

# 17. Strategy for economic growth in Brazil: a Post Keynesian approach

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## 1. INTRODUCTION

This chapter proposes a Keynesian strategy for economic policy that aims to achieve higher, stable and sustained economic growth in Brazil. Its main hypothesis is that the current poor growth performance of the Brazilian economy is due to macroeconomic and structural constraints rather than to the lack of microeconomic reforms (labour market, credit market, and so on), as liberal economists in Brazil have suggested.

The chapter is divided into four main sections, besides this introduction. The second section briefly discusses the main features of a new economic strategy (based on demand-side and supply-side policies) that aims to overcome the constraints on sustained economic growth. The third section discusses the current economic constraints on sustained economic growth in Brazil. In the fourth section a simple version of the Harrod–Domar growth model is utilized in order to obtain the potential growth rate of the Brazilian economy. Finally, the fifth section presents a new economic policy model for the Brazilian economy, designed to achieve the potential growth rate of the Brazilian economy. This policy should include both demand-side policies, and supply-side policies.

## 2. KEYNESIAN ECONOMIC POLICIES: A BRIEF VIEW

### 2.1 Definition of Keynesian Economic Policy

Contrary to orthodox economics, for which activist economic policies have no permanent effect on the real variables, such as employment and product,

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Keynesian policies, in a broader sense, have as their main objective the achievement of full employment. In this connection, the meaning of Keynesian policy that we will adopt in this chapter is that in which 'policy implications arise from the perception of the role of aggregate demand in setting the level of economic activity and the lack of automatic forces leading a market economy to full employment' (Arestis and Sawyer, 1998, p. 181). According to this view, a *laissez-faire* market economy normally exhibits elements of instability and, importantly, does not create a level of aggregate demand consistent with full employment. As a result, in monetary economies, full employment can only be achieved by accident or through state policies.

Based on the concept of non-neutrality of money and in the principle of effective demand, economic policy – according to the Post Keynesian approach – is able to affect the real variables of the economy both in the short- and long-run. Keynesian policy is related to the implementation of economic policies that intend to increase aggregate demand in order to create a stable environment that stimulates entrepreneurs to make *new* investments. Indeed, employment levels and the utilization of productive capacity depend crucially on the determinants of aggregate demand, particularly the entrepreneurs' investment decisions. In other words, economic policy should affect aggregate private investment, as it can create a safe environment that stimulates private agents to make more risky choices than just accumulating liquid assets. So, the 'good' policy is that in which economic agents are stimulated to invest in capital assets. The sphere of action of the government should not, however, overlap with the private sphere; indeed, it should help to create a stable and safe environment for private agents to act.

One should note that the objective of the economic policy in this approach is related to *macroeconomic stability*, a broader concept than just *price stabilization*, as it aims to reduce the uncertainties that are intrinsic to the business world. Government can reduce macroeconomic risks that affect the economy as a whole. Price stability and higher level of product and employment can be, under certain conditions, compatible; for this purpose, government should make use of broader tools of economic policy than just monetary policy. In order to reach multiple policy objectives – such as economic growth and price stabilization – it is necessary to have a greater co-ordination of macroeconomic policies (fiscal, monetary, exchange rate, and income policies). Government should evaluate the global impacts of the policies on their objectives as a whole; that is, Keynesian policies consist of concerted actions in a multiplicity of arenas. In this context, policy co-ordination is essential in order to achieve macroeconomic stability.

## 2.2. Constraints on Economic Growth<sup>1</sup>

There are many constraints, both from demand-side and from the supply-side, on the achievement of sustained economic growth. This objective on a long-term basis requires that those constraints are somehow sufficiently eased.

### **Aggregate demand constraint**

As we have already stressed, a *laissez-faire* market economy does not create a level of aggregate demand consistent with full employment. According to the effective demand principle, the level of output and employment in an economy is determined primarily by the demand for goods. Low economic growth and high unemployment results from the lack of effective demand; such demand is determined by entrepreneurs' expectations of future demand, as they decide during each period of production what they are going to produce and how many they are going to employ. In other words, the volume of expenditure determines the aggregate demand of an economy, while the level of employment depends on the agents' expected expenditure.<sup>2</sup> In sum, according to the Post Keynesian approach, there is a lack of automatic forces within a market economy working to ensure that the level of aggregate demand is compatible with the full employment of labour and the existing capital stock.

### **Inflation constraint**

Inflationary pressures usually emanate from the real side of the economy. Indeed, the process of moving towards sustained economic growth always involves falling unemployment, and most of time rising capacity utilisation, which are likely to generate inflationary pressures and a climate of inflationary expectations. The spread of inflation pressures depends on the degree of monopoly of firms, which can allow them to increase the mark-up of prices relative to costs, and the degree of workers' organization, as every increase in money-wage rates not offset by productivity improvements raises production costs. Particularly, if unemployment rates shrink a great deal, it is easier for workers obtain more liberal wage increases.

Post Keynesian economists agree that inflation is symptom of a fight over the distribution of current income, as it is the result of attempts to alter the existing distribution of money income among economic agents of the same region, and/or interregionally, and/or internationally. In the Post Keynesian view, there are many and different causes for inflation, and, consequently, there are various types of inflation; for each type of inflation, a specific anti-inflationary tool should be used. For instance, *spot or commodity price inflation*, which occurs whenever there is a sudden and unforeseen change in

demand or available supply for immediate delivery, can be avoided 'if there is some institution that is not motivated by self-interest but which will maintain a "buffer stock" to prevent unforeseen changes from inducing wild spot price movements. A buffer stock is nothing more than some commodity shelf inventory that can be moved into and out of the spot market to buffer the market from disruptions of offsetting the unforeseen changes in spot demand and supply' (Davidson, 1994, p. 158).

**Balance of trade constraint**

The balance of trade constraint arises when the level of economic activity is constrained to ensure that the level of imports is compatible with the level of exports, as any difference between imports and exports should be covered by borrowing from overseas, which in the long run can increase the external vulnerability of an economy (Paula and Alves, 2000, p. 597).

Developing countries, particularly, can face a structural problem in their balance of payments, due to the effect of what is known as Thirlwall's law.<sup>3</sup> This law states a link between rate of economic growth and the income-elasticity of imports and exports of an economy; it states that in the long run, demand-side variables play a key role in economic growth through the 'balance of trade constraint': a country cannot grow at a rate higher than what is consistent with its balance of trade equilibrium. The low income-elasticity of products of smaller aggregate value exported by developing countries vis-à-vis the greater income-elasticity of products imported from developed countries can generate structural deficits in the balance of payments of the former countries. These increasing deficits can result in a significant constraint for economic growth in developing countries, as the maintenance of a non-exploding deficit requires that the domestic growth rate is maintained below the world growth rate so that imports and exports grow in line with one another.

