion of the tariff structure; and (4) the reduction or elimination of export taxes. In this section I document the extent of the recent liberalization programs, and I provide a preliminary evaluation of the effects of these reforms on productivity growth and exports expansion.

1.4.1 The Policies

Nontariff Barriers

A fundamental component of the trade reform programs has been the elimination, or at least the severe reduction, of NTBs coverage. During the early and mid-1980s in some countries, such as Colombia and Peru, more than 50% of import positions were subject to licenses or outright prohibitions. In Mexico NTBs coverage reached almost 100% of import categories in 1984, as was the case in most of Central America in 1984 (table 1.1).

Table 1.4 contains data on protectionism in 1985–87 and 1991–92, and shows that in almost every country the coverage of NTBs has been dramatically reduced.²⁰ In a number of cases NTBs have been fully eliminated. The process through which NTBs have been eased has varied from country to country. In some cases, such as Honduras, they were initially replaced by (quasi) equivalent import tariffs and then slowly phased out. In other countries, like Chile, NTBs were rapidly eliminated without a compensating hike in tariffs.

As table 1.4 shows, in spite of the progress experienced in the last few years, significant NTBs coverage remains in a number of countries. In most cases these NTBs correspond to agricultural products. For example, in Mexico approximately 60% of the agriculture's sector tariff positions were subject to im-

20. These are *unweighted* averages and thus are not comparable to those presented in table 1.1. There has been a long discussion in applied international trade theory on whether tariffs and NTBs should be measured as weighted or unweighted averages. Both views have some merits and some limitations. An obvious problem of the weighted average approach (where the weights are the import shares) is that more restrictive distortions will tend to have a very small weight. In the extreme case, prohibitive tariffs that effectively ban the importation of a particular item will have a zero weight! Corden (1969) provides an early and still highly relevant discussion on these issues.

Table 1.4 The Opening of Latin America: Selected Countries

Country	Tariff Protection (tariffs plus paratariffs, unweighted averages)		Coverage of Nontariff Barriers (unweighted averages)		Range of Import Tariffs					
	1985	1991–92	1985–87	1991–92	1980s		Current			
					Year	Min. (%)	Max. (%)	Year	Min. (%)	Max. (%)
Argentina	28.0	15.0	31.9	8.0	1987	0.0	55.0	1991	0.0	22.0
Bolivia	20.0	8.0	25.0	0.0	1985	0.0	20.0	1991	5.0	10.0
Brazil	80.0	21.1	35.3	10.0	1987	0.0	105.0	1992	0.0	65.0
Chile	36.0	11.0	10.1	0.0	1987	0.0	20.0	1992	11.0	11.0
Colombia	83.0	6.7	73.2	1.0	1986	0.0	200.0	1991	0.0	15.0
Costa Rica	92.0	16.0	0.8	0.0	1986	1.0	100.0	1992	5.0	20.0
Ecuador	50.0	18.0	59.3	n.a.	1986	0.0	290.0	1991	2.0	40.0
Guatemala	50.0	19.0	7.4	6.0	1986	1.0	100.0	1992	5.0	20.0
Mexico	34.0	4.0	12.7	20.0	1985	0.0	100.0	1992	0.0	20.0
Nicaragua	54.0	n.a.	27.8	n.a.	1986	1.0	100.0	1990	0.0	10.0
Paraguay	71.7	16.0	9.9	0.0	1984	0.0	44.0	1991	3.0	86.0
Peru	64.0	15.0	53.4	0.0	1987	0.0	120.0	1992	5.0	15.0
Uruguay	32.0	12.0	14.1	0.0	1986	10.0	45.0	1992	10.0	30.0
Venezuela	30.0	17.0	44.1	5.0	1987	0.0	135.0	1991	0.0	50.0

Source: World Bank, International Economics Department database; UNCTAD (1987); Erzan et al. (1989).

port licenses in mid-1992. In fact, an important feature of the region's liberalization programs is that they have proceeded much more slowly in agriculture than in industry. This has largely been the result of the authorities' desire to isolate agriculture from fluctuations in world prices and of unfair trade practices by foreign countries.²¹ However, as a recent study by Valdes has shown (1992), this approach based on NTBs entails serious efficiency costs. Slowly, however, more and more countries are addressing these concerns by replacing these quantitative restrictions by variable levies (see Valdes 1992).

Tariff Dispersion

The import substitution development strategy pursued for decades in Latin America created highly dispersed protective structures. According to the *World Development Report* (1987), Brazil, Chile, and Colombia had some of the broadest ranges of effective rates of protection in the world during the 1960s. Also, Heitger (1987) shows that during the 1960s Chile had the highest rate of tariff dispersion in the world—with a standard deviation of 634%—closely followed by Colombia and Uruguay. Cardoso and Helwege (1992) have pointed out that highly dispersed protective structures generate high welfare costs, by increasing uncertainty and negatively affecting the investment process. These highly dispersed tariffs and NTBs were the result of decades of lobbying by different sectors to obtain preferential treatment. As the relative power of the different lobbies changed, so did their tariff concessions and the protective landscape.

An important goal of the Latin trade reforms has been the reduction of the degree of dispersion of import tariffs. Table 1.4 contains data on the tariff range for a group of countries for two points in time—mid-1980s (1985–87) and 1991–92—and clearly documents the fact that the reforms have indeed reduced the degree of tariff dispersion.

In many cases reducing tariff dispersion has meant *increasing* tariffs on goods that were originally exempted from import duties. In fact, table 1.4 shows that in many countries the minimum tariff was 0% in the mid-1980s. Generally, zero tariffs have been applied to intermediate inputs used in the manufacturing process.²² From a political economy perspective the process of raising some tariffs, while maintaining a proliberalization rhetoric, has not al-

21. The issue of protecting local producers from dumping is important in the design of the new liberalized trade regimes. The crucial problem is to enact legislation that is able to distinguish true cases of unfair trade practices from simple cases of increased foreign competition stemming from more efficient productive processes. At this time the approval of a dynamic and flexible antidumping legislation should be high in the region's agenda for legal and institutional reform.

22. This system with very low (or zero) tariffs on intermediate inputs and high tariffs on final goods generated very high rates of effective protection or protection to domestic value added. In recent years a number of authors have argued that the use of effective protection is misleading. The reason for this is that effective rates of protection (ERPs) are unable to provide much information on the general equilibrium consequences of tariff changes (Dixit 1986). In spite of this, ERP measures are still useful, since they provide an indication on the degree of "inefficiency" a country is willing to accept for a particular sector.

ways been easy. Those sectors that had traditionally benefited from the exemptions suddenly saw their privileged situation come to an end and tried to oppose them strongly.

An important question addressed by policymakers throughout the region is, by how much should tariff dispersion be reduced? Should the reforms implement a *uniform* tariff, or is some (small) degree of dispersion desirable? From a strict welfare perspective uniform tariffs are only advisable under very special cases. However, they have a political economy appeal. More specifically, a uniform tariff system is very transparent, making it difficult for the authorities to grant special treatments to particular firms or sectors (Harberger 1990).

Average Tariffs

Reducing the average degree of protections is, perhaps, the fundamental policy goal of trade liberalization reforms. Traditional policy manuals on the subject suggest that once the exchange rate has been devalued and quantitative restrictions have been reduced or eliminated, tariffs should be slashed in a way such that both their range and average is reduced.²³ Table 1.4 contains data on average total tariffs (tariffs plus paratariffs) in 1985 and 1991–92. As can be seen, the extent of tariff reduction has been significant in almost every country. Even those nations that have acted somewhat cautiously in the reform front, such as Brazil and Ecuador, have experienced important cuts in import tariffs, allowing a more competitive environment and reducing the degree of anti-export bias of the trade regime.

