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High Interest Rates in Brazil: Conjectures on the Jurisdictional Uncertainty

by

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Summary: Jurisdictional uncertainty is introduced as an explanation for the inexistence of a local long-term domestic credit market. Policy makers have tended to perceive this inexistence as a market failure requiring State intervention. Such intervention currently involves restrictions to currency convertibility, artificial lengthening of public debt maturities, compulsory saving funds, and distorting taxation (replacing forced savings through inflation). The interventions aggravate the jurisdictional uncertainty, raise the country's riskiness, reduce its output, and increase the equilibrium real rate of interest. Our conjecture is that this is at the root of Brazil's high interest rates.

1. Introduction¹

Real interest rates have been extraordinarily high since the *Real* plan stabilized inflation in 1994. Until 1999, one might argue that the macroeconomic policy tripod was not in order: there was no primary budget surplus, the exchange rate was pegged and overvalued, and interest rates were primarily oriented to sustain the level of international reserves. However, after the exchange rate floated in the beginning of 1999, the policy tripod was corrected. The public sector accounts showed a primary surplus on a systematic and sustained basis, and the real exchange rate depreciated to the point of the country producing record high trade balance surpluses, with a drastic correction in the current account deficit. Real interest rates have been on average

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lower than before, but they are still exceptionally high when compared to other emerging market countries. Why is it that the interest rate continues to be so high?

Three hypotheses that have been offered to explain this phenomenon. These can be briefly labeled as the “bad equilibrium”, the “insufficient fiscal adjustment”, and the “sequence of negative shocks” hypotheses. Section 2 briefly reviews these hypotheses. We argue that whatever their relative merits in explaining why interest rates have been so high since the adoption of a floating exchange rate, there is something more fundamental linking the inexistence of local long-term domestic credit to the persistence of high short-term interest rates.

Section 3 introduces the concept of “jurisdictional uncertainty” and argues that it is the reason for the nonexistence of a long-term domestic credit market. The negative consequences of jurisdictional uncertainty for private savings and investment are spelled out in Section 4.

Section 5 argues that the adverse consequences of jurisdictional uncertainty have been misinterpreted as market failures that require State intervention. These interventions have varied through time, but can be classified in four main lines: restrictions to currency convertibility, artificial term lengthening of public debt, compulsory saving funds, and forced savings through inflation – with the latter now replaced by “incomeless taxes”. Section 6 reviews each of these interventions and argues that they contribute to aggravate the problem of jurisdictional uncertainty.

A very simple two-equation reduced-form open economy macro model is outlined in Section 7 to illustrate the impact of each of these interventions on the short-term interest rate and on the exchange rate, under the assumption of a credible inflation targeting monetary policy. A discussion of policy implications closes the paper in Section 8.

2. Current interpretations of high interest rates

Three general hypotheses can be identified in the debate about the reason why real interest rates are so high in Brazil.

The first is that monetary policy has been excessively and unjustifiably conservative after inflation stabilization in 1994. In the period of pegged exchange rates (1994-1998) it was subordinated to a pegged and overvalued exchange rate. After the adoption of a floating exchange rate (1999-to date), monetary policy would have become imprisoned in a “bad equilibrium”. The argument is that too high real interest rates raise the perceived risk on public debt. It would thus be possible to obtain the same rate of inflation, everything else remaining constant, with a lower real interest rate and a lower perceived risk on public debt. This would be the “good equilibrium”.

This hypothesis presupposes fiscal dominance in an open economy. Inflation is sensitive to the exchange rate but the exchange rate responds to the perceived risk on public debt. When the domestic public debt is high, the attempt to control inflation primarily through monetary policy may result in a perverse outcome: high real interest rates worsen the fiscal disequilibrium, increase the perceived default risk and the risk premium demanded by creditors.

The double equilibrium is a theoretical possibility. Its empirical relevance however, has not yet been established. Moreover, interest rate smoothing considerations may render it unattractive in practice. A Central Bank concerned with the credibility and the coherence of policies through time would hardly dare to make the abrupt interest rate cut required to reach the good equilibrium.

A second hypothesis is that the fiscal adjustment is still insufficient. Despite an expressive primary surplus, the burden of public debt is very high and puts pressure on the interest rate. The public sector high financing requirements, generated mainly by its very high debt financing needs, competes for the scarce available savings, causing the interest rate that clears the goods market to be very high. Government spending crowds out private investment and prevents the economy from growing.

Given the very high and distortionary tax burden already in place, it does not seem appropriate to search for higher primary surpluses through tax and other government revenue increases. A reduction and rationalization of public spending would be welcome but the difficulties of public sector reform are well known.

The third hypothesis is that there was an unusual series of adverse shocks, external and internal, in the last couple of years: the blowing up of the Nasdaq bubble, the blackout and rationing of domestic energy supply, September 11, the collapse of Argentina, and, finally, in 2002, the fear of an electoral victory of the Workers' Party and the so-called "Lula risk". The result of such shocks was that the economic tripod, although adequate, did not yet have the time to produce its results for economic recovery and lower interest rates. An inflation targeting monetary policy should attempt to smooth interest rate volatility in its trajectory towards long run equilibrium. Thus, in the absence of additional adverse shocks, it would be only a question of time for the Brazilian real interest rate to converge to the levels of other stable economies.

Irrespective of the relative merits of these alternative interpretations, it seems to us that they miss an important point behind persistently high interest rates in Brazil. We believe that a policy-related distortion, of a resilient nature, impedes the convergence to real equilibrium interest rates compatible with those observed internationally.

3. Jurisdictional uncertainty

To introduce our policy-related conjecture, it is first necessary to call attention to a relatively forgotten aspect in the debate on high interest rates: the inexistence of a local long-term credit market. In the literature, this inexistence is taken as a datum, that may explain why, comparatively to other countries, monetary policy is less potent in Brazil (because of the short duration of financial assets), or the maturity of domestic debt is shorter, or private financing for longer dated fixed investment is diminutive. But a possible relationship between the inexistence of a local long-term interest rate structure and the high short-term real interest rate has gone unnoticed. The reason seems to be that the threads establishing such linkage go beyond the usual macroeconomic channels stressed in the literature, as we try to show in the following.

We start by noting that there are some local instruments for long-term credit, associated to government development banks with compulsory funding, but a market as such does not exist. Experience shows that it is possible to lengthen maturities through tax incentives (such as income tax deferral in private pension plans) or through decisions of fund managers required to hedge long-term liabilities (such as the case of pension funds willing to buy long term price-indexed assets). Although there are some other specific exceptions, such as the financing of durable goods, there is no local long-term credit market.

