

# **Macroeconomics of Broken Promises**

**Daniel Heymann**



UNITED NATIONS



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## Abstract

Widespread breakdowns of contractual arrangements are the characteristic feature of some macroeconomic crises. Economies and political systems generate and must process the consequences of large-scale “broken promises” (Leijonhufvud, 2003). This paper discusses such phenomena, in the specific context of the fluctuations of the Argentine economy. That experience highlights themes which have been prominent in Leijonhufvud’s work, like the problems of intertemporal coordination, the potentially deviation-amplifying behavior of credit markets in the event of large disturbances, the relevance of the sequential decision-making of agents and the interrelated dynamics of policies, institutions and economic performance.



## Introduction

The study of macroeconomic disorders has analytical and practical relevance. The work of Axel Leijonhufvud has been marked by a concern about the scope and limitations of the self-adjustment potential of economic (and social) systems. This concern was reflected in a maintained interest in the mechanisms and the effects of macroeconomic disruptions, such as the “two types of crises” (Leijonhufvud, 1998a) that put to the test in different ways the ability of economies to deal with stresses. High inflations shorten decision horizons and restrict financial transactions and, in the limit, even the realization of everyday trades (Heymann and Leijonhufvud, 1995). In credit crashes, economies and policies must process the consequences of large-scale “broken promises” (Leijonhufvud, 2003). This article focuses mainly on this second kind of disturbance.

Episodes of recession linked to currency and credit crises have been observed in several “emerging economies” in recent years (Kaminsky and Reinhart, 1999). These contractions interrupted phases of economic growth which at some moment may have seemed robust and likely to persist. The abruptness of some transitions, and the difficulty of finding statistical associations between the emergence of crises and the past history of “fundamental variables” (Calvo, 1998, Kaminsky, 1999) have oriented the quest for explanations to “sudden deaths” associated with multiplicities of rational expectations equilibriums (e.g. Sachs, Tornell and Velasco, 1996), or to phenomena of herd behavior (Chari and Kehoe, 2003).

Effects of contagion and imitation certainly seem relevant in critical junctures, when agents perceive that the system may be approaching a sharp turning point, and are prepared to respond with speed and intensity to what others around them are doing. However, agents should already be in a state of alert to the possibility of a discontinuity. This does not seem likely to happen without “fundamental reasons” for people to presume that the economic environment may change quickly and substantially.

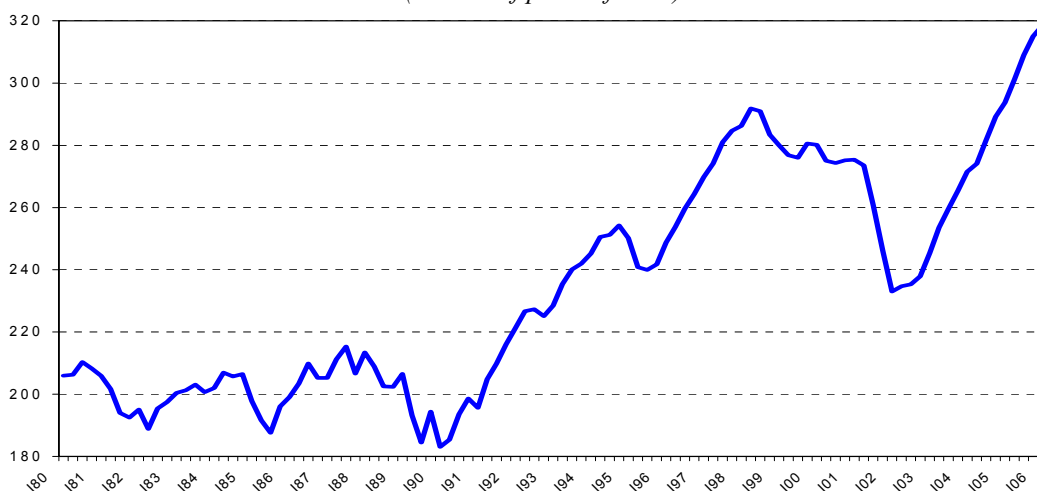
Macroeconomic configurations and histories may be interpreted in quite different ways. Often, in countries which are running current account deficits of some size, or where the volume of debts is increasing rapidly, opinions are divided between those that consider the willingness to borrow and to lend as rational responses that correctly take into account future repayment capacities, and those that anticipate difficulties in the fulfillment of obligations (Heymann, 1994). The assessments of sustainability, in fact, depend on conjectures about future income levels, and thus about the growth potential of the economy. By their intricate nature, growth processes are liable to generate heterogeneous and changing beliefs. In some economies, the activity of evaluating growth prospects (or making decisions which implicitly

depend on those prospects) on the basis of ongoing, period-by-period information, can well produce variable results. The macroeconomic experience of Argentina may offer an illustration of interactions between large-amplitude cycles and the actual and anticipated growth performance.

The aggregate output of the Argentine economy has clearly not cycled around a fixed linear trend (Graph 1). The changes in the medium-term outlook and the wide fluctuations took place in a history characterized by an eventful evolution of private behaviors and public policies. In various instances the performance of the economy differed considerably from what would have resulted from extrapolating past observations. In the eighties, price instability was a prominent feature, and real activity oscillated around a stagnant trend. At the end of the decade, hyperinflationary bursts created strong disturbances. Some time later, major policy reforms were implemented, and monetary policy was tightly constrained by the system of convertibility which established a hard peg to the dollar. In the early nineties, demand and output increased sharply and prices eventually stabilized, although the residual drift implied a real appreciation in the meantime. The expansion was interrupted at by an abrupt credit shock at the end of 1994, after the Mexican devaluation. The impact of the shock was strong but transitory. A new round of rapid growth probably induced expectations of further rises in incomes. These were dramatically disappointed in a long recession, which accelerated in 2001 in the final collapse of the convertibility regime. The end of that system was associated with a widespread breakdown of contracts, political disruptions, and a general sentiment of deep frustration. However, expectations of a total crash and irreversible stagnation were themselves invalidated, as the economy showed a rapid recovery. In all these oscillations, identifying economic trends was a non-trivial practical problem.

Trying to make sense of a history of this sort probably requires paying attention to the mechanisms of a general sort that may have shaped behavior, and also to the real-time evolution of beliefs and decisions. The next section discusses some analytical points that seem relevant to large credit crises, especially the role of wealth perceptions, the denomination of financial contracts, and potential effects that may dampen or amplify disturbances. This discussion highlights themes which appear in the context of Argentine fluctuations, an account of which is presented in Section 3.

**GRAPH 1**  
**GDP AT CONSTANT PRICES**  
*(billions of pesos of 1993)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.



## **II. Information, coordination and macroeconomic crises**

### **1. Small fluctuations and large crashes**

Most normal business cycles are relatively mild ups and downs around more or less well defined trends. For the average individual, consumption may somewhat fall in a recession, but lifetime living standards are not much changed by the event. Although some segments of the population are more exposed to macroeconomic movements than others, a single episode of average magnitude will not alter income distribution considerably, or for long. If certain agents are interconnected through a network of transactions, those links could be expected to remain in existence after a small recession. It is as if the economic system was “bent”, but not “broken”, and kept its main organizational features even as aggregate real variables oscillate.

Macroeconomic crashes seem to be phenomena of another type, in their quantitative intensity and in the nature of the processes at work. The magnitudes of the falls in real activity and consumption correspond to major changes in the working and living patterns of large parts of a population (for instance, during the 1998-2002 recession in Argentina, aggregate private consumption declined by more than 20%; some groups experienced stronger adjustments). Events like these have non-trivial welfare consequences. They can have sizable and durable implications for the economic prospects of individuals, and are likely to modify substantially the anticipated future paths of income and spending.

A precise definition of what constitutes a promise, or the breakdown of a promise, would involve in itself non-trivial problems when it is known that, through variables like “risk-premia”, the parties have recognized that explicit commitments are not literally unconditional, but at the same time the set of contingencies that would lead to default remains undetermined. However, even without such a sharp definition, it is an observed characteristic feature of some macroeconomic crises that large numbers of contractual agreements throughout the economy are not fulfilled. In one way or another, those agreements are subject to re-negotiation., and the absence of objectively stated contingency clauses complicates the process. While the re-arrangements of rights and obligations go on, production and exchange are hindered by tight credit constraints and by uncertainties or legal restraints on the command and the use of resources. Many firms are closed or reorganized. Trading relationships get broken or disturbed, which

complicates the coordination of market exchanges (Howitt, 2006). The economic disorder associated with a crisis may operate like a strong shock on measured aggregate productivity.

Even among major crashes there may be different degrees of intensity, according to the extension of the set of defaulting agents. In an episode of the historical significance of the great depression itself, the solvency of public sectors was not put into question everywhere, and thus governments retained some leeway to use the credit available to them in order to alleviate constraints on private spending (Leijonhufvud, 1973). In other cases (like the recent crisis in Argentina), the state of default may reach the government, as well as important segments of the private sector, banks in particular. Then, it is practically the whole set of economic obligations which has to be re-defined. The system goes through an overall recalculation of asset values, as old estimates (or, at least, old “face values”) have been made irrelevant by the crisis. But those recalculations themselves and, in general, the potential estimates of future incomes of agents across the economy, are highly uncertain, since in the midst of a crisis it may be quite difficult to anticipate outcomes among the wide range of open possibilities.

In the limit, it is conceivable that a very large shock causes bankruptcies throughout the private sector and default on the public debt, and that desperate monetary expansions or mistrust on the part of the public induce a flight from the national currency. Such a combination of depression and hyperinflation can thoroughly disorganize the economy. It is hard to say how close Argentina came to this outcome in its recent crisis. In any case it was prevented, probably through a coincidence of some useful inertia in the behavior of agents, who acted “in normal mode” in aspects of their everyday economic activity, and a policy response driven by the fearful image of a perfect storm.

## **2. Leveraged growth, defaults and renegotiations**

Revisions of beliefs about the growth prospects of an economy (or, more generally, about the income prospects of a debtor) seem capable of generating phenomena typically associated with large credit fluctuations.<sup>1</sup> In contracts subject to default risk (which, naturally, emerge when the debtor has, on average, prospects of a large output growth, but the magnitude of potential growth can vary on a wide range), the contractually determined interest rate increases with the size of the debt. There can be a ceiling on the supply of credit, given by the volume of debt that would induce the debtor to default in the future even in “good” states of the world. Now, if a shock lowers the debt ceiling, a sudden adjustment of spending by the debtor may be called for. This effect can induce corridor-type effects. If the debtor economy suffers a small negative income shock with both permanent and transitory components, unrestricted access to credit allows it to smooth the current impact on consumption. By contrast, a large shock that triggers credit rationing forces a large adjustment in the present period, so that the effect of the shock is initially amplified.