**Capital account constraint**

The capital account constraint arises when an economy is vulnerable to the changes in the liquidity conditions and/or changes in the mood of global players in the international financial market, whatever the reason. Indeed, as the experiences of the 1990s currency crises showed all around the world, under a context of high capital mobility, such crises can occur for reasons not related directly to deficits in the current account's balance of payments. In other words, economies with small (if any) current account deficit (over GDP) – a situation in which a country is seen as solvent from the balance of payments' point of view – can face a sudden stop in the capital inflows due to a shift in the international investors' expectations. Sunspots, herding behaviour or contagion effect can induce this shift.

Countries with (i) much larger and volatile capital flows in relation to the size of their domestic capital markets and economies; (ii) non-convertible currency; and (iii) low levels of international reserves, are generally more prone to face capital account constraints. In such countries, volatile capital flows can generate very high volatility on exchange rates. Indeed, there are various economic issues related to excessive volatility of exchange rates, particularly related to the management of exchange rate risk and macro-economic policy (determination of interest rate and public debt).

### **Lack of capacity**

Lack of capacity can constrain economic growth in the long run in two scenarios. During the upturn, high economic growth can fulfil the full productive capacity of an economy, a phenomenon that can result in inflation pressures, as we have already stressed. On the other hand, after a period of prolonged low growth, the size of the capital stock may fall short of what would be required to sustain economic growth, due to the uncertainty about the future, generating a low level of 'animal spirits' that affects entrepreneurs' investment decisions. Under these conditions, entrepreneurs' expectations should be stimulated (in their decisions related to fixed investments) by demand-side economic policies.

### **2.3. Keynesian Economic Policies**

Post Keynesian policies, in order to overcome the constraints on full employment, put emphasis on the need of both demand-side and supply-side policies. However, aggregate demand and aggregate supply are not independent, as the current level of demand has direct effect on the future supply potential of the economy; that is in both investment and productive capacity.

Fiscal policy can have a strong impact on the level of economic activity, as it is a powerful tool to stimulate aggregate demand, triggering a multiplier effect on private income. Fiscal policy should be used to push the economy toward full employment, as it affects directly private income, and agents' expectations concerning the future, igniting their optimism. For this purpose, Keynes recommended public expenditure or investment rather than increasing consumption, because of its stronger multiplier effect. Public investment can create a safe environment that can stimulate investment on fixed capital.

Using as a starting point the distinction made by Keynes (1980) between *ordinary budget* (related to ordinary functions of public administration) and *capital budget*, the former should be balanced all times or even in surplus (which would be transferred to capital budget), while the latter one

could be transitorily unbalanced, although it should be balanced over the long run; that is, it should be adjusted according to the fluctuations of the level of aggregate demand. In other words, the capital budget must be operated in a contra-cyclical way, preventing high fluctuations in private investments through the implementation of a long-term fiscal stabilization programme. The pace of public investments should be set according to the need of sustaining aggregate demand, serving to offset exogenous cyclical changes in investment spending (Kregel, 1994–95, pp. 265–6).

Monetary policy operated by the management of the interest rates can also have a significant impact on the level of economic activity. The management of interest rates can be used in order to influence the private agents' portfolio in favour of both increases of production (using current productive capacity) and the acquisition of capital goods. The management of monetary policy can be used to provoke a shift in the relative prices of different assets, from the more illiquid to the more illiquid assets, that is, leading changes in the portfolio decisions that can affect real variables of the economy (product and employment). Monetary policy acts through the anticipation of expected movements of the rates of interest (Carvalho, 1997, p. 45).

Monetary policy should give clear signals of central bank purposes for the private agents in order to incite them to act according to the objectives of the policy-makers. More clear policy signals can leave private agents more safe and confident to act. Contrary to what became accepted by orthodox economists, Keynes and Post Keynesian economists defend openness, not secrecy, as a condition for monetary policy to be effective.

In global financial markets, financial market prices – including exchange rates – have been excessively volatile, as they fluctuate according to fads and fashions. Indeed, there is an extensive empirical literature which indicates that excessive volatility in exchange rates affect negatively some real variables, such as investment and output.<sup>4</sup> Aiming at achieving a stabilizing economic policy for sustained economic growth, national governments should adopt an exchange rate policy that aims to prevent excessive volatility in exchange rates. The greater degree of stability of exchange rates would encourage entrepreneurs to engage more freely in international production, investment and trading transactions. This suggests an adjustable peg system with arrangements to avoid high volatility in exchange rates, such as accumulation of foreign reserves so that central bank can make use of dirty floats, the use of capital controls by some developing countries, and so on. Furthermore, institutional and regulations – such as some sort of capital controls, financial supervision, and the like – can be required to ensure that the fragility of the financial system does not spill over into instability within the productive economy.

Supply-side policies have to deal with two sorts of issues: the problem of inflation, imbalance in the overseas current account, and the organisation of work.<sup>5</sup>

As we have already stressed, orthodox stabilization policy is only efficient in the maintenance of a sufficiently high unemployment rate; furthermore, in most cases, it attacks the symptom but not the cause of the inflation; that is, such a policy does not solve the problem related to the increase of production costs. Therefore, Post Keynesians suggest some kind of incomes policy as part of the required arsenal in a market economy. Incomes policy requires, however, the generation of some sort of consensus over the distribution of income among the economic agents (government, entrepreneurs and workers). If money-wage rates and gross margins could be somehow controlled, price levels would decline. For this purpose, some degree of centralisation and of coordination of pay setting would be required. Furthermore, the success of an economic policy oriented towards the objectives of macroeconomic stabilisation, as we have defined above, can also contribute to price stabilisation. For instance, if economic policy succeeded in reducing the volatility of exchange rate and interest rate, the more stable macroeconomic environment would have positive effect on both economic growth (as investment decisions are stimulated by business environment and macroeconomic policy) and price stabilisation.

The requirement for a broad balance on the overseas current account at full employment implies a need to overcome somehow the structural problems of balance of payments that some countries face (mainly those that are producers of commodities), as increasing deficits can result in a significant constraint to economic growth, according to Thirlwall's law. To overcome the balance of trade constraint, public policies (mainly an industrial policy) should be adopted in order to create conditions for a country to decrease the income-elasticity of demand for imports and to increase income-elasticity of demand for exports. These efforts should involve the development of an ability to compete in a range of high technology sectors, and/or the technological improvement of some current industrial sectors, which in turn involves both investment in research and development and the formation of linkages between companies to develop the whole production system.