There is however a long-term credit market to Brazilians when the jurisdiction is foreign. Nowadays, access to this market is restricted to the government, large companies and large banks – firms the size of which justifies the cost of verification of credit quality. The credit risk is, thus, Brazilian, but these same firms that obtain long-term credit outside the country are unable to obtain financing with equivalent maturity in the domestic market.

The fact that there is long-term credit offshore but not on-shore is not explained by the location of the creditors' decision-making center. There are resident creditors with decision centers offshore, and non-resident creditors with decision centers in the country. The same creditors act on both markets, but they are only willing to lend long-term offshore.

The inexistence of a local long-term credit market is also not explained by the currency of denomination of contracts. Despite the legal restrictions for the local issuance of dollar-indexed private debt, not even Brazil's Treasury is able to finance itself locally with long-term dollar-linked bonds. There is no long-term credit market on-shore, either in *Reais* or in foreign currency.

Irrespective of the residence of the creditor or of the currency of denomination of the contract, long-term credit is only available if the jurisdiction is foreign. It is the jurisdiction -- the uncertainty or risk associated to Brazilian jurisdiction -- that is at the root of the inexistence of a long-term domestic credit market.

The inexistence of long-term offshore credit denominated in *Reais* should also be noticed. The reason is that the execution of such contracts would necessarily make reference to Brazil's jurisdiction, as the issuer of the reference currency. What one observes offshore, as credit contracts in *Reais*, are in fact synthetic assets denominated in *Reais*, but settled in dollars. They mirror domestic credit instruments, exclusively of a short-term nature, that exist in Brazil. The contracts that underlie such synthetic assets make it explicit that the risks of execution and settlement are exactly equivalent to those of the assets in *Reais* to which they are referred. They are, thus, vehicles that make the international transfer of currency unnecessary, but are merely mirror images of Brazilian credit contracts. Although signed offshore, they are subject to the uncertainties of the Brazilian jurisdiction.

Credit is, thus, restricted to the short-term in Brazil or the long-term in dollars offshore, because only the later escapes the risk of the Brazilian jurisdiction. The table below illustrates the situation:

	Short-term		Long-term	
	Brazil	Offshore	Brazil	Offshore
<i>Reais</i>	yes	yes	no	no
Dollars	yes*	yes	no*	yes

*restrictions apply to private debtors

The left-hand side of the table refers to financial contracts for the short-term; the right-hand side, to long-term contracts. The lines describe the currency denomination of the contracts (in *Reais* or in dollars); the columns describe the jurisdiction (Brazil or offshore). As the left-hand part of the table indicates, short-term contracts are available in both denominations and locations (except for the fact that there are legal restrictions to domestic dollar denominated contracts). Long-term contracts are shown in the right-hand part of the table.

The critical point is that long-term credit exists only when the jurisdiction is not Brazilian. Since offshore contracts in *Reais* do not escape from the Brazilian jurisdiction, there is no long-term credit offshore in *Reais*. In fact, a contract denominated in *Reais*, even when agreed offshore, necessarily refers to the Brazilian jurisdiction as the issuer of the currency and is therefore “contaminated” by the Brazilian jurisdiction. Long-term credit is therefore only available offshore and denominated in foreign currencies, since this is the only way to avoid the Brazilian jurisdiction.

What impedes domestic long-term credit contracts denominated either in *Reais* or foreign currency, as well as offshore long-term contracts denominated in *Reais*, is the jurisdiction uncertainty.

The refusal to extend long-term credit in the domestic jurisdiction signals the presence of an important uncertainty factor. This affects, to use Keynes’s (1963) terminology, “the stability and safety of the money contract” by which savings are made available to the government and other debtors. It is an uncertainty of a diffuse character, which permeates the decisions of the Executive, Legislative, and Judiciary, and manifests itself predominantly as an anti-saver and anti-creditor bias. The bias is not against the act of saving, but against the financial deployment of savings, the attempt to an inter-temporal transfer of resources through financial instruments that are, in last analysis, credit instruments.

The bias is transparent in the negative social connotation of figures associated to the moneylender – “financial capital” by opposition to “productive capital”, “banker” as opposed to “entrepreneur”. The debtor is viewed on a socially positive form, as that who generates jobs and wealth or appeals to the bank to cope with adverse life conditions. This bias may be observed more or less everywhere, but it is perhaps

particularly acute in Brazil, probably because of the deep social differences and the high levels of income concentration in the country. Cultural and historical factors may also have facilitated the ideological dissemination of this anti-creditor bias. For our purposes, however, it is only important to identify it, not to discuss its causes. In fact, what distinguishes the Brazilian case may not be the depth of this anti-creditor bias, which underlies the jurisdictional uncertainty. As we will argue in section 5 below, peculiarly Brazilian has been the nature of the response to the negative saving and investment consequences of such uncertainty.

The concept of jurisdictional uncertainty that we entertain conforms to the growing consensus among economists and political scientists that the social, economic, legal and political organizations of a society, i.e., its “institutions”, are a primary determinant of its economic performance (North, 1981). Overcoming jurisdictional uncertainty involves recasting private contracts’ supporting institutions—that Acemoglu and Johnson (2003) call “contractual institutions” – and those that impede the expropriation by the government or the elites – “political institutions” or “property right institutions”, in the terminology of those authors.

Jurisdictional uncertainty may thus be decomposed, in its anti-creditor bias, as the risk of acts of the Prince changing the value of contracts before or at the moment of their execution, and as the risk of a unfavorable interpretation of the contract in case of a court ruling. For our purposes, jurisdiction matters as the power of the State consequent upon its sovereignty to issue laws and administer Justice, and is not restricted to the territorial dimension of the contract.

The inexistence of a local long-term market results not from lack of financial investment opportunities, but from the reluctance of creditors and savers to lengthen the horizon of their placements. There are Brazilian and foreign creditors willing to buy long-term Brazilian bonds abroad, but not domestically. Even banks that manage to issue long-term paper under external jurisdiction, very often try to reduce the term of placements when passing on the loans domestically.

A long-term domestic market does not exist, not because there are no long-term savings, but because there are no long-term financial savings available under Brazilian jurisdiction. It is a distortion, which results not from an inter-temporal consumption allocation decision, but from the resistance of individuals and firms to make their savings available for the long-term under domestic jurisdiction.

