

MACROECONOMICS OF BROKEN PROMISES*

Daniel Heymann
CEPAL Buenos Aires and University of Buenos Aires

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.

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I. 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. Hence he 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 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 recently observed in several “emerging economies” (Kaminsky and Reinhart, 1999). 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 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 look likely to happen without “fundamental reasons” for people to presume that the economic environment may change quickly and substantially.

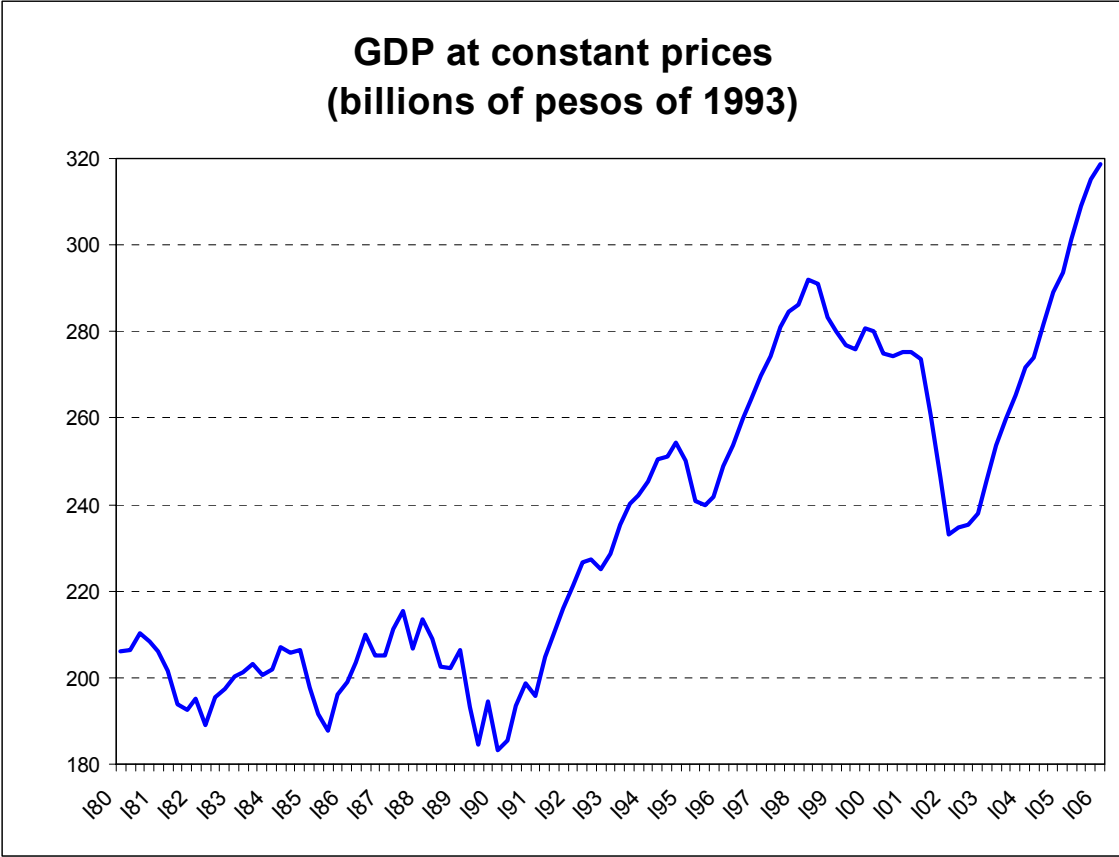
Macroeconomic configurations and histories may be interpreted differently. Often, in countries with current account deficits of some size, or where the volume of debts is increasing rapidly, opinions are divided between those that consider the willingness to borrow and to lend as rational responses that correctly contemplate 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. By their intricate nature, growth processes are liable to generate heterogeneous and changing beliefs, especially in economies which appear to be undergoing transitions.

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 that economy has clearly not cycled around a fixed linear trend (Graph 1). The changes in the medium-term outlook and the wide fluctuations were part of 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. This was noticeable in recent years, marked by a deep crisis in 2001-2002.

Trying to make sense of a history of this sort probably requires paying attention to the mechanisms of a general sort that shape 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



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. Some segments of the population are more exposed to macroeconomic movements than others, but an episode of standard magnitude will not alter much the income distribution. If certain agents are interconnected through a network of transactions, most links could be expected to remain in existence after a small recession. The economy keeps its main organizational features even as aggregate real variables oscillate.