### 3. CONSTRAINTS FOR ECONOMIC GROWTH IN BRAZIL

The period following implementation of the stabilisation plan known as the Real Plan – that is, from July 1994 onwards – was striking for a remarkable

reduction in inflation, even after the major devaluation of January 1999. After two years of economic growth (1994–95) resulting from the initial effects of this stabilisation plan, based on an exchange rate anchor, GDP evolution disappointed previous expectations of sustainable economic growth after price stabilisation. Furthermore, the trend took a ‘stop-go’ pattern and, as a result, the formal unemployment rate has remained above 10 percent since 1997 (Table 17.1).

In fact, the Brazilian economy has suffered the impact of a succession of crises: Mexico in 1995, Asian countries in 1997, Russia in 1998, its own crisis in late 1998 and early 1999<sup>6</sup> and, more recently, crises in Argentina since late 2001 and again external crises in Brazil in 2002–03. A wide range of factors have contributed to shaping a very unstable macroeconomic context: the perception of external vulnerability deriving from both the still-worrying levels of external indicators – although these indicators improved a great deal in 2004 due to the increase of exports and GDP – and the liberalisation of capital account;<sup>7</sup> semi-stagnation in the economy that has inhibited productive investments; and the central bank’s adoption of very high short-term interest rates and the consequent growth in public debt (Table 17.1). Brazil’s current macroeconomic constraints stem mainly from the period when an exchange rate anchor was adopted (1994–99) in a context of trade and capital account liberalisations that generated a notable degree of external fragility of the economy and consequently some serious macroeconomic imbalances (for instance, high foreign debt, rapidly growing internal public debt, and so on). Private sector expectations have dropped under the impacts of various external shocks, the weak performance of the Brazilian economy, and the very high rates of interest. As a result, a rate of investment has been reached levels (around 18–21% of GDP since early 1990s) far below the 1970s ones when investment rate was around 21–23%.

The 1999 switch from an exchange anchor to a floating exchange rate regime plus an inflation target regime brought no significant improvement in the macroeconomic variables (see Table 17.1), although balance of payments have improved their accounts in 2003–04, due mainly to the increase in the trade balance surplus. One might have expected that adopting a floating exchange regime would ease down the interest rate more quickly in Brazil. Although the rate of interest did decline, it picked up again during 2001, in view of the turbulence on international markets (the Argentina crisis, the effects of 11 September 2001, and so on), and again in 2003 due to the market turbulence at the beginning of Lula da Silva’s government.

Indeed, the *modus operandi* of the inflation targeting regime, plus the adoption of a floating exchange rate regime under the conditions of high external debt and full opening of the capital account, has resulted in sharp

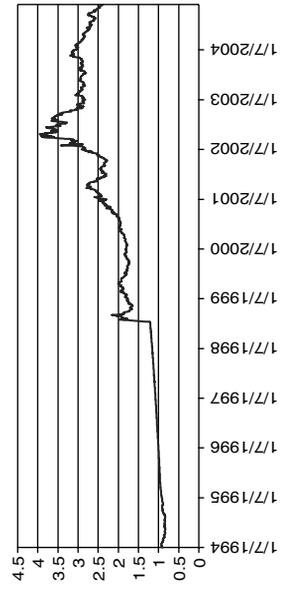
Table 17.1 Brazil – some macroeconomic data, 1991 to 2004

Year	Consumer price index (IPCA)	GDP growth – annual %	Investment rate (percentage of GDP)	Trade balance – US\$ million	Current account – US\$ million	Net Public debt-over-GDP	Real average income – Sao Paulo urban region (1985 = 100)	Formal unemployment rate* – Sao Paulo urban region (%)
1991	1,621.00	1.03	18.11	10,580	-1,408	38.1	58.5	6.7
1992	472.7	-0.54	18.42	15,239	6,109	37.1	61.3	8.0
1993	1,119.10	4.92	19.28	13,299	-676	32.6	68.4	7.6
1994	2,477.10	5.85	20.75	10,467	-1,811	30.0	65.9	7.8
1995	916.5	4.22	20.54	-3,466	-18,384	30.6	69.9	8.7
1996	22.4	2.66	19.26	-5,599	-23,502	33.3	71.5	9.2
1997	9.6	3.27	19.86	-6,753	-30,452	34.4	72.4	10.2
1998	5.2	0.13	19.69	-6,575	-33,416	41.7	71.5	10.8
1999	1.7	0.79	18.90	-1,199	-25,335	48.7	65.9	10.5
2000	8.9	4.36	19.29	-698	-24,225	48.8	62.3	10.0
2001	6	1.31	19.47	2,651	-23,215	52.6	56.9	11.6
2002	7.7	1.93	18.32	13,121	-7,637	55.5	51.6	11.4
2003	12.5	0.54	17.78	24,794	4,177	57.2	53.5	12.0
2004	9.8	5.18	19.58	33,693	11,669	51.8	52.3	10

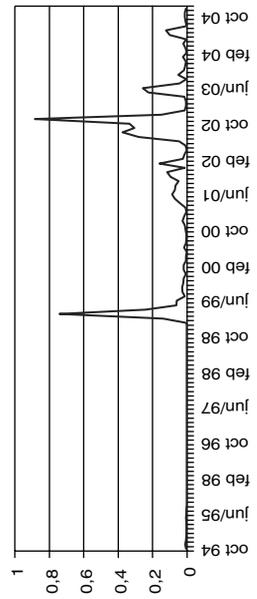
Note: (\*) Formal unemployment rate does not include informal unemployment.

Source: PEADATA.

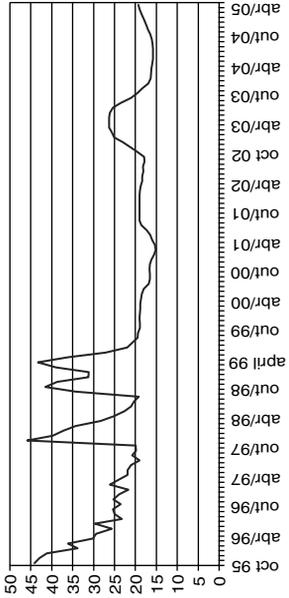
(b) Nominal exchange rate



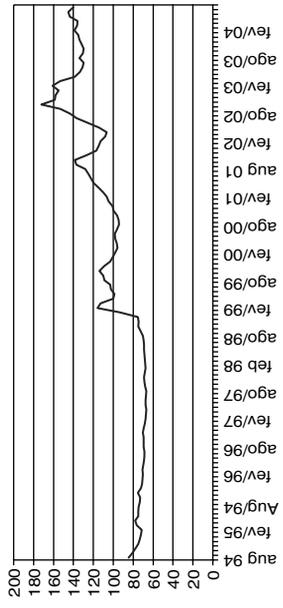
(d) Exchange rate volatility (GARCH)