Countries that have embarked on trade liberalization in recent years have moved much faster than those nations that decided to open up earlier. There has been a clear change in what is perceived to be our *abrupt* and *rapid* removal of imports impediments. What only fifteen years ago were seen as brutally fast reforms are now looked at as mild and gradual liberalizations. When Chile initiated the trade reform in 1975, most analysts thought that the announced tariff reduction from an average of 52% to 10% in four and a half years was an extremely aggressive move that would cause major dislocations, including large increases in unemployment. The view on the speed of reform has become very different in the early 1990s, when an increasing number of countries have been opening up their external sectors very rapidly. For instance, Colombia slashed (total) import tariffs by 65% *in one year*, reducing them from 34% in 1990 to 12% in 1991. This fast approach to liberalization has also been followed by Argentina and Nicaragua, who eliminated quantitative restrictions in one bold move and slashed import tariffs from an average of 110% in 1990 to 15% in March of 1992. As suggested previously, the speed of trade reforms has been directly related to the belief that faster reforms are more credible and thus more likely to be sustained through time.

23. However, “tariffs” is sometimes a misleading term, since many countries have traditionally relied on both import duties (that is, tariffs proper) and import duty surcharges, or paratariffs.

Exchange Rate Policy

In the vast majority of the countries the first step in the trade reform process was the implementation of large (nominal) devaluations. In many cases this measure represented a unification of the exchange rate market. Most countries implemented large exchange rate adjustments as early as 1982 in order to face the urgencies of the adjustment process. The purpose of these policies was to generate *real* exchange rate devaluations, as a way to reduce the degree of antiexport bias of incentives systems.

Many countries adopted crawling-peg regimes to protect the real exchange rate from the effects of inflation. Although these systems helped avoid the erosion of competitiveness, they also added fuel to the inflationary process. They introduced a certain degree of inflationary inertia, and have contributed in many countries to the slow reduction of the rate of inflation. More recently, a number of countries have begun to use the exchange rate as an anchor in order to bring down inflation. This has resulted in the slowing down of the rate of crawl below inflation differentials or, in some cases, in the fixing of the exchange rate, as in Argentina.

Table 1.5 contains data on real exchange rates for a group of Latin American countries for 1970, 1980, 1987, and 1991. As is customary in Latin America, an increase in the index represents a real exchange rate *depreciation* and thus an improvement in the degree of competitiveness. As can be seen between 1980 and 1987 almost every country in the sample experienced very large real depreciations. In many cases, however, these have been partially reversed in the last few years. This has been the consequence of a combination of factors, including the inflow of large volumes of foreign capital into these countries since 1990, and the use of the exchange rate as the cornerstone of the disinflation policies. This issue is addressed in greater detail in section 1.5.

Table 1.5 Real Exchange Rates in Selected Latin American Countries
(1985 = 100)

Country	1970	1980	1987	1991
Argentina	78.7	35.8	80.7	44.0
Bolivia	98.3	88.1	107.9	112.1
Brazil	51.9	70.7	78.0	51.4
Chile	29.4	55.3	94.8	83.0
Colombia	86.1	79.2	115.9	126.3
Costa Rica	58.4	65.8	94.9	97.2
Ecuador	118.6	105.6	153.3	173.7
Mexico	86.1	83.3	123.9	77.0
Paraguay	104.6	74.4	111.4	114.3
Peru	59.3	77.1	46.1	23.1
Uruguay	73.0	49.7	77.2	62.0
Venezuela	80.3	84.2	134.8	132.8

Source: International Financial Statistics, International Monetary Fund.

1.4.2 Adjustment and Productivity

The relaxation of trade impediments has had a fundamental impact on the region's economies. Suddenly, Latin America's industry, which to a large extent had developed and grown behind protective walls, was forced to compete. Many firms have not been able to survive this shock and have become bankrupt. Others, however, have faced the challenge of lower protection by embarking on major restructuring and by increasing their level of productivity.

The ability (and willingness) of firms to implement significant adjustment depends on two main factors: the degree of credibility of the reform, and the level of distortions in the labor market. If entrepreneurs believe that the reform will not persist through time, there will be no incentives to incur the costs of adjusting the product mix and of increasing the degree of productive efficiency. In fact, if the reform is perceived as temporary, the optimal behavior is not to adjust; instead it is profitable to speculate through the accumulation of imported durable goods. This was, as Rodriguez (1982) has documented, the case in Argentina during the failed Martinez de Hoz reforms.²⁴

Labor market conditions affect the adjustment process in several ways. First, in order to survive, firms facing stiffer foreign competition have to increase labor productivity, which in many cases means reducing the number of workers. This reduction in employment will tend to be offset by new hires in expanding firms in the sectors with comparative advantage. Many times, however, existing labor market regulations are extremely cumbersome, inhibiting the adjustment process and forcing out of business firms that are structurally viable in the long run. Additionally, labor market distortions negatively affect the investment process, including direct foreign investment (see Cox-Edwards 1992).

In their studies on the interaction between labor markets and structural reforms, Krueger (1980) and Michaely, Choski, and Papageorgiou (1991) found that most successful trade reforms have indeed resulted in major increases in labor productivity. This has been the case in some of the early Latin American reforms for which there are data. For example, according to Edwards and Cox-Edwards (1991) labor productivity in the Chilean manufacturing sector increased at an average annual rate of 13.4% between 1978 and 1981. On the other hand, the available evidence suggests that the increases in labor productivity in the Mexican manufacturing sector in the postreform period have been moderate. According to World Bank (1992) data, labor productivity in Mexico barely increased between 1988 and 1991—the index went from 92.7 to 105.1. In a recent study Ibarra (1992) has calculated that labor productivity in the Mexican manufacturing sector—excluding the *maquiladora* sector—has increased at an average rate of 2.3% per annum.

24. See Corbo, Condon, and de Melo (1985) for a detailed microeconomic account of the process of adjustment in a large group of Chilean manufacturing firms.

As discussed in section 1.2, recent models of growth have suggested that countries that are more open to the rest of the world will exhibit a faster rate of technological improvement. From an empirical point of view this means that countries that open up their external sectors and engage in trade liberalization reforms, will experience an *increase* in TFP growth relative to the prereform period. Table 1.6 contains data on the change in TFP growth in the period following the implementation of trade liberalization reform in six Latin countries.²⁵ As can be seen, Chile and Costa Rica, two of the earlier reformers, experienced very large increases in TFP growth in the postreform period. The results for Chile coincide with those obtained by Edwards (1985), who found that in the late 1970s, after the trade reforms had been completed, TFP growth was approximately three times higher than the historical average.²⁶ Although the outcome has been less spectacular, Argentina and Uruguay still exhibit substantial improvements in productivity growth in the period following the opening up. Bolivia, on the other hand, presents a flat profile of TFP growth. Sturzenegger (1992) argues that the very slow improvement in Bolivian productivity growth has been, to a large extent, the result of negative terms of trade shocks and, in particular of the collapse of the tin market.

Perhaps the most interesting and puzzling result in table 1.6 is the slight decline in aggregate TFP growth in Mexico after the reforms. Martin (1992) shows that this finding is robust to alternative methods of measuring TFP growth, including different procedures for correcting for capacity utilization. Also, Harberger (1992) finds a slowing down of TFP growth in Mexico in 1986–90 relative to 1975–82. However, the aggregate nature of the TFP growth data in table 1.6 tends to obscure the actual sectoral response to the trade reform. According to new theories on endogenous growth, faster productivity will be observed in those sectors where protectionism has been *reduced*, and not in those still subject to trade barriers or other forms of regulations.

A distinctive characteristic of the Mexican reform is that, contrary to the Chilean case, it has been uneven. In particular, while most of the manufacturing sector—with the exception of automobiles—has experienced a significant reduction in protection, agriculture continues to be subject to relatively high tariffs and substantial NTBs. Moreover, until very recently the Mexican land tenure system was subject to substantial distortions that, among other things,

25. The original TFP growth data comes from Martin's (1992) study on sources of growth in Latin America. The countries in table 1.6 are those that initiated the reform before 1988. In order to compute series on TFP growth, Martin (1992) analyzed the contributions of capital and labor and explicitly incorporated the role of changes in the degree of capital utilization. The countries considered in this study are Argentina, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Uruguay, and Venezuela. Harberger (1992) presents data on TFP growth before and after a series of historical trade reform episodes. He finds that in the majority of the cases productivity growth increased after the liberalization process.

26. It may be argued, however, that the major increase in TFP growth in Chile has been the result of the *complete* structural reform package implemented in that country.