Macroeconomic crashes appear as phenomena of another type, in their intensity and in the nature of the processes at work. Given the sizes of the falls in real activity and consumption, working and living patterns of large parts of a population undergo considerable changes (e.g., during the 1998-2002 Argentine recession, aggregate private consumption declined by more

than 20%). Such events have major welfare consequences. They can have sizable and lasting implications for the economic prospects of individuals, and may modify substantially the anticipated paths of income and spending.

A precise definition of what constitutes a promise, or the breaking of a promise, would imply non-trivial problems when it is observed (for example, through the values of risk premiums built into interest rates) that the parties have recognized that explicit commitments are not literally unconditional, but at the same time the set of events that would lead to default remains undetermined, and even ex post agents may express different opinions as to what circumstances would qualify as “legitimate” contingencies. However, even without such a sharp definition, it is an observed characteristic 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-arrangement of rights and obligations goes on, production and exchange are hindered by tight credit constraints, and by uncertainties or legal restraints on the command and 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, the state of default may reach the government, as well as important segments of the private sector. 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. But those recalculations themselves and, in general, the potential estimates of future incomes of agents across the economy, are highly uncertain in the midst of a crisis.

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 the public’s mistrust induce a flight from the national currency. Such combination of depression and hyperinflation can thoroughly disorganize the economy. It is hard to say how close Argentina came to this outcome in its 2002 crisis. 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 income prospects may generate phenomena typically associated with large credit fluctuations⁵. In contracts subject to default risk, 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 future default even in “good” states of the world. If some news lower the ceiling, a sudden adjustment of spending by the debtors may be called for. This effect can induce corridor-type effects. If debtors suffer a small negative income shock with both permanent and transitory components, unrestricted access to credit allows them to smooth the current impact on consumption. By contrast, a large shock that triggers credit rationing can force 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, debtors 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. When default takes place, there may be circumstances where a “restructuring” occurs at once; however, sometimes the parties may have incentives to delay an agreement (Ghosal and Miller, 2005). This possibility could arise because of flexibility preference, if future information about the repayment capacity is sufficiently valuable: when the expectations about the future incomes are very diffuse at the time of default, but may become more precise later on, waiting may generate large savings on expected default costs.

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, as suggested by the Argentine experience.

3. WEALTH PERCEPTIONS

Large macroeconomic movements induce changes in wealth perceptions. Reciprocally, widespread defaults on debts and dramatic drops in consumption are naturally interpreted as indications that agents made mistaken 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 income sequences. 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

⁵ 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).

many others appear to have been surprised by the event. The recent episode in Argentina provides indications of that heterogeneity.

Everywhere, some agents make mistakes or have bad luck, and the outcomes are somehow processed. Technological innovations by themselves generate irreversible and hardly predictable changes. “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 “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. 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 shows strong flexibility preference. By contrast, debt crises require agents to have been 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 to overcome high perceived risks (or perceived 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. 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 may have distinctive features that limit the information resulting from by pooling observations of various episodes (Kaminsky, 2003) The tension between the potential usefulness of analogies with events in other times and places and the arguments for “differentiation” between cases is observed in practice in the opinions and attitudes of analysts and agents.

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 changes in their configuration and behavior. The “emerging” or “transition” tags refer to economies which seem in the process of modifying their performance in permanent ways; the evidence suggest that these economies experience relatively more intense shifts in measured growth trends (Aguar and Gopinath, 2004b). In such processes, agents must learn about their future opportunities and constraints. The problem of intertemporal coordination appears in concrete terms: whether the actions of other agents in the future will validate the anticipations and actions of an individual.

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 the economy happens to generate enough increases in the supply of tradable goods. In a growth transition, forward-looking behaviors are likely 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”, as, in the case just mentioned, less-than-anticipated rises in productivity.

During growth transitions agents are engaged in predicting ongoing development processes. Those can have general features and patterns, but they also appear to contain historical, non-repetitive elements. “Objective” probabilities of future trends are hard to establish. Decisions are based on conjectures, about expected outcomes, and about the confidence that should be assigned to those expectations. Both type I and type II errors are possible. On occasions, individuals may focus on the existence of strong uncertainties, or on 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 expectations”) would 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. The sharply changing views about the trends of real and dollar incomes in Argentina illustrate these effects.