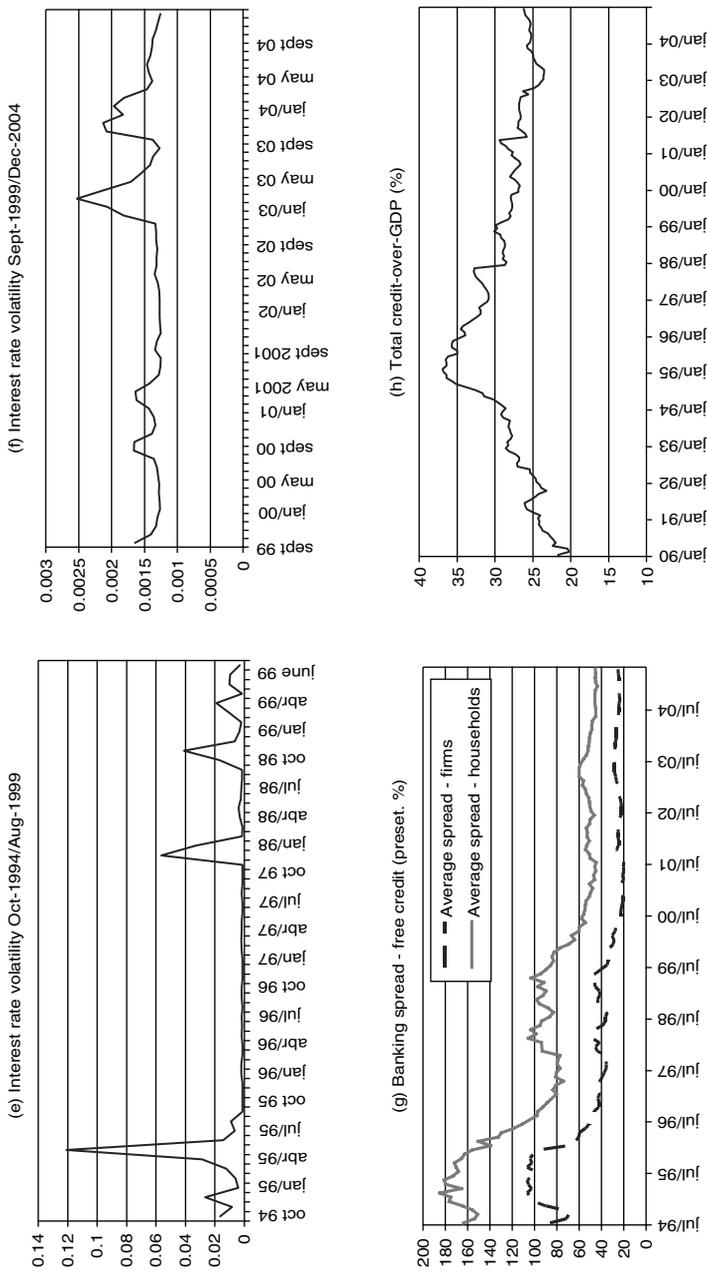


(a) Basic interest rate (Selic rate, yearly)



(c) Real effective exchange rate (IPCA / June-1994 = 100)





Source: IPEADATA and Central Bank of Brazil. Figure 4 authors calculations.

Figure 17.1 Some data for Brazil (1994-2004)

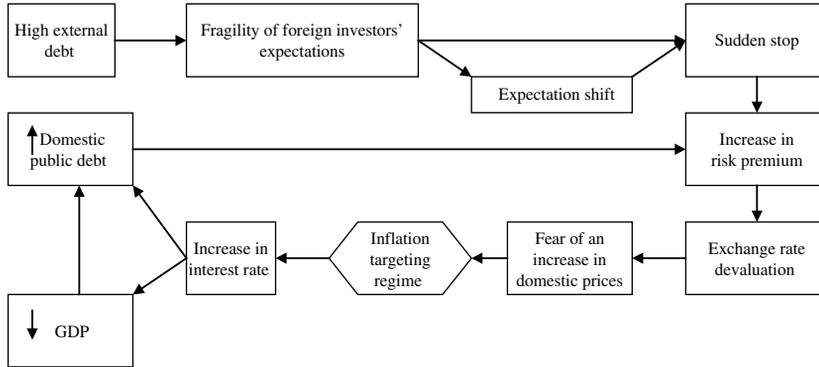


Figure 17.2 *Macroeconomic framework of developing countries with high external indebtedness*

instability of nominal exchange rate (Figures 17.1(a) and 17.1(d)). Capital outflows can induce a sharp exchange rate devaluation that can affect domestic prices ('pass through effect'), which in turn can jeopardize the Central Bank's inflation target. Under these conditions, the Central Bank is compelled to increase interest rates in order to seek to avoid both capital outflow and the pass through effect as it affects the aggregate demand. The Central Bank's reaction to exchange rate movements causes a decline in output and employment, increasing at the same time the volume of public debt (see Figure 17.2).

Therefore, Brazil's very high rates of interest<sup>8</sup> (due to marked external vulnerability and the risk of fiscal insolvency), and of adopting an inflation-targeted regime in a context of various macroeconomic constraints and a high level of internal debt. High interest rates have had two effects: (i) they have constrained economic growth, through the price of credit (loan rates) and entrepreneurs' negative expectations; and (ii) they have increased public debt, which is formed mainly by indexed bonds or short-term pre-fixed bonds. Indeed, the strong demand for hedges against exchange devaluation and interest rate changes in turbulent periods has influenced Brazil's internal public debt. The Brazilian government has been obliged to offer exchange rate and interest rate hedges to buyers of securities, who charge high risk premiums to roll over the public debt. As a result, since the end of 1998, more than 50% of federal domestic securities have been indexed to the overnight rate, while more than 20% have been indexed to foreign exchange. In addition, the ratio of net public debt to GDP rose from 34.4% in December 1997 to 53.5% in December 2003; in 2004 this ratio declined due to both economic growth and exchange rate appreciation (Table 17.1).

The behaviour of the domestic public debt in Brazil has proved particularly vulnerable to changes in interest and exchange rates. Reducing the public debt depends on reducing the related financial burden by bringing down the interest rate or raising the exchange rate, and/or boosting the primary fiscal surplus. Thus, the Brazilian government has been forced to generate a high primary fiscal surplus (more than 3.5% of GDP), which stands in the way of any anti-cyclical fiscal policy, while the fiscal effort itself is partly neutralised by increases in the rates of interest or exchange.