It is a resistance that has roots in our recent history, punctuated by the loss of value of long-term financial contracts, as a result of the manipulation of indexation, changes of monetary standard, freezing of financial assets, judicial annulment of clauses of readjustment in foreign currency, normative acts of the Internal Revenue Service affecting the taxation of on-going contracts, etc. The long tradition of delays in the payment of credits against the government, as exemplified by the difficulty of cashing in on indemnity or judicial orders of payment, reinforced the resistance to invest in long term debt instruments.

Jurisdictional uncertainty worsened after the 1988 Constitution introduced the possibility of changes in the interpretative emphasis between conflicting constitutional principles, particularly the subordination of private property to its social function. The Constitution of 1988 is a striking example of how the paternalistic attempt to substitute the government for the market in the allocation of

long-term resources aggravates jurisdiction uncertainty.

The longest maturity for which there is a financial domestic market varies with circumstances and the perception, more or less acute, of the jurisdictional uncertainty. In Brazil, rare were the moments in which this term was over one year and in moments of stress the duration of savings instruments contracted to levels close to one day by massive concentration on overnight banking deposits. It is only through artifices, such as the indexing of public debt to the daily overnight interest rate and the pockets of compulsory carrying-over (the constitution of captive markets both in pension funds through regulation and in banks through deposit reserve requirements) that the average tenor of domestic public debt is today around two and half years. In contrast, under foreign jurisdiction, the external public debt has an average tenor of 12 years and Brazil 40 is a highly liquid bond.

Let T be the maximum term for which there exists a domestic debt market, as determined by the jurisdictional uncertainty. For terms above T , the jurisdictional uncertainty makes the domestic market disappear, even though there is still an interest rate term structure for external debt. Then up to T , there is a near perfect arbitrage between dollar-denominated interest rates in the domestic and international markets. Thus, for short-term debt maturities, the jurisdictional uncertainty has a quantitative expression, measured by the spread over the riskless US Treasury rate that has to be paid to investors to hold short-term Brazilian government debt on-shore. For maturities longer than T , however, the jurisdictional uncertainty cannot be priced, that is, cannot be expressed as an add-on to the interest rate prevailing in the long-term external markets, and the domestic market ceases to exist.

To further establish our concept of jurisdictional uncertainty, it is useful to clarify its relationships to and distinctions from related concepts in the literature:

- (i) Although associated to lack of confidence in the monetary standard, jurisdiction uncertainty does not restrict itself to a mere suspicion on the capacity of maintaining the purchasing power of the currency in the long run. If not so, there would be long-term credit instruments, both domestic and offshore, indexed to the domestic price level. Even in the absence of possible inflationary and devaluation losses, no one is willing to buy long-term financial instruments in the domestic jurisdiction. Jurisdictional uncertainty is therefore not to be confused with the risk factors associated with price level and exchange rate volatility. These are risks that can be calculated and priced in.
- (ii) Jurisdictional uncertainty is also not to be confused with frontier or transfer risk. The market knows how to price in frontier risk for different maturities, as demonstrated by the difference of spreads between CDs issued by Brazilian banks offshore with and without the “dollar constraint” clause. Frontier risk by itself would not inhibit the existence of a long-term domestic credit market.
- (iii) Jurisdictional uncertainty is also not to be confused with credit risk. This, as the frontier risk, can also be priced in for different maturities, as demonstrated by the existence of long-term offshore credit for both the Brazilian Treasury and large firms or financial institutions. The spread paid by Brazil’s Treasury long

bonds over US Treasury paper of similar duration, which has conventionally been denominated “country risk”, is the market estimate of the country’s long-term credit risk.

- (iv) Jurisdictional uncertainty affects all types of long-term mercantile activities in the country. But it should not be confused with the risk of doing business in Brazil, which involves difficulties to constitute firms, logistic problems of transport and ports, complexity of the legal and labor legislation, high criminality, etc. In our conceptualization, focused on capital formation, jurisdictional uncertainty is consequent upon an anti-creditor bias, not an anti-business bias *tout court*. This is confirmed by foreigners being willing to make long-term private direct investment in the country, but not to extend local long-term credit even to associated firms. It is also confirmed by the fact that often business firms are benefited as debtors by the materialization of the jurisdictional uncertainty in its anti-creditor bias.
- (v) Jurisdiction uncertainty is what gives substance to the so-called “original sin” of international finance, as identified by Eichengreen and Hausmann (1999); that is, the incapacity of issuance of long-term external debt denominated in the national currency. Jeanne (2002) argues that the “original sin” is the result of lack of credibility of domestic monetary policy in a context of fixed exchange rates. We consider this interpretation to unduly restrict the problem to risks posed by the volatility of foreign exchange and interest rates. If this were the only problem, there should exist a local dollar-indexed long-term market for financial contracts. It is true that there are legal restrictions to local long-term contracts in foreign currency, but not even Brazil’s Treasury, which is not subject to such restrictions, manages to finance itself with dollar-indexed long-term bonds in the local market.
- (vi) Eichengreen, Hausmann and Paniza (2003) mention the existence of countries, such as Chile, Israel, and India, that would be able to issue long-term debt denominated in national currency on-shore but not offshore. For us, this is not an impediment derived from the “original sin”, but simply a consequence of these countries having inconvertible currencies. Local pension funds and other long-term institutional investors with long-term obligations in local currency are not affected by such inconvertibility, but foreign investors are. Thus, what this three-country experience would seem to indicate is that there are two requirements for a country to be able to issue long-term debt offshore in domestic currency: a good local jurisdiction and currency convertibility.

4. Impact on private savings and investment

Jurisdictional uncertainty is, therefore, the reason behind the inexistence of long-term credit and long-term financial instruments. The diffuse and non-quantifiable way through which it affects the real value of long-dated financial contracts precludes the domestic pricing of such long-term instruments, and, therefore, the possibility of a long-term financial market. Savers do not accept to hold long-term financial contracts

due to the impossibility to price-in the uncertainty involved in the preservation of the purchasing power value of financial contracts over longer time periods.

