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Do Structural Reforms always Succeed?

Lessons from Brazil

Jorge Saba Arbache *

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Abstract

In the last twenty years, Brazil has undergone several attempts of improving sustainable growth through stabilization programmes, and more recently, structural reforms in line with the Washington Consensus Agenda. The results, however, have been disappointing, as the per capita output growth has remained below its historic trend, and poverty and inequality remain at high levels. This paper investigates why market-oriented reforms such as trade and capital account liberalization, privatization, deregulation and stabilization failed to boost growth in Brazil. We conclude that structural reforms may contribute to growth if accompanied by microeconomic policies tailor-made to address the country's needs, and by appropriate macroeconomic, institutional and political environments.

Keywords: structural reforms, policy coordination, fiscal policy, stabilization, trade liberalization, political economy, Brazil

JEL classification: E61, E62, E63, E65, F15, P11, P16

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1 Introduction

Over the last twenty years, Brazil has experienced profound economic changes. Following the international economic instability of the late 1970s and the debt crisis of the early 1980s, Brazil launched structural adjustment programmes aimed at solving external account imbalances and controlling high inflation rates. In 1990, Brazil undertook a major break from a century-long era of import substitution strategy that left its economy especially closed towards the end of the 1980s, and introduced economic reforms involving trade and capital account liberalization, privatization of state companies, deregulation of markets, and a successful stabilization plan. These reforms have been reshaping the economy very rapidly and are giving rise to economic transformations. Table 1 shows, however, that the pre-reform per capita output growth rate is significantly higher than that of the post-reform period (1990-2002). To the extent that market-oriented reforms are widely understood to be conducive to growth, these statistics suggest that something went wrong.

Brazil is a particularly well-suited country to grasping a better understanding of whether and how market-friendly reforms succeed in developing countries. Although Brazil's economy ranks amongst the highest globally in terms of GDP, it remains thoroughly rooted in the developing world. As in many Latin American countries (e.g. Mexico, Argentina, Colombia, and Venezuela), Brazil failed to make further consistent progress, after a period of rapid growth, from the 1980s onwards. Trade liberalization and other reforms took place in Brazil over a relatively short period of time, and policy changes were widespread and substantial.

Measuring the success or failure of reforms demands a sensible criterion. Indeed, the ultimate aim of structural reforms is to foster economic growth. However, in view of the very uneven income distribution by international standards, and the substantial portion of population below the poverty line (Table 1), a broader reform achievement criterion is needed for Brazil, and perhaps for other developing countries as well. In this paper, the success of reforms is measured according to the performance of the per capita GDP growth rate, and also to the performance of the inequality and poverty indices before and after the reforms.

The paper is organized as follows. Section 2 presents a brief theoretical and empirical survey of the literature regarding the impacts of structural reforms on economic growth, income inequality and poverty. Section 3 presents the reforms carried out in Brazil over the 1990s. Before detailing the policy changes, the political, economic and social

Table 1
Per capita output growth and social indicators - Brazil

Period	Per capita output growth rate (%)	Percentage of population below poverty line	Gini coefficient
1950s	3.8		
1960s	3.0		0.504
1970s	5.5	40.0	0.561
1980s	0.79	43.0	0.592
1990s-2002	0.44	35.5	0.600

Sources: Hoffmann (1992); Population Census; lpeadata.

contexts in which reforms were introduced are reviewed. Section 4 assesses whether and how structural reforms affected social indicators and economic growth in Brazil. Section 5 discusses why reforms did not fulfil the expectations with regard to social conditions and output growth. Section 6 presents our final remarks and the lessons that may be drawn from Brazil's case for other developing countries.

2 Some theoretical and empirical issues regarding reforms

This survey covers the basic theoretical links between structural reforms and output growth, inequality, and poverty. Although the focus is on reforms in Brazil, the paper reviews the main policy changes introduced in developing countries in the last 20 years. Empirical evidence for developing countries is discussed thoroughly. At the end we summarize the lessons learned from both the successful and the catastrophic reform experiences of the developing countries.

2.1 Reforms and economic growth

In the last two decades, the increasingly dominant view is that price stability, fiscal discipline, and policies which strengthen markets are preconditions of sustainable growth. With the aim to improve economic growth, under the auspices of the Washington Consensus Agenda, reform measures, including, among others, stabilization programmes, trade and capital account liberalization, privatization, and deregulation, were introduced in many developing countries around the world.

Among the economic reforms, trade liberalization is often considered to play a key role because of its links to economic growth, poverty and income inequality. One common argument associating trade to growth is the theory that protectionism constrains the marginal efficiency of capital by limiting the reach of local firms and the size of their markets, thus diminishing the incentives to invest and accumulate capital. Increasing competition in domestic markets forces local firms to adopt new managerial practices and new methods for organizing work to improve efficiency. This eventually increases productivity at the aggregate level, and thus output growth. If the least efficient domestic firms exit from the market as a result of tighter competition, one can expect an average efficiency rise in the overall economy.

More recently, a vast segment of the literature on endogenous growth has advocated that the removal of barriers to the flow of goods, capital, and ideas impacts positively on economic development through total factor productivity (TFP) growth (Grossman and Helpman 1991a, 1991b; Parente and Prescott 1994, 2000, among others). This is assumed to occur through an increase in the country's capacity to absorb and imitate the technological advances generated by the leading economies. Indeed, trade liberalization allows local firms to secure access to technological upgrading through cheaper capital and other inputs, and efficiency gains through learning-by-exporting. Human capital plays a key role in generating continuous growth by either preventing a decline in the returns to capital or by increasing the capacity to innovate and adapt imported technologies. Sarquis and Arbache (2003) show that technical changes resulting from trade and capital liberalization enhance the external effects of human capital.

Edwards (1998), and Dollar and Kraay (2004) employ cross-country analyses and note a positive relationship among various trade policy indicators and TFP and GDP growth rates, respectively. Case studies have presented evidence that trade openness in the developing countries resulted in growth in TFP and GDP (Jonsson and Subramanian 1999; Lee 1996; McNab and Moore 1998). These results are not indisputable however. Harrison (1996) also conducts cross-country regressions and finds only modest results to link trade to GDP growth. Rodriguez and Rodrik (2000) argue that both methodological shortcomings and problematic indicators of openness characterize most empirical studies on trade and growth, resulting in the inappropriate conclusion that openness is associated to higher growth rates. Furthermore, the unambiguous causality between trade and growth remains to be empirically shown. Nevertheless, the stylized fact that no autarkic country has managed to sustain high growth performance over a long period (Bhagwati and Srinivasan 2002) has strong implications, and the potential role played by trade on growth deserves further attention.

Inflation and budget deficits have been found to have significant impacts on economic performance. It is argued that inflation rates and/or fiscal deficits affect growth by reducing the efficiency of investment and productivity growth (Fischer 1993; De Gregorio 1996). Empirical evidence based on cross-country analyses has found a negative relationship between inflation, budget deficits and GDP growth for both developed and developing countries (De Gregorio and Lee 2003; Fischer 1993; De Gregorio 1996). Bruno and Easterly (1995) present evidence that this relationship holds only when high-inflation countries are in a cross-section dataset. They show that the effects of low-to-moderate inflation rates on growth are unclear.

Based on public choice and Pareto optimality arguments, in the 1980s the view emerged that the privatization of state-owned enterprises (SOE) and the deregulation of markets would eventually deliver more and better utilities at cheaper prices, and thus ultimately affect growth. The channels linking privatization and growth are characterized as follows: first, privatization enhances productivity and the financial performance of firms; second, it improves resource allocation; third, it boosts domestic investment; fourth, it attracts FDI to developing economies; and lastly, it improves the government's fiscal situation. The literature has shown that the choice of appropriate methods of privatization, considering the level of development of the country's institutions and financial and capital markets, as well as the type of post-privatization ownership, are important for economic growth purposes (Bennett *et al.* 2004; Hansen 1997). Empirical evidence for the developing countries is mixed. Plane (1997) and Barnett (2000) employ cross-country analyses and find that privatization does contribute to growth, while Cook and Uchida (2001), also with cross-country analyses, have contradictory findings.

Although there is no miraculous and infallible recipe on how to reach sustainable economic growth in a developing country, the empirical literature on structural reforms has shown that the sequencing, pace and timing of reforms are fundamental issues for success. These factors are discussed below.

2.1.1 Sequencing of reforms

The sequencing of reforms can be critical for success because of potential conflicts that may arise among various policies. One conflict relates to the role of the exchange rate during stabilization and trade reforms. On the one hand, trade economists argue that successful trade liberalization requires substantial exchange rate devaluation prior to

reducing protection because of the (strong) anti-export bias normally prevailing in import-substitution regimes (Krueger 1978, 1981; Bhagwati 1978). The exchange rate depreciation shifts relative prices to favour exporters and may determine the reallocation of resources necessitated by the trade reform. A devaluated exchange rate also helps to contain trade deficits and eventual balance of payment problems. This can be particularly critical for countries long protected from imports. *Ceteris paribus*, the reduction of protection tends to generate an explosion of imports, ranging from consumer goods to machines, while the expansion of exports is not as immediate. Reallocation of resources and productivity increases take time, and firms—even those that are intensive in local resources—may not immediately be prepared to compete abroad. As a consequence, the exchange rate plays a decisive role in the transitory period to a less protected regime.

On the other hand, if stabilization programmes rely heavily on the exchange rate as a nominal anchor for reducing inflation, as was the case in several Latin American countries suffering from chronically high inflation and severe fiscal imbalances, then there is a trade-off between the exchange rate as a stabilization tool and its use as a trade liberalization device to guide the resource reallocation process and the improvement of efficiency. Thus, a fixed nominal exchange rate may be incompatible with the competitive exchange rate needed for trade liberalization, and may eventually jeopardize the reform. If capital account liberalization, privatization of SOEs, and deregulation of markets are introduced simultaneously with trade openness, these attract large foreign capital inflows, and the real exchange rate appreciates, thus reinforcing the importance of the sequencing of reforms.

Exchange rate behaviour is not necessarily conflictive in the stabilization and economic reforms adopted in low- or moderate-inflation countries, as stressed by Edwards (1992). In these circumstances, trade and price stabilization may also be strengthened by the price discipline of increased foreign competition, and the expansion in productivity growth associated with market-oriented reforms.

The consensus in policy literature is that stabilization attempts should precede trade liberalization, especially in countries in which the exchange rate is a key variable in price formation and price indexation, and in countries with serious fiscal imbalances (Edwards 1992, 1994a). Accordingly, Bhagwati and Srinivasan (2002) point out that there are several cases, such as communist economies and India, where macroeconomic stability has been achieved in the absence of trade openness, but no evidence of successful outward orientation in the absence of macroeconomic stability, because successful openness requires macroeconomic stability.

Although not quite considered a consensus, capital accounts liberalization may perhaps strengthen openness when it contributes to financing investment projects in the tradable sector and to improving overall economic efficiency. Portfolio investment, on the other hand, may expose the process of structural reforms to potential pitfalls both in the national and international economy through sudden reversals in the capital account.¹

¹ In view of the financial crashes of many developing countries that liberalized capital accounts, even the IMF is now recommending a progressive capital liberalization approach (Williamson and Mahar 1998).

A second potential conflict between stabilization and economic reforms is related to the contribution of foreign trade taxes to public revenue. If the fiscal accounts are out of control, trade tariff reductions may emphasize fiscal deficits, at least in the short run. This argument may be especially valid for the small and underdeveloped economies that rely heavily on import tax revenue.

A third potential conflict relates to uncertainty. It is argued that the effectiveness of structural reforms is reduced in high inflation circumstances due to the uncertainty associated with relative prices, thus affecting investments and the allocation of resources. Stabilization, then, must come first.

The problems associated with the sequencing of reforms in developing countries have been extensively investigated. Edwards (1992 1993a, 1993b, 1994a, 1994b, 1997) carefully documents the attempts of the Latin American countries to stabilize and introduce market-oriented reforms in the 1970s and 1980s. He finds that the countries of the region did not address the main macroeconomic imbalances before the introduction of drastic trade liberalization. In particular, the trade-off between using the exchange rate for bringing inflation down and using it for maintaining a competitive real exchange rate position became in many cases the critical issue that further contributed to macroeconomic imbalances. This is exemplified by the case of Mexico, whose overvalued currency ended up under a speculative attack in 1994-95. Calvo and Vegh (1999) review and evaluate the literature on exchange rate-based stabilization plans in developing countries. According to this study, countries ended up in balance-of-payment crises because of fiscal problems, large current account deficits, lack of monetary authority credibility, among other factors.

Finally, trade liberalization is assumed to increase the growth of imports and exports. The net impact on the trade balance and the balance of payments will, however, depend on the relative impact of openness on import and export growth, and on what happens to the price of traded goods (Santos-Paulino and Thirlwall 2004). If the balance of payments worsens, economic growth may be adversely affected on the demand side because payment deficits are unsustainable, i.e., they may constrain growth to less than the product-growth potential. If the goal is to avoid trade balance deficits, this issue highlights the importance of import and export liberalization sequencing in developing countries. In such circumstances, trade deficits are financed either by sustainable long-term capital, or by short-term capital, which in turn, depends on interest rate differentials. *Ceteris paribus*, the higher the balance-of-payments deficits, the higher the domestic-foreign interest rate differential should be. This, of course, is unsustainable and has severe short- and long-term impacts on economic growth and public finances. The alternative to borrowing is currency devaluation, which is successful only if the external crisis is not grave (Knan and Zahler 1985).

Santos-Paulino and Thirlwall (2004) empirically examine the impacts of trade openness on the trade balances of developing countries. They find that trade liberalization has a substantially higher impact on import growth than on export growth; that trade liberalization worsens the trade balance and current accounts; and that the potential impact of trade on economic growth is eroded by the adverse effects of the balance-of-payment deficits on the economy. Parikh (2002) also finds evidence for a broad set of countries that liberalization deteriorates the trade balance and current accounts of developing countries. Pacheco-López and Thirlwall (2004) show that the growth rate in Mexico has fallen as a result of the balance-of-payments problems caused

by the rapid increase in the income elasticity of imports after openness. In a large set of developing countries, De Gregorio and Lee (2003) find that balance-of-payment crises have a strong and negative effect on GDP growth.

2.1.2 Pace and timing of reforms

Another issue that appears to be critical for successful economic reforms is the pace at which reforms are introduced. It has been argued that gradual introduction of liberalization reforms gives firms time to adapt and restructure to the new environment constraints (Little, Scitovsky and Scott 1970; Michaely 1985). A rapid liberalization process, for instance, tends to be accompanied in the short run by a significant increase in import penetration, adding to unemployment and bankruptcies. Indeed, in highly protected economies these effects are even stronger, and the prospects of a trade imbalance are much higher. Santos-Paulino and Thirlwall (2004) find evidence that trade imbalance, after trade openness, becomes substantially more severe in the more closed economies than in ones with a low level of protection. A gradualist reform pattern would reduce adjustment costs so that the economy can reallocate resources, allowing firms to improve performance, and giving workers the time to re-train and find jobs in the expanding sectors. Defining the adequate pace of reforms is, however, far from being an obvious task for both economists and policymakers. This is due to the static versus dynamic economic aspects that are always involved in the sequencing, pace and timing of reforms.

The pace of policy reforms can be intrinsically related to political economy and the institutional framework. As Rodrik (2000) documents, the most successful reforms were those introduced gradually in stages, as in the East Asian countries. More recent examples include China and India which, until now, had liberalized their markets only partially and are still experimenting. Rodrik credits the success of these country cases to the path of reform which took the country's pre-existing institutions into account.²

Although reforms in Latin American and other countries were inspired at least in part by the experience of the East Asian countries, they were introduced much more quickly and, in some areas, more extensively than what was done in the example countries (Rodrik 1996, 2000). Consequently, post-reform transition in the Latin American countries has been more difficult than anticipated, and up to now most countries are yet to experience any significant improvement in output growth rates (Solimano and Soto 2003; De Gregorio and Lee 2003).

Rodrik (1996), Krueger (1993), Edwards (1993b), among others, examine the factors that drive the bulk and pace of reforms in developing countries. They argue that rapid changes in policy orientations are ultimately a desperate attempt to deal with acute economic crises. For instance, Lora (2000) investigates empirically the determinants of reforms in Latin America and finds evidence that economic crisis is the main factor that makes them viable. Thus, after several years of import-substitution strategies and strong participation by the state in the economy, Latin American countries suddenly introduced trade and capital account liberalization, privatization, and profound administrative reforms. Rodrik (1996) argues that the acute macroeconomic crises, compounded with

² A good example is perhaps the dual-track pricing system introduced in the agricultural sector in China in the early stage of the reforms.

the accelerating inflation and declining growth observed since the early 1980s, eventually discredited the economic policies that had been developed over previous decades and shaped the consensus of the society for the adoption of somewhat radical policies.