Table 1.6 Changes in Total Factor Productivity Growth

Argentina	1.91	Costa Rica	3.25
Bolivia	0.11	Mexico	-0.32
Chile	4.96	Uruguay	2.02

Source: Martin (1992).

Note: For all countries but Chile, computed as the difference of TFP growth for 1987–91 and 1978–82. For Chile the prereform period is 1972–78.

severely restricted the market for land—the *ejido* system. Additionally, during much of the post-debt crisis period large fragments of services sector—including telecommunications and financial services—were under direct government control and subject to distortions.

Table 1.7 contains data on TFP growth in Mexico's manufacturing sector for 1940–89.²⁷ Interestingly enough, these figures indicate that in the post-trade reform period the rate of productivity growth in the Mexican manufacturing sector has exceeded every subperiod since 1940 for which there are data. This provides some evidence in favor of the view that, once the sectors actually subject to increased competition are considered, Mexican productivity growth has indeed improved after the trade reform. It should be noted, however, that recent TFP growth in manufacturing in Mexico (see table 1.8 for disaggregated data) has not been as large as in Chile's postreform period, where some sectors experienced growth in TFP of the order of 15% in 1978–82 (Fuentes 1992). There are a number of possible explanations for this marked difference in behavior, including the uncertainties about North American Free Trade Agreement approval, which resulted in the postponement of investment in some of the key manufacturing sectors subject to increased foreign exposure.

By and large, however, the data analyzed in this subsection provides broad support to the position that TFP growth has tended to increase in the period following major trade reforms in Latin America.

1.4.3 Trade Reforms and Exports

An important goal of the reforms has been to reduce the traditional degree of antiexport bias of Latin American trade regimes, and to generate a surge in exports. This reduction of the bias is expected to take place through three channels: a more competitive—that is more devalued—real exchange rate; a reduction in the cost of imported capital goods and intermediate inputs used in the production of exportable goods; and a direct shift in relative prices in favor of exports.

The volume of international trade in Latin America, and in particular of

27. Since these figures come from two different sources, they may not be fully comparable and thus should be interpreted with care.

Table 1.7 Total Factor Productivity Growth in Manufacturing in Mexico, 1940–90 (%)

1940–50	0.46
1950–60	0.53
1960–70	3.00
1970–80	N.A.
1985–89	3.40

Sources: The data for 1940–80 are from Elias (1992). The figure for 1985–89 is from Ibarra (1992).

Table 1.8 Disaggregated Productivity Growth, in Mexico's Manufacturing Sector, 1985–90 (%)

Division	Labor Productivity	Total Factor Productivity
Food, beverages, and tobacco	1.7	3.4
Textiles and apparel	0.7	0.4
Wood products	0.2	3.4
Paper and printing	2.3	4.8
Chemicals, rubber, and plastics	2.3	2.3
Nonmetallic products	1.1	3.5
Metal products	7.5	3.5
Machinery	4.4	4.7
Other manufacturing	-4.8	N.A.
Total manufacturing	2.3	3.4

Source: Ibarra (1992).

exports, increased significantly after the reforms were initiated.²⁸ For example, while for the region as a whole the *volume* of exports grew at an annual rate of only 2.0% between 1970 and 1980, it grew at a rate of 5.5% between 1980 and 1985, and at a rate of 6.7% between 1986 and 1990.²⁹ Although, strictly speaking, it is not possible to fully attribute this export surge to the opening-up reforms, there is significant country-specific evidence suggesting that a more open economy, and in particular a more depreciated real exchange rate, has positively affected exports growth.³⁰ Some countries, especially Costa Rica, have accompanied the opening-up process with the implementation of a bat-

28. Trade liberalization aims at increasing a country's total volume of trade. Under textbook conditions it is expected that at the end of the reform trade will be balanced. However, there are a number of circumstances, including the need to pay the country's foreign debt, under which trade will not grow in a balanced way after a reform. This has been the case in the majority of the Latin American countries.

29. The real *value* of exports, however, has evolved at a somewhat slower pace. The reason for this is that terms of trade have experienced, in every subgroup of countries, a significant deterioration during 1980–91 (see CEPAL 1991). These data are from CEPAL (1991).

30. See, for example, Noguees and Gulati (1992).

tery of export promotion schemes, including tax credits—through the Certificado de Abono Tributario—duty-free imports, and income tax exemptions. However, some authors, including Nogues and Gulati (1992), have argued that these systems have not been an effective way of encouraging exports.

Table 1.9 presents detailed country-level data on the rate of growth of the total value of exports (in constant dollars) for three periods. Table 1.10, on the other hand, contains information on the evolution of exports volume throughout the period. A number of facts emerge from these tables. First, while there has been a rapid growth in exports for the region as a whole, there are nontrivial variations across countries; in some cases there has even been a decline in the real value of exports—this is the case, for example, of Peru. Second, exports performance during two of the subperiods (1982–87 and 1987–91) has not been homogeneous. In the majority of the countries exports performed significantly better during 1987–91, than in the previous five years, reflecting, among other things, the fact that it takes some time for exports to actually respond to greater incentives.

An interesting fact that emerges from these tables is that in the country that has lagged behind in terms of trade reform—Ecuador—the performance of exports volume has been in recent years below the 1970–80 historical average. On the other hand, in two of the early reformers—Bolivia and Chile—exports had a very strong behavior in the 1987–91 subperiod.

The case of Chile is particularly interesting. Since most of its liberalization effort was undertaken prior to 1980, there are enough data points to provide a

Table 1.9 Value of Exports of Goods and Nonfactor Services:
Annual Growth Rates (%)

Country	1972–80	1982–87	1987–91
Argentina	7.1	2.6	10.3
Bolivia	-1.8	0.6	11.4
Brazil	8.8	9.7	3.4
Chile	15.2	6.5	10.5
Colombia	4.9	10.2	6.6
Costa Rica	4.3	3.8*	9.1
Ecuador	6.7	3.3	9.2
Mexico	7.9	6.0	5.1
Paraguay	6.7	4.8	20.2
Peru	2.6	-3.7	0.9
Uruguay	10.0	4.2	7.1
Venezuela	-7.3	3.6	5.6

Sources: World Bank, International Economics Department database; ECLAC, *Statistical Yearbook for Latin America*, several issues.

Note: Based on constant 1990 prices (U.S. dollars).

*Changes over the period 1981–87.

Table 1.10 Volume of Exports: Annual Growth Rates (%)

Country	1972-80	1982-87	1987-91
Argentina	2.1	0.8	15.2
Bolivia	-1.7	-5.2	16.5
Brazil	8.2	8.0	2.4
Chile	7.4	7.6	7.5
Colombia	3.6	14.8	6.3
Costa Rica	3.8	6.2*	8.6
Ecuador	14.6	6.8	7.6
Mexico	10.2	6.1	5.2
Paraguay	7.3	9.2	27.1
Peru	2.3	-4.0	1.3
Uruguay	5.4	-0.5	8.1
Venezuela	-5.8	2.1	8.3

Sources: World Bank, International Economics Department database; ECLAC, *Statistical Yearbook for Latin America*, several issues.

*Changes over the period 1981-87.

more detailed evaluation of export response to the new regime. Between 1975 and 1980—when tariffs were reduced to a uniform 10% and NTBs were completely eliminated—the behavior of Chilean exports was spectacular, growing (in volume terms) at an average of 12% per year—many times higher than the historical average of 1960-70 of only 2.6% per annum. What is particularly impressive is that most of the exports surge has taken place in the non-traditional sector, including manufacturing, agriculture, and fishing products (CEPAL 1991).

Among the early reformers, Mexico exhibits a rather slower rate of growth of total exports in the postreform period than during 1970-80. This, however, is largely an illusion stemming from the fact that during the 1970s Mexico's oil production increased substantially—at a rate exceeding 18% per year. When nontraditional exports are considered, the postreform performance is remarkable, with an annual average rate of growth for 1985-91 exceeding 25%.³¹

A stated objective of trade reforms has been to increase the degree of diversification of exports. Tables 1.11 and 1.12 contain data on the share of nontraditional exports and manufacturing exports for a large number of countries, and show that in the period following the trade reforms their importance has increased steadily. Also, in the majority of the countries the share of the ten most important export goods in total exports has declined significantly in the last few years (CEPAL 1991).