In the event of a contraction in the supply of credit, the debtor can “accept” it, or else choose to default. The incentive to default is limited by the costs associated with the breakdown of contracts; however, if the credit “stop” would induce a too sharp fall in consumption, the shock may cause a suspension of contractual payments. In this sense, credit contractions would be motivated by potential default but, at the same time, they actually occur when their anticipated impact is not so severe as to induce an actual default. Also, when default takes place, there may be circumstances where a “restructuring” occurs at once; however, it is possible that the parties have incentives to delay an agreement (Ghosal and Miller, 2005). This possibility could arise in principle because of an effect of flexibility preference, if future information about the repayment capacity is sufficiently valuable: when the expectations about the “permanent” value of output are very diffuse at the time of default, and they

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<sup>1</sup> The following remarks owe much to conversations with L. Gorno. See also Heymann et al. (2001), Aguiar and Gopinath (2004b), Arellano and Mendoza (2002), Mendoza (2006).

may become more precise later on, a strategy of waiting before entering into new contracts may generate large savings in expected default costs.

Certainly, those effects would depend on the values of parameters which are not easy to determine precisely, like the distribution of future output, and the size of the “penalties” in the case of default. The evolution of views and perceptions about such parameters as new information arrives and gets to be processed, and the decisions taken in consequence, may produce quite eventful histories. The experience of Argentina appears to point in that direction.

### 3. Wealth perceptions

Large macroeconomic oscillations vary individual and aggregate wealth perceptions and, reciprocally, they can be seen as consequences of revisions of previous valuations. A perfectly anticipated crisis is almost a contradiction in terms. Widespread defaults on debts and dramatic drops in real consumption are naturally interpreted as indications that agents made sizeable mistakes in their forecasts of their own incomes and those of their debtors. Such events disappoint expectations under which agents planned their consumption and asset holdings or, at least, they reveal a “bad draw” of the lottery that determines the value of income flows over relatively long periods of time. As a matter of observation, both “calculated risk-taking” and actual disappointments seem at work in crises. Indicators like interest rate spreads show awareness of the possibility of defaults. However, market behavior sometimes also suggests large differences of beliefs between agents, with some of them taking precautionary measures (for example, by building up liquidity in “safe” assets) before the crisis became imminent, while many others appear to have been surprised by the event. The recent episode in Argentina provides indications of that type of heterogeneity.

Everywhere, some agents make mistakes or have bad luck; the outcomes are somehow processed. In any case, individuals make choices in an environment subject to irreversible and hardly predictable changes (technological innovations are sufficient for that). “Normal” economies show much volatility at the micro level (Fanelli, 2006). Aggregate wealth is not easy to estimate even there (Hausmann and Sturzenegger, 2005). However, overall, those economies have reasonably well established trends. Episodes of “irrational exuberance” may happen in perhaps sizable segments of the economy. Problems of fiscal sustainability may emerge on the horizon. But, typically, the historical experience allows for a certain confidence in extrapolating stylized features of economic growth. In most likely scenarios, broad categories of agents, including the public sector, will face opportunities roughly in line with expectations, and service their debts. Everyday problems in coordinating intertemporal decisions (Leijonhufvud, 1981, 1998a) surface in adjustments in the level of consumption of individual households, in low returns for particular firms, or in bankruptcies which are handled routinely by the legal system. Despite the existence, in principle, of much “deep uncertainty” those results may be seen, on the whole, as unlucky outcomes in reasonable gambles.

In entrenched very high inflations, transactions are disturbed, but there are few formal promises to be broken: agents recognize the macroeconomic uncertainty and, therefore, they are reluctant to enter into contracts. Planning and decision horizons are very short; economic behavior is marked by strong flexibility preference. By contrast, debt crises require agents to be confident enough to borrow and lend, or to consume beyond their “permanent” capacity. They must have foreseen a sufficiently good, and probable enough, state of the world so as to overcome the disincentives of high perceived risks (or they have considered that such risks were not that large). These are features of economies which at a certain moment can appear likely to move up on the international income scales. Somehow, the economy in question should be perceived as ready for that progress. Crises may mark the uncertainty of the “catch-up” process.

## 4. Uses of the past

Crises are relatively rare events in a single economy, and they seem to have distinctive features (Kaminsky, 2003) that may limit the information to be obtained by pooling observations from various episodes. The tension between the potential usefulness of analogies with events in other economies and the arguments for “differentiation” between cases is observed in practice in the opinions and attitudes of analysts and agents. In some cases, the own past of an economy may appear as problematic for the purpose of forming expectations.

Recommendations of “structural reforms” have been abundant in policy discussions of recent decades. Whether because of such reforms or for other reasons, some economies appear at times to be undergoing rapid structural change in terms of their configuration and behavior. The “emerging” or “transition” tags refer to economies which are presumed to be in the process of modifying their performance in permanent ways; the evidence suggests that these economies experience relatively more intense “shocks to growth trends” (Aguilar and Gopinath, 2004b). If a new growth trend is, or may be, in the course of being established, agents must then learn about the future opportunities and constraints that they will face. The problem of intertemporal coordination is posed in very concrete terms: whether the actions of other agents in the future will correspond to the anticipations that are implicit in the current decisions of an individual.

Quite different types of behavior may, or may not, be sustainable, depending on future realizations. A configuration with lower savings rates, real appreciations and investments concentrated in the production of non-tradable goods may, with reasonable motives, generate concerns about the sustainability of dollar debts, but it may turn out to be part of a well coordinated path if something happens so as to generate enough growth in the supply of tradable goods. In a growth transition, forward-looking behaviors are likely to be based on the anticipation of future changes. A shock to expectations may be immediately identifiable by an outside observer, but it may also consist of “something that does not happen” like, in the case just mentioned, a less-than-anticipated increase in productivity.

During growth transitions agents are engaged in predicting the outcome of ongoing development processes. Those processes can have general features and patterns, but they also appear to contain historical, non-repetitive elements. “Objective” probability distributions of future trends are hard to establish. Decisions are somehow based on conjectures, about expected outcomes, and also about the confidence that should be assigned to those expectations. Both type I and type II errors are possible. On occasions, individuals would bear especially in mind the existence of strong uncertainties, or a history of false starts, suggesting caution and skepticism; in others, they may react strongly in an upswing to the prospects of future improvements. A naïve form of the rational expectations assumptions (“market variables are generally the result of correct aggregate expectations”) would tend to lend the appearance of sustainability to current patterns of behavior (as if most collective prophecies were to be fulfilled). In any case, economies subject to crises may have features that could provide rationalization for widely different levels of average income. In the lapse of a few years, for example, the Argentine economy seemed to “provide reason” for beliefs that the permanent level of incomes in terms of dollars was not much higher than the 3000 dollars per capita observed in hyperinflation, later for opinions that stabilization and reforms could sustain spending levels of around 9000 dollars per capita or, more recently, for views that the crisis had produced an irreversible fall in incomes back to the 3000 dollar mark.<sup>5</sup> The denomination of financial contracts

The levels of incomes measured in foreign currencies are particularly relevant variables when financial contracts are “dollarized”. The diffusion across countries of the practice of denominating obligations in an international currency, and the potential for debt deflation effects in such countries in the event of a real devaluation have received much attention in recent literature (Jeanne, 2003, Ize and Levy Yeyati 2003, Cespedes et al., 2000, Chang and Velasco 2001). Contractual dollarization probably reveals the persistence of doubts about macroeconomic, and particularly, monetary policies. In an economy that

has stabilized after a high inflation, the practice of writing dollar contracts may respond to residual fears of a collapse of stabilization in which domestic prices rise abruptly, which offset the perceived risks of shocks on the real exchange rate (Heymann and Kawamura, 2005). It thus suggests that the remaining “nominal” uncertainty over more or less long periods is stronger than the “real” uncertainty over future relative prices. An economy which experiences a large expansion of dollarized credits would then correspond with a special configuration of beliefs, with optimism about its real opportunities (so that, in particular, a strong internal demand in the future may sustain high levels of domestic prices and incomes in dollar terms) while, at the same time, agents are suspicious of the possibility of policy surprises that may change the real value of nominal (or indexed) contracts. At the same time, financial dollarization causes “fear of floating” (Calvo and Reinhart, 2000), and increases the exit costs of fixed-exchange regime. In the Argentine case, this lock-in effect was particularly important, perhaps much more so than the legal status of the convertibility regime in effect between 1991 and 2001.

Dollarized contracts make the fulfillment of obligations contingent on the stability of real incomes and the real exchange rate. Various types of shocks or expectation changes can shift, and considerably, the sustainable real exchange rate, and the perceptions about its value. Irrespective of whether it happens through deflation or nominal depreciation, a large enough relative price movement can then result in insolvencies.

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## 6. Stabilizers and multipliers

Financial dollarization can be a source of vulnerability, but not every shock will generate a crisis. Even if the nominal exchange rate does not vary much, the real rate can have some mobility through movements in domestic prices. If, on average, the shock calls for a relatively small reduction of incomes in terms of the unit of account, the size and diffusion of defaults on debts can also remain limited. A moderate adjustment in aggregate real spending may then restore budget constraints to positions perceived as sustainable, without generating significant secondary effects. Large shocks, by contrast, can induce additional rounds of impulses. The crisis that ended the convertibility system in Argentina provides indications of such feedback reactions, where doubts about the solvency of debtors and fears about the future state of the economy led to capital flight and credit contraction, and depressed internal spending, which interrupted trading relationships, in turn reinforcing the spiral. In a state of panic, it would appear that prices of goods and assets must fall considerably to induce “stabilizing speculation”.

The Argentine crisis shows the deep disruptions provoked by the expectation and the realization of a contractual breakdown. At the same time, the recovery after the crash points to the existence of endogenous mechanisms that may have helped to reverse the decline of real activity. In this instance, the initial impulse was not a fiscal expansion, which a bankrupt government could hardly attempt (although emergency transfers to low-income households may have helped to maintain demand). A significant effect may have resulted from a reaction of spending (and a moderation of capital flight) by agents who had profited from the massive impact of a large devaluation on the real value of dollar assets (many of which were held in liquid form) and incomes generated in tradable sectors. In a situation of depressed aggregate incomes and tight liquidity constraints, these beneficiaries of a massive redistribution of purchasing power were those who had the availability of resources to initiate a demand injection.

## 7. Policies and institutions

Economic policies are the result of the objectives and perceptions of policy-makers. The incentive effects create special principal-agent problems, and they can certainly affect economic performance. However, pure incentive misalignments do not seem capable of generating crises (in the sense of widespread contractual breakdowns) without the intervention of some type of error in expectations. From the point of view of intertemporal choices, policy decisions, as well as the actions of private agents, are predicated upon conjectures about future conditions. The estimation of permanent or normal levels of incomes is an issue for the government, and its prospective creditors, as well as for private parties. Apart from politically induced myopia, policies that appear ex-post pro-cyclical may also be the result of confusion about macroeconomic trends.