5. THE DENOMINATION OF FINANCIAL CONTRACTS

Incomes measured in terms of foreign currencies are relevant variables when financial contracts are “dollarized”. The diffusion across countries of the practice of denominating obligations in international currencies, and the consequent potential for debt deflations in the event of real devaluations 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). 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 sustained internal demand would imply high levels of prices and incomes in dollar terms) while, at the same time, agents are suspicious about policy surprises varying 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, large relative price movements can then result in insolvencies.

6. STABILIZERS AND MULTIPLIERS

Even if financial dollarization is a source of vulnerability, not every shock will generate a crisis. 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 big 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 illustrates 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 likely contributed to reverse the decline of real activity. Here, 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 probably 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 had the resources to initiate a demand injection.

7. POLICIES AND INSTITUTIONS

Economic policies are the result of objectives and perceptions of policy-makers. Their incentives, and the special principal-agent problems associated with them, 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 errors in expectations. 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 tended 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 responsive to the pressures of the groups that wield the stronger influence at a particular moment. Policy regimes based on rigid rules make seemingly unconditional promises 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 an imperfect substitute for a set of stable policies and institutions. The Argentine convertibility regime was instrumental in stopping an endemic inflation; over time it became a central reference for a public who mistrusted political and economic institutions. 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, Leijonhufvud), but its promised permanence was contingent on the real performance of the economy. 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 systems to agree on systematic ways to deal with the pressures on the government budget. Credit crises in open economies may involve an 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 ARGENTINA⁶

(i) 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 with that experience, the hyperinflationary episodes of 1989 and 1990 represented truly traumatic events. These reinforced the public demand for price stabilization, and the view that dealing effectively with inflation required tight constraints on the central bank. 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. At the same time, the widespread use of the dollar as store of value and unit of denomination had

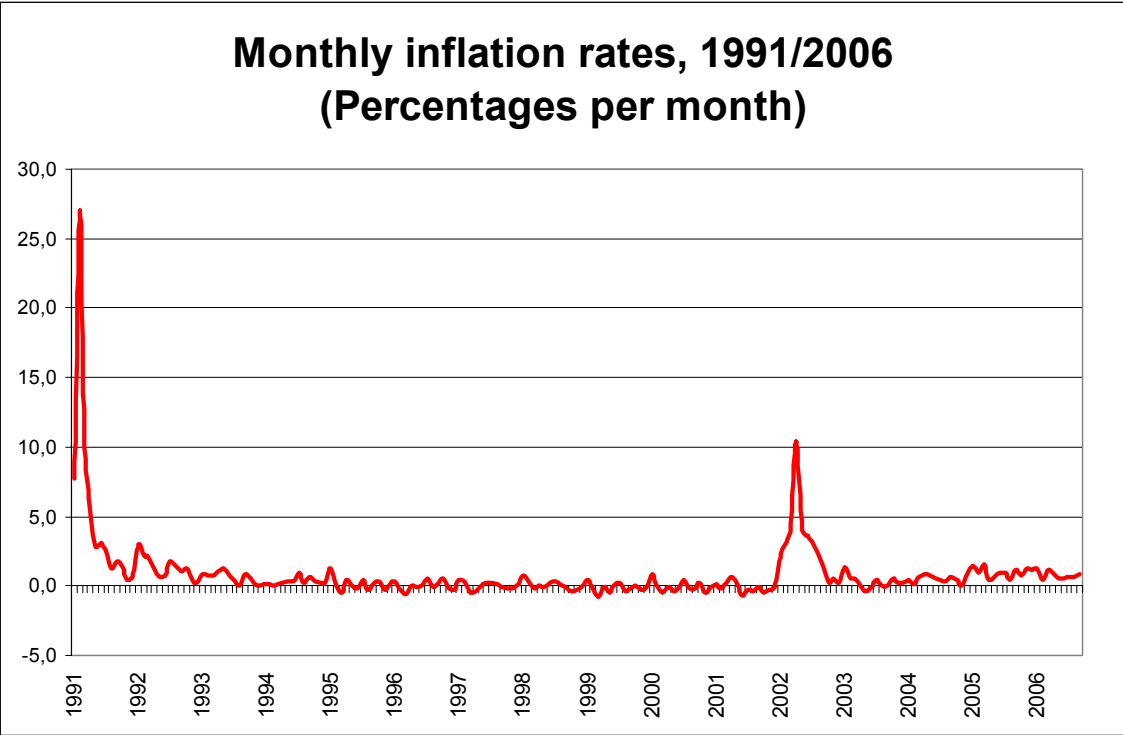
⁶ The performance of the Argentina economy since the early nineties, and especially the crisis of the convertibility system, has been analyzed, among others, in Perry and Servén (2002), Hausmann and Velasco (2002), Powell (2002), Damill and Frenkel (2003), De la Torre et al. (2002), Galiani et al. (2003), Heymann (2006), Mussa (2002). The title of this last work: “Argentina and the IMF: from Triumph to Tragedy” suggests how strong were changes in perceptions associated with the crisis.