An obvious question is why policies, which were perceived to worsen economic conditions, were so long-lived in these countries. The answer offered by the literature is related to distributional effects and political instability (Alesina and Drazen 1991; Özler and Tabellini 1991; Cukierman, Edwards and Tabellini 1992, *inter alia*). An unsustainable fiscal or monetary policy, which is suboptimal from the macro view, can be effective in redistributing, at the expense of society, income or rents to favoured groups influential in government decisions. In this framework, such policies last until the costs incurred by the favoured group offset the benefits, thus working to postpone reforms. At very high levels of inflation, it may be optimal for the benefited groups to agree on stabilization. It seems that the 'war of attrition', as termed by Alesina and Drazen (1991), and its deleterious consequences on the economy are perhaps a common feature of societies with lower degrees of social cohesion and bad distribution of resources. Rodrik (1999) finds that high inequality in conjunction with weak conflict management institutions (such as social safety nets, rule of law, and democratic institutions) is particularly destructive, and prevents societies from responding adequately to macroeconomic shocks. Edwards (1993b) finds evidence that developing countries with weaker governments and unstable and polarized political environments have greater difficulties in implementing successful economic reforms. An important outcome of this literature is that the longer the delay of reforms the higher the burden to be incurred by society, and the more skewed it will be.

The period in which the reforms are implemented by a country may also determine their effectiveness. International economic and institutional environments vary considerably over time and consequently can be more or less conducive to the success of reform. Nowadays, a vigorous export-led strategy supported by active industrial and trade policies, as those implemented by the East Asian countries in the past, would not be feasible. Indeed, the Uruguay Round and the resulting agreements in intellectual property rights, subsidies, and investments, along with the restricted access to developed-country markets for agricultural and other basic goods, WTO trade regime, regional trade agreements, and the new financial architecture substantially reduce the degree of freedom governments currently have for establishing policies aimed at development.

A complementary issue is related to the short timespan in which trade and capital liberalization took place in developing countries over the last 15-20 years. If countries with 'similar' levels of comparative advantages introduce 'similar' reforms at the same time, then one could expect that the terms of trade in the short run would be potentially affected, and competition for foreign direct investments and credit would increase. For instance, if garment-producer countries open their economies in anticipation of boosting exports to finance growth, then the increased supply of garments on the world market would depress prices, thus diminishing the benefits of openness.³ The competition to

³ The case of coffee beans is perhaps illustrative. In recent years there has been a substantial increase in world production, and much of it came from countries such as Vietnam, significantly depressing the price and thus the income of coffee farmers and rural labourers.

attract FDI and market shares becomes even harder with the entrance of Eastern European countries in European Union in 2004.

Hence, the 'late-comer countries', i.e., those which have recently introduced trade liberalization and other market reforms, are facing with not only significantly more institutional and economic constraints and narrower space in which to introduce development strategies, but also added competition from other late-comer countries on the export market. Furthermore, tougher competition in attracting foreign investments has reduced the rewards of trade and capital liberalization (Arbache 2001a). Parikh (2002) finds empirical evidence that the terms of trade in conjunction with trade liberalization have been detrimental to the developing countries' trade balances and current accounts. These factors have to be taken into account in a comparison of the reform experiences of the East Asian and late-comer countries, given the existence of the significantly different environments and policy autonomy.

2.2 Reforms and income inequality

The most popular theorems according to which trade openness reduces inequality is provided by the Heckscher-Ohlin, and Stolper and Samuelson (HOS). In short, according to the HOS model, a country has a comparative advantage in the production of goods which are intensive in the production factor that is relatively more abundant. Such a factor is relatively cheaper compared to the price of other factors, which are relatively scarce. If trade liberalization increases the demand for products with comparative advantage and reduces the demand for factor-scarce goods, there will be a rise in the demand of the abundant factor and thus in its relative price. Thus, developing countries that introduce trade liberalization programmes should experience an improvement in income inequality indicators, since they are abundant in unskilled labour.

Country studies, together with cross-country analyses for the developing countries that introduced trade openness, have not supported the HOS proposition on inequality (Hanson and Harrison 1999; Beyer, Rojas and Vergara 1999; Dollar and Kraay 2004; *inter alia*). Furthermore, a relative wage rise for skilled workers is observed (Cragg and Epelbaum 1996; Feenstra and Hanson 1997; Sanchez-Paramo and Schady 2002; Robbins and Gindling 1999; Feliciano 2001, *inter alia*).

Complementary explanations have been put forth to interpret these empirical findings. As was seen above, one consequence of trade liberalization is a rapid inflow of foreign technology resulting from increased imports of machines and intermediate inputs, and FDI. Generally the inflowing technology is skill-biased because it has been designed mainly in the industrialized, skill-intensive world. *A fortiori*, because the new technology is skill-biased within the industrialized world (Berman, Bound and Machin 1998), it therefore induces a change in the labour demand in favour of skilled workers. This shift, if sufficiently large, can outweigh the reduction in the demand for skilled labour that is predicted by the HOS model. The magnitude of the technological shift on the wage structure varies according to the elasticities of supply of skilled and unskilled labour, and the elasticity of substitution.

Wood (1999) argues that the entry of countries with a high content of unskilled labour like China, India, Bangladesh, Pakistan and Indonesia into global goods market in the mid-1980s had an important impact on the income inequality of middle-income countries,

particularly in Latin America. He argues that the increased supply of unskilled labour-intensive goods changed the supply structure of goods in the world market, reduced their prices and the return-to-factors involved in the production of such goods. This hurt the countries that produced goods with some degree of comparative advantage. Consequently, these countries were under pressure to change their production techniques to search for a comparative advantage in the production of goods using semi-skilled labour. The result was a rise in the demand for this type of worker, and boosted wage dispersion in these countries.

The rationalization of production resulting from both FDI and tougher competition in the domestic markets, and from the exit of the least efficient firms, also affect labour demand to favour skilled workers. Indeed, if inefficient or low-productivity firms are unskilled-labour intensive, their demise or exit from the market would induce an increase in the relative demand for skilled workers. Recent empirical evidence on the part of Latin American countries supports these hypotheses (Fernandes 2003; Pavcnik 2002).⁴

Wood (1994, 1999) reports rising demand for unskilled labour and declining wage inequality in South Korea, Taiwan and Singapore after the 1960s introduction of an export-led strategy. These cases are consistent with the implication of the HOS model that integration of the developing countries to the international economy is accompanied by greater employment and a reduction in income inequality. Thus, it seems that sequencing, pace and timing of reforms matter for income inequality.

One standard link between inflation and inequality is through unemployment. The assumption is that inflation, in the short run, adversely impacts on economic performance, affecting job and income creation, and subsequently inequality. In countries severely affected by chronic inflation, such as the Latin American countries in the recent past, inflation can promote inequality through other complementary channels. The poor and lower-middle income classes have limited access to the financial mechanisms that could protect them from the adverse effects of inflation. For instance, since they do not have access to interest-bearing chequing accounts, or goods purchased on credit, their consumption is affected. Empirical evidence based on country studies and cross-country analyses support the hypothesis that inflation worsens inequality (Gonzales-Rozada and Menendez 2002; Urani 1996; Ferreira and Litchfield 1999; Li and Zou 2002).⁵

According to evidence in the literature, the poor are severely affected in the aftermath of stabilization plans by the restrictive monetary and fiscal policies that normally accompany anti-inflationary plans. Consequently, it has become widely recognized nowadays that compensatory policies and social protection are fundamental components of structural reforms.

Deregulation of the labour market is seen to play a key role in income inequality reduction and poverty alleviation. According to the basic approach, if the labour market is

⁴ Several models have offered alternative explanations for the rising inequality in developing countries after trade liberalization; among them are Feenstra and Hanson (1995) and Davis (1996). For further details on this literature, see Arbache (2002).

⁵ Galli and van der Hoeven (2001) show that the impact of orthodox policies on inequality depends on the initial level of inflation. If inflation is initially relatively low, orthodox policies may cause increasing inequality.

competitive it is able to smooth out the adverse short-run effects of increasing imports, restrictive fiscal and monetary policies, privatization, and other policy changes on labour demand. The idea is simply that a deregulated labour market minimizes the adverse effects of reform on the level of employment. However, if the labour market is severely regulated, its responses to shocks and policy changes are limited, which generates higher and persistent unemployment and makes jobs more precarious in the informal sector. This view, however, is not widely accepted. It is argued that labour markets in developing countries are already flexible because of employers' non-compliance with labour laws, and that the informal sector is mainly characterized by poor growth rates and limited technology of the micro-entrepreneurs.

Advocates for labour market deregulation argue that the flexible labour markets of the East Asian countries contributed to the success of employment generation during reforms (Krueger 1990). Forteza and Rama (2001) conduct cross-country analyses for more than 100 countries and find evidence to suggest that countries with more labour market rigidities experience deeper recessions before adjustment and slower recovery afterwards. On the other hand, Gruber (1997) finds that a reduction in the payroll tax in Chile increased not employment but wages, as the previous employment and wage levels were already adjusted for labour costs.

2.3 Reforms and poverty

Contrary to the link observed between trade and inequality, there is no well-established theoretical association between trade and poverty. This matter has been treated by the literature as an empirical issue. The basic static view implies that trade openness may contribute to an enlargement of the cake, and consequently to an increase in the cake slice of the poor.⁶ An obvious problem is that the poor do not necessarily get a bigger slice of a larger cake. *Ceteris paribus*, the poor would benefit if the spurt of economic growth caused by trade openness has a neutral or biased effect in favour of unskilled labour, i.e., if the HOS model worked. In the short run, the magnitude of the trade effect on unskilled labour wages would vary according to the supply elasticities of skilled and unskilled labour. Another possible transmission channel is the impact trade liberalization has on poor household consumer prices.

If trade openness favours the integration of poor workers, such as small farmers and rural labourers, into the mainstream economy, then it may have a poverty-reducing effect.⁷ But the opposite may occur if the increasing international integration encourages the establishment of large plantations of exportable crops. Small farmers are left aside and may be harmed by the subsequent concentration of land.⁸

⁶ Thus, the causality goes like this: trade → TFP growth → output growth → poverty reduction. Ultimately, this is the trickle-down argument.

⁷ One example is the increasing participation of the Vietnamese coffee farmers in the world coffee market after the introduction of an export-led strategy.

⁸ There are other complementary liberalization aspects linked to poverty such as agriculture protection, TRIPs, labour standards, environmental standards, TRIMs, among others. These are beyond the scope of this brief survey. For a detailed discussion, refer to McCulloch, Winters and Cirera (2001).

The empirical evidence on trade and poverty is mixed, and the results are conditional on the size of the country, trade policies, among other factors. Dollar and Kraay (2004) use cross-country analyses and find that absolute poverty has declined more in open economies than in autarkic ones. Hertel *et al.* (2001) simulate the impact of multilateral trade liberalization on certain developing countries and find a variety of responses to openness among poor households and among countries. Quibria's study (2002) shows that the economic growth following the introduction of export-led strategies in the East Asian countries promoted rapid poverty reduction mainly through job creation.

Privatization of utilities and infrastructure may have an impact on poverty through various channels, but the main channel is through economic growth. An appropriate regulatory framework and privatization of SOEs are recognized as being conducive to private sector investments, which ultimately affect output growth. Privatization is assumed to boost growth through efficiency improvement, reduction of infrastructure bottlenecks, and expansion of coverage. If privatization programmes promote competition in the utility markets, then consumers benefit from better quality and greater provision of services, and perhaps also lower prices. The poor may benefit more because they spend proportionally a higher share of their budgets on utilities, and because their access to services and infrastructure is generally much more restricted than the non-poor.

Two important—and almost forgotten—potential side effects of privatization for the poor are (i) the improved provision of and better access to energy, potable water and sewage, factors which substantially improve health and well-being; and (ii) more and better infrastructure in poorer areas and better access to such utilities raise the property values of the poor, thus causing a wealth effect. These potential effects may have an impact on the labour supply, investment in education, and access to the credit market, for example.

The hypothesis of privatization benefiting the poor does not hold if the areas covered and/or post-privatization prices do not match the needs and affordability of the poor. In other words, privatization of utilities and infrastructure has to be supported with regulatory means to make the coverage and access to poor areas compulsory, and supported with some kind of subsidy in accordance with the purchase capacity of the poor for these services.

Estache, Foster and Wodon (2002) survey the literature and conduct an extensive investigation of the impacts of privatization on poverty in Latin America. They conclude that the access to services and their affordability are still a major problem, and that privatization does not necessarily reduce poverty. They argue that infrastructure investment is central in alleviating poverty in the region.

Empirical evidence on the relationship between privatization and income inequality is very scarce. Chisari, Estache and Romero (1999) find that operational gains from private sector participation in utilities, and effective regulation in Argentina improved the GDP and reduced income inequality. This can occur if effective regulations act as a mechanism for transferring rents from companies to consumers, and if the poor are targeted for the benefits.

2.4 Conclusions

In view of the theoretical and empirical literature presented above, it seems that structural reforms favour economic growth and reduce inequality and poverty. However, structural reforms seem to be a necessary, but not a sufficient, condition for achieving these goals. Based on the literature, the best we can say is that reforms may succeed if certain conditions are met. The literature we reviewed points to some critical issues that developing countries embracing structural reforms need to recognize:

- *Coordination among micro and macro reforms.* This issue is especially important for countries with a long tradition of inflation, fiscal and balance-of-payments imbalances, and is fundamental for avoiding conflicts among reforms.
- *Favourable political environment.* Weak governments and a low degree of social cohesion disrupt reforms and/or prevent their implementation.
- *Fiscal discipline.* Severe fiscal deficits jeopardize structural reforms.
- *Balance-of-payments under control.* Severe balance-of-payments imbalances also jeopardize reforms, especially in countries with chronic balance-of-payments problems. Exchange rate plays a key role during reforms.
- *Pace of reforms adequate to country's specificities.* Pace and timing of reforms have to take into account the country's economic, social, and institutional weaknesses and constraints, and the international economic environment.

In summary, achieving sustainable growth is possibly a harder task today than in the recent past because of institutional constraints, protectionism from developed countries, competition among late-comer countries, and the limited room for governments to conduct development policies. Thus, the success stories of growth will be those in which policymakers go beyond the standard recipe.

3 The structural reforms in Brazil

The political, economic and social contexts in which structural reform programmes are introduced help to explain their content, attainment, and limitations. Moreover, the context sets the conditions of failure or success of the reforms. Before going into detail on policy changes, we review the domestic environment in Brazil prior to reforms.

3.1 The context of reforms

3.1.1 Politics

Following a *coup d'état* against the leftist President João Goulart, the military held power in Brazil from 1964 until 1985. The military enjoyed a degree of civil alliance while the economy boomed in the 1970s. But the decline in economic indicators after the oil crisis, and the painful austerity programme imposed on Brazil by IMF in the early 1980s fuelled protests and strikes. These culminated in mass demonstrations to support direct elections, thus precipitating the end of the military era.

In early 1985, an electoral college elected Tancredo Neves as the first civil president in twenty-one years. But he collapsed the night before his inauguration, and the presidency was passed to Vice-President José Sarney, a conservative politician and long-time supporter of the military regime. By October 1988, Sarney had become very unpopular because of a sharp acceleration in inflation (in spite of three consecutive stabilization plans) and allegations of corruption. Impeachment proceedings were initiated on charges of corruption, but the measure was blocked through political bargains. During Sarney's presidency, Brazil experienced very rapid macroeconomic deterioration and a worsening of the social indicators.

The first democratic elections in the post-military period in late 1989 had two front-runner candidates; Lula da Silva, a labour union leader, and Collor de Mello, son of an old-style conservative family, ex-ally of the military. The winner, Collor de Mello, triggered extremely high expectations that he could rid Brazil of inflation and rampant corruption. Collor's ambitious programme involved curbing the size of the state, privatization, deregulation of markets, and trade liberalization. He began his term of office by defaulting on the internal public debt and confiscating some US\$50 billion in financial and bank assets from depositors and investors, plunging the country into a strong recession. These policies stirred the anger of important sectors of the society, from civil servants to the business leaders who had been hurt by trade competition and deregulatory measures. Although he commanded a small minority bloc in Congress, Collor's high ratings in the polls and excellent television communication skills dissuaded many politicians from opposing his unusual proposals in the election year. As inflation increased in 1991 after two short-lived stabilization plans, the government began to flounder, and the opposition was able to thwart many of the government's proposals. Serious accusations of corruption led the Congress to start impeachment proceedings against him in 1992. Later investigations revealed that the corruptive system had numerous collaborators in the Congress and in the executive branch.

Vice-President Itamar Franco took over the government, installed a politically balanced cabinet and sought broad support from Congress. Contrary to Collor, Franco was a man of more simple habits and tastes, but quite temperamental. The economy recovered during his administration, although the inflation rose in step with growth. In 1993, Senator Fernando Henrique Cardoso was appointed minister of finance, and conducted a successful stabilization attempt, the *Plano Real*. A month after the plan went into effect Cardoso resigned as minister to run for presidential elections. The success of the *Plano Real* helped Cardoso gain an outright victory against Lula da Silva in the first round of the election. He had massive support from most of the Congress political blocs, and from the majority of the newly elected governors. Cardoso came to power in a unique political environment to lead the country successfully to prosperity. The election of Cardoso is viewed by many as the re-inauguration of the re-democratization period after the frustrations of the Sarney and Collor presidencies.