Another reason why economic growth in Brazil has remained above its potential growth is that credit has declined since beginning of 1995 (Figure 17.1(h)). One of the main factors preventing increased credit in Brazil lies in its very large banking spreads (Figure 17.1(g)), which explain, at least partly, the high profitability of the banking sector in Brazil (Paula and Alves, Jr, 2003). Although the banking spread has declined in recent years in Brazil, it is still very substantial by international standards: in 2000, the annual banking spread was 38.72% in Brazil, while it was 11.96% in Mexico, 2.75% in Argentina, 5.64% in Chile, 2.77% in the U.S., and 3.15% in Euro area (Afanasieff *et al.*, 2001, p. 7).

#### 4. REQUIREMENTS FOR THE SUSTAINED GROWTH OF THE BRAZILIAN ECONOMY

In this section we will use a simple version of the Harrod–Domar growth model in order to obtain an estimate of the *warranted growth rate* of the Brazilian economy under the conditions imposed by the current economic policy. As we will see, the warranted growth rate under current economic conditions is no higher than 2.5% per year. This growth rate is clearly unsatisfactory for an economy in which population growth rate is around 1.8% per year and productivity growth is estimated at 2.6% per year. This means that the *warranted growth rate* of the Brazilian economy is lower than the *natural* long-run growth rate. This ‘disequilibrium’ between warranted and natural growth rates of the Brazilian economy is the main cause of the high unemployment rate and of the decreasing of real average income observed recently in Brazil (Table 17.1).

Let us start with an economy in which firms employ a Leontieff-type technology, the stock of capital being the limiting factor to firms’ production level (see Marglin, 1984, Chapter 5). In this setting, the potential output of this economy is given by:

$$Y = \sigma K, \quad \text{and} \quad \sigma \equiv \frac{1}{v} \quad (1)$$

Where  $v$  is the capital–output coefficient, that is the technical coefficient that shows the amount of ‘capital’ that is necessary for the production of one unit of final output.

Taking the time derivative of (1) and supposing a constant depreciation rate equal to  $c$  we arrive at the following expressions:

$$\dot{Y} = \sigma \dot{K} \quad (1a)$$

$$\dot{K} = I - cK \quad (2)$$

where  $I$  is the gross (planned) investment.

We will also suppose that households save a constant share  $s$  of their income. So, planned savings are given by:

$$S = sY \quad (3)$$

One requirement for a sustained growth of the economy in the long-run is the equality between aggregate output and effective demand. For this, it is necessary that planned investment be equal to planned saving. Taking for granted the occurrence of this equality, we can substitute (3) in (2) in order to get the following expression:

$$\dot{K} = sY - cK \quad (4)$$

After substituting (4) in (1a), we get:

$$\dot{Y} = \sigma(sY - cK) \quad (5)$$

Finally, after substituting (1) in (5) and dividing both sides of the resulting expression by  $Y$ , we arrive at the *fundamental growth equation* of the Harrod–Domar model given by:

$$g = \frac{\dot{Y}}{Y} = \frac{s}{v} - c \quad (6)$$

Equation (6) determines the *warranted growth rate*, that is, the growth rate of output that – if obtained – will assure the equality between effective demand and aggregate output over time.

In order to use equation (6) to estimate the *warranted growth rate* of the Brazilian economy, we must have realistic values for the following parameters: capital–output coefficient, investment and saving rates and depreciation rate of the capital stock.

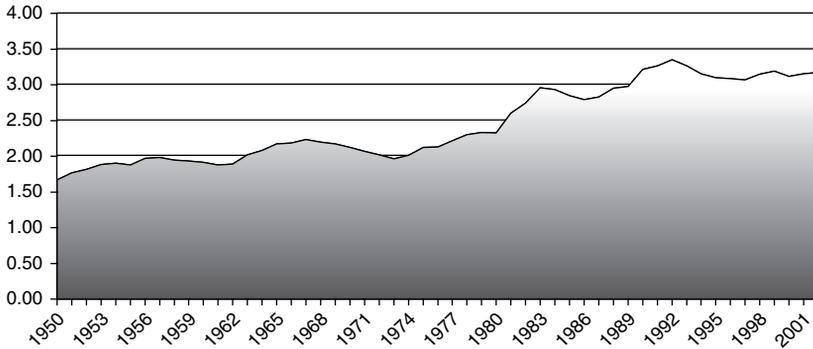


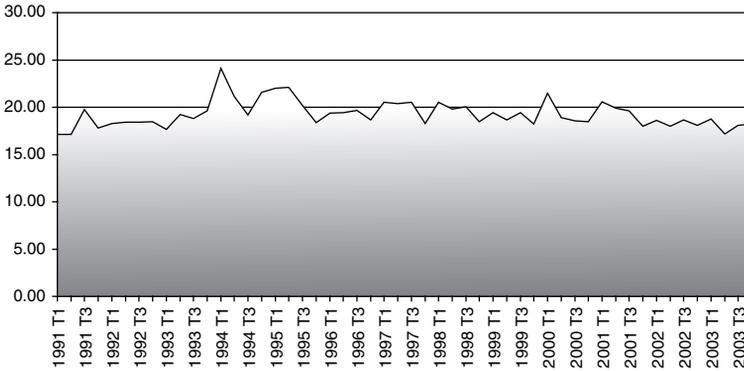
Figure 17.3 Capital-output coefficient in Brazil (1950–2002)

Estimates of the first two variables can be easily obtained at IPEADATA ([www.ipeadata.gov.br](http://www.ipeadata.gov.br)). Capital-output coefficient shows a clear *upward* trend in the last fifty years, as we can see in Figure 17.3. Such an upward trend makes difficult, if not impossible, the occurrence of a reduction in the capital-output coefficient in the near future. However, taking a simple average of the capital-output coefficient in the period 1989–2002, we will arrive at a value equal to 3.16, which can be taken as the *minimum possible value* for this parameter in equation (6).

Investment rate, defined as gross capital formation divided by GDP, shows a remarkable stability in the period 1991–2003. This rate, according to IPEADATA, had fluctuated around 19.26% of GDP in this period, as we can see in Figure 17.4. So we will take 19.26% as a plausible estimate for the value of the parameter  $s$  in equation (6).

Unfortunately, we have found no estimates about depreciation rate of the capital stock for the Brazilian economy. So we have no other option than use the values of this parameter for other economies. Romer (2001, p. 25) estimates the depreciation rate of the capital stock for U.S. economy as lying between 3 and 4% per year. So an average estimate for the depreciation rate of the capital stock for US economy is around 3.5% per year. Based on some similarities of the industrial sectors of Brazil and United States, we will use this value as an estimate for the depreciation rate of the capital stock of the Brazilian economy.