Jurisdictional uncertainty reduces the overall availability of credit in the economy and precludes the existence of a long-term financial market. Even if the credit can be more than sufficiently collateralized, there will always be uncertainties involved in the exercise of the collateral. Even if the creditor has sufficient knowledge of the debtor and feels comfortable to lend him for a longer period, jurisdiction uncertainty will make his credit illiquid. If the original creditor needed the resources and had to sell its credit instrument, nobody would be willing to buy it at a fair price. The credit cannot be fairly priced by someone who does not share the same knowledge of the debtor as the original creditor. Every long-term credit instrument is therefore illiquid. Bilateral relationships might work, but jurisdictional uncertainty precludes the possibility of multilateral impersonal transactions that involve credit over longer time periods. The consequence is the complete collapse of a long-term financial market. In the nomenclature of Kiyotaki and Moore (2001), jurisdiction uncertainty negatively affects both the borrowing constraint and the resaleability constraint.

Jurisdictional uncertainty not only precludes the existence of a long-term financial market but distorts savers' behavior in at least five aspects:

- (i) It raises the short-term interest rate required by savers to deploy their financial wealth in the local debt market;
- (ii) It reduces overall savings because it is a risk pertaining to the postponement of consumption;
- (iii) It makes savers attach a high value to the reprogramming of their financial wealth, thus keeping it short-term and in the most liquid form possible;
- (iv) It induces savers to transfer their long-term financial wealth offshore; and
- (v) It increases savers' preference for forms of wealth allocation that do not depend on financial intermediation, searching for direct forms of real investment.

Consequently, jurisdictional uncertainty affects the nature and quality of fixed investment. Its effects can be classified into three groups:

- (i) Prevalence of self-investment, or fixed investment that dispenses with financial intermediation, with the inevitable loss of information about opportunities and, hence, lower returns;
- (ii) Small and medium size companies, for which the cost of credit verification is high, do not have access to foreign credit. Consequently, the fixed investment of a large number of firms is strictly limited to the self-generation of cash; and
- (iii) Large firms, with access to the external credit market, have to deal with the risk and the consequences of currency mismatch.

5. Distorting policy reactions in Brazil

Policy decisions that are detrimental to holders of financial instruments are directly responsible for jurisdictional uncertainty. In the case of Brazil, these decisions have been particularly dramatic along the last decades, as for example the pre-fixing of monetary correction (government debt inflation-adjustment factor) at artificially low levels in the beginning of the 1980s, the purge of residual inflation from the monetary correction indexes at the beginning of all inflation stabilization attempts, including the Real plan of 1994, or the financial asset freeze of the Collor plan in the early 1990s.

Independently of the innumerable measures directly hurting the holders of financial instruments, most economic policy decisions that aggravated jurisdictional uncertainty were probably a consequence of mistaken attempts to correct its effects. Policy-makers realized the limits to economic growth imposed by the unavailability of long-term domestic savings. They, however, did not interpret this unavailability as a result of jurisdictional uncertainty, but as a market failure that required policy intervention. The general purpose of these policies was to create mechanisms of capital formation under the command of the government, on both the mobilization of long-term domestic savings and the financing of fixed investment. They have been traditionally organized along five dimensions:

- (i) Limited currency convertibility. Capital controls, administered in a discretionary form, imposed severe restrictions on foreign investment of residents. The purpose was to create “captive” savings that could thus be directed by the government to finance domestic real investment.
- (ii) Mechanisms of compulsory savings (FGTS, PIS/PASEP) administered by government agencies and banks (CEF and BNDES).
- (iii) Artificial lengthening of the maturity of financial investments, both for public debt and private sector credits. This term lengthening has traditionally been made through:
 - a. Tax measures that strongly penalize financial investments of very short maturities (IOFs);
 - b. Regulations that make compulsory for certain classes of agents (pension funds, insurance companies) the acquisition of long term government bonds; and
 - c. Incentives for the retention of long-term government debt by financial intermediaries, even in the absence of resources of final investors for such maturities.
- (iv) Practices at the level of public enterprises to increase savings and investment, such as:
 - a. Payment of benefits to employees through transfers to pension funds instead of direct salary increases;
 - b. Use of monopoly power over tariffs and public sector prices with the objective of extracting society’s resources for the financing of public investment; such resources as a rule were not transferred to the

- Treasury as dividends, but rather reinvested in the expansion of the public enterprises themselves; and
- c. Use of public enterprises as vehicles for the absorption of foreign savings through external debt.
- (v) Seignorage as a mechanism to generate and channel forced savings to the public sector, a mechanism further explored by the creation of public sector commercial banks.

The importance of interventions through public enterprises has diminished lately, due to privatization, creation of independent regulatory agencies, establishment of limits for sponsoring firms' transfers to their employees' pension funds, and the progressive subcontracting of the management of such funds. The use of inflation to promote forced savings has also had its form of expression substantially altered since the stabilization of inflation with the Real plan. Forced savings through inflation were replaced in what concerns the public finances by distorting taxation – that we will denominate “incomeless taxes” in Section 9 below.

It is not our purpose to describe the history of each type of intervention or its current operation mechanisms in any detail. There are, however, two common threads to this ensemble of economic policy responses. The first is the subordination of microeconomic efficiency to macroeconomic considerations. The welfare cost of the artificial constraints imposed on the ability of agents to allocate freely their wealth and savings was deemed inferior to the aggregate welfare gains to be extracted from having a long term domestic credit market. Overcoming what government perceived as a serious market failure was deemed to be welfare improving in spite of the obvious misallocation of resources. The second thread is pertinent to the form of the policy response. In all cases the decision power of the bureaucracy was increased. Thus, the convertibility restriction gave it the power to decide whom and under which conditions is authorized to transfer wealth abroad. The artificial lengthening of public debt maturity increased the dependence of financial intermediaries and magnified the bureaucracy's role as lender of last resort. The power to decide in which fixed investment compulsory savings could be deployed has always been maintained in the hands of the bureaucracy. There has never been a private or a competitive administration of compulsorily retained savings. Wealth owners were never allowed to choose the manager of their savings. “Portability” of compulsory savings has never come into existence.

The increase in the bureaucracy's power seems to have resulted from the confluence of passions, interests, and tradition. Passions involve an ideological perception of economic policy as an instrument of optimum control over private agents, myopic in relation to their own long run interests, and passive in their reaction to the interventions of an omniscient government. Interests are expressed through the political articulation of private groups, supporting the power of the bureaucracy over the investment decision, in view of their privileged access to the State and their capacity to mold its policies for private profit. Tradition derives from the historical cultural experience of State control over mercantile activities that has been particularly strong in Brazil until very recently.

It is not our purpose to analyze the relative strength of each of these forces, but

only to call attention to the fact that they are at the root of the interventionist bias that, in the attempt to resolve the problems caused by jurisdiction uncertainty, results in its worsening.