made the exchange rate a highly visible reference for everyday decisions. Thus, the public was predisposed to receive favorably the establishment of a monetary system close to a currency board. This was part of a set of comprehensive policy changes (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 the liberalization of foreign trade. Such 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.

(ii) Redefining expectations

After the fixing of the exchange rate, although prices continued to drift upwards, they did so at a much slower (and decelerating) rate. The drop in interest rates indicated strong immediate impacts on expectations. The drastic fall in the heavy inflation tax and the reduced short-term macroeconomic uncertainty induced spending. Lower risk perceptions reversed incentives for capital flight and stimulated a revival of the internal supply of credit, also favored by the predisposition of international lenders to finance “emerging economies”. After a period of bleak economic prospects, and tight liquidity constraints, aggregate consumption led a strong expansion of domestic spending and real activity.

GRAPH 2

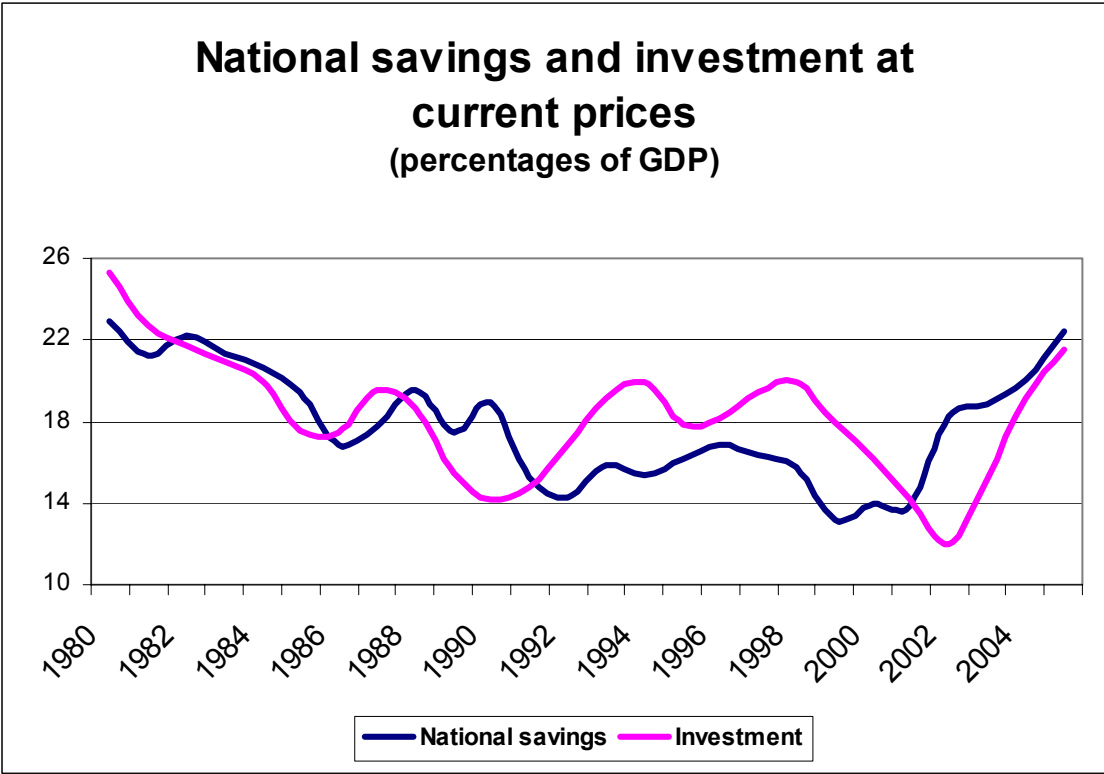


Discriminating trends from transitory effects was not an easy task. “Incredible reforms” or transitory disinflations can in principle stimulate consumption through intertemporal substitution effects. The permanence of the convertibility regime (which lasted ten years, until its eventual collapse) was not firmly established, and doubts remained about the effects of the reforms. This was reflected in indicators such as the absence of a large market for assets in domestic currency except for short maturities. 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.