3.1.2 Economy

From the end of the Second World War till the mid-1980s Brazil followed an import-substitution industrialization (ISI) strategy. After the war, balance-of-payment crisis and rising inflation led the government to adopt foreign exchange controls and import licensing, giving priority to the import of essential goods, fuels and machinery, thus strongly protecting the consumer goods industry. Early in the 1950s, the government adopted an explicit ISI policy, as it was understood to be the only way to modernize the

economy and to promote rapid growth. Several instruments were put in place, such as foreign exchange controls and a multiple exchange rate system, designed at selecting imports considered to be essential. Similarly, some exports were promoted with higher exchange rates than those of traditional exports, but the performance of the export sector improved only modestly. Complementary measures were introduced, including subsidies, a new tariff system, and strong inducements to foreign direct investment. Programmes intended to better steer the industrialization process, to remove bottlenecks, and to promote vertical integration were created for industries considered essential for growth, notably the automotive, cement, steel, aluminium, cellulose, heavy machinery, and chemical industries. The protective system evolved in such a way that by the end of the 1980s more than half of all industrial products were in the 'Anexo C', the list of items not to be imported.

As a result of the ISI, the Brazilian economy experienced rapid growth and considerable diversification, and the average annual rate of growth exceeded 7 per cent in the 1950s. The structure of the manufacturing sector changed substantially as a result of the policies in place. Traditional industries such as textiles, food products, and clothing declined, while transport equipment, machinery, electric equipment and appliances, and chemical industries expanded. The rapid growth resulted in a substantial increase in imports, while the foreign exchange policies proved inadequate for export growth, which led to increasing trade deficits. A feature of the ISI era was the establishment of SOEs in infrastructure and in tradable industries. At the end of the 1980s, public companies were largely dominant in several sectors.

The modernizing economic reforms of 1964-67, such as the establishment of a central bank, financial reform, and anti-inflationary policies, together with the favourable state of the world economy, created good conditions for very rapid growth between 1968 and 1973, when the average annual rate of growth of GDP reached 11 per cent. The external sector contributed to the high growth rates, as did the rapid expansion of capital accumulation, including a growing share of public investment and investment by SOEs. Thirlwall and Hussain (1982) show that half of Brazil's growth rate in the 1950s and 1960s was financed by capital inflows. The industrial sector generally experienced not only fast growth but also considerable modernization. As a result, imports of capital goods and basic and semi-processed inputs increased rapidly.

Brazil suffered drastic reductions in its terms of trade as a result of the 1973 oil shock. With the trade balance under pressure, the oil shock led to a higher import bill. Under these circumstances, one prudent course of action would have been to devalue the currency and to adopt growth-reducing policies in order to contain imports. However, Brazil opted to continue a high-growth policy, and adopted renewed ISI and economic diversification strategies. This strategy was effective in promoting growth, but it also sharply augmented Brazil's import requirements, increasing the already large current account deficit, which was financed by running up foreign debt. Despite the world recession resulting from other countries' adjustments to the oil shock, Brazil was able to maintain a high growth rate, and between 1974 and 1980 the average annual rate of growth of real GDP reached 7 per cent. However, the current-account deficit increased from US\$2 billion in 1973 to US\$13 billion in 1980, and foreign debt rose from US\$6.4 billion in 1963 to nearly US\$54 billion in 1980.

The effects of the industrialization of 1974-85 on the balance of trade were significant, as it moved from an average deficit of US\$3.4 billion in the 1974-76 to an average

surplus of US\$11 billion in 1983-85. Brazil was able to raise its foreign debt because the international financial system was awash in petrodollars and was eagerly offering low-interest loans. By the end of the 1970s, however, the foreign debt had reached high levels. Additionally, the marked increase in international interest rates after the Mexican's moratorium in 1982 raised the debt service, forcing the country to borrow more just to meet interest payments.

One key feature of the 1974-80 period was the sharp acceleration of inflation, which rose from 15.5 per cent in 1973 to 110 per cent by 1980. Over the 1980s, inflation accelerated even more rapidly reaching hyperinflation levels by the end of the decade (see Figure 1). The high and persistent inflation observed for years in Brazil has a fiscal origin, and its explanation goes beyond the single inflation tax story.⁹ Bacha (1994) shows that harsh disputes among economic and political groups regarding public spending and subsidies produced public budgets in which total public expenditures were substantially higher than total public revenues, thus causing inflationary pressure. In order to accommodate inconsistent budgets, fiscal authorities used to delay the actual spending, in anticipation that inflation would reduce its real amount. This 'way out' for managing public budgets was feasible only when there was little or imperfect indexation of inflation, and no external shocks.

The debt crisis that followed the Mexican default exposed the inconsistencies in the fiscal regime. The sudden halt in international financing of the balance-of-payment deficits called for strong measures for fiscal adjustment which, in fact, never occurred. As a consequence, the fiscal and balance-of-payment deficits fuelled inflation, and caused widespread demand for public spending, wage and price indexation, thus accelerating inflation very rapidly in the first half of the 1980s. The re-democratization process in 1985 was followed by expansionist fiscal policies that brought more inflationary pressures.

The main outcome of the acceleration of inflation was a strong and increasing economic instability, causing adverse impacts on economic growth, a dramatic drop in investments, and rising income inequality. Several desperate heterodox attempts based on price and wage freezes to stop inflation were undertaken between 1986 and 1991, but all failed mainly due to the lack of fiscal adjustment.¹⁰ All stabilization attempts led to an immediate drop in inflation, with subsequent rapid acceleration, after economic agents increasingly become the wiser from previous plans, and learned to develop self-protection mechanisms against inflation and new price freezes. This process of anticipation and learning led to increasing rates of inflation that eventually developed into hyperinflation. Thus, the pre-*Plano Real* annualized inflation rate of June 1994 reached 5,300 per cent.

After decades of rapid economic growth, there was an abrupt economic slowdown in 1980-92, and the average output growth rate fell to 2 per cent. Bugarin *et al.* (2002) show that the detrended per working age output dropped 26.5 per cent below the 1992 trend, as compared with 1980, characteristic of a depression (see Figure 2). A sharp

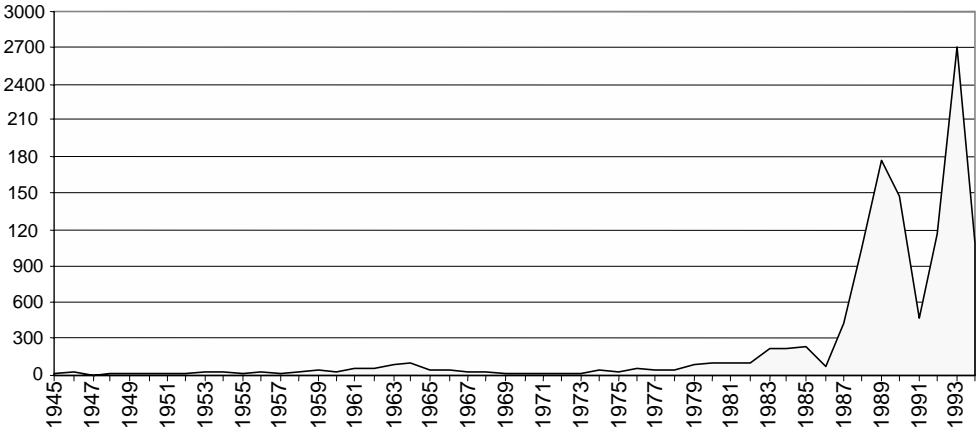
⁹ The monetarist view of inflation acceleration considers inflation tax as a mechanism of public deficit financing along with the Cagan's (1956) model (Silva and Andrade 1996).

¹⁰ In total, five stabilization plans were introduced during the Sarney and Collor administration periods: the Cruzado (1986), Bresser (1987), Verão (1989), Collor I (1990) and Collor II (1991).

drop in output followed the Mexican crisis and, after some recovery, a much stronger drop followed during the period of heterodox stabilization plans. Bugarin *et al.* show that the main cause of this output drop was the relative price of investment goods. They argue that the increasing macroeconomic instability caused by the price and wage freezes and fiscal deterioration encouraged economic agents to seek protection for their savings. This fuelled the demand for real estate. As a consequence, the price level of the construction sector, which accounts for the larger share of total investments in Brazil, grew much faster than the price level of the economy, and gross investment, as a share of GDP, fell from 23.6 per cent in 1980 to 14 per cent in 1992.

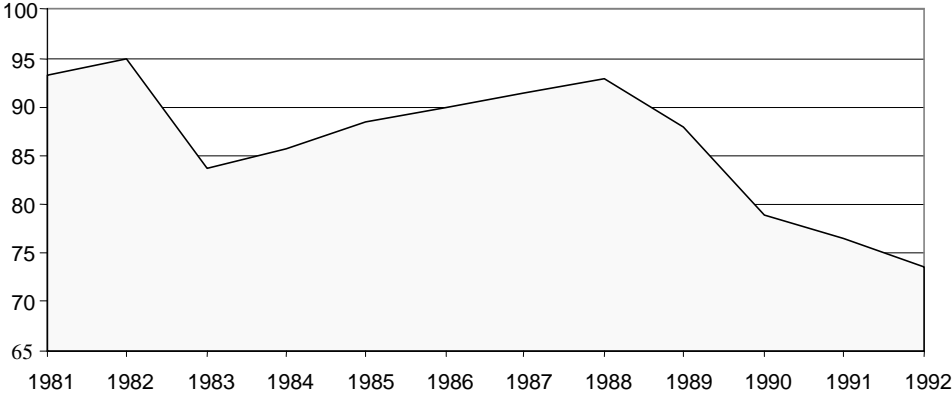
Pinheiro (2003) presents a similar story. He conducts a growth accounting decomposition and shows that capital accumulation drops from 4.5 per cent in 1964-80 to 1.3 per cent in 1981-93, accounting for half of the average output growth fall of 6.2 per cent in the period. TFP also fell significantly, from 1.7 per cent to -0.7 per cent. Capital accumulation, together with TFP, explains 90 per cent of the output growth collapse. The 1980s became known as the ‘lost decade’, and its severe economic problems were to spillover into the growth of the 1990s.

Figure 1
Inflation rate (IGP-DI)



Source: Ipeadata.

Figure 2
Detrended per working age person output (1980=100)



Source: Bugarin *et al.* (2002).

3.1.3 Social conditions

Despite its relatively high average per capita income, Brazil has a highly skewed income distribution, among the world's worst. Socioeconomic inequality involves subtle forms of residential, educational, and workplace discrimination that tend to segregate members of distinct socioeconomic strata so that they live, work, and circulate in different settings. The poor has limited—and at times no—access to government services such as health, education, and sanitation, and limited participation in the formal labour market. Consequently, they are generally not covered by labour legislation nor by most social protection schemes. Poverty is widespread in urban and rural areas, reaching the highest levels in rural parts of the northeast region.

Various forms of deprivation, growth of *favelas*, urban violence, street children, and epidemics of diseases such as dengue, have been common not only in large, but also in medium-sized and small cities all over the country. The pervasiveness of high levels of poverty and inequality along with the high concentration of land and property, and the deepening of the economic crisis, started to create tensions in rural and urban areas in the late 1980s. Pillaging and seizures of unused private land and urban properties fuelled conflicts in various parts of the country, especially in the poorest regions, as the numbers of landless workers increased. The rising social problems and the limited effectiveness of governmental policies to tackle the huge social problems raised concerns and uncertainties, and called for urgent policies to promote growth and create jobs. For the 1990s, this was perhaps the main legacy of the previous decades.

3.2 The major reforms

3.2.1 Trade liberalization

Prior to 1990, the Brazilian economy was highly protected and regulated by virtue of the vigorous ISI strategy that was followed by successive administrations. As a result, Brazil was a closed economy by the end of the 1980s. Some modest tariff reduction and the lifting of redundant barriers commenced in 1988. However, the major break with the ISI era began in 1990 under the Collor administration, when efforts to contain inflation were combined with drastic trade liberalization. The government introduced a four-year schedule to reduce the level of protection, but in practice it was completed in only three years. By the middle of 1993, most of the complex and bureaucratic non-tariff barriers had been removed, and a new tariff structure was imposed, which substantially reduced the degree of protectionism. In 1987, the weighted average nominal tariff was 55 per cent; by 1992 it had been reduced to 14 per cent. This was accompanied by a sharp fall in the range of tariffs and a decreasing standard deviation to about one-third of the previous figure. The weighted average effective tariff, which remained largely unchanged in the 1980s, dropped from 68 per cent in 1987 to 18 per cent in 1992, while the standard deviation declined from 54 per cent to 17 per cent (Kume, Piani and Souza 2003). On the export side, subsidies were eliminated and tax incentives were drastically reduced in 1990. Although the new tariffs were still relatively high by international standards, the removal of non-tariff barriers shifted the pattern of protection, especially in the manufacturing sector, and signalled that the long period of protectionism was at an end.

Coupled with the appreciation of the exchange rate (see Figure 3), trade liberalization led to a significant importation of consumer goods, enhancing the competition in

domestic markets and consequently pushing the local firms to improve competitiveness. Accordingly, there was a sharp increase in imports of capital goods and machinery. The trade flow rose steadily, with imports increasing by 257 per cent and exports by 151 per cent between 1990 and 1996. By 1996, the import penetration ratio had reached 10.7 per cent, more than twice the 1990 figure, and the quantum of imports had increased almost three times over the same period. Most of the effects of trade liberalization on the trade balance were, however, postponed until 1994 and later due to the 1990-92 economic stagnation and devaluation of exchange rate in 1991-92. In 1994, the combination of further pragmatic liberalizing measures seeking to discipline domestic prices in the aftermath of the *Plano Real* and increasing appreciation of the exchange rate affected the trade accounts in such a way that the trade balance, after a long period of surplus, started to face growing deficits (see Figure 4).

Figure 3
Real exchange rate (base = Aug 1994)

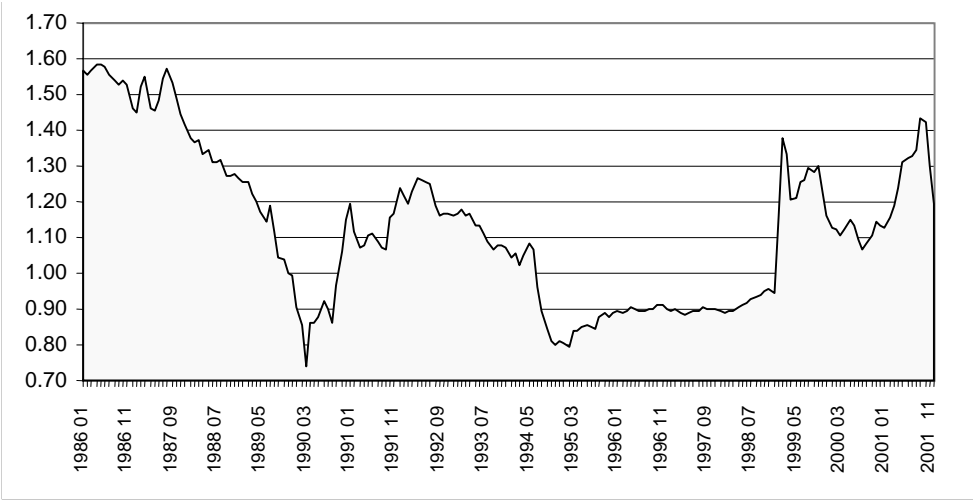
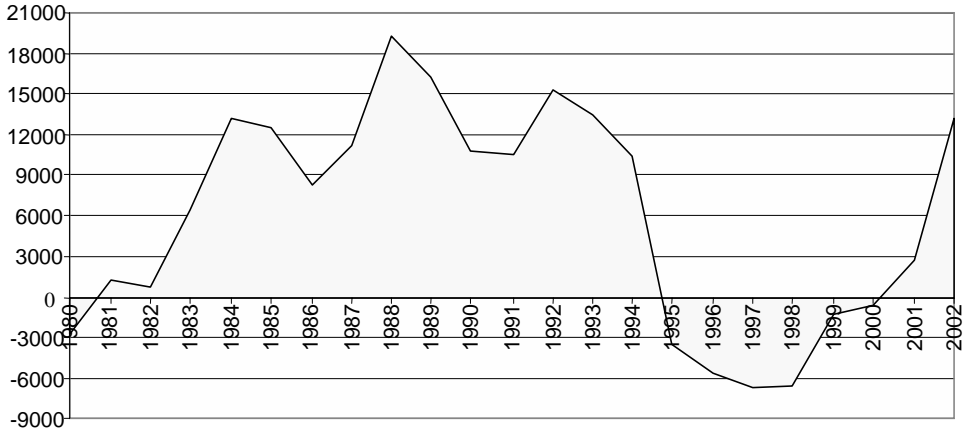
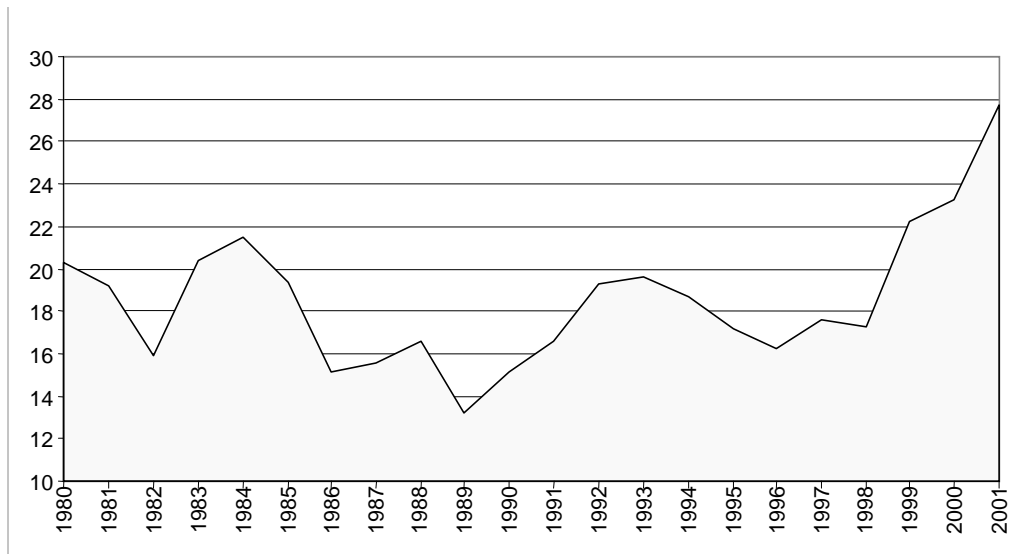


Figure 4
Trade balance (US\$ million)



Source: Ipeadata.