Tightly defined rules may be used to deal with incentive biases in the negotiation, design and implementation of economic policies. Macroeconomic shocks or inconsistencies typically call for policy flexibility. Countries where the political process has shown a tendency to produce socially undesirable outcomes (such as a history of high inflation) and which are also potentially subject to large real disturbances will have difficulties in establishing durable and well functioning macroeconomic institutions. Unbounded discretion may lead to a short-sighted maximization of narrow interests, or to volatile policies decided under the pressures of the groups that happen to have the stronger influence at a particular moment. Policy regimes based on rigid rules make seemingly unconditional promises of permanence irrespective of contingencies, and may end up breaking down when those commitments become untenable. The Argentine experience of the last decades offers examples of both types.

A monetary rule can only provide a very imperfect substitute for other policies and institutions. The Argentine convertibility regime had important effects in stopping an endemic inflation; over time it became a central reference for a public who viewed political and economic institutions with mistrust.

Eventually, the monetary system was seen as supplying not only a (rigid) nominal anchor, but perhaps also an implicit promise of stability of aggregate income. The fixed exchange rate did serve as an “external scaffold” to organize economic behavior (Clark, 1998, AL, 2006), but it may have done so in ways that the real performance of the economy could not support. In fact, the system seemed designed to maximize credibility in order to take advantage of opportunities in a potential “good state”, characterized by high sustainable income levels and a historically appreciated real exchange rate. Almost by construction, neither monetary policies nor the financial sector nor the political system were prepared to handle a situation where a substantial real depreciation was required.

The choice of institutions and policies depends on the political game (interests, power), and also on how the public and policy-makers process past experiences (Sargent, 2001). The choice of the convertibility regime in Argentina in the early nineties was influenced by the particular inflationary history of the country. Traces of the past experience of the economy can also be found in features of the economic and policy behavior after the breakdown of convertibility.

Crises typically motivate intensive learning (or, at least, changes of beliefs and opinions) on the part of private and public agents. At the same time, they manifest or induce problems in policy-making. Ultimately, high inflations reflect a failure of societies and political system to agree on systematic ways to deal with the pressures on the government budget. Credit crises in open economies may involve overspending by the public sector that does not elicit a “Ricardian” response of spending restraint in the public. In any case, crises like that of Argentina throw to an already disturbed political arena the question of whether, and how, to intervene to revise broken contracts when “the rules on the ways to deal with the violation of rules have been violated” (Leijonhufvud, 2003, Vaz, 1998). And, even in a post-crisis recovery, rebuilding institutions after a big shock is certainly a non-trivial matter.





### III. Crisis and recovery in Argentina<sup>2</sup>

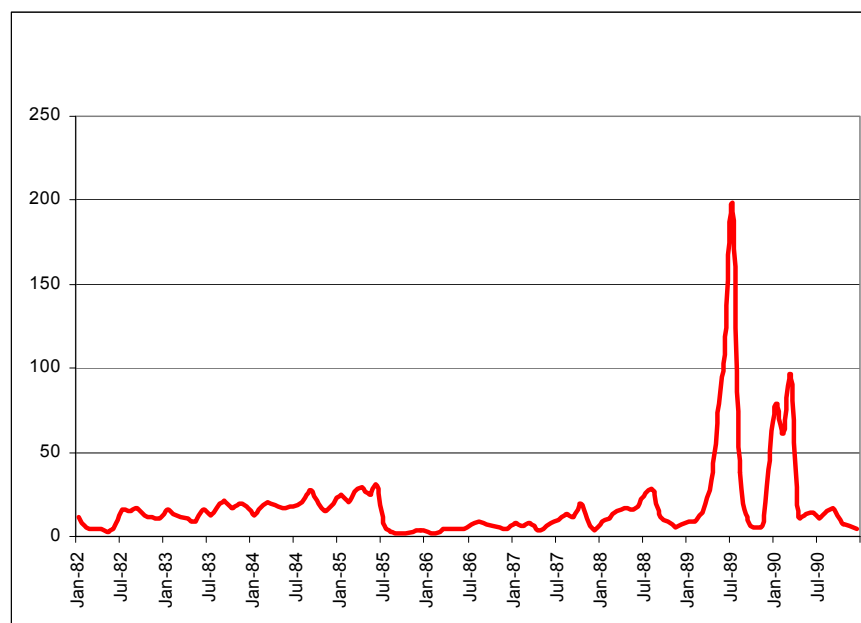
#### 1. After hyperinflation: large- scale reforms, tight constraints on monetary policies

By the end of the 1980's, Argentina had an eventful history of high inflation. But even for a population that had developed (at substantial costs in terms of economic performance) sundry modes of adapting to monetary instability, the hyperinflationary episodes of 1989 and 1990 represented a truly traumatic experience, where even routine transactions were disturbed. That experience reinforced the public demand for price stabilization, and the view that the inflationary behavior of macroeconomic policies could not be avoided without tight constraints on the central bank. In addition, the lack of trust in the national currency had induced a widespread use of the dollar as a store of value and a denominator of financial contracts, and even of some prices. Even though the real exchange rate had shown wide oscillations, the price of the dollar had become a highly visible, central reference for everyday decisions. In those conditions, the public was prepared to react favorably to the choice by the government to establish a monetary system close to a currency board, with a tight peg to the dollar. The automatic (and “irreversible”) nature of the system was presented as one of its main assets. The prominent problem was to restrict discretion and to stabilize price expectations; maintaining flexibility to manage shocks or inconsistencies was not perceived as a salient concern.

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<sup>2</sup> The performance of the Argentina economy since the early nineties, and especially the crisis of the convertibility system has been analyzed, among others, in Perry and Servén (2002), Hausmann and Velasco (2002), Powell (2002), Damill and Frenkel (2003), De la Torre *et al.* (2002), Galiani *et al.* (2003), Heymann (2006), Mussa (2002). The title of this last work: “Argentina and the IMF: from Triumph to Tragedy” gives a hint about how strong were changes in perceptions associated with the crisis.

**GRAPH 2**  
**MONTHLY INFLATION RATES, 1982-1990**  
*(percentages per month)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

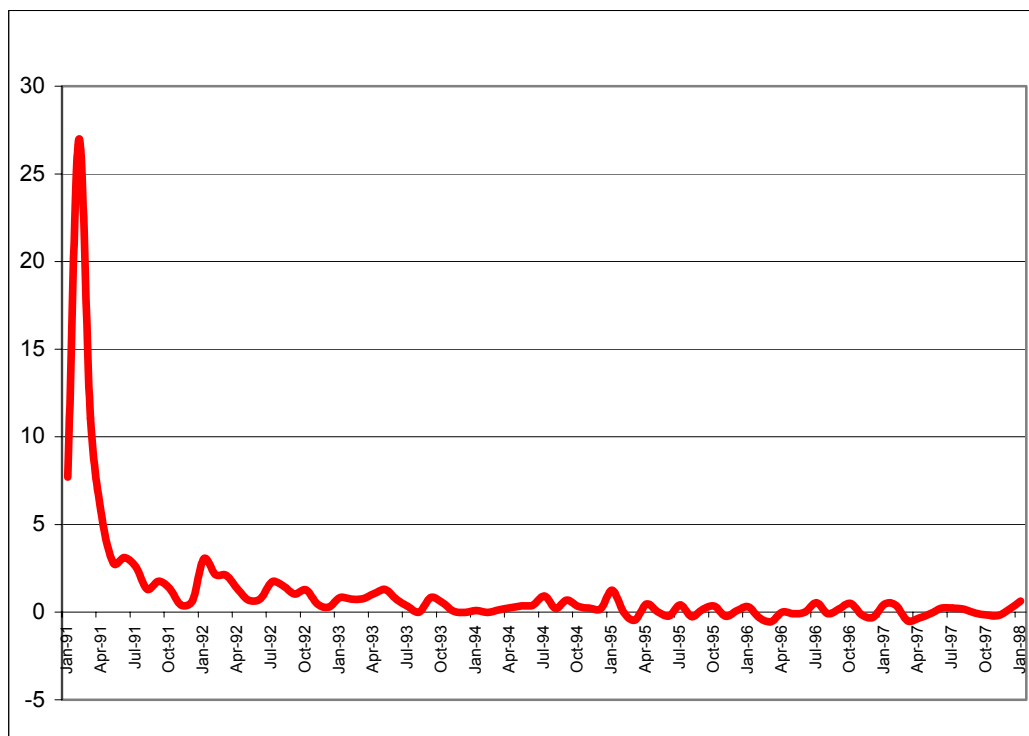
The experience of economic stagnation with high volatility left a deep dissatisfaction with the economic institutions under which that performance was generated. Moreover, the attitudes of the time, throughout Latin America region and elsewhere, tended to be favorable to large-scale economic reforms. In fact, the Argentine government implemented comprehensive policy changes in a short period (cf. Heymann and Kosacoff, 2000, Stallings and Peres, 2000), with the introduction of new tax legislation and procedures, the privatization of most public enterprises and a deep trade liberalization, together with the constitution of a trade zone with regional neighbors, Brazil in particular. Those measures were meant, and understood, as actions designed to induce discrete changes in economic incentives and behaviors, and to produce a break in the growth trend.

## 2. Redefining expectations

The change in the economic environment was apt to cause large revisions of beliefs and expectations. At the same time, the international financial markets were predisposed to increase lending to “emerging economies”. Such conditions opened the possibility for large movements in spending and credit flows.

The start of the convertibility monetary regime in April 1991 provoked visible effects on behavior. Although prices continued to drift upwards, they did so at a much slower (and decelerating) rate, and the drastic fall of interest rates indicated a strong immediate impact on expectations. The drastic fall in the heavy inflation tax and the reduced short-term macroeconomic uncertainty made agents more willing to spend. Lower risk perceptions tended to reverse the incentives for capital flight and favored a revival of the internal supply of credit. After a period of bleak economic prospects, and tight liquidity constraints for large groups of households, the response of aggregate consumption was quite rapid, and led a strong expansion of domestic spending and real activity.

**GRAPH 3**  
**MONTHLY INFLATION RATES, 1991-1998**  
*(percentages per month)*



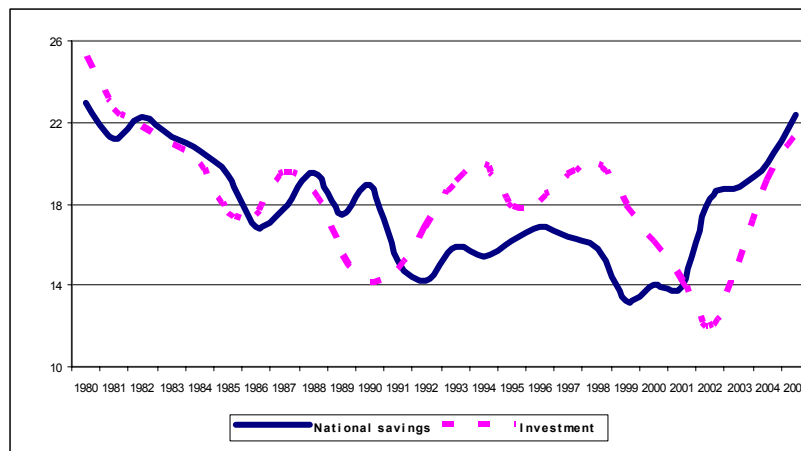
Source: ECLAC Buenos Aires Office, on the basis of official statistics.