(iii) Changes in behavior, re-evaluations of permanent incomes

The expansion showed, as a characteristic feature, a decline in the savings rate (and particularly in private savings), along with a sharp recovery in investment (Graph 3), much of which went to activities that mainly served the domestic market. Employment increased especially in service sectors, although labor-saving decisions, especially in manufacturing and now privatized utilities, tended to reduce the demand for 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 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 significant growth until 1994.

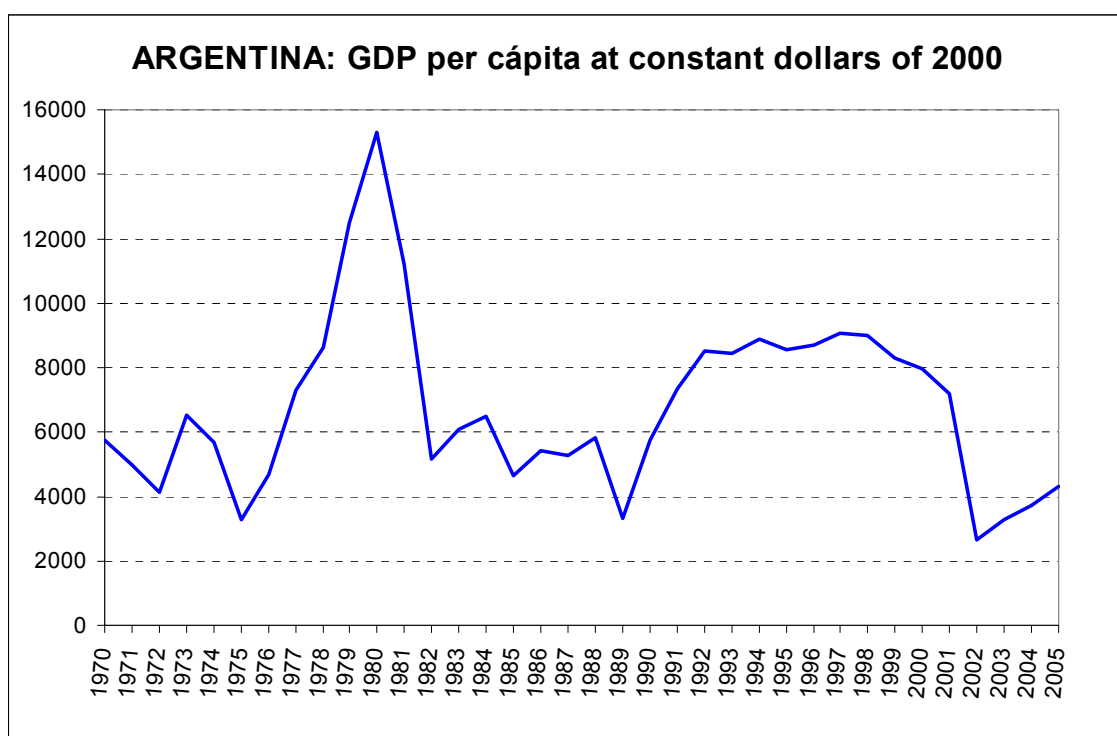
GRAPH 3



(iv) Buildup of dollar liabilities

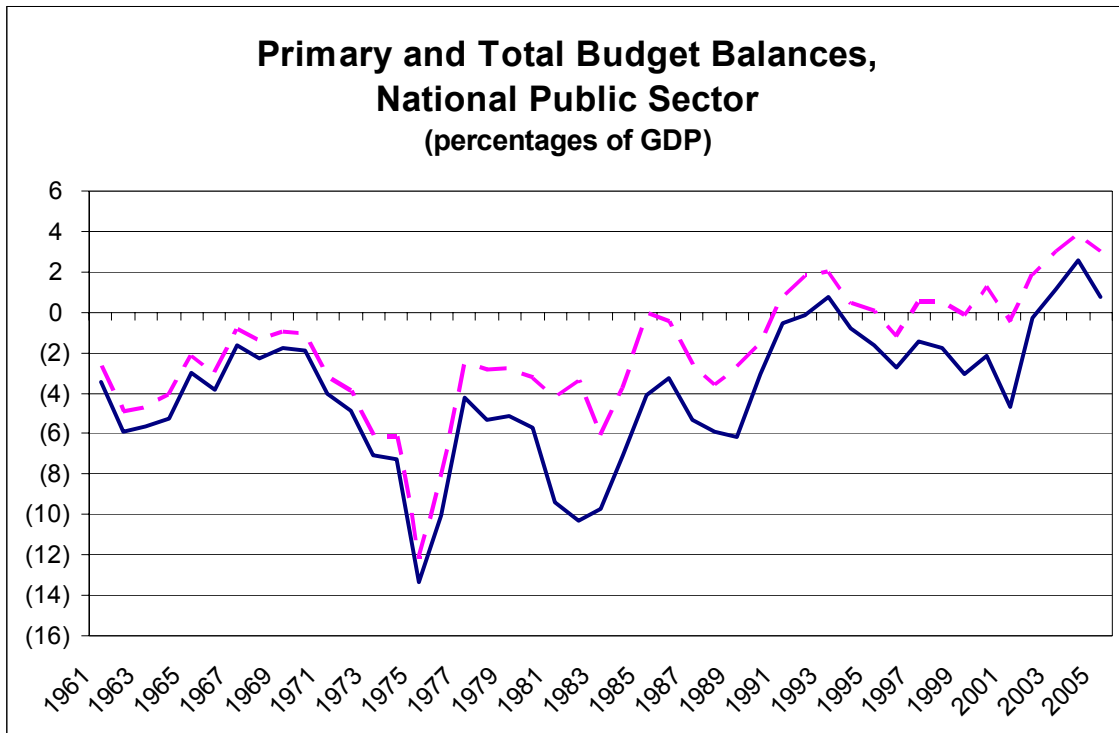
The surge in domestic demand was associated with a considerable real appreciation: although the inflation rate eventually converged to very low values, in the meantime, the level of domestic price increased substantially, as did wages. With rising GDP and a lower real exchange rate, the purchasing power of domestic output in terms of foreign currencies was greatly revalued.

GRAPH 4



Most new loans were denominated in dollars. The government did not treat this as problematic or risky: the expansion of credit and the rising capital inflows were interpreted as signs of confidence, and as precursors of more growth. Much higher tax revenues and proceeds from privatizations reduced the government's borrowing requirements. 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. In 1994, the primary balance of the government was reduced by the pension reform, which transferred revenues from social security taxes to private funds.

GRAPH 5



(v) Conflicting signals and credit crunch

By 1994 the economy was in a strong expansion, although the macro performance allowed different interpretations about its sustainability. The rise in domestic demand slowed down after the increase in US interest rates; later, the Mexican devaluation at the end of the year was followed by a strong financial shock.

The analogy with the case of Mexico had been used in the past as a positive indication of the effect of reforms. Now the comparison seemed to operate in the opposite direction, and to suggest the existence of fragilities which had gone undetected or underemphasized. The suspicion that there may be “something fundamentally wrong” and imitation effects appeared to combine to generate a run on deposits. The pressure fell on the central bank, which extended rediscounts. Foreign exchange reserves declined, while 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.

(vi) Surviving the crunch

However, even in recession, the strongest fear of the majority of the public seemed that of a depreciation that would increase the real value of dollar debts and perhaps trigger high inflation. A package of international loans backed the government’s insistence that it did not contemplate devaluation, and the definite results of the vote that re-elected the President supported that position. Funds flowed back to the banks, and real activity recovered in the last part of the year. Eventually, the episode was widely interpreted as a successful test of the

resilience of the policy scheme. In the government's view, the shock did not reveal weaknesses in the macroeconomic framework, but rather the subsistence of mistaken doubts about its commitment to the monetary system.

(vii) Long-lasting growth?