Figure 5
Trade-to-GDP ratio



Source: WDI (2003).

Figure 5 shows that after the turn of the 1980s the import plus export to GDP ratio based on current prices rose in the 1990s, although it remained quite low by international standards. By 2002 trade policy was still playing an active role in the allocation of resources, as suggested by the large variation in effective tariffs at the two-digit industry level, ranging from -34 to 60.5 per cent (Moreira 2004).

3.2.2 Privatization

The privatization of SOEs in Brazil began modestly in 1981, and was confined mainly to the re-privatization of companies that had been incorporated by the government because of debts. Twenty companies were sold in the early 1980s, totalling US\$190 million in revenue. During the Sarney administration, 18 SOEs owned by the National Economic Development Bank (BNDES) were privatized, totalling US\$539 million in proceeds. Most of these were small- to medium-sized companies in sectors already dominated by the private sector. According to Velasco (1999), privatization during this period was possible, not only because of government determination, but also because of the efforts made by BNDES, whose main motivation was to rid itself of loss-making companies. Velasco argues that President Sarney endorsed the sales only because the companies being privatized were not politically sensitive. Political support for a broader privatization programme was low, and in 1989 the Congress rejected a law that would have made SOEs, except those protected by constitutional impediment, subject to privatization.

Policy changed significantly during the Collor administration. Facing imminent hyperinflation and a virtually bankrupt public sector, plans for privatizing the public enterprises were launched in conjunction with a stabilization attempt. It was in this context that privatization became one of the major planks of the economic reforms of the 1990s. Although much of the rhetoric used by advocates of privatization at the time emphasized economic efficiency and competitiveness, privatization is better understood as a desperate response to the deterioration of public finance and the rapid worsening of

macroeconomic indicators. Its ultimate aim was to generate fiscal revenues to reduce the public debt substantially and to consolidate price stability. The economic crisis and the poor economic performance of the SOEs were fundamental factors in rallying the support of the general public for the privatization plan.

It is not a surprise that many SOEs were in critical financial situation when the following is taken into account.¹¹ First, SOEs were frequently used as a political bargaining tool, in which political appointees with poor administrative skills held management positions. Second, they were used as a means to contract foreign loans beyond their needs in order to meet the current account deficits, thus seriously harming their performance. Third, SOEs were heavily utilized for anti-inflationary purposes, and the prices of their goods and services often lagged behind inflation, benefiting consumers at the expense of public finance.¹²

The national privatization programme (PND), created by the BNDES in 1990, expanded the scope of privatization to include a number of enterprises formerly considered as strategic by earlier governments. During the Collor government, there were no further advances in the privatization programme due to the failure of stabilization plans and the impeachment proceedings. In 1990-92, fifteen SOEs were privatized, yielding about US\$3.5 billion in total proceeds.

During President Franco's administration, privatization continued despite his sympathetic nationalist views. Among the most important enterprises sold in 1993-94 was Embraer, the Brazilian Aeronautics Company. Other sold enterprises included chemical, fertilizer, and mining companies, and the steel sector was totally privatized by the end of 1994. Altogether, 25 SOEs were sold in 1990-94, yielding US\$12 billion in proceeds and debt transfers.

Privatization gained momentum under the first administration of President Cardoso, who shifted the focus to the SOEs responsible for a major part of Brazil's economic infrastructure, among these, enterprises in the energy, transportation, and communication sectors. The constitutional amendments necessary for privatizing the public monopolies and infrastructure, which in the past had been considered strategic for the country, were possible mainly because of the initial success of the *Plano Real*. This gave the government sufficient power and public support to push for the changes. The incoming government regarded the privatization programme as a key measure for raising revenues and achieving the fiscal discipline needed to sustain the *Plano Real*. Privatization was also considered fundamental for making the investments in utilities and infrastructure vital for sustainable growth. In a departure from earlier policy, the giant mining company CVRD, one of Brazil's largest enterprises, was privatized under intense resistance, demonstrations, and legal battles between the government and opposition party lawyers.

Between 1995 and 1998, the sale of companies in various sectors such as banking, transportation, mining, power generation and distribution, and telecommunication generated US\$78.5 billion in total proceeds and US\$15 billion in debt transfers. The

¹¹ The three points that follow are from Pinheiro (2000).

¹² This is seen as a key reason for explaining the opposition of national business leaders to the privatization programme (Velasco 1999).

privatization process was decelerated in the second term of President Cardoso, partly due to a loss in political support. The state still remains the owner of companies and assets in several sectors, most notably in the electricity, water and sanitation, and banking sectors.

Between 1990 and 2002, more than 130 state and federal companies were sold, rendering US\$105.5 billion in total revenues, which, according to the BNDES, makes it one of the largest privatization programmes in the world. These amounts played a substantial role in preventing a worsening of the current account deficit and public debt. According to Pinheiro, Giambiagi and Moreira (2001), the ratio in 1997-2000 between FDI inflows associated with privatization and current account deficit averaged 25 per cent. Carvalho (2001) shows that at the end of 1999 the public debt was 8.4 per cent of GDP lower than it would have been in the absence of privatization. Conversely, Macedo (2000) argues that privatization had a 'macroeconomic cost' as the enormous proceeds from both national and foreign investors made the government less inclined to pursue fiscal and current accounts adjustments in the 1995-98 period, thus postponing the needed measures, and inflating the costs of the adjustment later. Despite the huge amounts involved, the privatization programme did not contribute to reducing the public debt; on the contrary, the increase in the debt surpassed the revenue obtained from privatizing the SOEs.

One important consequence of privatization was the managerial changes observed in the former state companies. In many cases, they became technologically updated, more customer-oriented, raising productivity and output, increasing profits, and in turn, having more access to credit for financing new investments. In infrastructure, however, the sector suffering from a serious lack of investments for years because of the long fiscal crisis, the benefits of privatization have not emerged yet. The reform of the regulatory legal framework and the establishment of regulatory agencies are still not complete, contributing to postponed investments.

3.2.3 Deregulation of markets

Major moves towards the deregulation of markets were introduced in 1990. Restrictive rules and laws that had prevented contest in many sectors for a considerable period of time began to be removed, and price controls and restrictions to entry were eliminated in a number of sectors to stimulate competition, especially in manufacturing and service sectors. Over the following years, the anti-trust legislation was strengthened and modernized, and a consumer protection law was passed, which made firms liable for the quality of their products and advertising. A new legislation on the protection of intellectual property rights was passed in line with the Trade Related Intellectual Property Rights Agreement of the World Trade Organization.

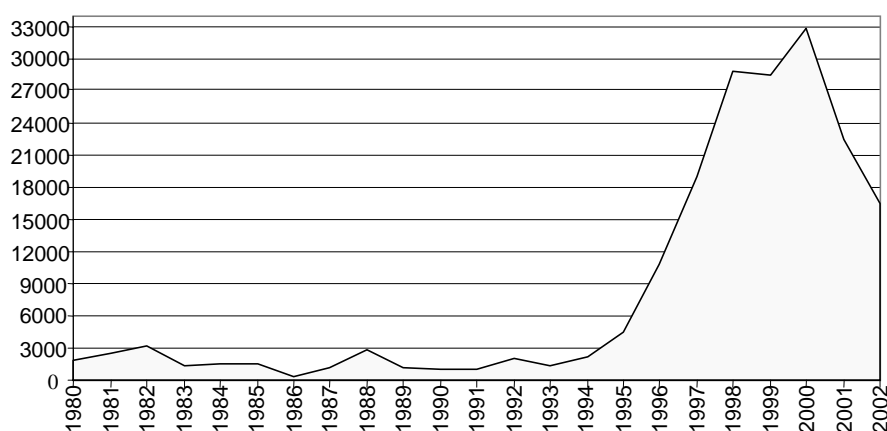
Constitutional amendments were approved eliminating discrimination against foreign capital in various businesses, and discontinuing public monopolies in oil exploration, gas, electricity, telecommunications, infrastructure, among other sectors. This allowed the participation not only of domestic companies, but also foreign companies in the market. Foreign investors were also granted the right to participate in privatization, and by 2002, their share in the total privatization proceeds reached 48 per cent, amounting to about US\$50 billion. This was a substantial change in view of the long-established position among influent politicians and business leaders who maintained that the greater

participation of foreign capital could end up denationalizing the economy, which was perceived to be against the national interests.

The privatization of major utility sectors and the foundation of Mercosur in 1991—the trade agreement comprising Brazil, Argentina, Uruguay and Paraguay—played a substantial role in attracting FDI to Brazil, as many multinational companies made Brazil the regional export base for the Mercosur countries (Pineiro and Moreira 2000). From 1990 to 1995, the inflow of FDI was, on average, US\$3.2 billion per year. From 1996 to 1999, it jumped to an average of US\$21.3 billion per year (see Figure 6). As a result, by the end of the 1990s Brazil had become one of the top major FDI destination countries.

With regard to the labour market, some changes were introduced in the 1990s which aimed at reducing the strong degree of interventionism of the labour legislation, and at increasing the flexibility of labour relations. In 1994, a law called ‘Cooperative Law’ was passed allowing firms to hire workers through cooperatives. The cooperatives in turn were not obliged to comply with certain labour costs, which in practice meant that employers were allowed to bypass some provisions of the Labour Code. Since then, outsourcing through cooperatives has grown sharply as a method for reducing labour costs. In 1998 another law was passed, which for the first time allowed part-time labour contracts to be issued. This law also introduced the establishment of a compensation scheme for overtime.

Figure 6
Foreign direct investments (US\$ million)



Source: Central Bank of Brazil.

3.2.4 Stabilization

In 1994, the *Plano Real* was introduced, and its novelty was the virtual currency, the URV.¹³ The URV was pegged to the US dollar on a one-to-one basis, and there were daily quotations of the URV in the prevailing currency, which rose according to inflation. Taxes, social security, minimum wages, exchange rates, and public utility prices were all converted to the URV. Economic agents were encouraged to set their prices and contracts

¹³ For a thorough theoretical discussion on the fundamentals of the *Plano Real*, see Silva and Andrade (1996).

voluntarily in the new unit within a period of four months. The aim was to align relative prices and wages in order to break with indexation and free the economy from the inertial effect on price formation without having to freeze prices, as before. At the end of the fourth month, the URV was converted on the 1st of July 1994 to the new currency, the *real*, set to equal one US dollar. The entire monetary base in the old currency was physically replaced by the new currency in just a few days. The *Plano Real* was successful in bringing inflation down, and inflation dropped from 50 per cent in June to about 2-3 per cent in the following months, and to one-digit figures thereafter (see Figure 7).

The diagnosis of inflation made by the economists of *Plano Real* was similar to that of the previous stabilization attempts, that is, there was an inertial component to inflation. But there were also fundamental differences in the plans. First, the domestic and international conditions were particularly favourable. On the one hand, there was large international financial liquidity at the time, which reduced the external sector constraints. On the other hand, trade and capital liberalization, privatization and other market reforms were in place, which helped to discipline price formation, attract foreign capital, and to provide extra revenues for the state.

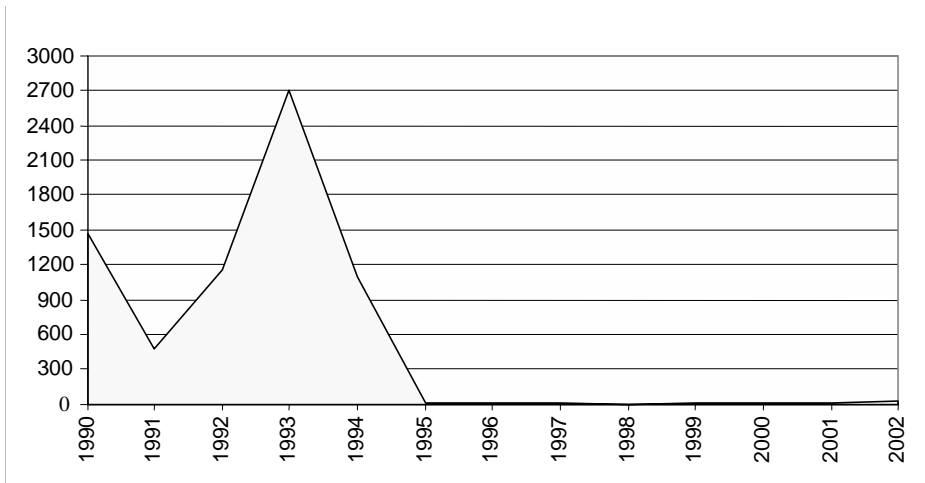
Second, there was recognition that fiscal discipline was critical for the success of stabilization. Indeed, in a low inflationary environment, fiscal disequilibrium soon becomes apparent, and only a new fiscal regime could sustain the *Plano Real*. Major fiscal reforms were desperately needed at the time, and these required constitutional amendments and subsequently strong political support. Reforms in areas such as the public pension system, social security funding, transfers of funds and division of spending among federal and state authorities, among others, were bringing about the collapse in public finance.

In spite of authorities' commitment to fiscal discipline and to the implementation of the reforms needed, the fiscal accounts went from an operational surplus of 1.14 per cent of GDP in 1994 to a deficit of 5 per cent in 1995. The deterioration of public accounts continued, reaching an operational deficit of 7.4 per cent of GDP in 1998 (see Figure 8). Amann and Baer (2000) argue that the government's soft approach to fiscal discipline resulted, on the one hand, from the failure of President Cardoso to secure the fiscal reforms in the Congress, reflecting the unwillingness of his fragile political coalition to cut spending, and on the other hand, from the outcome of the president's relentless pursuit of the constitutional amendment to allow his re-election. This amendment demanded such intense political negotiations and bargaining that it eventually changed the political agenda, thus delaying fiscal reforms.

In view of the worsening of fiscal accounts, the *Plano Real* became contingent largely on the role of the exchange rate for maintaining price stability. Interest rates were increasingly used to attract foreign capital, aiming at keeping the exchange rate anchor (see Figure 9).¹⁴ Of course, this regime was unsustainable, especially because the high interest rates were having negative effects on the fiscal accounts, causing severe fiscal disequilibria. Figure 10 shows that the public sector's interest payments jumped from 3 per cent of GDP in 1993 to 5 per cent in 1995.

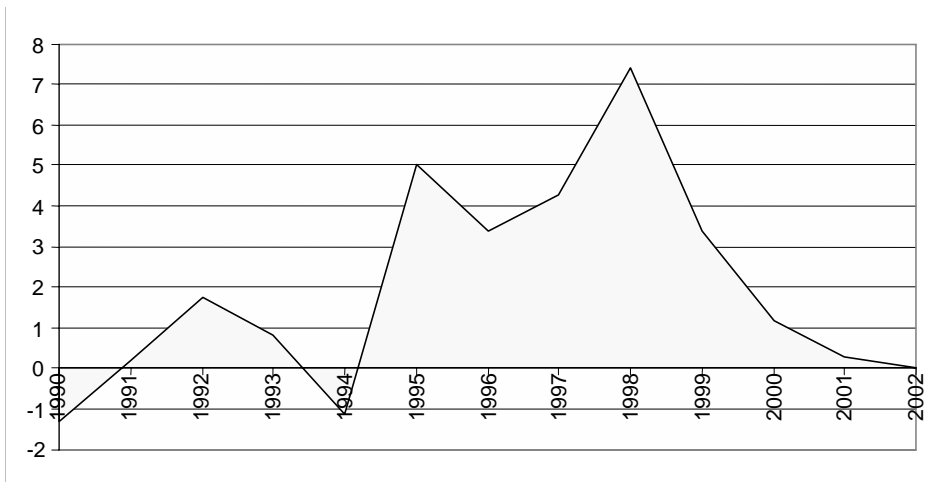
¹⁴ The SELIC interest is set by the central bank and is the floor interest rate of the economy (see Figure 9).

Figure 7
Inflation rate (IGP-DI)



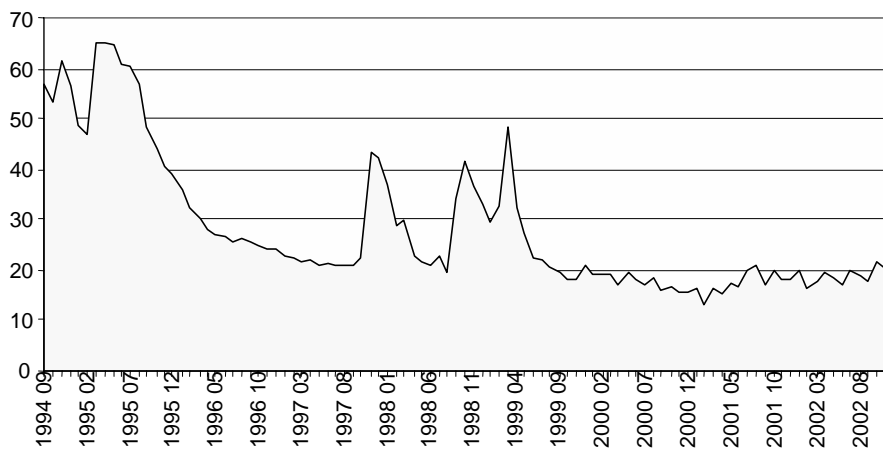
Source: Ipeadata.