6. Effects of policy interventions

This section considers successively the allocation and growth-distorting consequences of convertibility restrictions, artificial lengthening of public debt maturities, compulsory saving funds, and “incomeless taxes”.

(i) Convertibility restrictions

In the fixed exchange rate system that prevailed in Brazil from WW-II to the beginning of 1999, restrictions to convertibility gave the government the power of ordering the priorities for the use of scarce international reserves. This monopoly was used to allocate reserves primarily to import capital goods and essential raw materials. The last of the priorities of the policy maker – given his perception that it is necessary to confine domestic savings – was to permit that the owner of financial resources might acquire foreign exchange to transfer it abroad.

Until the 1990s, the restrictions to convertibility, for all practical effects, were absolute, with exceptions admitted only in specific cases administered in a discretionary form. The result was the emergence of an enormous parallel exchange rate market, without legal support but in practice tolerated, through which necessarily passed the settlement of a good share of foreign exchange operations. A gradual loosening of the restrictions to convertibility only occurred after the *Real* plan, with the consequent reduction of the quantitative expression of the parallel exchange rate market.

This loosening occurred through the authorization, in the beginning of the 1990s, of on-shore deposit accounts for non-residents, the so-called CC-5. Notwithstanding, the structure of restrictions to currency convertibility was preserved intact. First, not all agents can transfer resources abroad. Big institutional savers (pension funds and the technical reserves of insurance companies) do not have permission to invest abroad. Second, the transaction costs are high: the bureaucratic cost of compliance is its main ingredient (waiting periods, necessity to provide information to the Central Bank and the Internal Revenue Service, etc.). Third, there are limits for the remittances. Values that are considered voluminous need previous authorization from the Central Bank.

It is crystal clear for any financial wealth owner that a mere administrative decision can revert this situation of relative liberalization. The CC-5 mechanism did not dismantle any of the controls on convertibility and did not reduce the normative power of the bureaucracy. It maintained intact the legal and administrative instruments of convertibility control, being just a normative expedient to create a fissure making international currency transfers possible, without altering the restrictive foreign exchange laws. It is just a by-pass designed to overcome the legal barriers to convertibility. Examples: (i) two exchange rate systems still cohabit, the

“commercial” and the “floating”, which can be split at any time by an economic policy decision; (ii) the Central Bank has the normative power to impede, at any moment, the remittances of foreign exchange abroad; (iii) the CC-5 itself is stigmatized with an aura of anti-patriotism and even of criminality

With the floating of the exchange rate in 1999, the pursuance of active monetary policy (in the sense of the ability to drive local interest rates away from the external rate) became compatible with free capital mobility. The very concept of a quantitative scarcity of foreign exchange ceased to apply. Notwithstanding, there has been no substantive progress in relation to the mechanisms of convertibility, nor were the Central Bank intervention powers reduced. It continues to retain the power to suspend convertibility by administrative fiat.

The rationale for controls changed with floating exchange rates. The fear nowadays of adopting full convertibility is that the capital flight for a jurisdiction with a better quality could be of such magnitude, that no stable equilibrium would exist in the foreign exchange market. Capital flight would depreciate the exchange rate and erode the fiscal base. Such an attitude may be viewed as another example of the fear to float. More fundamentally, however, by keeping capital controls intact, the message conveyed by monetary authorities is that it is not possible to establish a market price for jurisdictional uncertainty. The underlying assumption is that not even an overly depreciated exchange rate would impede the flight to quality undertaken by residents. The maintenance, in a context of floating exchange rates, of a regime of restricted convertibility subject to discretionary reversal signals to private agents that the policy maker subscribes to their perceptions about the uncertainty of the jurisdiction.

(ii) Artificial debt term lengthening

Because of jurisdictional uncertainty, there is no long-term domestic financial market. Demand exists only for short-term debt, even if issued by the government. There is no voluntary supply of long-term finance for the Treasury. The government, however, needs to give the appearance of being capable to issue long-term debt. The ability to issue long debt is perceived as positive, because it makes monetary policy more effective and reduces the rollover risk, and thus, the credit risk of public debt.

In view of the inexistence of voluntary long-term funds, the lengthening of debt terms is dependent on the willingness of financial intermediaries to make the necessary term transformation, carrying long-term bonds with funding of a very short-term nature. Thus, as of January 2004, a full 46% of the domestic federal debt was held by local commercial banks – 33% voluntarily and 13% compulsorily. The domestic financing counterparts to these assets are mostly CD's with daily liquidity (after an initial 30-day holding period) and automatic drawing rights. An additional 44% of the domestic debt was in banks' clients' funds (FIFs), enjoying daily liquidity, if not automatic drawing rights, irrespectively of the maturity of the underlying debt instrument. Thus, 90% of the federal domestic debt can be said to have its maturity artificially lengthened through the intervention of the commercial bank system.

The result of this intermediation under fixed rate debt instruments is a high

interest rate mismatching risk, which required for many years high premiums on the carry of the debt and also some form of implicit insurance by the Central Bank. Until the creation of the LFT (floating rate bonds based on the daily Central Bank reference rate) in 1986, this debt intermediation process with maturity mismatch increased significantly the public debt cost. The introduction of the LFT eliminated the mismatch risk between the inter-bank financing rate and the interest rate received by the financial intermediary when carrying government bonds. The LFT, however, has duration of one day and, as we have seen, virtually no final buyer outside the banking sector or the funds they manage.

Although a substantial proportion of the public debt since the creation of the LFT has had daily financial indexation, the Central Bank continues to try to lengthen maturities with fixed rate instruments. As of January 2004, 51.1% of the domestic federal debt was in LFTs, and 12.6% in fixed rate bills (as for the rest, 21.0% was dollar-indexed, and 15.3% held in inflation protected instruments). Such lengthening increases the potency of monetary policy, but has high fiscal costs, because the government only manages to place fixed rate instruments when financial intermediaries expect falling rates and, thus, high carryover profits. Notwithstanding, if expectations are frustrated, the Central Bank is forced to buyback the fixed-rate debt at subsidized rates to avoid insurmountable losses and the risk of a systemic crisis. As there is no long-term funding – especially not at fixed rates – on the part of the non-bank public, the debt, as we have seen, is almost entirely carried by financial intermediaries. As these are, as a collective, maturity mismatched, the Central Bank has to offer an implicit bail-out insurance that ends up forcing it to exchange the debt, at unfavorable prices, in critical moments. Jurisdiction uncertainty requires thus an implicit bilateral agreement between financial intermediaries and the Central Bank to create the appearance of a long financial instrument.