A critical question is whether the rapid growth and diversification of exports in Latin America will be sustained, or whether it will be a temporary phenome-

31. A large percentage of this growth, however, has been in the *maquiladora*, or in-bond sector.

Table 1.11 Composition of Exports of Goods: Nontraditional Exports/Total Exports

Country	1980	1982	1985	1987	1990
Argentina	0.27	0.31	0.28	0.31	0.39
Bolivia	0.15	0.09	0.05	0.19	0.47
Brazil	0.57	0.59	0.66	0.69	0.70
Chile	0.38	0.22	0.35	0.39	N.A.
Colombia	0.41	0.42	0.41	0.55	0.64
Costa Rica	0.36	0.38	0.37	0.42	0.54
Ecuador	0.24	0.09	0.12	0.14	0.10
Mexico	0.13	0.20	0.18	0.38	0.43
Paraguay	0.58	0.71	0.82	0.68	0.65
Peru	0.21	0.23	0.24	0.27	0.29
Uruguay	0.61	0.58	0.66	0.67	0.63
Venezuela	0.04	0.07	0.09	0.13	0.19

Source: ECLAC, *Economic Survey of Latin America*, several issues.

Table 1.12 Composition of Exports of Goods: Exports of Manufactures/Total Exports

Country	1970	1980	1982	1985	1987	1990
Argentina	0.14	0.23	0.24	0.21	0.31	0.29
Bolivia	0.03	0.02	0.03	0.01	0.03	0.05
Brazil	0.15	0.37	0.38	0.44	0.50	0.52
Chile	0.04	0.09	0.07	0.11	0.09	0.10
Colombia	0.11	0.20	0.24	0.17	0.19	0.25
Costa Rica	0.19	0.28	0.25	0.22	0.24	N.A.
Ecuador	0.02	0.03	0.03	0.01	0.02	0.02
Mexico	0.33	0.11	0.10	0.21	0.38	0.43
Paraguay	0.08	0.04	0.09	0.06	0.10	0.10
Peru	0.01	0.17	0.16	0.13	0.17	N.A.
Uruguay	0.15	0.38	0.32	0.35	0.55	0.50
Venezuela	0.01	0.02	0.02	0.10	0.06	0.15

Source: ECLAC, *Statistical Yearbook for Latin America*, several issues.

non. To a large extent this will depend on the policies undertaken, and on the behavior of variables such as the real exchange rate. This is the subject of the next section.

1.5 Recent Real Exchange Rate Behavior in Latin America

In the last years competitive real exchange rates have been at the center of the vigorous performance of most of Latin America's external sectors. Recently, however, in most Latin countries real exchange rates have experienced rapid real appreciations (fig. 1.1). These developments have generated consid-

erable concern among policymakers and political leaders. A number of observers have argued that the reduction in exports competitiveness is negatively affecting the most dynamic sectors in these economies, reducing growth and employment expansion (see Calvo, Leiderman, and Reinhart 1992).

These real appreciations have been the result of two basic factors: first, the use in many countries of the exchange rate policy as an anti-inflationary tool and, second, massive capital inflows into Latin America that have made foreign exchange “overabundant.”

In the late 1980s some analysts, including the staff of the IMF, argued that the crawling-peg regimes adopted by most of Latin America after the debt crisis had become excessively inflationary. In particular, it was argued that crawling pegs introduce substantial inflation *inertia*. According to this view exchange rate policy in the developing countries should move toward greater rigidity—and even complete fixity—as a way to introduce financial discipline, provide a nominal anchor, and reduce inflation.³²

A number of Latin countries have, in fact, decided to use an exchange rate anchor as a way to reduce inflation. In practice they have done this by either slowing down the rate of the crawl—as in Mexico and Chile, to some extent—or by adopting a completely fixed nominal exchange rate—as in Argentina and Nicaragua. Much of the recent enthusiasm for fixed nominal exchange rates is intellectually rooted in the modern credibility and time consistency literature.³³ According to this approach, which was pioneered by Calvo (1978) and Kydland and Prescott (1977), governments that have the *discretion* to alter the nominal exchange rate—as in the crawling-peg system—will tend to abuse their power, introducing an inflationary bias into the economy. The reason for this is that under a set of plausible conditions, such as the existence of labor market rigidities that preclude the economy from reaching full employment, it will be optimal for the government to “surprise” the private sector through unexpected devaluations.³⁴

By engineering (unexpected) devaluations the government hopes to induce a reduction in real wages and thus an increase in employment and a boost in output. Naturally, in equilibrium the public will be aware of this incentive faced by the authorities and will react to it by anticipating the devaluation surprises, hence, rendering them ineffective. As a consequence of this strategic interaction between the government and the private sector, the economy will reach a high inflation plateau. What is particularly interesting about this result is that this inflationary bias will be present even if it is explicitly assumed that the

32. For a flavor of the discussion within the IMF, see, for example, Burton and Gillman (1991); Aghevli, Khan, and Montiel (1991); Flood and Marion (1991). In Edwards (1993) I deal with some of these issues.

33. The new impetus for fixed rates has strongly emerged in the IMF. See Aghevli, Khan, and Montiel (1991).

34. This assumes that wages are set before the government implements the exchange rate policy but after it has been announced.

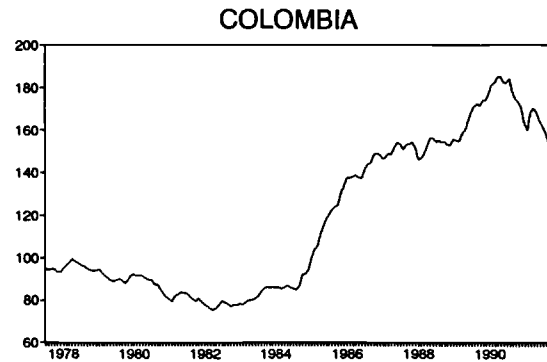
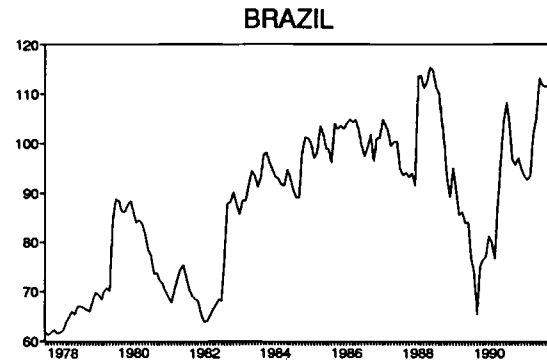


Fig. 1.1 Real effective exchange rates in selected Latin American countries (1985 = 100)

Source: International Financial Statistics, International Monetary Fund.

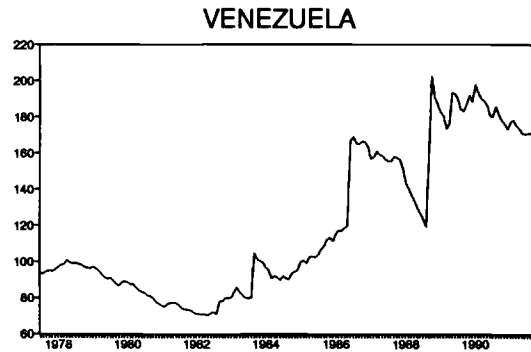
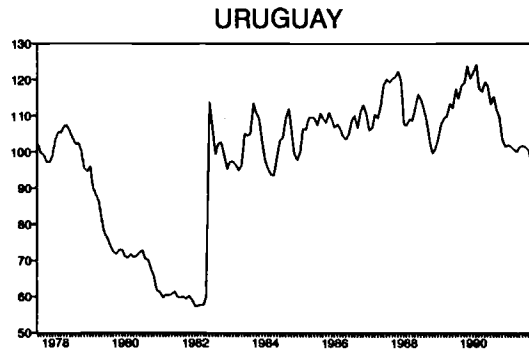
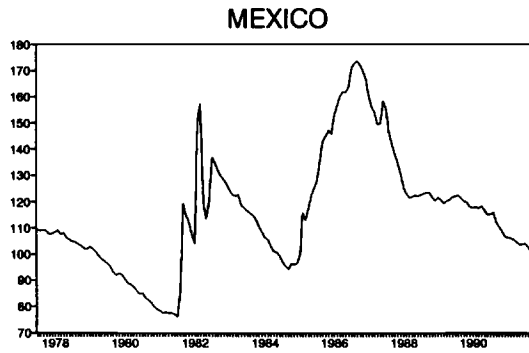


Fig. 1.1 (cont.)

government has an aversion for inflation. This is because the government perceives that the marginal benefits of higher inflation—associated with the increase in employment once nominal wages have been set—outweigh its marginal costs (see Persson and Tabellini 1990).