Figure 8
PSBR-to-GDP ratio (operational concept)



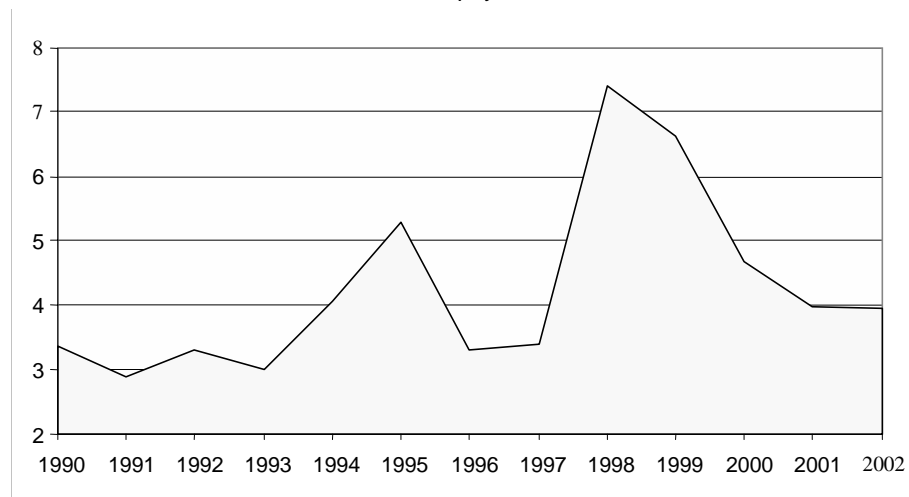
Source: Ipeadata.

Figure 9
SELIC—basic interest rate (annualized)



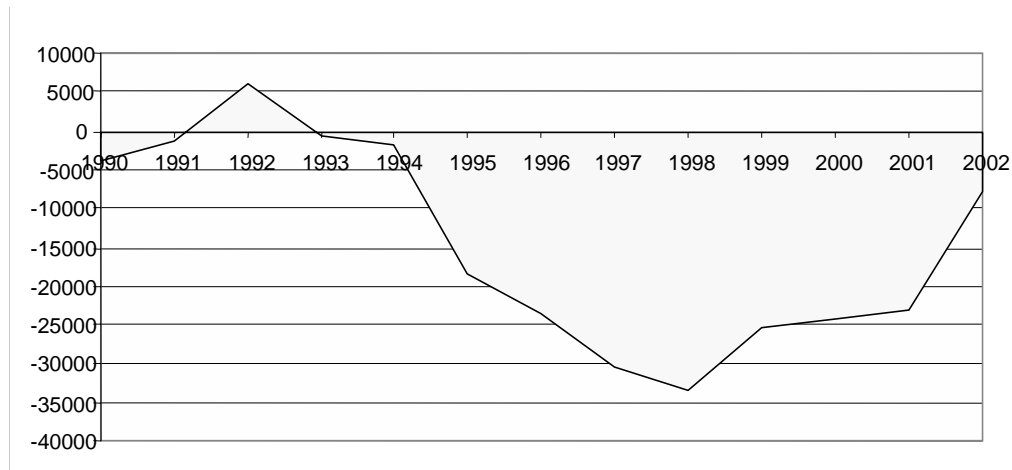
Source: Ipeadata.

Figure 10
Public sector interest payments-to-GDP ratio



Source: Ipeadata.

Figure 11
Current accounts (US\$ million)



Source: Ipeadata.

In the external sector, there was a substantial deterioration in the current account resulting from various factors. First, the use of the exchange rate as an anchor to keep inflation down, along with high foreign capital inflows, appreciated the *real*, causing a trade balance disequilibrium (see Figure 4).¹⁵ Second, there was a substantial increase in interest and dividend payments between 1994 and 1998, reaching 4 per cent of GDP in 1997. Third, after decades of strong protection, the rapid trade liberalization led to high growth in imports. At the same time, post-stabilization consumption, investment booms and the expansionist fiscal policy stimulated the growth of imports even further. As a result, the current account increased from a deficit of US\$1.8 billion in 1994 to a deficit of US\$18.4 billion in 1995. The deficit has worsened since then, reaching US\$33.5 billion in 1998 (see Figure 11).

¹⁵ In the first months of the *Plano Real* the exchange rate experienced a huge appreciation mainly as a result of the anchor policy, reaching 0.81 *real* per dollar (see Figure 3).

Indeed, the *Plano Real* was being sustained at the expense of increasing deterioration of the fiscal and external accounts, compounding what later would bring very serious difficulties to output growth and social indicators. The gradualist policy adopted to tackle the growing macroeconomic imbalances can be explained by the easy access to portfolio capital and increasing FDI inflow. Thus, the FDI-to-current account ratio in 1995 was 24 per cent; increasing to 46 per cent in 1996; and to 62 per cent in 1997; reaching 86 per cent in 1998. Of course, this strategy could not last long as the increasing dependency on foreign capital to finance the explosive current account deficits made the economy highly vulnerable to external shocks and eventually to speculative attacks.

The Mexican crisis in March 1995 began to bring up uncertainties about the sustainability of the *Plano Real*. In order to protect the *real*, the government adopted a tight monetary policy. Thus, in the aftermath of the Asian crisis in October 1997 the annualized interest rate reached 42 per cent (see Figure 9). In view of the widespread concerns over the macroeconomic indicators and increasing fears of the devaluation of the *real*, the government was forced to take action with regard to the fiscal deficit and to the appreciated exchange rate. Public spending was cut in 1998, generating some improvement in the primary result, while the exchange rate was depreciated by 6 real percentage points.

The Russian crisis in August 1998 forcefully exposed the contradictions of the *Plano Real* and made the situation unsustainable. The government substantially raised interest rates in a dramatic attempt to maintain the exchange anchor in place, but the measure was useless, as investors increasingly believed that a strong devaluation of the *real* was inevitable. As a result, they started withdrawing funds in large quantities from the country. Between August and September 1998, Brazil lost about US\$30 billion in international reserves. The desperate increases in interest rates to save the *real* in 1997 and 1998 affected the public accounts, causing public sector interest payments to reach an astonishing 7.5 per cent of GDP in 1998 (see Figure 10).

In view of the increasing risk of collapse of the economy, the IMF, the World Bank and the US government announced a large emergency loan of US\$41.5 billion to Brazil. In October 1998, just after the re-election of President Cardoso, the government proposed major fiscal reforms to the Congress in a desperate attempt to avoid economic collapse. By December, the Congress had approved only part of the proposed reforms, raising the expectations of imminent default. Indeed, capital outflows accelerated, depleting international reserves at about US\$1 billion a day during the first days of January 1999. In a dramatic and desperate move, the government was forced to allow the exchange rate to float freely in mid-January. This caused the *real* to overshoot, jumping from 1.21 before devaluation to 2.06 by February 1999. The devaluation brought immediate changes to the external accounts. Trade deficit diminished rapidly as a result of major cuts in imports, a drastic drop in international travel, 50 per cent profits cuts, and other remittances.

Stringent fiscal measures were taken in 1999. The Congress approved a tax raise, and since the government was keen to meet the budget primary surplus stipulated by the IMF agreement, an inflation target system was introduced, and the interest rate was kept high. However, by the end of the year, the budget surplus attained was larger than the IMF requirement, and a fiscal policy regime that would prevail during the entire second administration of President Cardoso was inaugurated. Further fiscal measures were introduced over the next years, giving rise to a rapid reduction of the operational deficit (see Figure 8).

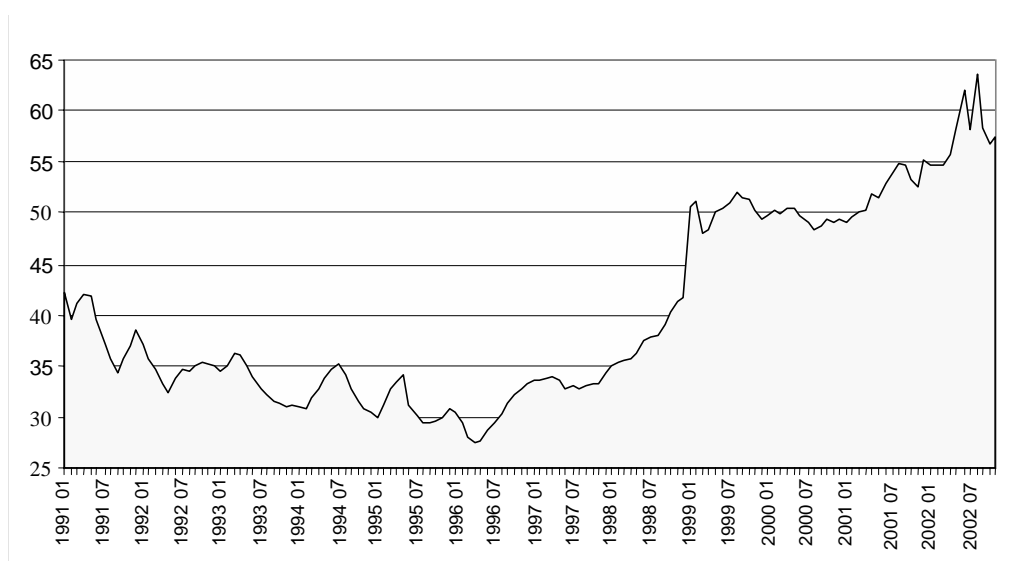
Between 2000 and 2002, a series of external factors adversely affected the economic performance of Brazil. Concerns and speculations on the prospects of recovery were renewed. First, the moratorium and deepening of Argentina’s crisis—one of Brazil’s main trade partners—heavily affected exports. Second, the downturn of the US economy had an adverse impact on the world economy. Third, there were major declines in FDI inflows. Fourth, an unprecedented energy crisis developed because of draught (almost all power generation in the country is hydraulic-based) and the paucity of investments. The result was severe rationing of electricity.

The weak performance of the economy in 2001, the poor post-devaluation export growth, and the falling inflow of foreign capital increased anxiety that, similar to Argentina, Brazil might default. As a consequence, there was a substantial reduction in international financing, which led to strong exchange rate depreciations and increased volatility. The exchange rate volatility and the high interest rates affected both the long-term private investments and fiscal accounts, as a substantial amount of the public debt was dollar denominated. The exchange rate rises affected inflation through both the elevation of the costs of imported inputs, and through increased utility prices. Utilities had been pegged to a price index which was very sensitive to exchange rate movements. The macroeconomic deterioration led to further interest rate hikes, thus reducing the chances of an eventual economic recovery.

In 2002, the prospects that the leftist candidate in the upcoming presidential elections, Lula da Silva, could win kindled uncertainties once again. There were concerns of a socialist regime and unsound policies and the country-risk ratings soared to unprecedented levels, bringing additional difficulties to companies and public accounts.

One impact of the *Plano Real* for public finance was the sharp growth of the public debt-to-GDP-ratio (see Figure 12), in spite of the substantial rise in the tax burden-to-GDP-ratio from 25 per cent to 35 per cent, and privatization. This would have sizeable consequences for economic activity in the following years.

Figure 12
Public debt-to-GDP ratio (net)



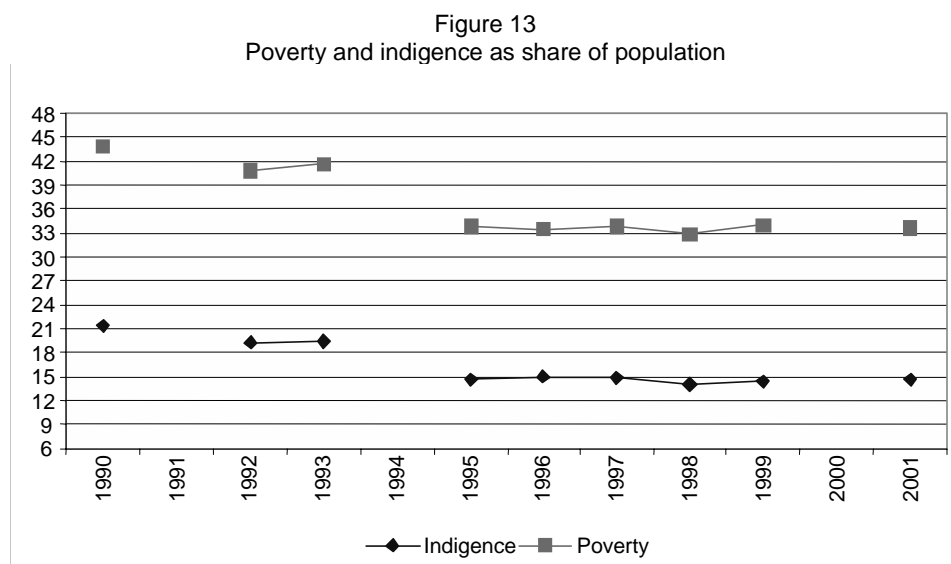
Source: Ipeadata.

3.3 Conclusions

An examination of the structural reforms undertaken by Brazil in the 1990s suggests enormous economic policy changes. In a few years, Brazil moved from an economy that was quite closed, strongly regulated, and public-enterprise dominated to one that was more open and market-oriented. The sectoral shifts and social costs incurred were undeniably high, and an obvious question that arises is whether all this effort paid-off in terms of sustainable growth and improved well-being for the population. The next session sheds some light on this issue, by assessing the impacts the reforms had on social indicators and output growth

4 The impact of reforms on social indicators and economic growth

In order to assess the impacts of reforms on poverty, inequality and output growth, this paper brings together a number of empirical findings on reforms that are already available for Brazil. Before going into detail, we briefly present the developments of poverty, inequality, and economic growth before and after policy changes. Figure 13 presents the share of population under the poverty and indigence lines.¹⁶ A significant drop in poverty occurred just after the *Plano Real* in mid-1994, and since then the indigence and poverty lines have remained fairly stable. Figure 14 shows the Gini and Theil-T income inequality indices. Despite the various phases of stop-and-go, economic crises, hyperinflation, price and wage freezes, and structural reforms, inequality also remained stable post-reforms. A preliminary look at these social indicators suggests that structural reforms so far have hardly benefited the poor.¹⁷

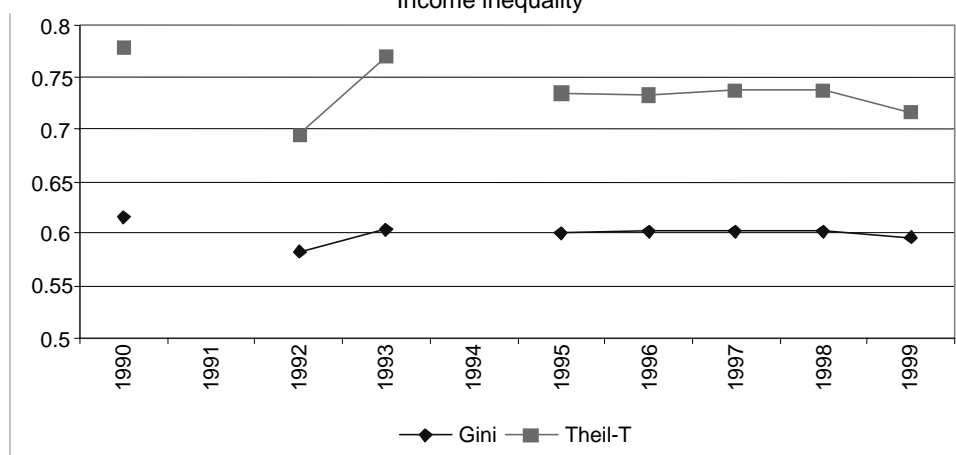


Source: Ipeadata.

¹⁶ The poverty and indigence lines are constructed on basis of the families' financial capacity to provide a minimum number of calories per capita per day in accordance with the FAO standard. The years missing in series are due to lack of data.

¹⁷ Ferreira and Barros (1999) show that although the poverty and inequality indices of 1976 and 1996 were virtually the same, educational, demographic and labour market changes took place in such a way that they off-set each other, thus accounting for the income inequality stability. They find, however, a substantial increase in extreme urban poverty.

Figure 14
Income inequality



Source: Ipeadata.