Policy makers also try to force investors not to stay parked in the very short run through administrative and fiscal measures that increase the cost of investing resources in the very short term. Such measures imply, however, an additional debt cost for a given after tax interest rate in the proportion of the financial cost of the administrative and tax measures.

The ensemble of measures of induced term lengthening and restrictions to very short-term placements creates, furthermore, a negative signaling effect that makes the saver more unwilling to finance the public debt.

(iii) Compulsory savings

The use of inflation as a mechanism of extracting forced savings for the government gave signs of exhaustion in the beginning of the 1960s. The structural reforms of the second half of that decade aimed at replacing part of the forced savings generated by inflation by institutional mechanisms of compulsory savings, notably the FGTS, the PIS-PASEP, and the unification of the social security funds.

The reforms that the military regime introduced in this period also included the “monetary correction”, an attempt at neutralizing the perverse effects of inflation on savings through price-indexation. The indexation of financial assets was designed to preserve the real value of the recently created instruments of compulsory savings, and

to serve as a stimulus to long-term voluntary savings. The Savings Account with indexation to the inflation rate plus 6% of yearly interest was the first attempt to create a retail instrument for long-term voluntary savings. The resources of the savings accounts would be primarily directed for the financing of investment in housing.

The surcharges for social security, the FGTS, and the PIS-PASEP ideally should be perceived as savings, that is, a mere inter-temporal income transfer, without impact on the permanent income of wage-earners. In practice, however, the monetary correction was systematically underestimated; at times it was pre-fixed at rates lower than expected inflation; and, moreover, innumerable barriers for the access of wage earners to the resources of their compulsory savings were erected. Besides, investment in projects without profitability, as well as the misuse of resources to finance current government spending, required successive increases in the tax rate of compulsory savings.

The bad management of the resources and the departures from the original objectives of the instruments of compulsory savings made wage earners perceive that the surcharges did not effectively represent deferred income, but merely taxes without counterpart of future individual income. This perception transformed the compulsory surcharges into a tax wedge between the income paid by the employer and the income received by the employee.

The quantitative importance of such compulsory saving mechanisms can be appreciated in Brazil's 2002 consolidated national accounts (IBGE, 2004). Gross national savings this year were R\$ 249 billion. Social security contributions added up to R\$ 181 billion, whereas families' contributions to pension funds, FGTS and PIS/PASEP were R\$ 22 billion.

The difference between the cost of labor for the firm and the net income received by the wage earner induced a displacement of employment from the formal to the informal sector of the economy, where the tax wedge did not apply. Computing only wage-related payments not directly received by the workers (such as social security, compulsory accident insurance, contribution to education, and contributions to the so-called "S's" training schemes), this wedge represents 49.7% of the monthly formal sector wage, according to Amadeo and Camargo (1996, p. 77). If one includes the extra-yearly 13th salary plus paid vacations and holidays, and other benefits such as family allowances, maternity leaves, and food and transport vouchers (neither of which is available in the informal sector), the difference adds up to 86.9% of the basic monthly formal sector wage. Since labor productivity is much lower in the informal sector, there is a reduction in the average productivity of the economy. As a consequence, natural output is reduced, with adverse implications for the equilibrium rate of interest, as discussed in Section 7.

(iv) "Incomeless taxes"

The price stabilization achieved by the 1994 *Real* plan made explicit the magnitude of the public sector deficit, which was previously masked by the inflation-related forced transfer of savings to the government. The adjustment of the public sector accounts became imperative. But the reduction of expenditures became harder

to implement by the amplification of tax earmarking in the 1988 Constitution, and by the end of the flexibility, propitiated by inflation, to reduce real current spending through administrative delays in the release of budget nominal values.. The second best alternative would have been to raise the income tax, or to institute a national value added tax. Fiscal federalism, however, heightened by the 1988 Constitution, forced the federal government to transfer near 50% of the revenues of the income tax and the federal value added tax (IPI) to the states and municipalities. The deadlock in the discussion about the redistribution of a new national value added tax on consumption, to replace the existing state-level valued added taxes on production, made any attempt at a rational reform of the tax system unviable.

In face of the constitutional inflexibility of spending, the restriction on external financing, and the political difficulties of rationalizing the tax system, the only remaining alternative was to increase the so-called “social contributions”, i.e., the cumulative and distorting taxes that are levied on sale proceeds and financial transactions.

The tax burden reached very high levels even by standards of advanced economies: 34.9% of GDP in 2002, up from 25.8% in 1993. This increase in the tax burden permitted the generation of high primary surpluses (4.3% of GDP in 2003) and a relative stabilization of the debt-to-GDP ratio. The distorting burden caused by the increase in the tax burden, however, was enormously aggravated because it was implemented in a way heavily dependent on turnover taxes – on sale proceeds or financial transactions (COFINS, PIS/PASEP, CPMF, IOF, and ISS). A full 40% of the increased tax burden between 1993 and 2002 was in the form of such taxes, which came to represent 20.4% of the total tax burden in the latter year (income taxes stood for 16.0%, value added taxes (IPI and ICMS) for 28.2%, wage bill taxes for 23.6%, and sundry taxes for the remaining 11.8%).

Such turnover taxes are levied regardless of the generation of income. The adverse effect on output is evident. Used in a vast scale, they tend to create a dichotomy in the industrial structure (Bodin, 2003). On one side, there are small businesses that are only made viable through tax evasion. On the other side, there are large firms, with oligopolistic power or trademark based product differentiation, that enjoy sufficiently high profit margins over sales to comply with taxation requirements. Average sized firms, however, which are unable to operate evading taxes in view of their visibility, are hard put to pay taxes on turnover.

In the process of equilibrating public sector finance, the traditional populism was replaced by what might be called “fiscal populism”. Traditional populism is here defined as the attempt to influence voters by resorting to easy money or higher spending not backed by taxes. The stop and go process thus generated was aptly called the electoral business cycle. In contrast, under “fiscal populism” there is no tolerance for deviations of inflation relative to target or for fiscal deficits. Voters are to be seduced by higher expenditures and little concern is given to whether taxation is detrimental to growth or extremely distortionary in its allocation effects.