Both for agents and for analysts, discriminating trends from transitory effects was a non-trivial task. “Incredible reforms” or transitory disinflations can in principle stimulate consumption through intertemporal substitution effects. Certainly, the permanence of the convertibility regime (which lasted ten years, until its eventual collapse) was not firmly established, and doubts remained about the effects of the reforms. This lack of full confidence was reflected in indicators such as the absence of a large market for assets in domestic currency with anything but short maturities. Indeed, the performance of the economy was apt to induce different interpretations. However, many decisions taken during the period seemed to reflect the expectation of sustained increases in incomes, in real and in dollar terms, inducing stronger propensities to consume, to invest in production for local use, and to supply and demand credit in order to finance those activities. A fluid repayment of the newly contracted debts was contingent on the realization of high enough future incomes in dollar terms, and consequently, on sufficient growth in the supply (or in the world prices) of tradable goods.

### 3. Changes in behavior, re-evaluations of permanent incomes

This expansionary phase, which lasted until 1994, was long for the historical standards of the country (since 1975 the economy had not experienced continued growth for four consecutive years) and also intense (Graph 1). It showed, as a characteristic feature, a decline in the savings rate (and particularly in private savings), along with a sharp recovery in investment (Graph 4), much of which went to activities that mainly served the domestic market.

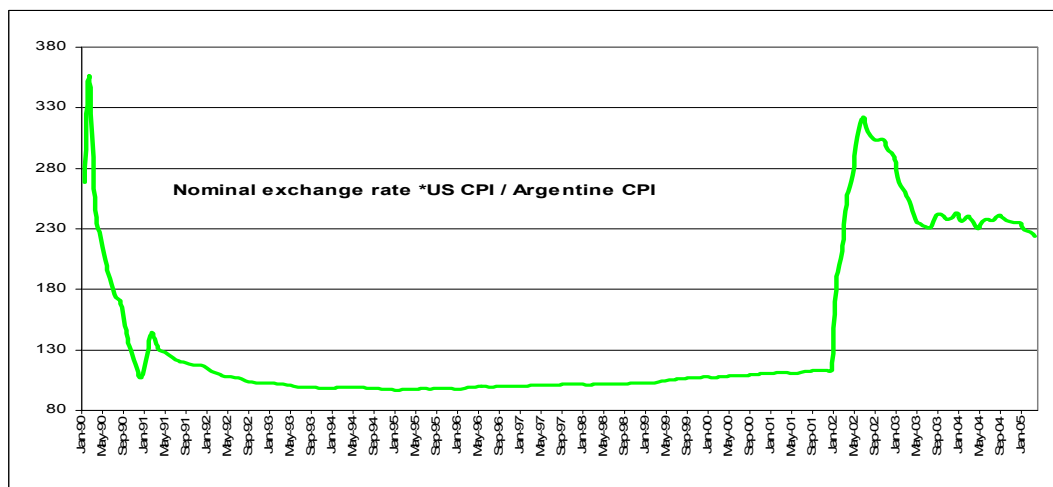
**GRAPH 4**  
**NATIONAL SAVINGS AND INVESTMENT AT CURRENT PRICES**  
*(percentages of GDP)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

The surge in domestic demand was associated with a considerable real appreciation (Graph 5). Although the inflation rate eventually converged to very low values, in the meantime, the level of domestic prices, especially those of non-traded goods, increased substantially with a fixed exchange rate. The same happened with wages. Employment increases were sizable in service sectors, although labor-saving decisions, especially in manufacturing and now privatized utilities, tended to reduce the demand for some segments of workers, mainly in unskilled categories (Damill et al., 2003). Manufacturing firms faced stronger import competition, while they had access to cheaper and more varied inputs and capital goods. The response was quite heterogeneous, with visible increases in productivity in some enterprises, and great difficulties for others, resulting in a high mortality of firms (Kosacoff and Ramos, 1999). In the export-oriented agriculture, the use of improved methods of cultivation of grains became increasingly widespread. However, the aggregate size of exports did not show any tendency to grow significantly until 1994.

**GRAPH 5**  
**REAL EXCHANGE RATE WITH US DOLLAR**  
*(Index 1993=100)*

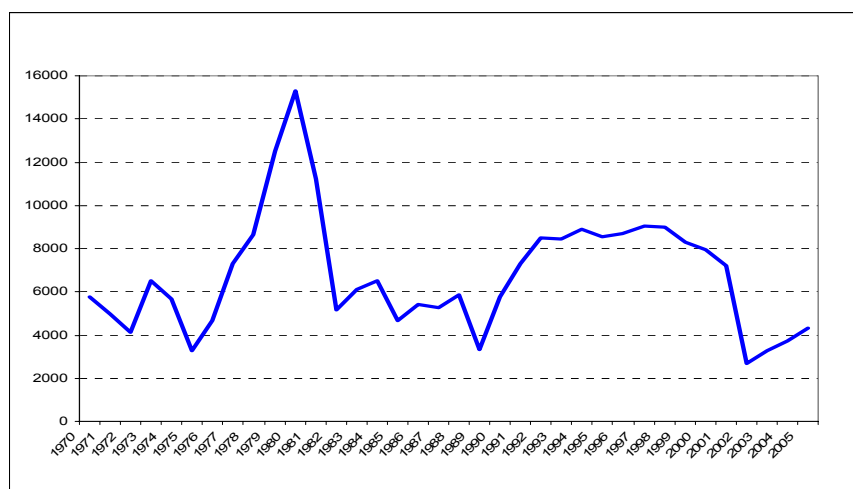


Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 4. Buildup of dollar liabilities

With rising GDP and a lower real exchange rate declined, the purchasing power of domestic output in terms of foreign currencies was greatly revalued (Graph 6). The evolution of that variable was particularly relevant since most of newly contracted credits were denominated in dollars.

**GRAPH 6**  
**GDP PER CAPITA**  
(constant dollars of 2000)



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

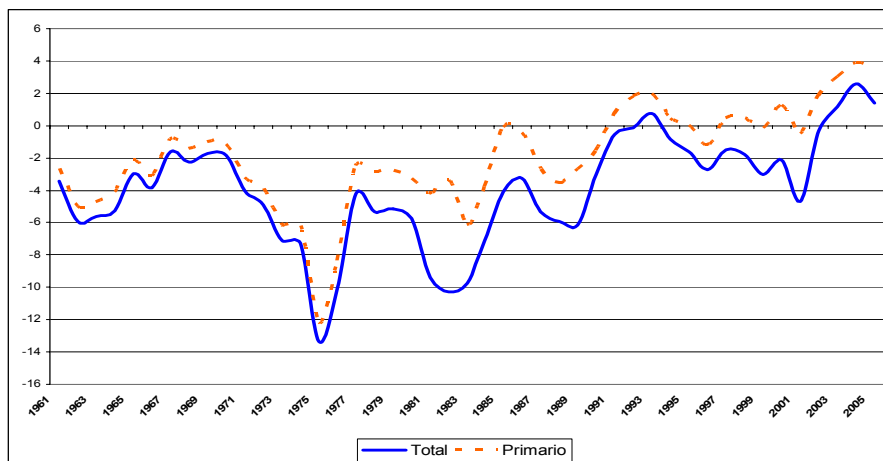
The government did not treat the generalized use of the dollar as a financial denominator as problematic or risky: the expansion of credit and the rising capital inflows were interpreted as indicators of confidence, and as precursors of strong real growth. Fiscal accounts showed a noticeable adjustment (Graph 7), due to much higher tax revenues, and the government received the proceeds from privatizations. The public sector restructured its debt within the Brady plan, which reduced the interest burden. However, the value of liabilities of the public sector increased, mainly because of the recognition of previously undocumented obligations.

## 5. Conflicting signals

By 1994 the economy was still growing rapidly. The investment rate (around 20% of GDP) had increased sharply, although it did not reach levels similar to those of countries engaged in fast development processes. The current account deficit indicated at the same time a relatively low volume of savings, and a willingness to lend on the part of the rest of the world. Signs of higher productivities existed in various types of activities, but that did not provide clear indications of the strength and direction of a solid growth trend throughout tradable sectors. Exports had not increased noticeably, although international conditions (commodity prices, demand in Brazil) had started to improve (Graph 9).

The rise in US interest rates in that year was transmitted strongly to other markets, Argentina in particular, and was followed by a deceleration of internal demand. The government implemented a pension reform, which transferred a good part of the revenues from social security taxes to private funds. The primary surplus declined (Graph 7); the possible future effect of the pension reform in reducing contingent liabilities of the public sector was not clearly (or rather, clearly not) incorporated in evaluations of the fiscal position. These developments probably amplified the shock produced by the Mexican devaluation at the end of the year.

**GRAPH 7**  
**PRIMARY AND TOTAL BUDGET BALANCES. PUBLIC SECTOR**  
*(percentages of GDP)*

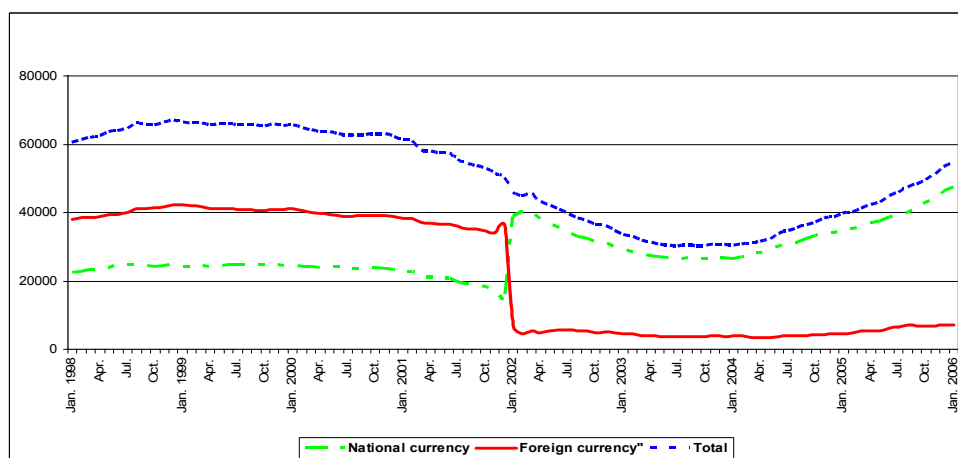


Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 6. Credit shock

The analogy with the case of Mexico had been used in the past as an indication that the policy reforms could be expected to produce strong growth effects. Now, the comparison could well operate in the opposite direction, suggesting that the economy, and the policy regime, had fragilities which had gone undetected or underemphasized. Possibly, the Mexican shock led agents to shift their attitudes about where to put the burden of proof of debt sustainability, and to ask for definite reasons to hold assets. In such conditions, the government did not have much of an impact in its initial efforts to argue that any extrapolation from the Mexican case was invalid. In a situation that raised uncertainties about previously held views, people had more incentives to watch the attitudes and behaviors of others closely, both in order to gather indications of whether and where “there was something fundamentally wrong” in the economy, and to check for potential runs

**GRAPH 8**  
**BANK LOANS TO THE PRIVATE SECTOR**  
*(billion of pesos)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

The drop in the demand for deposits accelerated after a relatively slow and selective start (Graph 8) The pressure fell on the central bank, which extended rediscounts up to the allowed limits. In any case, while reserves declined, bank credit contracted sharply. Aggregate demand and output fell considerably. Unemployment jumped by around six percentage points (to more than 18%) in the first half of 1995.