Figure 15
Per capita output growth rate

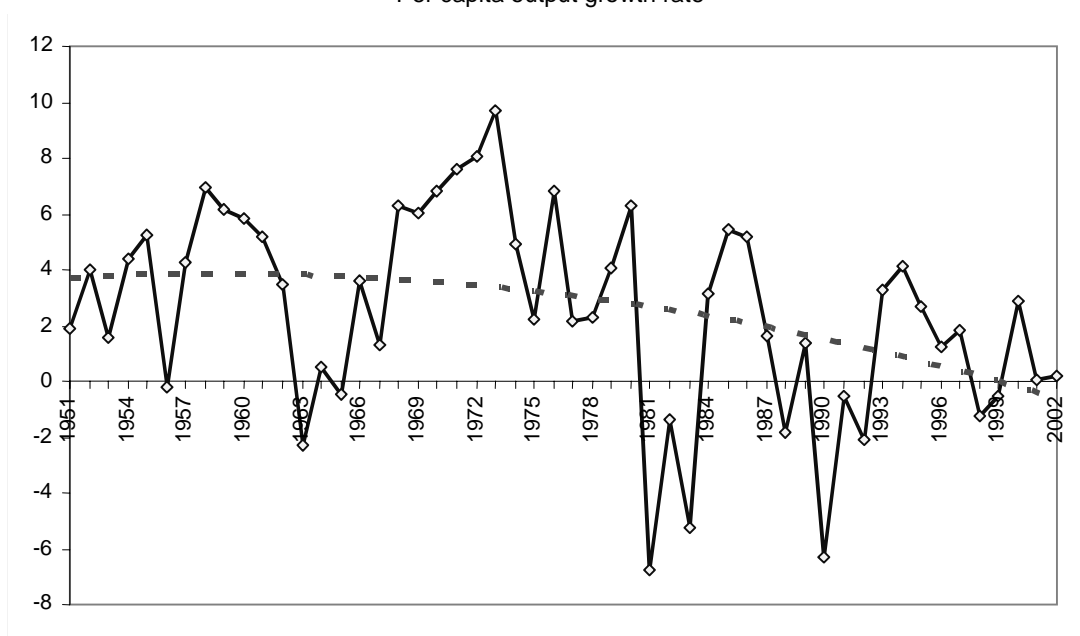
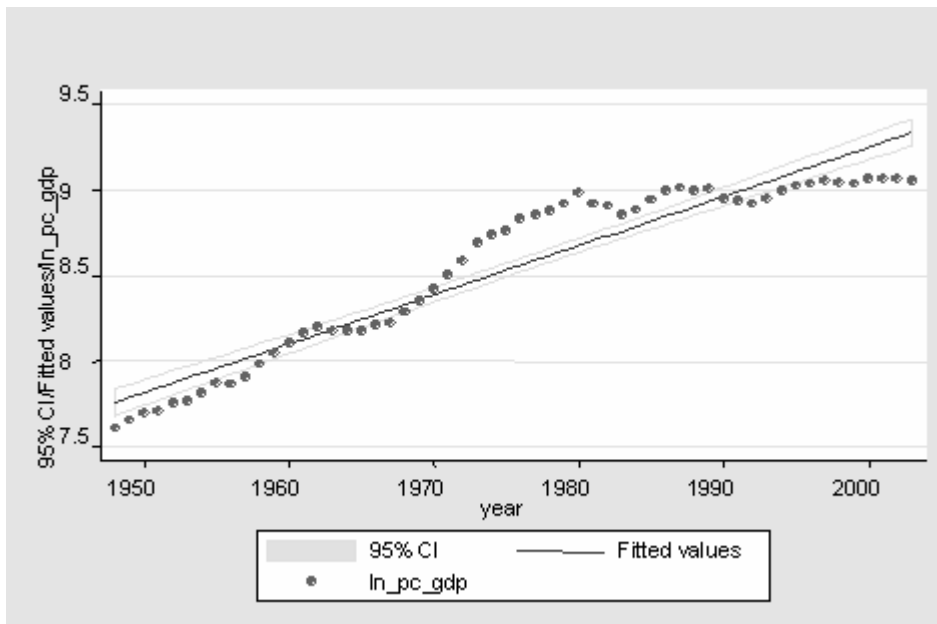


Figure 15 shows the per capita growth rate. The dotted line is the quadratic trend of the per capita output growth. While the instantaneous rate of growth of the per capita output in 1964-79 was 5.7 per cent, it declined sharply to 0.7 per cent in 1980-02, and in 1994-2002 it reached a disappointing 0.64 per cent. The figure shows that the structural reforms implemented in the 1990s were not able to reverse the long-term trend of declining output growth.

Figure 16 presents the fitted and actual logarithm of the per capita output. The fitted line can be interpreted as the long-term trend of the per capita output. Two points seem to emerge. First, taking the fitted line as a reference, Brazil has experienced long economic cycles over the last decades. Second, after a strong boom, the economy entered a rather stagnant period since 1980, and the fitted-actual gap has been increasing since 1990, suggestive of an economic depression. The poor economic performance in the post-reform period implies that something went wrong, as market-oriented reforms are, *a priori*, understood to be pro-growth.

Figure 16
Ln per capita output



Source: lpeadata.

4.1 Impacts of reforms on poverty and inequality

In 1990-2002, the labour market indicators experienced significant change. By 2002, more than 50 per cent of the labour force was employed in the informal sector; unemployment was about 11.7 per cent; and real average wage had lost 15 per cent of its purchase power, as compared with 1997. The causes of such deterioration are certainly associated with the country's mediocre economic growth, but also perhaps with the reforms undertaken in the past decade. This section brings evidence on whether and how the structural reforms have favoured the poor.

The empirical literature analysing the impact of trade liberalization on wage distribution in Brazil reveals that the observed effects are different from those predicted by the HOS theory. Arbache, Dickerson and Green (2004a) find that wages in the traded sector, when allowing for human capital, were substantially reduced by the increased degree of openness after liberalization. This is consistent with the view that the reforms raised the degree of competition in the traded industries and thereby reduced rents. Menezes-Filho and Arbache (2003) and Arbache (2000) find that the fall in rents reduced the bargaining power of workers, as the drop in union wage premium was steeper in the more open industries. Soares (2004) finds evidence that trade openness narrowed the gap between formal and informal wages in manufacturing, which was interpreted as a result of the drop in rents that had been accrued by formal-sector workers before trade liberalization.

Arbache, Dickerson and Green (2004a) also find that increased openness had different effects across education groups and within sectors. Across the entire economy, the marginal returns to education were lower in the post-liberalization period than the pre-liberalization period, with the exception of the college-educated workers, for whom

the marginal return increased. Within the traded sector, increased openness was associated with lower wages, but the downward impact of openness on wages was insignificant for the two highest education levels, i.e., completed secondary and college education. Green, Dickerson and Arbache (2001) show that the increase to returns on the part of college education was not accompanied by a slowdown in the share of college-educated workers in the labour force. On the contrary, it increased overtime. Using a supply-demand framework, Green, Dickerson and Arbache show that there was a relative increase in the relative demand for this group, which is consistent with changes in the labour demand structure. These results suggest that the developments after trade and capital liberalization were skill-biased.

As the compression of margins tends to reflect increased competition in the domestic market, the above results can probably be explained by the introduction of new technology, rationalization of production, better management, outsourcing, and turnover. For instance, Arbache (2004) finds that the manufacturing industries that benefited from more FDI flows in the 1990s also showed higher growth of human capital, suggesting technological upgrade. Arbache and De Negri (2003) find evidence that export firms employ workers with better skills than their non-exporting counterparts, a fact which indicates technological differential. Hay (2001) finds evidence of compressed profits and market shares in manufacturing firms in the aftermath of trade openness. Muendler (2004) finds that tougher competition in domestic markets after openness forced the least efficient manufacturing firms to exit, or induced firms to adopt more efficient productive methods. He finds however only little evidence of technological upgrade. López-Córdova and Moreira (2003) also find that foreign competition pushed manufacturing firms to improve efficiency.

Arbache and Corseuil (2004) and Arbache, Dickerson and Green (2004b) find no evidence of significant trade-induced employment or wage structure changes in favour of labour-intensive industries and low-wage industries, as suggested by the HOS model. Arbache and De Negri (2003) find evidence that a learning-by-exporting effect takes place within, but not between industries. López-Córdova and Moreira (2003) find that efficiency gains among exporters are mainly the result of intra-firm and intra-industry reallocation changes. Menezes-Filho and Rodrigues (2001) find that most of the labour demand changes observed after liberalization were intra- but not between-industry. According to López-Córdova and Moreira, most of the productivity gains in manufacturing resulted from intra-industry and intra-firm reallocation effects. Possible explanations for the limited reallocation of resources among industries after openness are turnover within industry, high training costs, high labour dismissal costs, and above all, the rapid pace of reforms, which may have discouraged adequate adaptation to the new economic environment by firms and workers.

Green, Dickerson and Arbache (2001) show, with a wage inequality decomposition analysis, that the changes in inequality over the 1980-1990 period were mostly associated with changes within education-group inequality. The post-liberalization change in the relative wages of different education groups had no substantial effect on the overall wage inequality, for the reason that from the mid-1980s onwards there was a rise in the relative wage of illiterates, which was a reflection of the drop in their share on the workforce. The increased returns for college-educated workers were not sufficient enough to affect overall inequality significantly because this group constitutes a small proportion of the labour force.

Maia and Arbache (2001) use input-output techniques to investigate the sources of employment changes and find that imports accounted for the destruction of 1.97 million jobs; and technological changes eliminated 4.9 million jobs between 1985 and 1995. A further decomposition shows that imports of consumption goods and inputs accounted for 89 per cent of the total job destruction due to imports, while, labour productivity improvement explains 60 per cent of total job destruction resulting from technological changes. *Ceteris paribus*, without the imports and technological changes, unskilled jobs would have risen another 12.5 per cent. A different picture emerges for skilled jobs. While *no* imports would have created 3.8 per cent of additional jobs, no technological changes would have prevented the generation of 15.8 per cent more jobs, a figure far larger than that of job loss resulting from imports, thus producing net job creation for skilled workers. Carneiro and Arbache (2003) use CGE analyses to simulate the impact of closing the economy in 1996 to reflect the 1990 tariff structure. They find that unemployment went down and the average household income went up, thus suggesting that openness contributed to greater unemployment. Overall, the above results offer no evidence that trade and capital liberalization benefited unskilled workers and improved income inequality.

Mota (2003) runs a cost-benefit analysis to evaluate the impacts of privatization of the electricity supply. She finds that most efficiency gains from privatization went to the benefit of the producers. This is explained partly by the slow establishment of the regulatory framework, and partly by the regulators' consent to the outcome. Danni (2004) examines the privatization of communications and energy to determine whether these increased provision expanded service coverage in favour of the poor.¹⁸ His results show that provision of fixed phone lines and distribution of energy increased after privatization and that the poor were the main beneficiaries, as coverage increased proportionally more among those at the bottom end of the income scale. While 1.1 per cent of individuals at the lowest income decile had access to fixed telephone lines in 1992, this had raised to 11 per cent by 2002. Individuals at the second lowest decile also enjoyed a substantial raise in access, from 1.4 per cent to 17 per cent. By 2002, 50 per cent of all households had fixed phone lines versus 20 per cent in 1998. Thus, it seems that increased coverage after privatization played a role in improving the well-being of the poor.¹⁹ In the case of energy, provision for the lowest decile rose from 58 per cent in 1992 to 85 per cent in 2002; consumers at the second lowest decile also experienced a rise in provision, and coverage rose from 74 per cent to 91 per cent in the same period. The highest income deciles had negligible or no improvement, as they had already been covered by energy provision. Danni (2004) argues that it is unclear whether privatization has resulted in higher energy provision among the poor, since the growth rate of coverage per income decile has been relatively constant pre- and post-privatization.

As far as affordability is concerned, there were substantial price changes in utilities in the post-privatization period. Fiani (2002) shows that the residential energy cost was subjected to a 40 per cent rise above the CPI between 1995 and 2002, while the industry

¹⁸ Danni *et al.* (2003) show that access of households to public services in Brazil is largely associated with family per capita income.

¹⁹ The availability of proper water and sanitation is still limited among the very poor families. This sector is mostly under state control.

energy cost dropped 60 per cent below the industrial price index (IGP).²⁰ The fixed billing charge for energy distribution and fixed residential telephone connections also increased sharply after privatization, imposing a regressive cost on the poor.²¹ As a result, the share of utilities in the budget of the poor may have risen after privatization. Anuatti-Neto *et al.* (2003) show that privatization had a significant impact on employment at plant level. The average number of employees in privatized plants dropped 25 per cent. In the case of electricity distribution companies, the labour force was halved after privatization (Mota 2003). These results suggest that privatization had both positive and negative effects on poverty. Further empirical investigation, however, is needed to indicate the net effects of privatization on the poor.

It has been shown that the acceleration of inflation in the 1980s contributed to rising poverty and inequality (Ferreira and Litchfield 1999; Barros *et al.* 2000), thus suggesting that macroeconomic stabilization does induce benefits for the poor. In the aftermath of the *Plano Real*, consumption experienced an unprecedented boom. From the second quarter of 1994 to the second quarter of 1995, consumption rose by 16 per cent, mainly a reflection of the purchasing-power gains of the lower income groups. As they had no or very limited access to mechanisms to protect their consumption from inflation, stabilization gave them a one-time real income raise. Workers at the lowest income decile experienced a 100 per cent rise in income in the first year of the *Plano Real*, while workers at the second lowest decile enjoyed a 46 per cent rise (Rocha 2000). The euphoria of post-*Plano Real*, accompanied by pro-growth fiscal policies, fuelled the average growth rate during 1994 and 1995 to 5 per cent, and reduced unemployment. The post-stabilization boom of the non-financial service sectors also triggered job creation for low-income groups. These changes had an immediate positive impact on poverty, but only a very small impact on inequality, as shown in Figures 13 and 14. Thus, the proportion of people below the poverty line fell from 42 per cent in 1993 to 34 per cent in 1995, remaining at this level thereafter.

To sum up, there has been no empirical evidence so far to indicate that trade and capital liberalization favoured unskilled workers. The destruction of unskilled jobs because of imports and labour productivity gains (caused in part by the rationalization of production and turnover) and the low per capita output growth may help to explain the unemployment and possibly also the increases observed in the informal section in the 1990s.²² Nevertheless, the increased demand for skilled workers did not affect the inequality indicators, an observation which may be explained by the changes in the composition of the workforce. The post-privatization expansion of utility coverage certainly contributed to the improved well-being of the poor. But utility prices appear to have increased relatively more for the poor, however. The stabilization of inflation was a permanent benefit for the poor, and may help to explain the post-1994 stability of poverty and inequality indices.

²⁰ Fiani (2002) quotes a study of Ildo Sauer that shows that low-consumption households (less than 30 kwh per month) had energy price rises of more than 1,000 per cent between 1994 and 2002. Given that part of the poor are below this threshold, they have experienced a heavy price rise.

²¹ Between 1999 and July 2003, the fixed telephone bill rose 148 per cent, while the CPI rose 52 per cent, and the pulse rate rose 65 per cent (Carta Capital, No. 248, 9 July 2003).

²² Goldberg and Pavcnik (2003) find no direct evidence to support the theory that openness explains the informality rise in the 1990s.

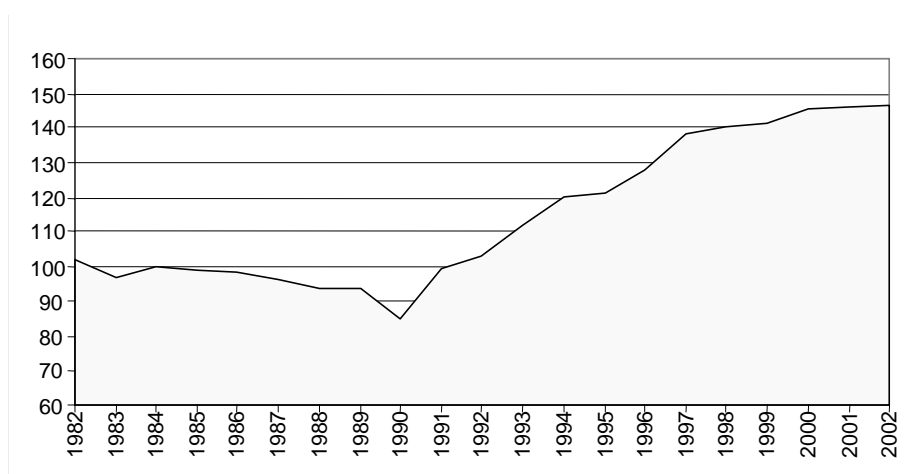
4.2 Impacts of reforms on economic growth

Figure 17 shows that labour productivity in the manufacturing sector rose steadily in the 1990s, reversing the downward trend observed in the 1980s. TFP estimations also show a similar pattern. Ferreira and Rossi (2003) find average TFP growth rates in manufacturing industries of -3.8 per cent in 1985-90, and 2.7 per cent in 1991-97. Muendler (2004) also finds a similar picture, and shows that TFP of manufacturing firms grew 5 per cent between 1990 and 1998, after a 2 per cent drop over the 1986-90 period. The improvement in efficiency indicators from the turn of the decade is worth mentioning, and suggests that structural reforms did work to modernize the economy, thus eventually contributing to GDP growth. This section presents evidence on this matter.

Trade liberalization and deregulation of foreign capital seem to have had sizeable impacts on efficiency. Technology transfers and diffusion from abroad rose from 0.04 per cent of GDP in 1990 to 0.35 per cent in 1999—these are close to the OECD average of 0.4 per cent of GDP. The ratio of payments for technology transfers abroad per GDP in 1999 increased 8.5 times as compared to 1990. New methods of production and management were introduced, which led to an increase in the variety of goods, and improvements in quality. More ISOs and other international certifications were awarded to Brazilian companies. Thus, from 1990 to 1999 the growth rate of ISO 9000 series certification was 65 per cent per year, an unambiguous indication of the widespread diffusion of technology.