The new expansion showed strong growth of exports (the value of which doubled in five years), propelled by improvements in external markets and, on the supply side, by productivity increases, in agriculture particularly. Investment reached peaks of about 22% of GDP, while savings rose above the levels of the initial years of convertibility. The current account deficit remained considerable, however, in connection with a high demand for imports and increasing interests on foreign debts. A rising proportion of external financing took the form of FDI. The broad and growing presence of international companies (in sectors like banks, manufacturing and utilities) suggested that macroeconomic concerns were not prominent in their decisions at the time.

(viii) 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 distribution had become more uneven. Warnings about exchange rate misalignment had not been validated so far. The dollar value of GDP showed relatively steady levels, reaching about 9000 per capita.

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. 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.

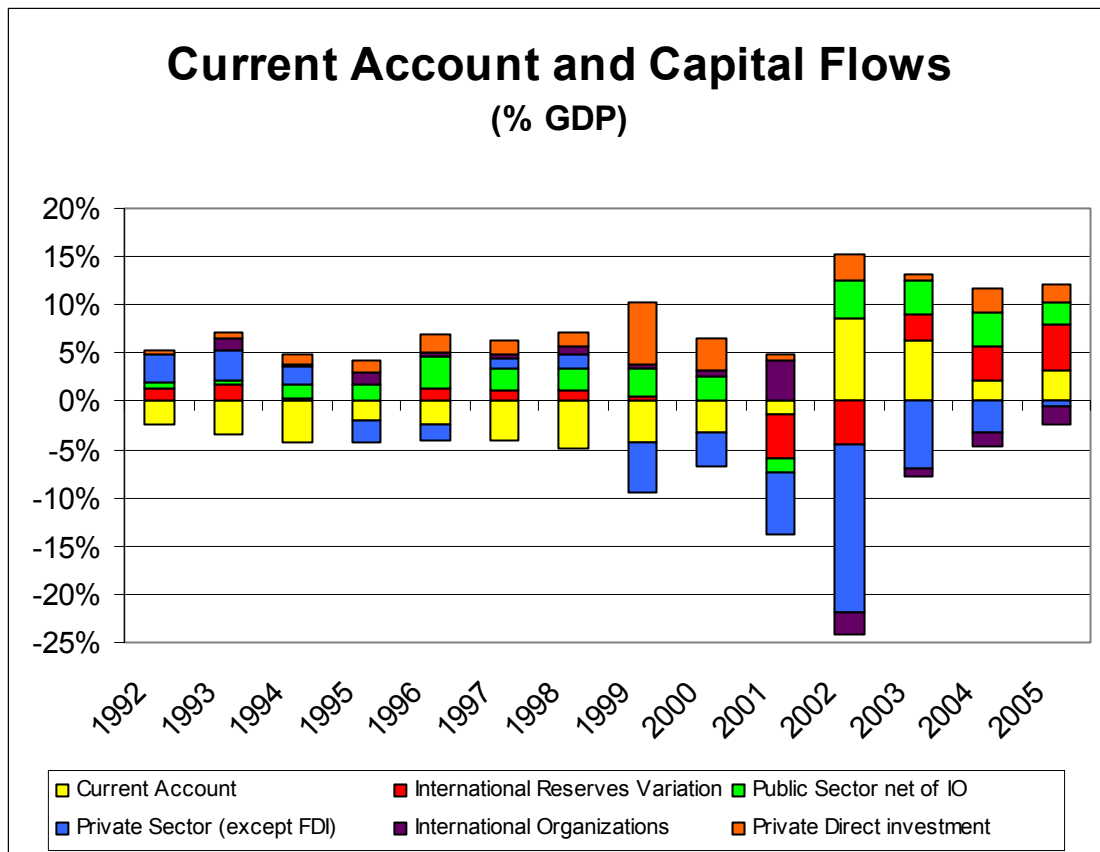
(ix) Trade, financial shocks; recession

Exports and real activity fell in absolute terms in 1999, influenced by higher interest rates after the outbreak of the Russian crisis, lower commodity prices, and the Brazilian devaluation. Weaker revenues and pre-electoral spending, both in the national and provincial jurisdictions pushed the deficit upwards; the government obtained exceptional financing through the sale of its remaining shares in the oil company. Lower investment, higher levels of "country risk" and the accumulation of foreign assets showed that segments of the private sector were starting to seek shelter. However, these behaviors were comparatively mild at first, and did not indicate a panic, or general fears of rapid collapse. The widespread discussion of the possibility of full dollarization indicated the influence of the view that 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. The 1999 Presidential election (won by a coalition of opposition parties) showed public concern about social issues but not a demand for major economic changes, particularly regarding the monetary system.