## 7. Surviving the crunch

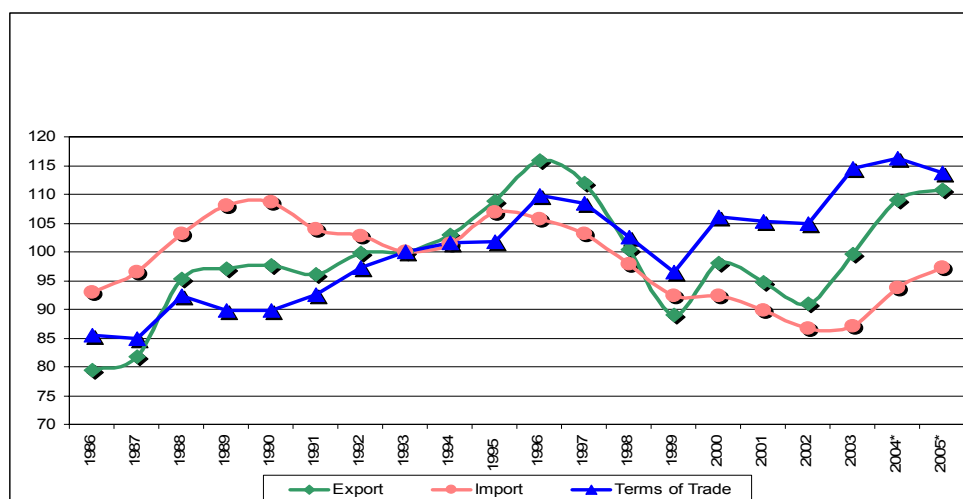
However, the sharp recession did not create a public demand for a change in the policy orientation. Rather, the strongest fear of a good share of the public seemed to be that of a depreciation that would increase the real value of dollar debts and perhaps trigger a new round of high inflation. A package of international loans backed the government's insistence that it did not contemplate the possibility of devaluation, and the definite results of the vote that re-elected the President supported that position. Funds started to flow back to the banks, and real activity recovered in the last part of the year.

The episode was widely seen as a strong and successful test of the resilience of the convertibility system. In the government's interpretation, the shock did not reveal weaknesses in the macroeconomic framework, but rather the subsistence of mistaken doubts about its commitment to the monetary system, which its behavior had largely dispelled. The main area of work for preventive policies was accordingly identified to be the reinforcement of prudential supervision and regulation of the financial industry, fully maintaining the dual (mainly dollar) standard of denomination.

## 8. Long-lasting growth?

The expansionary phase that ran until 1998 differed from that of the early nineties in the strong performance of exports (which doubled in values in the space of five years), propelled by improvements in external markets and, on the supply side, by productivity increases, in agriculture particularly (Graphs 9, 12). Investment reached peaks of about 22% of GDP, while savings rose above the levels of the initial years of convertibility.

**GRAPH 9**  
**TERMS OF TRADE, EXPORTS AND IMPORTS PRICES**  
(index 1993=100)



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

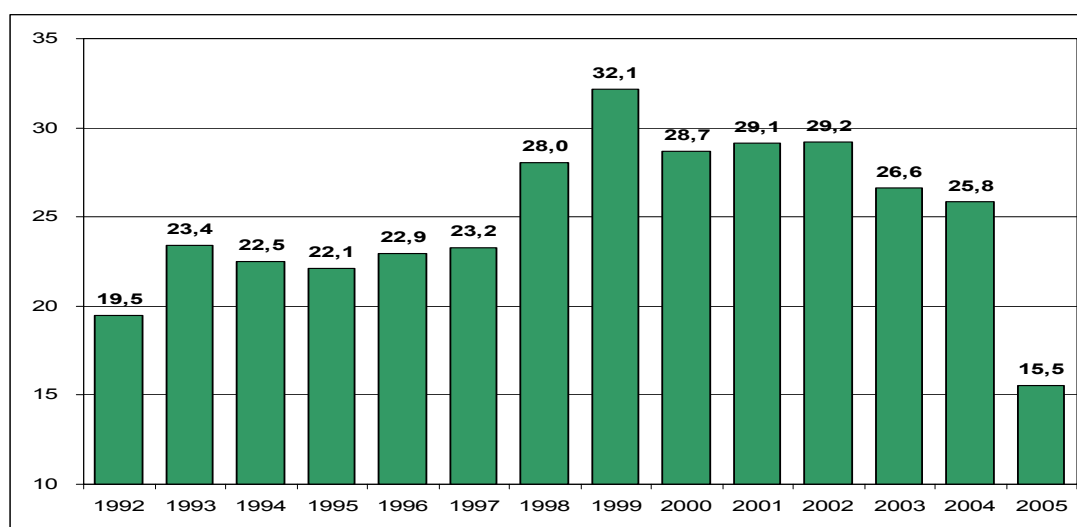
The current account deficit remained considerable, however, in connection with a high demand for imports and increasing interests on debts with non-residents. A rising proportion of external financing took the form of FDI (Graph 14). The broad and growing presence of international companies (in sectors like banks, manufacturing and utilities) suggested that concerns about macroeconomic sustainability were not prominent in their decisions at the time.

## 9. Sustainability issues

In 1998, seven years after the fixing of the exchange rate, real GDP had accumulated a growth of around 50 % (5.5 % annual average) since the start of the decade. The aggregate increase in incomes had been substantial (although with a more uneven distribution), even after considering that part of that growth represented a recovery from the hyperinflationary recessions. Warnings about the lack of sustainability of the real exchange rate had not materialized so far. The dollar value of GDP had maintained relatively steady levels that were reaching about US\$ 9000 per capita. Current conditions could support the perception that rising activity levels had become the rule, rather than the exception, and that the attained values of dollar incomes served as a good reference to estimate permanent levels of spending and repayment capacity. The ongoing increase in exports could be seen as indication that, with higher productivities, the current configuration of relative prices did not discourage participation in foreign markets.

However, the current account deficit had widened, while the government was generating only small primary surpluses. The public and foreign debts, and the corresponding interest flows had been rising, in a period of rapid increases in real activity and the value of exports (Graphs 10, 11). Sustainability critically depended on a continuation of strong export growth. Otherwise, the alternative to a persistent use of large amounts of external credit (the availability of which a country like Argentina could hardly take for granted without visible signs of export potential) was a perhaps sharp deceleration of domestic demand. But slowdowns in government revenues would raise financing requirements while eroding perceptions about fiscal solvency. Such effects were visible in the period that led to the crisis of the convertibility system.

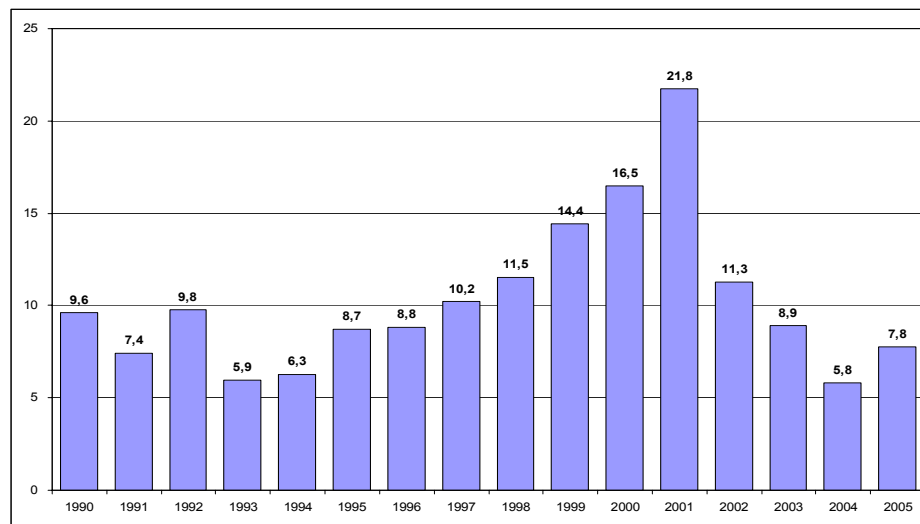
**GRAPH 10**  
**EXTERNAL INTERESTS, PROFITS AND DIVIDENDS, NET**  
*(percentages of exports)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.



**GRAPH 11**  
**PUBLIC SECTOR INTEREST PAYMENTS**  
*(percentages of current payments)*

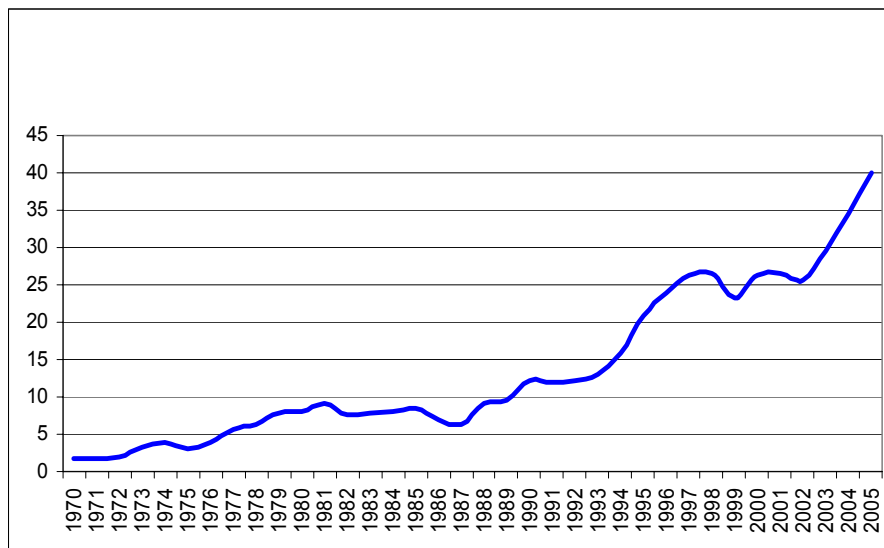


Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 10. Trade, financial shocks; recession