The removal of domestic and international barriers to trade and investment seems to explain the TFP boost in the 1990s. Ferreira and Rossi (2003) find evidence that the fall of tariffs and import penetration increased TFP growth in manufacturing industries. Hay (2001) analyses a set of large manufacturing firms and finds that there was substantial productivity growth after openness. He provides evidence to suggest that a fall in profits and market shares pushed firms to better performance and greater efficiency gains. Muendler (2004) investigates TFP change and finds that the removal of tariffs and import penetration induced firms to rationalize, and forced less competitive firms to exit

Figure 17
Labour productivity in manufacturing (1991=100)



Source: Ipeadata.

the market, thus leading to the rise in TFP. He does not find evidence of technical change being a significant driving-force for TFP growth. López-Córdova and Moreira (2003) also investigate the impact of openness on productivity gains and find evidence indicating that firms were more exposed to international competition and learning-by-exporting, a fact which would explain the TFP growth in the 1990s. They note that the productivity gains of traded industries were more than double those of non-traded industries. Arbache and De Negri (2003) observe that exporting-firms have significantly higher labour productivity and employ a more skilled labour force than comparable non-exporting firms. In the vein of the Lucas' (1988) model, Sarquis and Arbache (2003) find evidence that trade openness and technology diffusion substantially enhanced the external effects of human capital in the post-liberalization era, thus contributing to the explanation on TFP growth. These results suggest that the efficiency improvements observed in the manufacturing sector in the 1990s are strongly related to the new trade and foreign capital policies.

Anuatti-Neto *et al.* (2003) assess the impacts of privatization on efficiency and the output of former SOEs, and find indications of increased profitability and reduced operating costs. They also find there was a fall in the investment-to-sale ratio and net taxes-to-sale ratio, as privatized companies had enjoyed various forms of subsidies. Danni (2004) shows that the provision of utilities and services grew after privatization. For instance, the number of fixed phone lines rose from 20 million in 1998 to 45 million in 2002; and the number of mobile phones rose from 5.6 million to 35 million in the same period. Carvalho (2001) observes that the privatization programme had various beneficial effects: improvement in the managerial practices and in the efficiency of enterprises remaining under state ownership; reduction of public debt, albeit much less than anticipated earlier; re-organization of public finances of the federative states; and reduction of public debt interest payments in the short and long run, versus the levels they would have been in the absence of privatization. Finally, the privatization programme attracted about US\$50 billion in FDI inflows. Overall, the empirical evidence suggests that the privatization of SOEs enhanced efficiency, increased the provision of utilities, improved the government's fiscal position, and contributed to alleviating the balance-of-payments pressures.

The 1990s witnessed the dismantling of a huge state regulatory system. Pricing setup in several sectors, barriers to entry in traded and services sectors, subsidies, and a heavy bureaucratic system, were all removed, making the economy more efficient and less costly. Modernization of the anti-trust laws and the establishment of regulators in the infrastructure and utilities sectors have, in conjunction with privatization, contributed to making the economy more market-oriented and consumer-focused.

Although structural reforms seem to have had substantial impacts on economic efficiency, post-reform output growth decomposition results are cause for concern. Pinheiro (2003) finds a TFP growth of 1.8 per cent over the period 1981-93 to 1994-2002. Despite a significant recovery of productivity (from -0.7 to 1.1), output growth after reforms was only 1.1 per cent, going from 1.6 per cent to 2.7 per cent. The main explanation for this disappointing figure is the poor capital accumulation growth, which fell from 1.3 per cent in 1981-93 to 1.1 per cent in 1994-2002, while labour factor growth dropped -0.6 per cent. Thus, TFP gains account for all post-reform output growth.

4.3 Conclusions

The empirical results reviewed above suggest that trade and capital liberalization did not benefit the poorer population and unskilled workers. It seems that increasing competition in an economy which had previously been fairly closed, reduced rents and forced firms to adapt, causing job losses and a reduction in real wages. Despite this, these findings are somewhat unexpected, considering that the Brazilian labour force is largely composed of uneducated and untrained workers. The timing and pace of reforms may contribute to explaining these outcomes. Several other countries with similar comparative advantage adopted similar reforms, and the rapid pace of changes may not have permitted firms and workers to adapt adequately to the new economic framework. This would have limited the reallocation of resources, at least in the short and medium term. Inflation stabilization, however, brought immense benefits for the poor, thus contributing to the reduction in inequality and poverty levels.

Despite the modernization of the economy associated with the policy changes, the average growth rate of the post-reform period was 2.7 per cent, higher than the 1981-93 figure of 1.6 per cent, but still far below the historical rate of 6.5 per cent. A decomposition of the output growth shows that (i) if TFP growth had not increased, the economy would have experienced a sharp depression in the post-reform period; and (ii) the reforms did not improve investment. The investment-to-GDP ratio remained at around 16 per cent. The stagnation in investments is somewhat puzzling, as openness, privatization, stabilization and deregulation of markets are often assumed to reduce the prices of investment goods and create business opportunities, the elements needed to encourage capital accumulation. In fact, the evidence for Brazil suggests that structural reforms seem to be conducive to growth, but do not cause growth. This result is perhaps relevant for policymakers in developing countries who seem to take it for granted that reforms will induce growth. The slow post-reform output growth helps to explain the stability of poverty and inequality indicators. The next session reviews these issues and tries to answer the question why structural reforms in Brazil have yet to deliver, as was expected.

5 What went wrong?

It seems that the disappointing post-reform output growth is explained by the sequencing of policy reform issues, political economy constraints, and the timing when the reforms were introduced. One critical sequencing issue is the fact that the stabilization-*cum*-exchange rate nominal anchor was introduced *after*, and not before, trade liberalization, hence in opposition to the long-established consensus of policy literature. The appreciation of the exchange rate prior to stabilization made the anti-export bias created by the nominal anchor larger than it would have been otherwise. It was subsequently reinforced by the long period of appreciation after *Plano Real*. The sizeable FDI inflow favoured by capital account liberalization and privatization in the aftermath of *Plano Real* also contributed to keeping the *real* appreciated. As productivity increases take time to materialize and the reallocation of resources is a slow and long process (especially in a country such as Brazil that had been long protected from imports), the trade-off between the exchange rate used to steer inflation down and to guide the reallocation of resources was counterproductive for improving exports. The obvious outcome was a rapid worsening of the current accounts, which

ultimately constrained the output growth potential. Unfortunately, Brazil repeated the earlier policy mistakes made by other Latin American countries in their stabilization attempts, as documented by Sebastian Edwards, but with the aggravated implications of inducing a stagnant economic cycle, and exposing the economy to speculative attacks in a liberalized financial market framework.

Another critical issue of policy reform coordination is related to fiscal accounts. Serious fiscal adjustment was left until *after* stabilization. Thus, the fiscal adjustment required in the aftermath of the *Plano Real* was huge and difficult to implement. It appears that the government overestimated its capacity to control fiscal accounts and to have the Congress pass fiscal reforms in such a short time. Instead of surpluses, the post-*Plano Real* period witnessed explosive operational public deficits, revealing the inconsistency of fiscal budgets in the inflationary era. The rise in interest rates to finance balance-of-payment deficits with portfolio capital affected public accounts and aggravated the fiscal disequilibria. The unwillingness of politicians to adopt the measures necessary to achieve fiscal discipline delayed the essential reforms, and added to the costs of adjustment. At the time, the ‘way out’ for fiscal adjustment was not to rely on inflation tax, as had been done in previous decades, but to take advantage of the success of *Plano Real* to resort to obtain funding from both local and foreign financial markets, at the cost of worsening fiscal and current accounts.

It is worthy of note that fiscal measures were taken only after the aggravation of economic crisis, the collapse of the *real*, and the depletion of international reserves. The recurrent postponement of reforms highlights the stringent war of attrition, and suggests that Brazil is perhaps a good illustration of the point made by Danny Rodrik on how the combination of high income inequality and weakness of conflict management institutions can be counterproductive for a society attempting to manage and adequately respond to macroeconomic problems.²³

The rapid pace at which the structural reforms were introduced in Brazil was perhaps a policymaker reaction to the anticipated strong pressures against policy changes. Hasty reforms are, however, costly because the chances of mistakes increase, and short-run unemployment and bankruptcy go up and tend to be unevenly distributed.

The delay of fiscal adjustment and conflicts over policy reforms created an atmosphere of unsustainable macroeconomic deterioration in the country. This, of course, could not last long. Accordingly, the spread of C-Bonds—the risk premium on Brazilian government international bonds—had jumped from 400 base points in October 1997 to 1150 base points by the end of 1998.

The rising uncertainties about the sustainability of the *Plano Real* had stringent effects on the prospects of growth. From the end of 1997 onwards, the investment-to-GDP ratio triggered a period of contraction, and was one immediate cause of vulnerability of the *real*. After the collapse of the *real* in the early 1999, the rising costs of investment and input goods, the very high interest rates, the implementation of an enormous fiscal adjustment, and the unfinished regulatory system for utilities and infrastructure, added

²³ One illustration of the war of attrition and polarization in Brazil is the impact of labour unions on income inequality. Arbache (1999, 2001b) shows that labour union policies increase, rather than decrease, wage inequality, a result that is at odds with the role they are supposed to play.

to the main causes of investment stagnation. Thus, the average output growth was 1.7 per cent between 1998 and 2002; per capita output growth was nearly zero.

The timing at which Brazil implemented structural reforms also appears to have contributed to their effectiveness. On the one hand, many potential competitors introduced similar reforms, while on the other hand institutional constraints to pro-export policies, along with developed-country protectionism, eroded the benefits reform was expected to bring for output growth. In addition, Brazil was in an extended period of economic stagnation. Naturally, in such an environment, the efforts needed to promote growth should have extended much beyond the introduction of the standard market-oriented reforms, thus emphasizing the challenge faced by developing countries in their attempts to achieve sustainable economic growth. Finally, the economic recession faced by Brazil's important trade partners (Mercosur and other Latin American countries) and the slowdown of the world economy frustrated export growth in the early 2000s.

Although our explanations on what went wrong in Brazil are tentative, it appears that the delay of fiscal reforms and mismanagement of policies contributed decisively to offsetting reform's potential benefits to output growth, at least in the short and medium term. Given that political economy issues have an effect on reform postponements and policy design, policies that aim for sustainable growth need to tackle the sources of political economy constraints in Brazil. An obvious starting point is the reduction of poverty and inequality.

6 Final remarks

Over the last twenty years, Brazil has undergone several attempts to improve sustainable growth through stabilization programmes, and more recently, structural reforms in line with the Washington Consensus Agenda. The results, however, have been disappointing, as per capita output growth has been below its historic trend, and poverty and inequality remain high. A considerable concern over the implication of successive failures is the reform fatigue of the society. It is also unclear whether the never-ending economic and political crises will trigger disillusionment with the young re-democratization process and with Brazil's future.

The main lesson of Brazil's attempt at economic reform is that policies which attempt to promote growth and tackle poverty have to overcome domestic economic and institutional constraints. If the standard market-oriented reforms had been adequate to boost growth, Brazil would have grown at higher rates. Therefore, it can be said that market reforms are not a panacea. Market reforms may contribute to growth, but only if supported with microeconomic policies tailor-made to address a country's needs, and with appropriate macroeconomic, institutional and political environments. Given that no autarkic country has been able to maintain high growth performance for a long period, it seems proper to consider market reforms as necessary, but not sufficient condition, for sustainable growth.

Finally, two empirical findings reviewed above call for attention. First, TFP growth in the 1990s is better explained by a trade-induced push and the exit of the least competitive firms, and less by new technologies; and second, relative wages of skilled

workers rose sensibly, even at low output growth rates. Both findings are associated with one common factor—the very low level of average human capital in Brazil.²⁴ If the goal is to achieve and sustain high growth rates and to improve poverty and inequality indicators, it seems that additional investments in human capital are essential.

References

- Alesina, A., and A. Drazen (1991). ‘Why are Stabilizations Delayed?’. *American Economic Review*, 81: 1170-88.
- Amann, E., and W. Baer (2000). ‘The Illusion of Stability: The Brazilian Economy under Cardoso’. *World Development*, 28: 1805-19.
- Anuatti-Neto, F., M. Barossi-Filho, A. G. Carvalho, and R. Macedo (2003). ‘Costs and Benefits of Privatization: Evidence from Brazil’. Latin American Research Network Working Papers No. R-455. São Paulo: IADB.
- Arbache, J. S. (1999). ‘Do Unions always Decrease Wage Dispersion? The Case of Brazilian Manufacturing’. *Journal of Labor Research*, 20: 425-36.
- Arbache, J. S. (2000). ‘Does Trade Liberalisation Always Decrease Unions Bargaining Power?’. Paper presented at the 2000 EALE/SOLE World Conference in Milan.
- Arbache, J. S. (2001a). ‘Liberalização comercial e mercado de trabalho no Brasil’, in N. Menezes e M. Lisboa, *Microeconomia Aplicada no Brasil*. Rio de Janeiro: Contra Capa / Fundação Getúlio Vargas.
- Arbache, J. S. (2001b). ‘The Impact of Unions in Brazilian Labor Market’. Washington, DC: World Bank. Mimeo.
- Arbache, J. S. (2002). ‘Trade Liberalization and Wages in Developing Countries: Theory and Evidence’, in A. Levy and J. R. Faria (eds), *Economic Growth, Inequality and Migration: National and International Perspectives*. Cheltenham: Edward Elgar.
- Arbache, J. S. (2004). ‘The Impacts of Foreign Direct Investments on Labour Market and Technology in Brazil in the 1990s’. Helsinki: WIDER-UNU. Mimeo.
- Arbache, J. S., and C. H. Corseuil (2004). ‘Liberalização comercial e estruturas de emprego e salário.’ *Revista Brasileira de Economia*. forthcoming.
- Arbache, J. S., and J. A. De Negri (2003). ‘The Determinants of Brazilian Manufacturing Exports’. Working Paper No. 42-2003. University of Oxford Centre for Brazilian Studies.
- Arbache, J. S., A. Dickerson, and F. Green (2004a). ‘Trade Liberalisation and Wages in Developing Countries’. *Economic Journal*, 114: F73-F96.
- Arbache, J. S., A. Dickerson, and F. Green (2004b). ‘Assessing the Stability of the Inter-Industry Wage Structure in the Face of Radical Economic Reforms’. *Economics Letters*, 83: 149-55.

²⁴ Brazil has one of the highest adult illiterate rates in Latin America, and one of the lowest average years of education among middle-income countries.

- Bacha, E. L. (1994). 'O fisco e a inflação: uma interpretação do caso brasileiro'. *Revista de Economia Política*, 14: 5-17.
- Barnett, S. (2000). 'Evidence on the Fiscal and Macroeconomic Impact of Privatization'. Washington, DC: IMF.
- Barros, R. P., C. H. Corseuil, R. Mendonca, and M. C. Reis (2000). 'Poverty, Inequality and Macroeconomic Instability'. Ipea Texto para Discussão No. 750. Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- Bennett, J., S. Estrin, J. Maw, and G. Urga (2004). 'Privatization Methods and Economic Growth'. London: Brunel University. Mimeo.
- Berman, E., J. Bound, and S. Machin (1998). 'Implications of Skill-Biased Technological Change: International Evidence'. *Quarterly Journal of Economics*, 113: 1245-79.
- Beyer, H., P. Rojas, and R. Vergara (1999). 'Trade Liberalization and Wage Inequality'. *Journal of Development Economics*, 59: 103-23.
- Bhagwati, J. (1978). *Foreign Trade Regimes and Economic Development: Anatomy and Consequences of Exchange Rate Controls*. Cambridge, MA: Ballinger Publishing Company.
- Bhagwati, J., and T. N. Srinivasan (2002). 'Trade and Poverty in the Poor Countries'. *American Economic Review - Papers and Proceedings*, 92: 180-3.
- Bruno, M., and W. Easterly (1995). 'Inflation Crisis and Long-Run Growth'. NBER Working Paper No. 5209. Cambridge, MA: National Bureau of Economic Research.
- Bugarin, M. S., R. Ellery Jr., V. Gomes, and A. Teixeira (2002). 'The Brazilian Depression in the 1980s and 1990s'. Paper presented at the 2003 Brazilian Econometric Society Meeting.
- Cagan, P. (1956). 'The Monetary Dynamics of Hyperinflation', in M. Friedman (ed.), *Studies in the Quantity Theory of Money*. Chicago: University of Chicago Press.
- Calvo, G. A., and C. A. Vegh (1999). 'Inflation Stabilization and BoP Crises in Developing Countries'. NBER Working Paper No. 6925. Cambridge, MA: National Bureau of Economic Research.
- Carneiro, F. G., and J. S. Arbach (2003). 'The Impacts of Trade on the Brazilian Labor Market: A CGE Model Approach'. *World Development*, 31: 1581-95.
- Carvalho, M. A. S. (2001). 'Privatização, dívida e déficit público no Brasil'. Ipea Texto para Discussão No. 847. Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- Central Bank of Brazil. Dataset available at: www.bacen.gov.br .
- Chisari, O., A. Estache, and C. Romero (1999). 'Winners and Losers from Privatization and Regulation of Utilities: Lessons from a General Equilibrium Model of Argentina'. *World Bank Economic Review*, 13: 357-78.
- Cook, P., and Y. Uchida (2001). 'Privatization and Economic Growth in Developing Countries'. Centre on Regulation and Competition Working Paper Series No. 7. Manchester: University of Manchester.