An important feature of the credibility literature is that under most circumstances policy commitment is welfare-superior to discretionary policy. If the government can credibly commit itself to low (or no) inflation, society will be better off: employment will be the same as in the discretionary policy case, but inflation will be lower. The problem, however, is that governments have a hard time making credible commitments. In the absence of effective constraints that will tie the government's hands, any promise of low inflationary policy will not be credible and thus will be self-defeating.

A key policy implication of this literature is that defining (and implementing) constraints that will make government precommitments *credible* will result in an improvement in society's welfare. Here fixed (or predetermined) exchange rates come into the picture. It has been argued that the adoption of a fixed exchange rate will constrain governments' ability to surprise the private sector through unexpected devaluations. Promises of fiscal discipline will become credible, and private sector actions will not elicit successive rounds of inflationary actions (Aghevli, Khan, and Montiel 1991). In particular, it has been argued that fixed exchange rates provide a *reputational* constraint on government behavior. The authorities know that if they undertake overly expansive credit policy they will be forced to abandon the parity and devalue. As the recent (mid-1992) crisis of the exchange rate mechanism has shown, exchange rate crises can indeed shatter the reputation of politicians.

In spite of its elegant appeal, this view has, in its simplest incarnation, some serious problems. First, in these simple settings exchange rate policy has a very limited role. In fact, in most of these models its only effect is to alter the domestic rate of inflation. That is the channel through which the government alters real wages. However, in most modern exchange rate models, nominal devaluations can also help accommodate shocks to real exchange rate fundamentals—including shocks to the terms of trade—helping to avoid real exchange rate misalignment.³⁵ Second, in economies with stochastic shocks, contingent exchange rate rules can, at least in principle, be superior to fixed rates (Flood and Isard 1989). Third, it is not clear why a country that can credibly commit itself to unilaterally fixing the exchange rate cannot commit itself to providing a monetary anchor.

However, one of the most serious limitations of the nominal exchange rate anchor policy is that, under almost every circumstance, once the exchange rate is fixed, other prices—including wages—will continue to increase, generating a change in relative prices in favor of nontradables. This has indeed been the case in both Argentina and Nicaragua, the two countries in Latin America that

35. See, for example, Edwards (1988c).

in the early 1990s adopted strictly fixed exchange rates as a way to drastically reduce inflation. In both cases the stabilization programs were based on a severe fiscal correction that virtually eliminated the fiscal deficit, on restrictive credit, and on a nominal exchange rate anchor. Although this policy succeeded in both countries in greatly reducing inflation, it has resulted in serious relative price misalignment. In Argentina this has been reflected in the fact that wholesale price inflation, which is heavily influenced by tradables, is only 3% per year, while consumer price inflation—highly dependent on nontradables—exceeds 18% per year. In Nicaragua tradable-related inflation rates have been very low (in the order of 2–3%), while nontradable inflation has exceeded 30% in the last twelve months.

Mexico followed a variant of the exchange rate anchor policy, announcing a predetermined rate of devaluation at a pace deliberately below ongoing inflation. The purpose of this policy has been both to anchor tradables prices and to reduce expectations. However, since domestic inflation has systematically exceeded the predetermined rate of devaluation, Mexico experienced a sizable real appreciation, which exceeded 35% between 1985 and mid-1992.

The second cause behind the generalized real appreciations in Latin America has been the large increase in capital inflows into the region in the last two years. As table 1.13 shows, after eight years of negative resource transfers, 1991–92 saw a significant turnaround (see table 1.14 for more disaggregated data). This increased availability of foreign funds has affected the real exchange rate through increased aggregate expenditure. A proportion of the newly available resources has been spent on nontradables—including in the real estate sector—putting pressure on their relative prices and on domestic inflation. An interesting feature of the recent capital movements is that a large proportion corresponds to portfolio investment and relatively little is direct foreign investment.

Real exchange rate appreciation generated by increased capital inflows is not a completely new phenomenon in Latin America. In the late 1970s most countries in the region, but especially the Southern Cone nations, were flooded with foreign resources that led to large real appreciations. The fact that this

Table 1.13 Capital Inflows and Net Resource Transfers: Latin America, 1981–92

	Net Capital Inflows	Interest and Profit Income	Net Resource Transfers
1982–85	55.3	-111.7	-56.4
1986–89	33.5	-138.7	-105.2
1990	17.0	-35.7	-18.7
1991	36.3	-31.1	5.2
1992 ^a	42.8	-21.2	21.6

Source: Jaspersen (1992).

^aProjection.

Table 1.14 Net Capital Inflows as Percentage of GDP in Selected Latin American Countries

Country	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Argentina	2.4	0.5	3.0	2.9	1.8	2.6	3.9	0.2	1.0	6.3
Brazil	4.2	2.1	1.8	0.1	0.6	1.3	-0.5	0.4	1.3	0.2
Chile	4.4	2.3	8.3	5.0	3.0	3.7	3.7	4.3	7.8	2.5
Colombia	6.5	4.1	2.6	5.9	2.9	0.0	2.1	1.0	0.0	2.8
Mexico	5.6	-1.5	-0.6	-1.2	0.7	-0.7	-0.8	0.8	5.0	10.6
Peru	5.7	2.4	3.4	1.1	2.1	2.3	3.5	1.5	2.4	9.5
Venezuela	-2.5	-6.6	-3.6	-1.8	-1.9	0.8	-1.5	-5.7	-4.1	4.9

Source: Inter-American Development Bank, *Economic and Social Progress in Latin America* (1992).

previous episode ended in the debt crisis has added dramatically to the current concern on the possible negative effects of these capital flows.

Whether these capital movements are temporary—and thus subject to sudden reversals as in 1982—is particularly important in evaluating their possible consequences. In a recent study Calvo, Leiderman, and Reinhart (1992) argue that the most important causes behind the generalized inflow of resources are external. In particular, their empirical analysis suggests that the recession in the industrialized world and the reduction in U.S. interest rates are the two main causes that have triggered these capital movements. These authors suggest that once these world economic conditions change, the volume capital of capital flowing to Latin America will be reduced. This means that at that point the pressure over the real exchange rate will subside and a real exchange rate depreciation will be required.

The countries in the region have tried to cope with the real appreciation pressures in several ways. Colombia, for instance, tried to sterilize the accumulation of reserves by placing domestic bonds (OMAs) in the local market in 1991.³⁶ However, in order to place these bonds the local interest rate had to increase, making them relatively more attractive. This generated a widening interest rate differential in favor of Colombia, which attracted new capital flows that, in order to be sterilized, required new bond placements. This process generated a vicious cycle that contributed to a very large accumulation of domestic debt, without significantly affecting the real exchange rate. This experience shows vividly the difficulties faced by the authorities wishing to handle real exchange rate movements. In particular, it indicates that real shocks—such as an increase in foreign capital inflows—cannot be tackled successfully using exclusively monetary policy instruments.

Argentina has recently tried to deal with the real appreciation by engineering a “pseudo” devaluation through a simultaneous increase in import tar-

36. An important peculiarity of the Colombia case is that the original inflow of foreign exchange came through the *trade account*.

iffs and export subsidies. Although it is too early to know how this measure will affect the degree of competitiveness in the country, preliminary computations suggest that the magnitude of the adjustment obtained via a tariffs-cum-subsidies package may be rather small. Mexico has followed a different route, and has decided to postpone the adoption of a completely fixed exchange rate. In October 1992 the pace of the daily nominal exchange rate adjustment was doubled to 40 cents. As in the case of Argentina, it is too early to evaluate how effective these measures have been in dealing with the real appreciation trend.