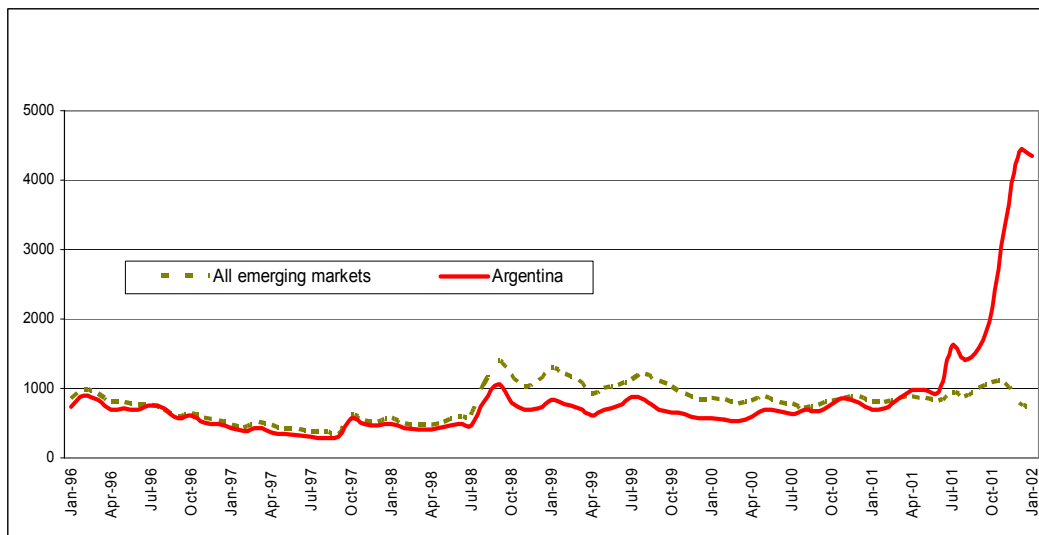
By 1998, international prices of exportable commodities were declining. The Brazilian devaluation at the start of the following year made Argentine goods less competitive in the market of the main trading partner. Interest rates had increased sharply after the outbreak of the Russian crisis. Exports and real activity fell in absolute terms in 1999 (Graph 12). The budget deficit was pushed upwards by weaker revenues and pre-electoral spending, both in the national and provincial jurisdictions; the government obtained exceptional financing through the sale of its remaining shares in the oil company. Lower investment and higher levels of “country risk” built into interest rate differentials indicated the existence of doubts about the future, while the accumulation of foreign assets showed that segments of the private sector were starting to seek shelter against the possibility of troubles in the domestic economy (Graph 14). However, these relatively mild cautionary behaviors were still far from reflecting a panic, or a general sense of rapid collapse. Indicators of “country risk”, did not suggest that Argentina was singled out at the time as prominently in danger of crisis compared with other “emerging markets” (Graph 13). The prominent attention given to the possibility of full dollarization suggested that, for influential groups of analysts and financial operators, the main open question was not the capability of sustaining aggregate income at the current levels, but the existence of a potential “exit clause” from the fixed exchange rate. As for the general population, the 1999 Presidential election (won by a coalition of opposition parties) indicated that it was concerned about social issues but did not expect, or demand, major economic changes, particularly regarding the monetary system.

**GRAPH 12**  
**EXPORTS OF GOODS**  
*(billion of dollars)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

**GRAPH 13**  
**INTEREST RATE SPERADS ON GOVERNMENT BONDS**  
*(basis points)*



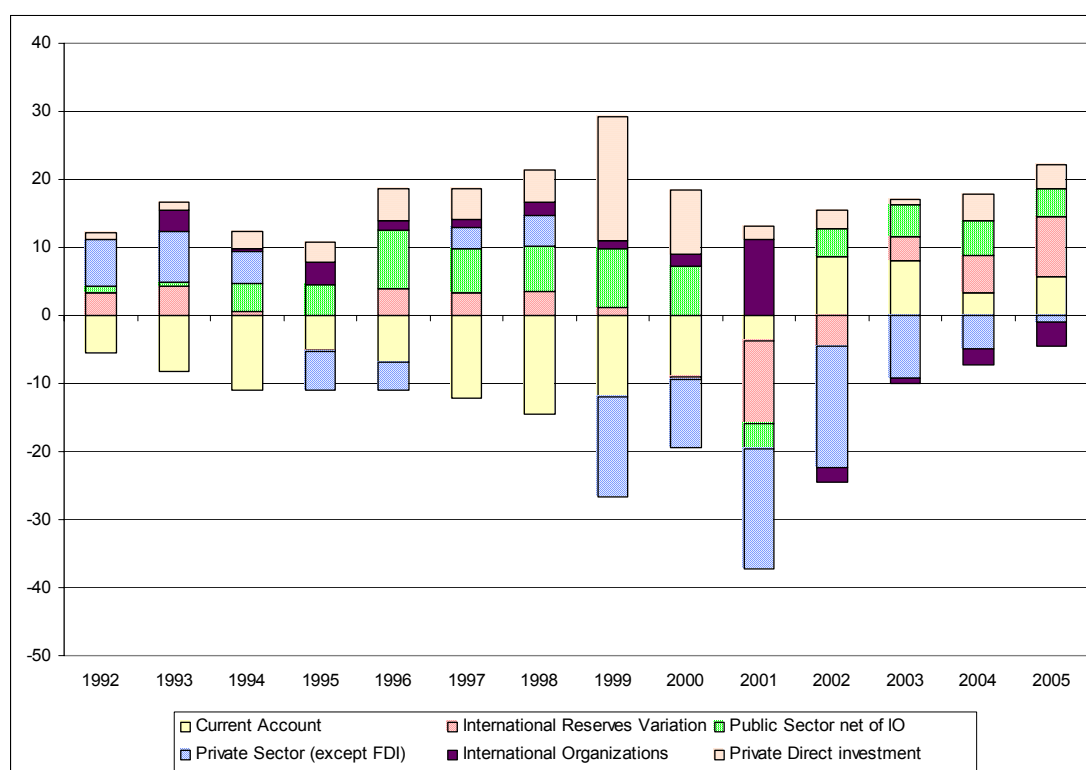
Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 11. Hoping for recovery

At the same time, economic agents were alert to signals of economic strength or weakness. Attitudes and behaviors seemed to reflect the tension between the prospects of two polar scenarios. In one, real activity and exports recovered, and allowed simultaneous adjustments in the current account and fiscal deficits,

and their financing at moderate costs. At the other extreme was a process of spiraling difficulties, with the likelihood that a debt deflation might trigger a financial crisis. The recovery required favorable developments in international conditions as well as in domestic performance. The new government managed to reduce its deficit through tax increases and spending cuts (including reductions in public sector salaries). However, financing requirements remained high, and those measures of adjustment were widely interpreted by the public as a recessionary indication. With stagnant aggregate output in 2000 and exports which (through a partial rebound in international prices) barely recovered their values of two years before, the lack of definite good news gradually increased the level of doubts in the public, and the sensitivity to short-term signs, like the daily movements of the prices of government bonds. Nevertheless, the demand for deposits did not yet show fears for the solidity of banks.

**GRAPH 14**  
**CURRENT ACCOUNT AND CAPITAL FLOWS**  
(millions of dollars)



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 12. Disappointment: categorical shift?

At the end of 2000, the government negotiated a package of loans from the IMF. The announcement effect on the interest rates on government debt did not last long, given the evidence of no reaction in activity levels and lower than anticipated tax revenues. In a state of great political tension, the post of economy minister changed hands twice in a few days. Although the re-appointment (by a government of different party) of the minister who had introduced the convertibility system tried to remove concerns about the possibility of devaluation, attitudes and behavior showed a sharp worsening of expectations. It seemed as if many agents had shifted from a waiting mood to the presumption that a crisis was in the making, and switched to that scenario as a basis for their decisions (in a manner reminiscent of the

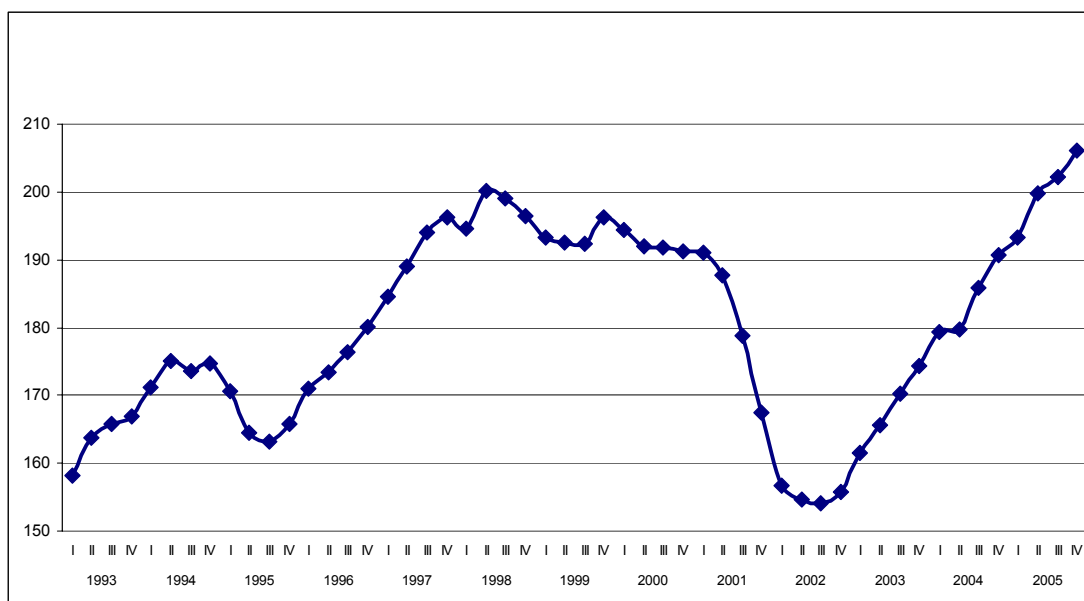
“thinking through categories” modeled by Mullainathan, 2002). This was manifested in particular, in large-scale portfolio shifts from local assets (bonds, and also bank deposits) into foreign assets, and in a drastic fall in the demand for goods and services.

### 13. Outside the corridor

In the last three quarters of 2001, real GDP contracted by more than 10%. Investment collapsed. Lower realized incomes probably combined with fears of further declines to induce an abrupt fall in consumption (Graph 15). Smaller tax revenues, without hints of a recovery in sight, aggravated the fiscal difficulties, while the demand for public debt kept shrinking. Cut from access to “voluntary” credit, the government announced a policy of “zero deficit” (which meant in practice that payments would not be executed unless the flow of cash revenues made it possible) and pressured banks and pension funds to obtain loans. A large swap operation was organized, through which the government tried to extend the maturity of its debt. However, the very high yields of the newly issued bonds (in rough correspondence with the “country risk” spreads at the time) meant that repayment would be, and was expected to be, very problematic.

The perception that a hard-pressed government was using the banks as financiers of last resort, and that firms were experiencing a vertical decrease in sales discouraged the holding of deposits, and reinforced the demand for foreign exchange. The crowding out effect and the drop in deposits induced a sharp decline in credit to the private sector (Graph 8). Liquidity constraints visibly tightened throughout the economy. At the same time, the central bank was extending large volumes of rediscounts and provincial governments were trying to make ends meet by issuing quasi-monies; the monetary expansion was more than sterilized by the drop in reserves. Although the state of public opinion continued to suggest that devaluation was regarded with much fear, the spiral of falling activity, fiscal hardship and runs on deposits and foreign reserves made the end of the system of convertibility an imminent prospect.