- Cragg, M. I., and M. Epelbaum (1996). 'Why Has Wage Dispersion Grown in Mexico? Is it Incidence of Reforms or Growing Demand for Skills?'. *Journal of Development Economics*, 51: 99-116.
- Cukierman, A., S. Edwards, and G. Tabellini (1992). 'Seignorage and Political Instability'. *American Economic Review*, 82: 537-55.
- Danni, L. S. (2004). 'Análise do efeito distributivo das reformas regulatórias e privatização dos serviços públicos no Brasil'. Brasília: Universidade de Brasília. Mimeo.
- Danni, L. S., R. C. Farias, P. C. Souza, J. R. Louzada, P. A. Baptista, and S. H. Bernardes (2003). 'Diagnóstico da exclusão no acesso aos serviços de energia elétrica no Brasil'. Tribunal de Contas da União. Mimeo.
- Davis, D. R. (1996). 'Trade Liberalization and Income Distribution'. NBER Working Paper No. 5693. Cambridge, MA: National Bureau of Economic Research.
- De Gregorio, J. (1996). 'Inflation, Growth, and Central Banks: Theory and Evidence'. Policy Research Paper No. 1575. Washington, DC: World Bank.
- De Gregorio, J., and J. W. Lee (2003). 'Growth and Adjustment in East Asia and Latin America'. Working Paper No. 245. Santiago: Central Bank of Chile.
- Dollar, D., and A. Kraay (2004). 'Trade, Growth, and Poverty'. *Economic Journal*, 114: F22-F49.
- Edwards, S. (1992). 'The Sequencing of Structural Adjustment and Stabilization'. Occasional Paper No. 34. Stockton, CA: International Center for Economic Growth.
- Edwards, S. (1993a). 'Openness, Trade, and Growth in Developing Countries'. *Journal of Economic Literature*, 31: 1358-93.
- Edwards, S. (1993b). 'The Political Economy of Inflation and Stabilization in Developing Countries'. NBER Working Paper No. 4319. Cambridge, MA: National Bureau of Economic Research.
- Edwards, S. (1994a). 'Macroeconomic Stabilization in Latin America: Recent Experience and Some Sequencing Issues'. NBER Working Paper No. 4697. Cambridge, MA: National Bureau of Economic Research.
- Edwards, S. (1994b). 'Trade and Industrial Policy Reform in Latin America'. NBER Working Paper No. 4772. Cambridge, MA: National Bureau of Economic Research.
- Edwards, S. (1997). 'The Mexican Peso Crises: How Much Did We Know? When Did We Know It?'. NBER Working Paper No. 6334. Cambridge, MA: National Bureau of Economic Research.
- Edwards, S. (1998). 'Openness, Productivity and Growth: What Do We Really Know?'. *Economic Journal*, 108: 383-98.
- Estache, A., V. Foster, and Q. Wodon (2002). 'Accounting for Poverty in Infrastructure Reform: Learning from Latin America's Experience'. WBI Development Studies. Washington, DC: World Bank.

- Feenstra, R. C., and G. Hanson (1995). 'Foreign Investment, Outsourcing and Relative Wages', in R. C. Feenstra and G. M. Grossman (eds), *Political Economy of Trade Policy: Essays in Honor of Jagdish Bhagwati*. Cambridge, MA: The MIT Press.
- Feenstra, R. C., and G. H. Hanson (1997). 'Foreign Direct Investments and Relative Wages: Evidence from Mexico's Maquiladoras'. *Journal of International Economics*, 42: 371-94.
- Feliciano, Z. M. (2001). 'Workers and Trade Liberalization: The Impact of Trade Reforms in Mexico on Wages and Employment'. *Industrial and Labor Relations Review*, 95: 95-115.
- Fernandes, A. M. (2003). 'Trade Policy, Trade Volumes and Plant-Level Productivity in Colombian Manufacturing Industries'. Washington, DC: World Bank. Mimeo.
- Ferreira, F. H. G., and R. P. Barros (1999). 'The Slippery Slope: Explaining the Increase in Extreme Poverty in Urban Brazil, 1976-1996'. *Revista de Econometria*, 19:
- Ferreira, F. H. G., and J. A. Litchfield (1999). 'Education or Inflation? The Roles of Structural Factors and Macroeconomic Instability in Explaining Brazilian Inequality in the 1980s'. Discussion Paper No DARP 41. London: STICERD-LSE.
- Ferreira, P.C., and J. L. Rossi (2003). 'New Evidence from Brazil on Trade Liberalization and Productivity Growth'. *International Economic Review*, 44: 1383-405.
- Fiani, R. (2002). 'Os desafios da estrutura tarifária'. GESEL-IE-UFRJ.
- Fischer, S. (1993). 'The Role of Macroeconomic Factors in Growth'. *Journal of Monetary Economics*, 32: 485-512.
- Forteza, A., and M. Rama (2001). 'Labor Market Rigidity and the Success of Economic Reforms across more than 100 Countries'. WB Working Paper No. 2521. Washington, DC: World Bank.
- Galli, R., and R. van der Hoeven (2001). 'Is Inflation Bad for Income Inequality: The Importance of the Initial Rate of Inflation'. Employment Paper No. 2001/29. Geneva: ILO.
- Goldberg, P. K., and N. Pavcnik (2003). 'The Response of the Informal Sector to Trade Liberalization'. *Journal of Development Economics*, 72: 463-96.
- Gonzales-Rozada, M. and A. Menendez (2002). 'Why Have Poverty and Income Inequality Increased so much? Argentina 1991-2002'. Princeton, NJ: Princeton University. Mimeo.
- Green, F., A. Dickerson, and J. S. Arbach (2001). 'A Picture of Wage Inequality and the Allocation of Labour through a Period of Trade Liberalisation: The Case of Brazil'. *World Development*, 29: 1923-39.
- Grossman, G. M., and E. Helpman (1991a). *Innovation and Growth in the Global Economy*. Cambridge, MA: The MIT Press.
- Grossman, G. M., and E. Helpman (1991b). 'Trade, Knowledge Spillovers and Trade'. *European Economic Review*, 35: 517-526.

- Gruber, J. (1997). 'The Incidence of Payroll Taxation: Evidence from Chile'. *Journal of Labor Economics*, 15: S72-S101.
- Hansen, N. A. (1997). 'Privatization, Technological Choice and Aggregate Outcomes'. *Journal of Public Economics*, 64: 425-42.
- Hanson, G. H., and A. Harrison (1999). 'Trade Liberalization and Wage Inequality in Mexico'. *Industrial and Labor Relations Review*, 52: 271-88.
- Harrison, A. (1996). 'Openness and Growth: A Time-Series, Cross-Country Analysis for Developing Countries'. *Journal of Development Economics*, 48: 419-47.
- Hay, D. (2001). 'The Post 1990 Brazilian Trade Liberalization and the Performance of Large Manufacturing Firms: Productivity, Market Share and Profits'. *Economic Journal*, 111: 620-41.
- Hertel, T. W., P. Preckel, J. Cranfield, and M. Ivanic (2001). 'Poverty Impacts of Multilateral Trade Liberalization'. CGTA-DA Working Paper No. 16. West Lafayette, IN: Purdue University.
- Hoffmann, R. (1992). 'Desigualdade e pobreza no Brasil no período 1979-90, Anais do XIV Encontro Brasileiro de Econometria'. Campos de Jordão.
- Ipeadata. Dataset available at: www.ipeadata.gov.br.
- Jonsson, G., and A. Subramanian (1999). 'Dynamic Gains from Trade: Evidence from South Africa'. Working Paper No. WP/00/45. Washington, DC: IMF.
- Knan, M. S., and R. Zahler (1985). 'Trade and Financial Liberalization Given External Shocks and Inconsistent Domestic Policies'. *IMF Staff Papers*, 32: 22-55.
- Krueger, A. O. (1978). 'Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences'. NBER Working Paper. Cambridge, MA: National Bureau of Economic Research.
- Krueger, A. O. (1981). 'Interaction between Inflation and Trade Regime Objectives in Stabilization Programs', in W. Cline and S. Weintraub (eds), *Economic Stabilization in Developing Countries*. Washington DC: Brookings Institution.
- Krueger, A. O. (1990). 'The Relationship between Trade, Employment, and Development', in G. Ranis and T. Schultz (eds), *The State of Development Economics: Progress and Perspectives*. Cambridge: Basil Blackwell.
- Krueger, A. O. (1993). *Political Economy of Policy Reform in Developing Countries*. Cambridge, MA: The MIT Press.
- Kume, H., G. Piani, and C. F. Souza (2003). 'A Política brasileira de importação no período 1987-98: descrição e avaliação', in C. H. Corseuil and H. Kume (eds), *A Abertura Comercial nos Anos 1990—Impactos Sobre Emprego e Salários*. Brasília: Ministério do Trabalho e Emprego and Ipea.
- Lee, J. W. (1996). 'Government Interventions and Productivity Growth'. *Journal of Economic Growth*, 1: 391-414.
- Li, H., and H. Zou (2002). 'Inflation, Growth, and Income Distribution: A Cross-Country Study'. *Annals of Economics and Finance*, 3: 85-101.

- Little, I., T. Scitovsky, and M. Scott (1970). *Industry and Trade in Some Developing Countries*. Oxford: Oxford University Press.
- López-Córdova, E., and M. M. Moreira (2003). 'Regional Integration and Productivity: The Experiences of Brazil and Mexico'. Intal-ITD-STA Working Paper No. 14. Washington, DC: IADB.
- Lora, E. (2000). 'What Makes Reforms Likely? Timing and Sequencing of Structural Reforms in Latin America'. Research Department Working Paper No. 424. Washington, DC: IADB.
- Lucas, R. E. (1988). 'On the Mechanics of Economic Development'. *Journal of Monetary Economics*, 22: 3-42.
- Macedo, R. (2000). 'Privatization and Distribution of Assets and Income in Brazil'. Working Paper No. 14. Washington, DC: Carnegie Endowment for International Peace.
- Maia, K., and J. A. Arbache (2001). 'O impacto do comércio internacional e da tecnologia na estrutura de emprego no Brasil'. Mercado de Trabalho—Conjuntura e Análise, No. 16. Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- McCulloch, N., L. A. Winters, and X. Cirera (eds) (2001). *Trade Liberalization and Poverty: A Handbook*. London: CEPR.
- McNab, R. M., and R. E. Moore (1998). 'Trade Policy, Export Expansion, Human Capital and Growth'. *Journal of International Trade and Economic Development*, 7: 237-56.
- Menezes-Filho, N., and J. S. Arbache (2003). 'Trade Liberalization, Product and Labor Markets in Brazil'. São Paulo: University of São Paulo. Mimeo.
- Menezes-Filho, N. A., and M. Rodrigues, Jr., (2001). 'Abertura, tecnologia e qualificação: evidências para a manufatura brasileira'. Proceedings of the Workshop on Trade Liberalization and the Labor Market in Brazil. Brasília: UnB and Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- Michaely, M. (1985). 'The Demand for Protection against Exports of Newly Industrialized Countries'. *Journal of Policy Modeling*, 7: 123-32.
- Moreira, M. M. (2004). 'Brazil's Trade Liberalization and Growth: Has It Failed?'. INTAL-ITD-IADB Occasional Paper No. 24. Washington, DC: IADB.
- Mota, R. L. (2003). 'The Restructuring and Privatization of Electricity Distribution and Supply Businesses in Brazil: A Social Cost-Benefit Analysis'. Cambridge: University of Cambridge. Mimeo.
- Muendler, M. A. (2004). 'Trade, Technology, and Productivity: A Study of the Brazilian Manufacturers, 1986-1998'. San Diego: University of California. Mimeo.
- Özler, S., and G. Tabellini (1991). 'External Debt and Political Economy Instability'. NBER Working Paper No. 3772. Cambridge, MA: National Bureau of Economic Research.
- Pacheco-López, P., and A. P. Thirlwall (2004). 'Trade Liberalization in Mexico: Rhetoric and Reality'. Kent: University of Kent. Mimeo.

- Parente, S. L., and E. C. Prescott (1994). 'Barriers to Technology Adoption and Development'. *Journal of Political Economy*, 102: 298-321.
- Parente, S. L., and E. C. Prescott (2000). *Barriers to Riches*. Cambridge, MA: The MIT Press.
- Parikh, A. (2002). 'Impact of Liberalization, Economic Growth and Trade Policies on Current Accounts of Developing Countries: An Econometric Study'. WIDER Discussion Paper No. 2002/63. Helsinki: UNU-WIDER.
- Pavcnik, N. (2002). 'Trade Liberalization, Exit, and Productivity Improvement: Evidence from Chilean Plants'. *Review of Economic Studies*, 69: 245-76.
- Pinheiro, A. C. (2000). 'The Brazilian Privatization Experience: What's Next?'. BNDES Discussion Paper No. 87. Rio de Janeiro: National Economic Development Bank .
- Pinheiro, A. C. (2003). 'Uma agenda pós-liberal de desenvolvimento para o Brasil'. Ipea Texto para Discussão No. 989. Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- Pinheiro, A. C., and M. M. Moreira (2000). 'O perfil dos exportadores brasileiros de manufaturados nos anos 90: quais as implicações de política?', in P. M. Veiga (org.), *O Brasil e os desafios da globalização*. Rio de Janeiro: Relume Dumara.
- Pinheiro, A. C., F. Giambiagi, and M. M. Moreira (2001). 'Brazil in the 1990s: A Successful Transition?'. NBDES Texto para Discussão No. 91. Rio de Janeiro: National Economic Development Bank.
- Plane, P. (1997). 'Privatization and Economic Growth: An Empirical Investigation from a Sample of Developing Countries Markets'. *Applied Economics*, 29: 161-78.
- Quibria, M. G. (2002). 'Growth and Poverty: Lessons from East Asian Miracle Revised'. ADB Institute Research Papers No. 33. Tokyo: ADB Institute.
- Robbins, D. J., and T. H. Gindling (1999). 'Trade Liberalization and the Relative Wages for More-Skilled Workers in Costa Rica'. *Review of Development Economics*, 3: 140-54.
- Rocha, S. (2000). 'Pobreza e desigualdade no Brasil: O esgotamento dos efeitos distributivos do *Plano Real*'. Ipea Texto para Discussão No. 721. Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- Rodriguez, F., and D. Rodrik (2000). 'Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence', in B. Bernanke and K. Rogoff (eds), *Macroeconomics Annual 2000*. Cambridge, MA: MIT Press for NBER.
- Rodrik, D. (1996). 'Openness, Trade Liberalization, and Growth in Developing Countries'. *Journal of Economic Literature*, 31: 1358-93.
- Rodrik, D. (1999). 'Where Did All the Growth Go? External Shocks, Social conflict, and Growth Collapses'. *Journal of Economic Growth*, 4: 385-412.
- Rodrik, D. (2000). 'Development Strategies for the Next Century'. Paper presented at the Conference on Developing Economies in the 21st Century, IDE, Chiba, Japan.

- Sanchez-Paramo, C., and N. Schady (2002). 'Off and Running? Technology, Trade, and the Rising Demand for Skilled Workers in Latin America'. Washington, DC: World Bank. Mimeo.
- Santos-Paulino, A., and T. Thirlwall (2004). 'The Impact of Trade Liberalization on Exports, Imports and Balance of Payments of Developing Countries'. *Economic Journal*, 114: F50-F72.
- Sarquis, S. J., and J. S. Arbache (2003). 'Openness and External Effects of Human Capital'. London: London School of Economics. Mimeo.
- Silva, M. L. F., and J. P. Andrade (1996). 'Brazil's New Currency: Origin, Development and Perspectives of the Real'. *Revista Brasileira de Economia*, 50: 427-67.
- Soares, F. V. (2004). 'The Impact of Trade Liberalization on the Informal Sector in Brazil'. London: University College London. Mimeo.
- Solimano, A., and R. Soto (2003). 'Latin American Economic Growth in the Late 20th Century: Evidence and Interpretation'. Santiago: ECLAC. Mimeo.
- Thirlwall, A. P., and M. N. Hussain (1982). 'The Balance of Payments Constraint, Capital Flows and Growth Rate Differences between Developing Countries'. *Oxford Economic Papers*, 10: 498-509.
- Urani, A. (1996). 'Liberalization, Stabilization and Poverty in Latin America during the 1990s'. Ipea Texto para Discussão No. 445. Rio de Janeiro: Instituto de Pesquisa Economica Aplicada.
- Velasco Jr., L. (1999). 'Privatization: Myths and False Perceptions'. Rio de Janeiro: National Economic Development Bank. Mimeo.
- Williamson, J., and M. Mahar (1998). 'A Survey of Financial Liberalization'. Essays in International Finance No. 211. Princeton, NJ: Princeton University.
- Wood, A. (1994). *North-South Trade, Employment and Inequality - Changing Fortunes in Skill-Driven World*. Oxford: Clarendon Press.
- Wood, A. (1999). 'Openness and Wage Inequality in Developing Countries: The Latin American Challenge to East Asian Conventional Wisdom', in R. E. Baldwin, D. Cohen, A. Sapir and A. Venables (eds), *Market Integration, Regionalism and Global the Economy*. Cambridge: Cambridge University Press.
- World Bank (various years). *The World Development Indicators*. Washington, DC: World Bank.