Chile has tackled the real appreciation by implementing a broad set of measures, including conducting exchange rate policy relative to a three-currency basket, imposing reserve requirements on capital inflows, and undertaking limited sterilization operations. In spite of this multifront approach, Chile has not avoided real exchange rate pressures. Between December 1991 and July 1992 the Chilean bilateral real exchange rate appreciated almost 10%. As a result, exporters and agriculture producers have been mounting increasing pressure on the government for special treatment, arguing that by allowing the real exchange rate to appreciate an implicit contract has been broken. This type of political reaction is becoming more and more generalized throughout the region, adding a difficult social dimension to the real exchange rate issue.

Although there is no easy way to handle the real appreciation pressures, historical experience shows that there are at least two possible avenues that the authorities can follow. First, in those countries where the dominant force behind real exchange rate movements is price inertia in the presence of nominal exchange rate anchor policies, the adoption of a pragmatic crawling-peg system will usually help. This means that, to some extent, the inflationary targets will have to be less ambitious, as a periodic exchange rate adjustment will result in some inflation.³⁷ However, to the extent that this policy is supplemented by tight overall fiscal policy there should be no concern regarding inflationary explosions. Second, the discrimination between short-term (speculative) capital and longer-term capital should go a long way in helping resolve the preoccupations regarding the effects of capital movements on real exchange rates. To the extent that capital inflows are genuinely long term, and especially if they help finance investment projects in the tradables sector, the change in the real exchange rate will be a "true equilibrium" phenomenon and should be recognized as such by implementing the required adjustment resource allocation.

1.6 Concluding Remarks

In this paper I have dealt with trade policy and growth. The analysis has focused on the long-run relationship between trade orientation and productivity improvements, as well as on some of the most important transitional issues.

37. More specifically, with this option the *one-digit* inflationary goal will be postponed.

With regard to the latter, the analysis has focused on the recent Latin American experiences.

In section 1.2 I argued that more open economies will experience faster rates of productivity growth than countries that distort their external sectors. A regression analysis based on a broad cross-country data set provided support for this view. The analysis of the recent Latin reforms presented in section 1.4 also supports the hypothesis that those countries that have embarked in trade liberalization programs have experienced an acceleration in the rate of productivity growth. However, the data on Mexico indicate that in order for productivity increases to be widespread it is necessary to implement broad reforms and deregulation programs that affect a wide range of sectors. In section 1.5 I discussed the evolution of real exchange rates in the region, and I pointed out that the recently observed generalized real appreciations have become a cause of concern among policymakers. A key element in determining the effects of these flows, and in designing policy response packages, is whether these movements are temporary or permanent. If the latter, it is difficult to justify an activist stance in economic policy.

Appendix A

TFP Growth Computations

One of the difficulties in computing TFP growth series for a large number of countries is that capital-stock series are rarely available. One way to deal with this problem is to use data on investment-GDP ratios (Harberger 1992). The problem with this approach, however, is that it requires data on the capital-output ratio. Although these are not generally available, they can be obtained using alternative procedures.

TFP growth (ρ) is defined in the following way:

$$(A1) \quad \rho = (\dot{y}/y) - \alpha(\dot{K}/K) - (1 - \alpha)(\dot{L}/L),$$

where y is real GDP, K is the stock of capital, L is employment, and α is the share of capital in GDP. Since (\dot{K}/K) is equal to gross investment (I), equation (A1) can be rewritten as follows:

$$(A2) \quad \rho = (\dot{y}/y) - [\alpha(y/K)(I/y) + (1 - \alpha)(\dot{L}/L)].$$

(I/y) is the gross investment to GDP ratio and is readily available. (y/K) on the other hand is the inverse of the capital-output ratio and has to be estimated.

In order to obtain data on ρ , in this paper I have used the following procedure. First, I used specific country time series data for 1950–88 to estimate GDP growth equations with (I/y) and rate of growth of population (a proxy

\dot{L}/L) as regressors. From these regressions I obtained estimated values for parameters $[\alpha(y/K)]$ and $[1 - \alpha]$ in equation (A2). In the second stage, I used these coefficients to construct TFP data using equation (A2). In the third stage I averaged the estimated TFPS for 1971–82 for each country. This average corresponds to variable TFP1 used in the regression analysis in section 1.2.

A limitation of the procedure described above is that it assumes a constant capital-output ratio (K/y) in computing $[\alpha(y/K)]$ in (A2). However, it is likely that this ratio will change through time. In particular, we can assume that $(y/K) = (y/K)_0 + \gamma \text{ time}$. In this case (A2) can be rewritten as

$$(A3) \quad \rho = (\dot{y}/y) - [\alpha(y/K)(I/y) + [\alpha\gamma](I/y) \times \text{time} + (1 - \alpha)(\dot{L}/L)].$$

This equation was estimated for each of the fifty-four countries to compute the TFP2 variable in section 1.2.

Finally, TFP3 was constructed using cross-country estimates of $[\alpha(I/y)]$ in equation (A2). A shortcoming of this approach is that it assumes the same coefficient across countries. In that regard, TFP3 can be considered a less desirable measure of TFP growth.

Appendix B

Countries in Sample

United States	Brazil	Thailand
United Kingdom	Dominican Republic	Burundi
Austria	Honduras	Cameroon
Denmark	Mexico	Central African Republic
France	Nicaragua	Chad
Germany	Paraguay	Congo
Italy	Venezuela	Zaire
Netherlands	Jamaica	Ethiopia
Norway	Trinidad and Tobago	Côte d'Ivoire
Sweden	Iran	Lesotho
Canada	Kuwait	Mauritania
Finland	Oman	Morocco
Greece	Burma	Nigeria
Ireland	Sri Lanka	Zimbabwe
Portugal	India	Rwanda
Spain	Malaysia	Tanzania
Turkey	Pakistan	Togo
Australia	Singapore	Tunisia

References

- Aghevli, P., M. Khan, and P. Montiel. 1991. Exchange Rate Policy in Developing Countries: Some Analytical Issues. IMF Occasional Paper 78. Washington, DC.
- Barro, R. 1991. Economic Growth in a Cross Section of Countries. *Quarterly Journal of Economics* 106 (2): 407–43.
- Barro, R., and X. Sala-i-Martin. 1991. Convergence across States and Regions. *Brookings Papers on Economic Activity* (1): 107–58.
- Behrman, J. R. 1976. *Foreign Trade Regimes and Economic Development: Chile*. New York: Columbia University Press.
- Bhagwati, J. 1978. *Anatomy and Consequences of Exchange Control Regimes*. Cambridge, MA: Ballinger.
- Bianchi, A. 1988. Latin America 1981–1984: Crisis, Adjustment, and Recovery. In M. Urrutia, ed., *Financial Liberalization and the Internal Structure of Capital Markets in Asia and Latin America*. Tokyo: United Nations University, 1988.
- Bianchi, A., R. Devlin, and J. Ramos. 1987. The Adjustment Process in Latin America, 1981–1986. In V. Corbo, M. Goldstein, and M. Khan, eds., *Growth-Oriented Adjustment Programs*. Washington, DC: International Monetary Fund and World Bank.
- Burton, D., and M. G. Gillman. 1991. Exchange Rate Policy and the IMF. *Finance and Development* 28 (3): 18–21.
- Calvo, G. 1978. On the Time Consistency of Optimal Policy in a Monetary Economy. *Econometrica* 46 (6): 1411–28.
- Calvo, G., L. Leiderman, and C. Reinhart. 1992. Capital Inflows and Real Exchange Rate Appreciation. IMF Working Paper 92/62. Washington, DC, August.
- Cardoso, E., and A. Helwege. 1992. *Latin America's Economy: Diversity Trends and Conflicts*. Cambridge: MIT Press.
- Comision Economica para America Latina (CEPAL). 1991. *Equidad y Transformación Productiva: Un Enfoque Integrado*. Santiago: CEPAL.
- Corbo, V. 1985. Reforms and Macroeconomic Adjustments in Chile during 1974–1984. *World Development* 13 (8): 893–916.
- Corbo, V., T. Condon, and J. de Melo. 1985. Productivity Growth, External Shocks, and Capital Inflows in Chile: A General Equilibrium Analysis. *Journal of Policy Modeling* 7 (3): 379–405.
- Corbo, V., and J. de Melo. 1985. Liberalization with Stabilization in the Southern Cone of Latin America: Overview and Summary. *World Development* 13 (8): 863–66.
- Corden, W. M. 1969. Effective Protective Rates in the General Equilibrium Model: A Geometric Note. *Oxford Economic Papers*, n.s. (July): 135–41.
- Cox-Edwards, A. 1992. Labor Markets and Structural Adjustment. Working paper.
- Cukierman, A., S. Edwards, and G. Tabellini. 1992. Seigniorage and Political Instability. *American Economic Review* 82 (3): 537–55.
- Diaz-Alejandro, C. 1975. *Essays on the Economic History of the Argentine Republic*. New Haven: Yale University Press.
- . 1978. *Foreign Trade Regimes and Economic Development: Colombia*. New York: Columbia University Press.
- Dixit, A. 1985. Tax Policy in Open Economies. In A. Auerbach and M. Feldstein, eds., *Handbook of Public Economics*. New York: North-Holland.
- . 1986. Trade Policy: An Agenda for Research. In P. Krugman, ed., *Strategic Trade Policy and the New International Economics*. Cambridge: MIT Press.
- Edwards, S. 1984. *The Order of Liberalization of the External Sector in Developing Countries*. Essays in International Finance 156. Princeton, NJ: Princeton University Press.