Taking  $s = 0.1926$ ,  $v = 3.16$  and  $c = 0.035$  in equation (6), we get  $g = 0.025$ , that is an *equilibrium growth rate* equal to 2.5% per year. For several reasons, this growth rate is completely unsatisfactory for Brazil. First of all, Brazil grew at an average rate of 7.0% per year in the period between 1930 and 1980. Second, this rate is lower than the *natural growth rate*; that is, the



Source: IPEADATA.

Figure 17.4 Investment rate in Brazil (1991–2003)

Table 17.2 Productivity growth in Brazil, 1950–1997

Period	Average growth rate of labour productivity (%)
1950–1955	2.7
1955–1960	2.7
1960–1965	2.5
1965–1970	2.5
1971–1973	5.6
1974–1980	1
1981–1985	0.3
1986–1990	–0.8
1991–1997	7.1
1950–1997	2.62

Source: Franco (1999, p. 150).

required growth rate for full employment of the labour force. Estimating a population growth of 1.8% per year (see IPEADATA) and a productivity growth of 2.6% per year (Table 17.2), output must grow at a minimum rate of 4.4% per year in order to employ the new workers and those who have lost their jobs due to technological progress. An average growth rate lower than 4.4% per year implies that unemployment and/or ‘underemployment’ will increase over time. Last, but not least, this growth rate is clearly insufficient for Brazilian economy to *catch-up* developed economies. The average growth rate of developed countries lies between 2.5 to 3% per year.

If the Brazilian economy grows at an average rate of 2.5% per year, then the income gap between Brazil and developed countries will be constant or will increase in the long-run.

In face of these arguments, we consider an average growth rate of 5% per year a desirable and realistic goal for the Brazilian economic policy.<sup>9</sup> In order to achieve this goal, the investment rate – according to equation (6) – must increase to 27% of GDP.

## 5. HOW TO INCREASE THE INVESTMENT RATE? AN AGENDA OF REFORM FOR THE BRAZILIAN ECONOMY

As we have seen in the last section, the average investment rate in the last fifteen years was insufficient to generate robust growth for the Brazilian economy. This behaviour of the investment rate was mainly due to the 'economic policy model' adopted by Brazilian policy makers since the beginning of 1990s. This economic model was characterized by: (i) high nominal and real interest rates in order to achieve price stability; (ii) growing liberalization of the capital account in order to integrate Brazil with international capital markets; (iii) overvaluation of domestic currency;<sup>10</sup> and (iv) since 1999, an increasing primary fiscal surplus – generated mainly by the reduction of public investment – in order to stabilize public debt–GDP ratio.

This *economic policy model* has only succeeded in achieving a low rate of inflation compared to the period of high inflation; that is before 1994. Indeed, since 1996, inflation rate in Brazil has been lower than 20% per year. However, public debt, as a ratio to GDP, increased from 30% in 1994 to almost 55% in 2004, with GDP growing at an average rate of 2.4% per year in the period 1995–2004. Price stability is, of course, an important goal of economic policy, but not the only one. A robust economic growth and stability of public debt–GDP ratio are also very important.

In order to achieve a higher investment rate, economic policy model must be changed. Nominal and real interest rates must be reduced for entrepreneurs to increase private investment. The primary fiscal surplus must also be reduced. Brazil needs to increase public investment in infrastructure to generate positive externalities for private investment. Nominal and real exchange rates must be kept at competitive levels in order to generate a sustained current account surplus, which is required to reduce the amount of external debt and the level of external fragility of the Brazilian economy.

The challenge is to make these changes compatible with: (i) price stability; and (ii) stabilization or reduction in the level of public debt. Brazil spent

almost 15 years fighting against very high inflation rates. The reduction in inflation rates obtained after the Real Plan was a very important achievement, and must be maintained. Stabilization in the level of public debt is also important. Brazil simply cannot stand with public debt–GDP ratios higher than 50%. With a so high public debt as a ratio to GDP, almost all the efforts of the financial sector were devoted to finance public debt, thereby causing a reduction in the level of banking credit to finance private expenditures. As we saw in Section 3, Brazil had a very low credit to GDP ratio. The main reason for this is that banks prefer to buy public bonds, which are very liquid and profitable, rather than to incur the risks of lending money to private enterprises (Paula and Alves Jr, 2003).

An alternative economic policy model for the Brazilian economy<sup>11</sup> should be based on the following principles:

1. Adoption of a *crawling-peg exchange rate regime* in which devaluation rate of domestic currency was set by the Central Bank at a rate equal to the difference between a *target inflation rate* (determined by National Monetary Council – C.M.N) and *average inflation rate* of Brazil's most important trade partners, namely United States, European Union, China, Japan and Argentina.
2. Adoption of *market-based capital controls* in order to increase the autonomy of the Central Bank to set nominal interest rates according to domestic objectives (mainly to promote a robust growth) and to avoid the likelihood of speculative attacks on the Brazilian currency.
3. Reduction of nominal interest rate to a level compatible with a real interest rate of 6.0% per year.
4. Reduction of primary fiscal surplus from the current 4.5% of GDP to 3.0% of GDP on average for a period of 10 years. This reduction must be used to increase public investment in the same amount.

The first principle of the 'alternative economic policy model' entails the abandonment of the current *Inflation Targeting Regime* (hereafter ITR). As we know, in the ITR, monetary policy is directed only to price stability. For the workings of this system, however, there must be a *floating exchange rate regime*. This exchange rate regime has not worked well in the Brazilian case. First of all, since the adoption of such a regime, in the beginning of 1999, there was a huge volatility in the nominal exchange rate as we saw in Section 3. This volatility increases exchange rate risks and the *uncertainty* surrounding investment decisions. Second, this system was not capable of avoiding the problem of exchange-rate over-valuation. For instance, the nominal exchange rate between the U.S. dollar and the Brazilian currency ('real') fell from R\$3.50 in June of 2003 to R\$2.20 in December of 2005,

an appreciation of almost 37% in 30 months. Such a huge appreciation in the nominal exchange rate can soon reduce sharply the current account surplus, thereby increasing the level of Brazilian external debt.

Adoption of a *crawling-peg exchange rate regime* will reduce the *exchange rate risk* – contributing to an increase in the private investment – and will contribute to the maintenance of the nominal exchange rate at competitive levels, provided that the *initial level of the nominal exchange rate* – that is, the level set in the first day of the new regime – is not over-valued.