**GRAPH 15**  
**PRIVATE CONSUMPTION AT CONSTANT PRICES**  
*(billions of pesos of 1993)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 14. Economic crash, institutional disruption

In the last part of 2001 economic policies showed an intense activity. The ongoing crisis was the subject of much discussion, domestically and abroad. However, no concrete, practical scheme emerged in order to stop the spiral, or to organize a mechanism to reduce the costs of an exit from the convertibility system and a re-structuring of debts. Such a scheme would probably have implied a massive exercise of coordination between numerous groups of agents, in order to assign the losses resulting from the non-fulfillment of promises of various kinds which had been made over time, and to agree on the policy regime that would be applied in the future. The demands of such an exercise would have exceeded the capacity for policy design, and the possibilities and incentives of political actors. The final months of convertibility were marked by an extreme political tension, which culminated in demonstrations that led to the resignation of the government. After a period of much turbulence, with several presidential changes in the space of a few days, the congress appointed a provisional president who remained in office until the elections held in 2003.

## 15. Contractual breakdown

In December 2001, when the run was accelerating, the authorities established limits on cash withdrawals from banks, and restricted the sale of foreign exchange by the central bank. These measures represented a suspension of the convertibility of deposits into currency and of domestic money into dollars. But this did not appear to be a self-generated panic which a “cooling-off” period to re-coordinate expectations would interrupt. Depositors loudly expressed their dissatisfaction. In an economy where many transactions were carried out with cash (in the large informal sector, but also in formal retailing), those restrictions on the availability of funds implied strong constraints on trade; their unpopularity contributed to generate the climate that led to the downfall of the then president.

In the midst of a great political and social turmoil, new authorities announced that the government would stop making payments on its debt, and established the termination of the convertibility system, with immediate devaluation. A jump in the exchange rate immediately posed as a problem the treatment of the large volume of dollar-denominated private debts, with the consequent tradeoffs between a policy intervention that would establish more or less uniform criteria and a hands-off approach that would leave the matter to arrangements between parties. In the event, the government decided not to legislate on obligations which did not involve financial intermediaries, while bank deposits and loans would be subject to “asymmetric pessification”. A measure much supported by business groups established the conversion of bank loans from dollars into pesos at a one-to-one rate (that is, without adjustment). Dollar deposits were transformed into pesos at a rate of 1.4 per dollar, and their maturities considerably extended; peso values would be adjusted with an index based on the CPI. The government would compensate the banks for the effect of the deposit-loan asymmetry through the issue of bonds. Regulated utility prices originally set in dollars were translated into pesos one-to-one, pending re-negotiation.

Although in principle the conversion scheme increased the domestic purchasing power of deposits, public demonstrations and numerous legal demands manifested the strong reaction against pessification and the re-programming of maturities. Judicial decisions, which allowed individual depositors to recover their assets caused a considerable drain of funds from the banks in the following months. The fall in deposits continued even with strong restrictions on withdrawals. Those restrictions and the disappearance of credit tightened liquidity constraints faced by consumers and by many firms, at a moment when the prices of imported inputs had risen sharply. With extreme uncertainty about economic prospects and political turbulence, agents with available resources showed little willingness to spend in the country, and a strong preference for foreign assets. In 2002, in the midst of a very deep recession, the savings rate increased noticeably, and private capital outflows exceeded 10% of GDP (Graphs 4, 14), with

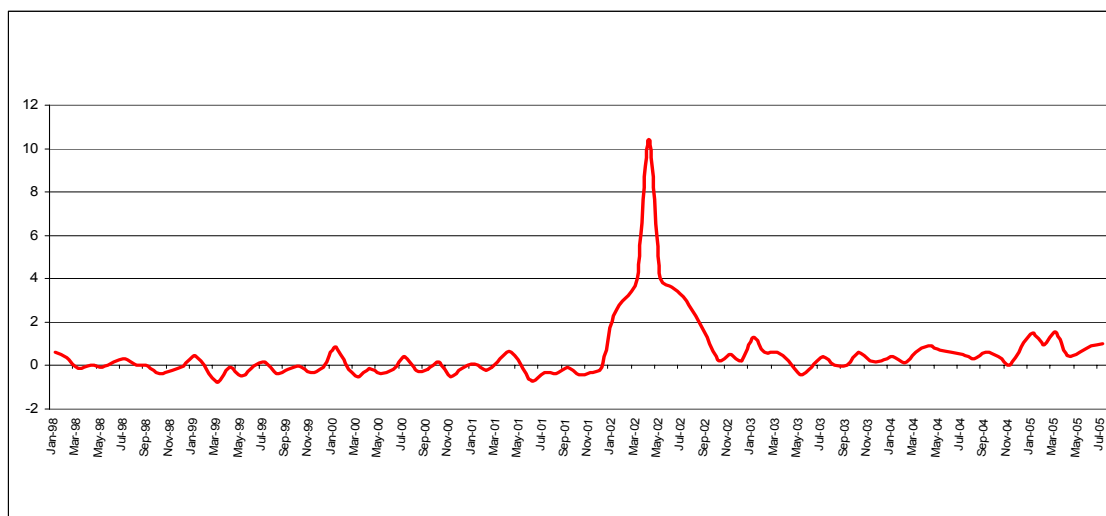
even higher values in the first part of the year. In that initial period after the devaluation, the low levels of tax collection resulted in a sizable primary deficit for the public sector. Central bank credits to the government and to the banks fueled monetary expansion, while the issue of quasi-monies continued at a rapid pace.

## 16. Avoiding hyperinflation

The exchange rate with the dollar multiplied by a factor of around four in the first half of 2002. However, there were no signs that in everyday transactions the population repudiated the national currency, which remained in general use (along with its provincial substitutes) as means of payment and denominator of prices. Together with the depression in demand, the perception by the public that the pre-devaluation values were still pertinent as a reference to evaluate current prices probably acted as deterrent against price increases. Behavior seemed more influenced by the recent experience of price stability than by the inflationary past. In a way, it was as if the collective behavior of agents invalidated their previous expectations of a monetary collapse if convertibility was abandoned, which had probably contributed to the spread of dollar contracting.

In fact, the initial response of the CPI was quite slow. Although this outcome was clearly fragile (the monthly rate of price growth reached a peak 10% in April, Graph 16), it gave fiscal and monetary policies some time to react. The fear of hyperinflation, and its predictable political consequences, seemed to operate as a strong incentive on policy-making, even if the end of convertibility regime had removed both the nominal anchor and the set of constraints which had ruled monetary management for more than ten years, and no clearly defined alternative system had been established to replace it.

**GRAPH 16**  
**MONTHLY INFLATION RATES 1998-2005**  
(percentages per month)

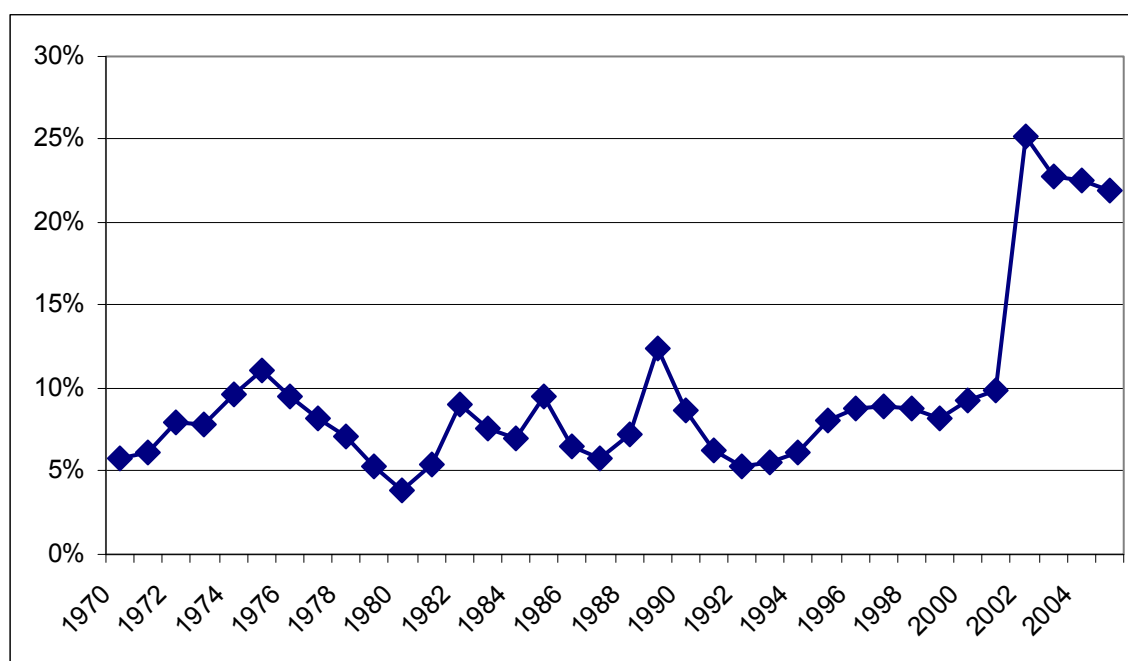


Source: ECLAC Buenos Aires Office, on the basis of official statistics.

Relative prices changed abruptly after the devaluation. As a result, the comparative purchasing powers of different activities were drastically altered. The share of exports, a coefficient with historically low values, jumped to more than 25% of GDP (Graph 17). At a time when other tax bases were at depressed levels, the imposition of export duties made a considerable contribution to revenues, while the lack of adjustment in government salaries and pensions contained spending. The primary balance of the public sector turned positive which, along with a deceleration of the fall in deposits, removed pressures on

monetary policies. Given the much higher exchange rate, the value of the domestic monetary aggregates had been reduced relative to that of central bank reserves. Consequently, interventions in the foreign exchange market could serve as strong instruments for monetary management. Thus, the fiscal and monetary difficulties were somewhat alleviated, which represented significant news when seen against the recent prospects of total collapse.

**GRAPH 17**  
**EXPORT COEFFICIENT AT CURRENT PRICES**  
*(percentages of GDP)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

## 17. Spending by liquid agents

Aggregate spending and output, in real and in dollar terms, had dropped to very low levels, probably even lower than those that even a disturbed economy would sustain. While the economic and social climate encouraged capital flight, the low dollar prices of local goods and assets opened profitable opportunities for agents with liquid positions, exporters and holders of disposable dollar balances in particular. Behind the dramatic tone of everyday news, the large values of the trade surplus and of dollar hoards meant that there was a ready and sizable source of foreign exchange supply, and domestic demand, once the fears of an imminent debacle showed some hints of calming down.