- . 1985. Stabilization with Liberalization: An Evaluation of Ten Years of Chile's Experiment with Free-Market Policies, 1973–1983. *Economic Development and Cultural Change* 33 (2): 223–54.
- . 1987. Sequencing Economic Liberalization in Developing Countries. *Finance and Development* 24 (1): 26–29.
- . 1988a. Real and Monetary Determinants of Real Exchange Rate Behavior: Theory and Evidence from Developing Countries. *Journal of Development Economics* 29 (3): 311–41.
- . 1988b. Structural Adjustment Policies in Highly Indebted Countries. In J. Sachs, ed., *The Developing Country Debt Crisis*. Chicago: University of Chicago Press.
- . 1988c. Terms of Trade, Tariffs, and Labor Market Adjustment in Developing Countries. *World Bank Economic Review* 2 (2): 165–85.
- . 1989. *Real Exchange Rates, Devaluation, and Adjustment: Exchange Rate Policy in Developing Countries*. Cambridge: MIT Press.
- . 1992. Trade Orientation, Distortions, and Growth in Developing Countries. *Journal of Development Economics* 39 (1): 31–58.
- . 1993. Exchange Rates as Nominal Anchors. *Weltwirtschaftliches Archiv* 129(2): 1–32.
- Edwards, S., and A. Cox-Edwards. 1991. *Monetarism and Liberalization: The Chilean Experiment*. Chicago: University of Chicago Press.
- Elias, V. 1992. *Sources of Growth in Latin America*. San Francisco: ICS Press.
- Erzan, R., K. Kuwahara, S. Marchese, and R. Vossenar. 1989. The Profile of Protection in Developing Countries. *UNCTAD Review* 1 (1): 3–22.
- Fischer, S. 1987. Economic Growth and Economic Policy. In V. Corbo, M. Goldstein, and M. Kahn, eds., *Growth-Oriented Adjustment Programs*. Washington, DC: International Monetary Fund and World Bank.
- . 1988. Symposium on the Slowdown in Productivity Growth. *Journal of Economic Perspectives* 2 (4): 3–7.
- Fishlow, A. 1985. Revisiting the Great Debt Crisis of 1982. In K. S. Kim and D. F. Ruccio, eds., *Debt and Development in Latin America*. Notre Dame, IN: University of Notre Dame Press.
- . 1991. Liberalization in Latin America. In T. Banuri, ed., *Economic Liberalization: No Panacea*. Oxford: Oxford University Press.
- Flood, R. P., and P. Isard. 1989. Monetary Policy Strategies. *International Monetary Fund Staff Papers* 36 (3): 612–32.
- Flood, R., and N. Marion. 1991. The Choice of the Exchange Rate System. IMF Working Paper no. 90. Washington, DC.
- Fuentes, J. R. 1992. Economic Policies, Human Capital, and Their Importance in the Process of Growth: Theoretical and Empirical Implications, Ph.D. diss., University of California, Los Angeles.
- Garcia-Garcia, J. 1991. Liberalizing Foreign Trade: Colombia. In M. Michaely, A. Choski, and D. Papageorgiou, eds., *Liberalizing Foreign Trade*, vol. 4. Cambridge, MA: Blackwell.
- Grossman, G., and E. Helpman. 1991a. *Innovation and Growth in the Global Economy*. Cambridge: MIT Press.
- . 1991b. Trade, Knowledge Spillovers, and Growth. *European Economic Review* 35 (2–3): 517–26.
- Harberger, A. 1985. Observations on the Chilean Economy, 1973–1983. *Economic Development and Cultural Change* 33 (3): 451–62.
- . 1990. Towards a Uniform Tariff Structure. University of Chicago. Mimeo.
- . 1992. The Sources of Economic Growth and Economic Liberalization: With

- Application to Mexico for the 1990s. University of California, Los Angeles, Nove. Mimeo.
- Heitger, B. 1987. Import Protection and Export Performance: Their Impact on Economic Growth. *Weltwirtschaftliches Archiv* 123 (2): 249–61.
- Ibarra, L. 1992. Credibility and Trade Reform in Mexico. Ph.D. diss., University of California, Los Angeles.
- Jaspersen, F. 1992. External Resource Flows to Latin America: Recent Developments and Prospects. IDB Working Paper.
- Krueger, A. 1978. Alternative Trade Strategies and Employment in LDCs. *American Economic Review* 68 (2): 270–74.
- . 1980. Trade Policy as an Input to Development. *American Economic Review* 70 (2): 288–92.
- , ed. 1981. *Trade and Employment in Developing Countries*. Chicago: University of Chicago Press.
- Kydland, F., and E. Prescott. 1977. Rules Rather Than Discretion: The Inconsistency of Optimal Plans. *Journal of Political Economy* 85 (3): 473–91.
- Lewis, A. W. 1955. *The Theory of Economic Growth*. London: Allen and Unwin.
- Little, I., T. Scitovsky, and M. Scott. 1970. *Industry and Trade in Some Developing Countries*. London: Oxford University Press.
- Lucas, R. 1988. On the Mechanics of Economic Development. *Journal of Monetary Economics* 22 (1): 3–42.
- McKinnon, R. 1982. The Order of Economic Liberalization: Lessons from Chile and Argentina. *Carnegie Rochester Conference Series on Public Policy* 17 (Autumn): 159–86.
- Martin, R. 1992. Sources of Growth in Latin America. World Bank. Mimeo.
- Michaely, M. 1982. The Sequencing of Liberalization Policies: A Preliminary Statement of the Issues. Manuscript.
- . 1985. The Demand for Protection against Exports of Newly Industrialized Countries. *Journal of Policy Modelling* 7 (2): 123–32.
- . 1988. Liberalizing Foreign Trade: Lessons from Experience. Manuscript.
- Michaely, M., A. Choski, and D. Papageorgiou, eds. (1991). *Liberalizing Foreign Trade*. Cambridge, MA: Blackwell.
- Mill, J. S. 1848. *Principles of Political Economy*. New York: Appleton and Co.
- Nogues, J. 1991. Liberalizing Foreign Trade: Peru. In M. Michaely, A. Choski, and D. Papageorgiou, eds., *Liberalizing Foreign Trade*, vol. 4. Cambridge, MA: Blackwell.
- Nogues, J., and S. Gulati. 1992. Economic Policies and Performance under Alternative Trade Regimes: Latin America during the 1980s. LAC Technical Department Report no. 16. World Bank, Latin America and the Caribbean Region, Washington, DC.
- Persson, T., and G. Tabellini. 1990. *Macroeconomic Policy, Credibility, and Politics*. Fundamentals of Pure and Applied Economics, vol. 38. Chur, Switzerland: Harwood Academic.
- Rodriguez, C. 1982. The Argentine Stabilization Plan of December 20th. *World Development* 10 (2): 801–11.
- Romer, P. 1989. Capital Accumulation in the Theory of Long-Run Growth. In R. Barro, ed., *Modern Business-Cycle Theory*. Cambridge: Harvard University Press.
- Roubini, N., and X. Sala-i-Martin. 1991. Financial Development, Trade Regime, and Economic Growth. Center Discussion Paper 646. New Haven: Economic Growth Center, Yale University.
- . 1992. A Growth Model of Inflation, Tax Evasion, and Financial Repression. Center Discussion Paper 658. New Haven: Economic Growth Center, Yale University.