Another interesting feature of the *crawling-peg exchange rate regime* is that it will serve as the *nominal anchor* for the Brazilian economy, substituting ITR as a device for inflation control. If *Purchasing Power Parity theorem* (hereafter PPP) holds true, then the (effective) domestic rate of inflation ( $\pi$ )<sup>2</sup> is equal to exchange rate depreciation ( $\Delta e$ ) plus international inflation rate ( $\pi^*$ ). In the *crawling-peg exchange rate regime*, the Central Bank sets the rate of depreciation of domestic currency, maintaining domestic rate inflation at a level near the one dictated by PPP.

Accumulated experience during ITR shows that an implicit *target inflation* of 8.0% per year is a realistic goal for economic policy in Brazil. Supposing that the international rate of inflation lies between 1.5% to 2.0% per year, the Central Bank will set the rate of domestic currency devaluation at 10% per year under the *crawling-peg exchange rate regime*. A competitive level for the initial value of nominal exchange rate under this new regime should be R\$3.20.<sup>13</sup>

The second principle of the 'alternative economic policy model' is the adoption of capital controls. Such controls are necessary for two basic reasons. First of all, to increase private investment, a substantial reduction in the level of domestic interest rates is necessary. In fact, in the last six years (1999–2004), real interest rates were up to 11% per year. Under the actual open capital account situation of the Brazilian economy, a sharp reduction in interest rates may cause a huge capital outflow, making impossible for the Central Bank to control nominal exchange rate devaluation. To avoid this result, the implementation of controls over *capital outflows* is necessary. The second reason is that control over the *nominal exchange rate* may not be sufficient to avoid a substantial appreciation of the *real exchange rate* in the presence of huge *capital inflows*. These flows will make the Central Bank increase the stock of high powered money due to the buying of foreign reserves, which is necessary to sustain the nominal exchange rate at the level determined by the monetary authorities. In the absence of sterilization, this may produce an excessive increase in aggregate demand that can generate inflationary pressures in the economy and, given the rate of depreciation of the nominal exchange rate, real exchange rate appreciation.

We propose the adoption of *market-based capital controls*, that is, the introduction of income taxes over the yield of foreign investment in Brazilian assets.<sup>14</sup> These taxes should be proportional to the length of investment in these assets. For example, a one-year investment in Brazilian assets should be taxed at a rate of 35% over all yields generated by these assets during this period. A two-year investment should be taxed at a much lower rate, for example, 28%. A three-year investment must be taxed at an even lower rate of 19%. The idea is to give to foreign investors a clear and strong incentive to make their investment in Brazilian assets as long-term as possible in order to create *market incentives for the reduction of capital outflows*.

To reduce capital inflows, the introduction of reserve requirements over all capital inflows is necessary, except foreign direct investment, as done by Chile in the beginning of 1990s. The idea is to oblige foreign investors to make a deposit of a fixed percentage of the value of their investment in Brazilian assets in the Central Bank. These deposits will receive a zero yield over the entire investment period. This will reduce the *ex ante* yield of these assets for foreign investors, *creating a market incentive for the reduction of capital inflows*.

After the implementation of the *crawling-peg exchange rate regime* and *market-based capital controls*, it will be possible to reduce the level of domestic interest rates without producing an increase in inflation rate and/or a huge capital outflow. The relevant question now is: how much reduction in the level of interest rates is possible in economic terms?

In a regime of fully open capital account, the answer would be very simple: interest rates can be reduced to a level equal to the one dictated by *uncovered interest rate parity* – in other words, international interest rates plus the risk premium required for foreign investors to buy domestic assets plus the expected rate of depreciation of domestic currency.

In the Brazilian case, the relevant international interest rates were the interest rates over US government bonds with the same maturity of the Brazilian government bonds.<sup>15</sup> This rate is near 4.0% per year. The risk premium over Brazilian sovereign bonds was near 450 basis points in the beginning of 2005. Supposing the validity of *PPP* in the long run, the expected rate of domestic currency depreciation must be equal to the difference between domestic and international rate of inflation. For a domestic rate of inflation of 8% and an international rate of inflation of 2%, the expected rate of currency depreciation should be equal to 6%. So, nominal interest rate in Brazil could be reduced from the current 18.25% per year to 14.5% per year without producing a huge capital outflow or an increase in inflation rate. This will imply a real interest rate of 6.5% per year.

With capital controls, however, it will be possible a much higher reduction in the level of interest rates. So, it would be possible to reduce

nominal interest rates to 12% per year, generating a real interest rate of 4% per year. However, the high level of public debt as a ratio to GDP may set a *downward limit* to the reduction in the level of nominal and real interest rates. It is true that Brazilian government bonds have a great degree of liquidity, since secondary markets where these assets are traded – in Brazil or abroad – are well organized. This means that investors (both domestic and foreign) have a low required rate of return for investment in these assets. But Brazil is not United States or Germany. Investors still have doubts about the *inter-temporal solvency* of Brazilian government. In this case, a very low real interest rate may make impossible for Treasury to roll over the existing debt. Prudence dictates a certain degree of conservatism in the setting of nominal and real interest rate levels by the Central Bank.

This reasoning shows to us that a real interest rate of 6% per year, although still a high level, is a perfectly realistic value for the Brazilian economy and should be the target of the monetary policy.

Once real interest rates are reduced to 6% per year, it will be possible to reduce the level of primary fiscal surplus. The required level of primary surplus is determined by a *government inter-temporal solvency condition*. This condition determines the *minimum level of primary surplus that is compatible with a constant public debt to GDP ratio*. This condition is given by the following equation:<sup>16</sup>

$$s = \left[ \frac{r - g}{1 + g} \right] b \quad (7)$$

where  $s$  is the primary surplus as a ratio to GDP,  $r$  is the level of real interest rate,  $g$  is the growth rate of real GDP, and  $b$  is the ratio of public debt to GDP.

Under the conditions imposed by the current economic policy model, we have  $r = 0.11$ ;  $g = 0.025$ ;  $b = 0.53$ . So the minimum level of primary fiscal surplus must be 4.4% of GDP. However, a successful implementation of the alternative economic policy model may change the values of these parameters to:  $r = 0.06$ ;  $g = 0.05$ ;  $b = 0.53$ . In this case, the minimum level of primary surplus can be reduced to 0.5% of GDP.