Industrial dichotomy makes the domestic goods supply curve steeper. Informal sector firms cannot increase output in face of growing demand because of compliance risks. The reason is that with a larger output the risks of remaining informal increases and the firm would have to pay turnover taxes. Profitability disappears with the

passage to the formal sector unless the firm has an above average management. The formal sector, in turn, because it is almost exclusively composed of large firms with oligopolistic pricing power, capable of attending the complex demands of fiscal compliance, responds to the increase in demand raising margins and prices.

7. Jurisdictional uncertainty and the equilibrium interest rate

It is now time to link jurisdictional uncertainty to the discussion on the reasons for extraordinarily high interest rates in Brazil. Jurisdictional uncertainty as well as the distortions created by policy makers was already in full force when the inflation-targeting regime was introduced in 1999. It would thus be misleading to interpret the workings of the distortions under inflation targeting as defects or inadequacies of the inflation-targeting regime by itself or of its underlying macro model. Our task is to insert the distortions provoked by jurisdiction uncertainty and by the government interventions into the inflation-targeting framework. We then examine how a sustained and encompassing program aimed directly at remedying the jurisdictional uncertainty might lower the equilibrium interest rates. The model here is a simple version of the usual forward-looking short-term open macro model. Its purpose is to illustrate how the distortions associated with jurisdiction uncertainty affect the basic interest rate.

We assume a strict inflation-targeting framework. The short term nominal interest rate i_t is set by Central Bank independently of other policy objectives such as minimizing output fluctuations or achieving interest smoothing. This is not realistic. Since the adoption of the inflation-targeting regime, interest rate smoothing was prevalent with the exception of discontinuities provoked by major shifts in expected inflation. We also have the evidence that in some circumstances Central Bank prefers to miss the target than facing a too severe contraction in output (such as the accommodative stance adopted after the 2001 shocks). The rationale for assuming strict inflation targeting is just simplicity.

We will also disregard Central Bank credibility issues. Under full credibility and no disturbances, actual and expected inflation coincide with the target and time-invariant inflation rate π^* . The assumption works as a rough approximation to reality. In spite of not having formal independence, the Central Bank has enjoyed in practice substantial control over monetary policy instruments. Markets acknowledge the accountability and transparency of the Central Bank since the adoption of inflation targeting. Not having formal independence or fixed mandates for board members, however, is extremely costly in some circumstances, as exemplified by the surge in inflation expectations after the election of Lula in the last quarter of 2002.

Equations (1) and (2) summarize the model:

$$(1) \quad \pi^* = F[x_t, E_t x_{t+1}, e_t / e_{t-1}, (i_t - \pi^* - r_t)]$$

$$(2) \quad G [(1-p).(1+i_t).(e_t/E_t e_{t+1}) - (1+r^*)] = N(e/(1+\pi^*))$$

Equation (1) is a reduced-form domestic goods market equilibrium condition under a fully credible inflation-targeting policy. We take x_t as the current output gap, $E_t x_{t+1}$ as the expected output gap, e_t/e_{t-1} as the ratio between the current nominal exchange rate and last period's exchange rate, and r as the natural interest rate. To hit a given inflation target π^* , the Central Bank needs to set the spread between the real interest rate to the natural rate higher, the bigger are the actual and expected output gaps and the exchange rate depreciation.

In (1), we define the natural rate of interest, r , as the real rate of interest required to keep aggregate demand equal to the natural rate of output; any factor changing the natural rate of output impacts the natural rate of interest as well. In particular, a positive productivity shock reduces the natural rate while an increase in government spending raises the natural rate of interest. The definition of the natural rate implies that the variables of $F(\cdot)$ are mutually constrained: if both current and expected output gaps are zero and the real exchange rate is constant ($e_t/e_{t-1} = (1 + \pi^*)$), then the rate of interest ($i_t - \pi^*$) is equal to the natural rate, r_t .

Equation (2) is the balance of payments equilibrium under the simplifying assumption that the level of international reserves is constant. The left-hand side captures capital flows as a function of the interest rate spread. The variable $(1+i_t) \cdot (e_t/E_t e_{t+1})$ is the rate of return in dollars of an investment in reais; r^* is the external, risk-free interest rate in dollars. Variable p captures all of the risks involved in short term arbitrage. There are credit risks (domestic debt repudiation), contractual risks (court rulings or acts of Prince interfering with the compliance of contractual obligations), and frontier risks (capital controls blocking remittances). The risks are simplified here as all-or-nothing events. The right hand side gives net exports as a function of the current real exchange rate.

The capital flows described in (2) differ from the formulation given by Blanchard (2003) in three aspects. First, we assume that short-term loans to Central Bank are risky. Second, we take p as exogenously given and not as a function of the interest rate itself. Third, we leave risk aversion considerations in the background. Sudden stops will be captured in the analysis by shifts in the $G(\cdot)$ function.

The model determines simultaneously the domestic interest rate and the exchange rate as a function of the natural interest rate, the external risk free interest rate, the default probability, the current output gap, and expectations on the future output gap and the exchange rate.

We now turn to expectations. It may be argued that, under full Central Bank credibility, there is a strong case to be made for a rational expectations approach in which the one-period ahead expected values of the output gap and the exchange rate coincide with the true conditional expectations. To simplify matters, however, we will keep short from modeling the learning dynamics by which expectations evolve over time and assume that expectations are exogenously given.

Figure 1 illustrates the model, with the domestic interest rate in the vertical axis and the exchange rate in the horizontal axis. For simplicity, we assume $\pi^* = 0$. The domestic equilibrium (1) is upward sloped. An increase in the real exchange rate (a larger value of e_t) requires a higher interest rate for inflation to remain constant. The

external balance equation given by (2) is downward sloped. An increase in the real exchange rate increases both net exports and capital inflows; external balance requires then a lower interest rate to reduce capital inflows. Note that if p is sensitive to the interest rate, as in Blanchard (2003), the external balance curve could be upward sloped.