- Stockman, A. 1982. The Order of Economic Liberalization: Comment. In K. Brunner and A. Meltzer, eds., *Economic Policy in a World of Change*. Carnegie-Rochester Conferences on Public Policy. Amsterdam: North-Holland.
- Sturzenegger, F. 1992. Bolivia: Stabilization and Growth. University of California, Los Angeles, October. Mimeo.
- Summers, R., and A. Heston. 1988. A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950–1985. *Review of Income and Wealth* 34 (1): 1–25.
- Taylor, L. 1991. *Varieties of Stabilization Experience: Towards Sensible Macroeconomics in the Third World*. World Institute for Development Economics Research, Studies in Development Economics. Oxford: Oxford University Press.
- Tybout, J. 1992. The Link between Productivity and Trade Regimes. *World Bank Research Review* 6 (March): 1–32.
- United Nations Conference on Trade and Development (UNCTAD). 1987. *Handbook of Trade Control Measures in Developing Countries*. Geneva: UNCTAD.
- Valdes, A. 1992. The Performance of the Agricultural Sector in Latin America. World Bank. Mimeo.
- World Bank. 1992. *Poverty and Income Distribution in Latin America: The Story of the 1980s*. Washington, DC: World Bank.

Comment Miguel A. Savastano

Sebastian Edwards has written a concise and informative progress report on trade reforms in Latin America over the past decade. The task was particularly difficult, considering that during that period the countries of the region underwent dramatic changes and were exposed to almost every imaginable shock, domestic and external. The paper addresses most of the issues relevant for understanding the recent evolution of trade policy in Latin America, identifies some common trends, and analyzes their implications for the region's growth prospects. However, even after taking into account space limitations, I feel that some of the important issues raised in the paper may have required a fuller and more comprehensive discussion. My comments will focus on four of these issues.

The first issue has to do with the starting point of the trade liberalization process in Latin America. Edwards places the start of this generalized and renewed impetus with trade reform at the late 1980s, when all the protectionist measures that had been imposed as part of the adjustment to the debt crisis began to be dismantled. Although it is unquestionable that the region as a whole has nowadays a much more open trade regime (especially in terms of the level of imports protection) than six or seven years ago, I find it a little misleading to claim that *it all started then*. In at least one aspect Latin America

Miguel A. Savastano is an economist in the Research Department of the International Monetary Fund. The views expressed in these comments are those of the author and do not necessarily reflect those of the International Monetary Fund.

had become an outward-oriented region long before the late 1980s; this was on recognizing the importance of maintaining a depreciated real exchange rate (RER) and of diversifying its export base. In fact, the data reported in tables 1.5 and 1.12 show clearly that the large RER depreciations and the surge of manufacturing exports occurred in the early 1980s and cannot be attributed to the recent opening up. Admittedly, those features reflect the region's response to the urgent need for effecting a large transfer abroad in the midst of the debt crisis and were far from being part of a liberal strategy aimed at reducing domestic distortions, but they nevertheless went a long way in creating an export mentality and reducing the antiexport bias that had characterized the region in the preceding two decades. Moreover, there is little doubt that the large real depreciations that such a response provoked in most Latin American countries by the mid-1980s exerted a strong influence on the region's developments of the following years, including the particular way in which the recent opening-up has taken place.

The second issue is related to what I consider a striking feature of the recent trade liberalization episodes reviewed in the paper: the fact that they were implemented much faster than in the past and in many cases without conforming with what Edwards calls the "conventional wisdom" on the appropriate sequence of liberalization (wisdom that he himself has contributed to form). Specifically, in the past few years countries like Argentina, Mexico, Nicaragua, and Peru cut drastically the level of import protection *almost at the same time* as they embarked on major stabilization efforts that resulted in a large real appreciation of their currencies. In all these cases the authorities' overriding (and understandable) concern for reducing inflation prevailed in the dispute for *the* crucial instrument (the exchange rate) at the expense of the real depreciation that in theory was required by the tariff reduction. This raises a very important question: to what extent do these attempts at stabilizing and opening-up simultaneously have to be considered the result of a "bad" policy decision that in the end will jeopardize the sustainability of the trade reforms? Clearly, if one were to answer this question following strictly the "conventional wisdom," the reforms would not seem to stand a chance to succeed because of the substantial RER appreciation experienced so far by these countries. However, I think that a closer look at these episodes is somewhat more reassuring, as it reveals at least two elements that distinguish them from the long list of frustrated liberalization attempts in Latin America's recent history: first, that most of the trade reforms started at a point where the RER was highly depreciated (some analysts would even say overdepreciated); and second, that the trade reforms were just one element of a broader package supported by extremely tight financial policies that marked a drastic (and so far credible) change in the "policy regime" of these countries. It would be interesting to know whether Edwards thinks that these two factors will suffice to sustain these countries' trade reforms or whether he feels that a major adjustment of their nominal exchange rates will still be required.

I also had problems with the paper's discussion of the effects on total factor productivity of the recent trade liberalizations. Specifically, I have some reservations regarding *the time* that should be given to a trade reform before one can reasonably expect to observe some improvements in factor productivity. In this regard I wonder whether it is appropriate (or fair, for that matter) to compare the increases in factor productivity in a group of recent liberalizers with those experienced by Chile, where structural reforms have had more than a decade to consolidate (table 1.6). In the context of this comparison, Edwards seems especially concerned about the modest gains in total factor productivity in Mexico following the comprehensive reforms of the trade and investment regimes of the late 1980s. Even after discounting for the relatively short period the reforms have been in place, however, I tend to share Edwards's concern. Mexico's growth performance in the postreform years has been far from spectacular, despite the pronounced increase in foreign capital inflows (most of them in the form of portfolio investment) and the sustained growth of imports of intermediate and capital goods. The sluggish response of output might well be related to the prominence given to the inflation objective and to the major reallocation of factors prompted by the structural reforms. Furthermore, if one follows the implications of Aaron Tornell's model (in chap. 2 of this volume), that sluggishness can even be interpreted as a "blessing in disguise" in the sense that it has prevented the "size of the pie" from increasing before NAFTA locks in the reforms and eliminates the incentives for rent-seeking behavior. Quite independently of the story one wants to believe, however, I agree with Edwards that the actual growth figures suggest very clearly that the transition period is not over and that Mexico has yet to find the path of rapid and sustainable growth that has historically characterized the successful reformers.

Finally, on the issue of how to deal with the real appreciation syndrome that has recently spread throughout Latin America, Edwards outlines two types of responses. In a nutshell, he suggests that in those cases where the appreciation has been driven by the use of the exchange rate as a nominal anchor the authorities should adopt a "pragmatic" crawling peg and accept a less ambitious inflation target; while in those cases where the appreciation is being caused by *genuinely long-term* capital inflows the authorities should refrain from trying to prevent what is basically an equilibrium adjustment of the RER. I think that most analysts will agree with the general thrust of these recommendations; however, I also believe that they are extremely difficult to follow through: first, because in some cases *both* factors are behind the observed appreciation of the currency; second, because it is not at all easy, even after a few months have passed, to distinguish between "genuine" and "volatile" capital inflows; and third, because in some cases political economy considerations have made of the convergence to single-digit inflation rates the primary objective of authorities who feel they have too much to lose if that goal is abandoned. This situation is complicated further by the difficulties in assessing how much of the appreciation would really need to be reversed in each particular case. I do not

have any clear-cut answer to the dilemma posed by this situation, and I'm almost certain that there isn't one. However, I wonder whether the current circumstances would justify considering more seriously the possibility once mentioned to me by a policymaker faced with a similar dilemma: "when in doubt about the exchange rate, let it float; at least in that way you can always blame the market."