So the reduction of primary surplus from actual 4.5% of GDP to 3.0% of GDP is not only compatible with the inter-temporal solvency condition, but also with a cumulative reduction of public debt as a ratio to GDP. Under the conditions supposed by the alternative economic policy model, the public debt as a ratio to GDP will be reduced to 32% of GDP in 2012, as we can see in Figure 17.5.<sup>17</sup>

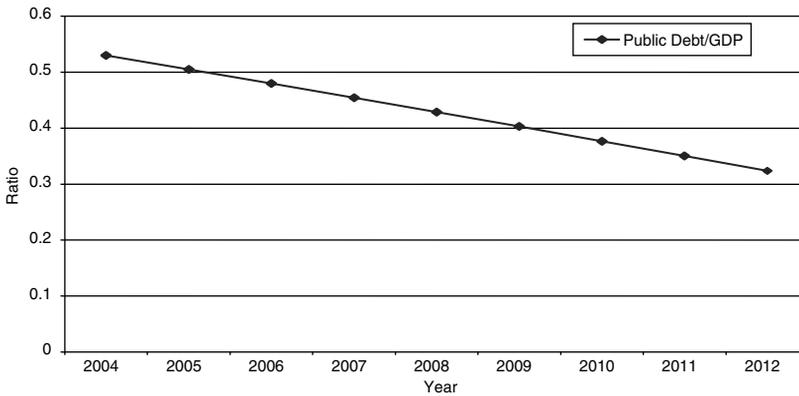


Figure 17.5 Expected dynamics of public debt as a ratio to GDP in Brazil under the alternative economic policy model

The reduction of primary surplus is essential for the increase in public investment. We propose that the *entire reduction in primary surplus be used to increase public investment*. In this case, public investment will be increased by 1.5% of GDP. Assuming a one-to-one relation between public and total investment, the average rate of investment will be increased to 20.67% of GDP and the potential growth rate will be increased to 3.04% per year.

However, there are good reasons to suppose that an increase in public investment will increase total investment (public *plus* private) at a rate greater than one to one. First of all, as recognized even by neoclassical growth theorists such as Barro (1990), public investment generates *positive externalities* for the private sector. So an increase in public investment will increase profits in the private sector, stimulating entrepreneurs to increase their investment spending. Second, a reduction in the primary fiscal surplus will certainly increase aggregate demand due to the well known *government spending multiplier*. In a *regime of excess capacity* such as the one that characterized the Brazilian economy since the beginning of the 1980s, firms will increase output in order to meet the additional demand for their products. The increase in the production level will generate also an increase in the degree of capacity utilization, stimulating firms to increase their investment spending in order to make the adjustment between effective and *desired* degree of capacity utilization (see Oreiro, 2004b). In other words, the increase in the level of capacity utilization will produce an increase in private investment due to the well known *accelerator effect*.

So we can assume that an increase in public investment will produce a higher than one-to-one increase in total investment. We do not have a precise estimate of this magnitude, but an 'educated guess' is that an

increase in public investment will induce a 1.5 increase in total investment. Under these conditions, an increase in public investment by 1.5% of GDP will increase total investment by 2.25% of GDP. This means that potential growth rate of real GDP will be increase up to 3.3% per year. This effect, combined with the positive stimulus over private investment from the reduction in the level of real interest rates and from the elimination of uncertainty due to the exchange rate risk, will generate the required increase in the investment rate for the sustained growth of the Brazilian economy at a rate of 5.0% per year.

## 6. CONCLUSION

This chapter presented a Keynesian strategy of economic policy that aims to achieve higher, stable and sustained economic growth in Brazil. The basic features of this strategy are: (i) adoption of a *crawling-peg exchange rate regime* in which devaluation rate of domestic currency is set by the Central Bank at a rate equal to the difference between a *target inflation rate* and the *average inflation rate* of Brazil's most important trade partners; (ii) adoption of *market-based capital controls* in order to increase the autonomy of the Central Bank to set nominal interest rates according to domestic objectives (mainly to promote robust growth); (iii) reduction of nominal interest rates to a level compatible with a real interest rate of 6.0% per year; (iv) reduction of the primary surplus from the current 4.5% of GDP to 3.0% of GDP. These elements are fundamental for the required increase in the investment rate of the Brazilian economy from the current 20% of GDP to the 27% of GDP needed for a sustained growth of 5% per year.

## NOTES

1. We are following, in broader terms, the basic structure of the economic constraints for a full employment policy developed by Arestis and Sawyer (1998).
2. On Keynes's principle of effective demand, see among others Davidson (2002, Chapter 2).
3. See, among other references, Thirlwall (2002).
4. See, for instance, Guérin and Lachrèche-Révil (2003).
5. We refer again to Arestis and Sawyer (1998, pp. 190–1).
6. See Paula and Alves, Jr (2000) and Saad-Filho and Morais (2002) for an analysis of the 1998–1999 Brazilian currency crisis.
7. Although capital account has been gradually liberalized since early 1990s, more recently it has been eased.
8. Bresser-Pereira and Nakano (2002) suggest that the causality between interest rate and country-risk may be inverse; since short-term interest rates have been very high, foreign creditors believe that country-risk is high.

9. A growth rate higher than the estimated natural growth rate of the Brazilian economy for several years (one decade or so) is possible due to the existence of a high unemployment rate (more or less 10% of the labour force) and, more importantly, due to the existence of a very big informal (and low productivity) sector in Brazil.
10. Except in the brief period between June of 2002 to June of 2003 due to the exchange rate crisis of the final of Cardoso administration (1994–2002).
11. The ideas shown here were originally proposed by Oreiro *et al.* (2003, ch 4).
12. Effective inflation rate may be different from *target inflation rate*, which is set by National Monetary Council and is a reference for the nominal exchange rate devaluation, due to the occurrence of supply shocks.
13. This implies that during the transition from the actual *free floating exchange rate regime* to the *crawling-peg regime* there must be a *nominal exchange rate appreciation* of almost 19%. This will generate a *transitory increase* in the rate of inflation due to *pass-through effect* of exchange rate to prices. To avoid a *permanent increase* in the rate of inflation, it is necessary that *real wages* are reduced in order to make possible a *real exchange rate depreciation*. This means that during the transition from the old to the new exchange rate regime, nominal and real interest rates must be kept at high levels to force *unions* to accept a *reduction in real wage*. Once the new exchange rate regime is implemented and inflation has returned to its prior level, interest rates can be reduced.
14. This proposal was originally offered by Paula *et al.* (2003).
15. The average maturity of Brazilian government bonds is around 30 months.
16. See Oreiro (2004a) for a detailed discussion of this condition. A similar – although not identical – condition can be found in Palley (2004).
17. This figure was obtained by the numerical simulation of the equation

$$b_t = \left[ \frac{1+r}{1+g} \right] b_{t-1} - s_t, \text{ taking } s = 0.03; r = 0.06; g = 0.05 \text{ and } b(0) = 0.53.$$

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