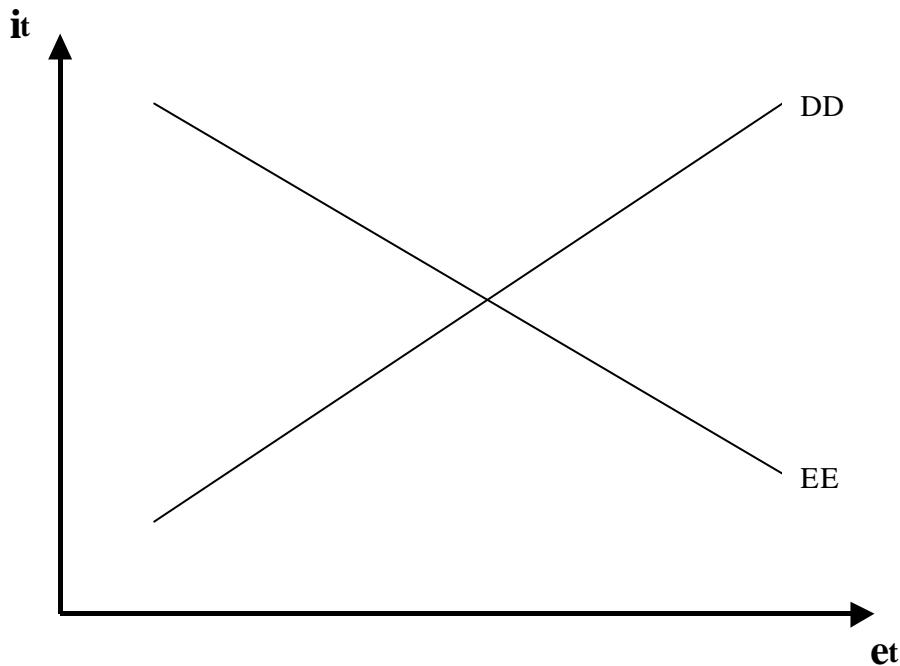


Figure 1

The following exercises are straightforward:

- A productivity increase raises the natural rate of output, reduces the natural rate of interest and shifts the domestic balance curve DD to the right.
- A reduction in the risk factor p shifts the external balance curve EE to the left.
- An increase in the risk free foreign interest rate shifts EE to the right. The same holds true for any adverse shocks to capital flows.
- A reduction in the expected output gap shifts DD to the right.
- A more depreciated expected exchange rate shifts EE to the right.

With the help of this simple model, it is possible to discuss the effects of a comprehensive program aimed at reducing the jurisdiction uncertainty in terms of the workings of the inflation-targeting regime. Suppose agents perceive such program to be sustainable over time, with the unwinding of the distorting policy responses reinforcing their perception about the quality of the domestic monetary standard.

Then:

- The removal of capital controls and the commitment to establish a fully convertible currency would be perceived as a reduction of p , shifting the curve EE to the left.
- The abandonment of attempts to lengthen the maturity of public debt not backed by changes in the behavior of final wealth holders would reduce bailout-related quasi-fiscal costs of the debt. A smaller p value also captures this effect, shifting EE to the left.
- The replacement of distorting taxation by income taxes would make the DD curve flatter as smaller increases in interest rates would be needed to offset the expansionary effects of a depreciated exchange rate.
- A balanced reduction of expenditure and taxes (reversing the “fiscal populism”) would be equivalent to a productivity shock (larger natural output), reducing the output gap and shifting DD to the right.
- The elimination of mechanisms of forced savings increases the productivity of aggregate investment, thus increasing the natural rate of output and shifting DD to the right.
- Last, but not least, the signaling effect of the unwinding of distorting policy responses reduces the natural interest rate as savers require lower rates to deploy their wealth in domestic debt instruments, shifting DD to the right.

Summing up: unwinding the policy responses to the jurisdictional uncertainty reduces the short term interest rate the Central Bank needs to set to maintain inflation on target, but the net effect on the exchange rate cannot be predicted on a priori grounds. The annulment of the “financial” distortions (convertibility restrictions and artificial debt term lengthening) would appreciate the exchange rate; but the annulment of the “real” distortions (compulsory savings and “incomeless taxes”) would depreciate the exchange rate.

8. Final remarks

Jurisdiction uncertainty and the distortions it provokes, both directly and indirectly through the ill informed reaction of the government, results in a higher equilibrium interest rate in the framework of an inflation-targeting model for monetary policy. Reducing or eliminating jurisdictional uncertainty results in a lower interest rate but would have an unpredictable effect on the exchange rate.

A word of caution is, however, necessary. These results critically rely on the assumption that the issues posed by jurisdiction uncertainty are addressed directly and in a coherent and sustainable mode. For it is all too easy to think of scenarios in which the unwinding of policies may backfire. For example:

- The removal of capital controls might be perceived as an opportunity window to escape from the local jurisdiction. In this case, there is a perception that

convertibility will not last. Consequently, the future expected exchange rate increases, shifting the curve EE to the right.

- The reduction of public debt maturity might be perceived as an increase in the vulnerability of the public sector to portfolio shifts by private investors. In this case, the fear of a monetization of the debt increases. Therefore, the future expected exchange rate increases, shifting the curve EE to the right.
- The dismantling of forced savings mechanisms might reduce the funding available for long-term investment if the behavior of savers remains unaltered by the perception of the jurisdiction uncertainty. In this case, the expected output gap increases as the next period natural rate of output shrinks. This could be the result of less investment in infrastructure, for instance. The DD curve shifts to the left.
- The substitution of “easy to evade” income taxes for “easy to collect” incomeless taxes might raise doubts about total tax collections. If agents anticipate that government spending will not budge, the expected future output gap increases, shifting DD to the left.

The critical question then is how to ensure that the removal of distortions is perceived as an improvement of the domestic jurisdiction. It is probable that the removal as such will not be sufficient. The distortions created by the misguided policy reactions to jurisdictional uncertainty are only part of the problem. Jurisdictional uncertainty has deep institutional roots in the executive, the legislative and the judiciary branches of the state. If property rights were violated in the process of dismantling these distortions, for instance, it would be very hard to convince agents that the problem of jurisdictional uncertainty is being tackled appropriately. In particular, a “big bang” approach could be dangerous. As jurisdictional uncertainty is the result of history, restoring confidence in the jurisdiction is per force a long road. Although the guidelines of policies to deal with jurisdictional uncertainty are outside the scope of this paper, it seems that a bold, comprehensive and pre-announced program, with well-defined steps and criteria for moving from one phase to the next, is the best way to go.

The dismantling of forced savings, for instance, could be done at the margin and over a certain number of periods. The road to convertibility might be paved by strengthening the prudential framework, limiting the scope of capital controls in the transition phase, as well as setting proper international reserve requirements (see Arida, 2003). Prudential regulations limiting the mismatch of maturities of financial intermediaries may be the best way to deal with the artificial lengthening of debt maturities. The reduction of distorting taxes may be conditioned to the adoption of strict budget-balancing rules perceived as legally and politically achievable.

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