In the second half of 2002 the capital outflow did moderate, and various effects started to operate in opposite direction from that in the climax of the crisis. The currency appreciated, which dissipated inflationary expectations. The central bank now intervened to prevent a large fall in the price of the dollar, and purchased considerable amounts of foreign exchange (a policy that would continue in the next years). The money creation, increasingly the product of the accumulation of reserves, was matched by a rising demand. Restrictions to cash withdrawals from checking and savings accounts were removed without visible consequences. The issue of quasi-monies was stopped, as tax collection grew well in excess of government spending. Industrial output initiated a recovery, first through some substitution of imports, later mainly to supply a rising (from very low levels) domestic absorption. Firms had benefited from the

drastic pessification of their bank debts, and many had started to re-negotiate other obligations, including those with foreign creditors. Wages had lagged considerably behind industrial prices; the rise in unit margins facilitated self-financing. The level of activity could start to reverse its fall despite the almost complete absence of credit.

## 18. Residues of the crisis

The crisis left visible marks, in social conditions and in the delayed repercussions of contractual breakdowns. The rate of unemployment reached highs of near 25%, while real wages fell sharply. The drastic decline in living standards of lower-income groups, only partially alleviated by emergency social programs, was reflected in a jump in the proportion of households below the poverty and extreme-poverty lines. At the same time, the real incomes of some sectors, producers of tradable goods, in particular, had experienced significant increases. The large re-valuation of the purchasing power of dollar assets caused a sizable wealth effect that mostly favored groups in the upper scales of the distribution, and those who had participated in the capital outflow. The conversion of bank deposits into pesos remained the subject of legal and political controversy. Public utility companies initiated demands to raise their prices and rates. The crisis had naturally increased the perception of the risks of investing in the country. The value of the public debt that was to be re-structured had grown significantly relative to GDP or to tax revenues (variables which had contracted sharply in dollar terms), and the future repayment capacity was subject to much uncertainty.

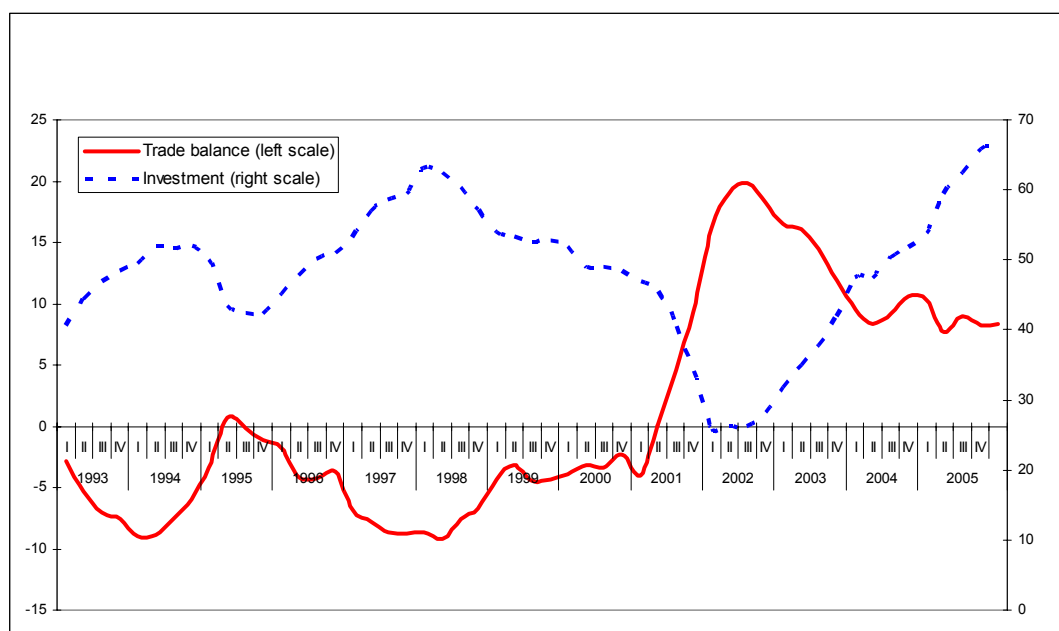
In the complicated process of renegotiation of its debt (which finalized more than three years after the declaration of default), the government stressed that it had no urgency to close a deal in order to access to new credits, and that it intended to make a sustainable offer under prudent macroeconomic assumptions. Eventually, three quarters of the creditors participated in a bond swap based on the projection of primary surpluses in the order of 3% of GDP along a path with moderate growth and a gradual real revaluation, and which implied a sizable debt reduction. The new bonds were issued together with "GDP units", which committed payments if the rates of real growth exceeded the hypothesis in the basic offer. Market valuations of the "GDP units" were initially quite low, but later increased significantly, suggesting that conjectures about the growth potential were being revised.

## 19. Another recovery: in search of a trend

Despite the significant remaining uncertainties, the economy showed a rapid revival. By the end of 2005, real GDP had regained the levels of the previous peak (with an average increase of about 9% a year from the trough of the recession). The recovery had specific features. After a period of delay, exports responded to the higher real exchange rate and rising international prices. Even with a much expanded domestic demand, the trade surplus maintained sizable values (Graph 18). The positive current accounts were associated with aggregate savings rates at higher levels than in the previous decade (Graph 4), especially due to the contribution of the public sector. The investment rate rose considerably, from extremely low values. Although mortgage financing was practically non-existent, the demand for real estate and the construction activity recovered sharply (to levels above the previous peaks), probably through the mobilization of assets that the private sector had accumulated abroad. The relative prices of capital goods increased with the real exchange rate. Investment in machinery and equipment was initially well below the depreciation of capital. As the expansion of production and sales went on, the aggregate level of investment implied net additions to capacity (mainly through "incremental" projects), although the utilization of existing equipment continued to contribute to the high observed growth rate. The recovery was labor-intensive, so that the unemployment rate declined considerably, approaching levels in the order of 10%.



**GRAPH 18**  
**TRADE BALANCE AND INVESTMENT**  
*(constant prices)*



Source: ECLAC Buenos Aires Office, on the basis of official statistics.

Despite the growth in spending, much higher tax revenues allowed the public sector to generate significant primary surpluses. The government insisted that generating such surpluses was among its main priorities, particularly in order to conserve autonomy in policy-making; in this regard, the authorities decided to pay off the debt with the IMF. Fiscal motives (given the importance of export taxes) combined with the objectives of keeping high levels of international reserves for precautionary reasons and supporting the profitability of traded-goods sectors to induce large interventions in the foreign exchange market, although without an announced exchange rate target. The real exchange rate declined gradually, mainly through the upwards drift in domestic prices. With a domestic demand which kept increasing rapidly, the inflation rate accelerated above 10% a year in 2005, to which the government responded by implementing incomes policies. Another source of tension was the tradeoff (recurrent in Argentine history) between foodstuff exports, which faced a strong external demand, and the domestic provision of staple wage good; in the event, the government decided to impose restrictions on exports.

Those responses were consistent with the widespread critical attitudes towards the policies of the previous decade. Meanwhile, some of the learning effects of the crisis (both on the part of local and foreign agents) were reflected in the external and fiscal surpluses, and in the liquid positions of many sectors (including the government). A self-financed recovery appeared less vulnerable than past phases in which the rise in domestic demand used considerable amounts of foreign credit. The sharp recovery of real activity showed that the systemic disruption had had less permanent effects than might have been feared, and that the economy was “fundamentally” capable of sustaining levels of aggregate production and income well above those observed in the depth of the recession. However, there were still uncertainties about the system of policy rules and criteria that might guide longer-run decisions. The degree of persistence of the more favorable terms of trade depended on variable international circumstances. Planning horizons, much extended in the recovery, remained relatively short. Macroeconomic conditions had improved drastically after the crisis; the search for a sustained growth trend, and for a compatible path of spending, remained an open matter.



## IV. Concluding remarks

Macroeconomic crises are “memorable” events. For many individuals, they define a temporal landmark, in their conditions and their perceptions. Such episodes are often invoked for arguments and decisions well after their occurrence. Crises can hardly be considered “routine” phenomena which confirm previous expectations. They disturb plans and they motivate observable revisions of attitudes and beliefs. In some cases, the economic malfunction can endanger the social order (Leijonhufvud, 2003). The practical interest of the analysis of crises derives mainly from those disruptions, and from the demand for “lessons” that they generate. The search for lessons presupposes that there is something to learn in the exercise. The activity makes sense only if there is some relevant knowledge about the working of the system which was previously unavailable. It seems more or less natural to assume that economic agents, who often manifest having been surprised, and shocked, by the crisis, have also acted on knowledge which was incomplete.

The “fundamental” estimation of long-run rates of return and repayment capacities relies on uncertain, and variable, conjectures and models of economic behavior. Fundamentals that determine the development of economies where structures and institutions are undergoing possibly irreversible changes are not readily identified, measured and projected. Near “bifurcations”, when crises erupt or precipitate, agents visibly watch the immediate behavior of others, either to try to extract information from the particular knowledge that those may have, or to find out whether runs or panics are in the making. However, the possibility of those effects that may induce “mass movements” seems to be conditioned by fundamental processes (Burnside et al., 2000). The typical background of panics seems to be one where previous beliefs held with some confidence are seriously in doubt, and where individuals are ready to make substantial changes in their views about the future. The shift to an “imitation mode” probably marks a situation where the procedures that agents used to form expectations by themselves are considered unreliable (Heymann et al, 2004). In any case, crises usually alter interpretations of the economy’s past, as well as anticipated prospects. Features of an economy which once may have been considered major assets for growth may come to be seen as problems or obstacles; policies or institutions which in the past served as trust-inspiring references may now be blamed for disappointments.

The Argentine economy provides vivid examples of wide economic fluctuations and large swings in opinion. We have suggested that both phenomena were causally related, as changing views about the trend of the economy influenced current performance, and beliefs were conditioned by the observed evolution. The predisposition of agents to vary their perceptions was probably comparatively strong in an economy with a history of “variable trends” and where structural changes or policy shifts could motivate

the expectation of discontinuities in the growth path. On several occasions it appeared that evaluations of permanent incomes experienced sharp revisions as agents gathered or re-interpreted information. The credit market seemed to generate both deviation-reducing and deviation-amplifying effects of shocks, according to the shifts in the estimates of future incomes and repayment capacity of prospective debtors. A contrast between the behaviors in the initial phase of the recession that started in 1998, with a relatively slow decline, and those during the sharp fall in 2001 may indicate the presence of such effects. In the start of the post-devaluation recovery, a “pump-priming” impact of the spending by liquid agents can be identified as a mechanism that helped to reverse the depression. Interactions between economic performance and policy or institutional changes were frequently salient in the Argentine cycles. In some instances, these interactions probably reflected history-dependent behaviors, as in the reliance on a very tight monetary rule to stabilize in the early nineties and the absence of a return of very high inflation when that rule was broken in dramatic circumstances

The varied experience of this economy highlights themes which have been prominent in the work of Axel Leijonhufvud. Whatever the specific validity of the arguments that we have suggested here, a glance at experiences like that of Argentina should identify, in one way or another, the problems of intertemporal coordination, the counterpoint between small and large disturbances, the relevance of the sequential decision-making of agents and the interrelated dynamics of policy institutions and economic performance. The contributions of Leijonhufvud will continue to help understanding the behavior of concrete economies.

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