(x) *Hoping for recovery*

In any case, economic agents were alert to signals of economic strength or weakness. Attitudes and behaviors reflected 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. Although the new government managed to reduce the fiscal deficit through tax increases and spending cuts, financing requirements remained high, adjustment measures were generally interpreted as recessionary indications. With stagnant aggregate output in 2000, the lack of definite good news gradually intensified the doubts of 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 6



(xi) *Disappointment: categorical shift?*

At the end of 2000, the government negotiated a package of loans from the IMF. The announcement effect on interest rates did not last long, as real activity did not react and tax revenues were lower than anticipated. In a state of great political tension, the post of economy minister changed hands twice in a few days. Although the re-appointment of the minister who had introduced the convertibility system tried to remove concerns about a possible devaluation,

attitudes and behavior showed a sharp worsening of expectations. It seemed as if many agents went from a waiting mood to presuming that a crisis was in the making, and switched to that scenario as a basis for decisions (in a manner reminiscent of the “thinking through categories” modeled by Mullainathan, 2002). This showed, particularly, in large-scale portfolio shifts from local assets (including bank deposits) into foreign currencies, and in a drastic fall in the demand for goods and services.

(xii) Outside the corridor

In the last three quarters of 2001, real GDP contracted by more than 10%. Investment collapsed. Lower realized incomes and fears of further declines combined to induce an abrupt fall in consumption. Smaller tax revenues, without hints of a recovery in sight, aggravated fiscal difficulties, while the demand for public debt kept shrinking. Cut from access to “voluntary” credit, the government delayed payments and pressured banks and pension funds for 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 meant that repayment would be, and was expected to be, very problematic.

The perception that a hard-pressed government was using the banks as lenders 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. Liquidity constraints tightened throughout the economy. The central bank granted large volumes of rediscounts, while provincial governments tried to make ends meet by issuing quasi-monies; the monetary expansion was sterilized by falling reserves. Although the public generally still seemed to regard with much fear the possibility of devaluation, 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.

(xiii) Economic crash, institutional disruption

The last part of 2001 was a period of hectic policy activity. The ongoing crisis was the subject of much discussion, domestically and abroad. However, no concrete, practical scheme emerged to stop the spiral, or to organize a mechanism to moderate the costs of an exit from the convertibility system and a re-structuring of debts. The final months were marked by extreme political tension, culminating in demonstrations that led to the resignation of the government. After a period of much turbulence, Congress appointed a provisional president who remained in office until the elections held in 2003.

(xiv) Contractual breakdown

In December 2001, when the run was accelerating, the authorities limited cash withdrawals from banks, and restricted sales of foreign exchange. This meant suspending the convertibility of deposits into currency and domestic money into dollars. Depositors loudly protested. In an economy where many transactions were carried out with cash, those restrictions caused strong constraints on trade; their unpopularity contributed to the downfall of the government.

In the midst of a great turmoil, new authorities announced that the public sector would stop making payments on its bonds, and the termination of the convertibility system. A jump in the exchange rate immediately posed the problem of dealing with the large volume of dollar-denominated debts, and with the tradeoffs between a massive intervention and a hands-off

approach that would rely on arrangements between parties. The government chose not to legislate on obligations which did not involve financial intermediaries, while it decided an “asymmetric pessification” of bank deposit and loans: dollar loans were converted into pesos at a one-to-one rate, while a 1.4 rate was used for deposits.

Although in principle the 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. In part because of judicial decisions, the fall in deposits continued even while strong restrictions on withdrawals were in effect. Those restrictions and the disappearance of credit tightened liquidity constraints faced by consumers and by many firms, when the prices of imported inputs had risen sharply. Agents with available resources were unwilling to spend, and showed 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 (Graph 6). Lower tax collection resulted in a sizable primary budget deficit. Central Bank credits to the government and to the financial sector fueled monetary expansion, while the issue of quasi-monies continued at a rapid pace.

(xi) Avoiding hyperinflation

The exchange rate with the dollar multiplied by a factor of around four in the first half of 2002. However, in everyday transactions the population did not repudiate the national currency, which remained in general use as mean of payment and price denominator. Together with the depression in demand, the perception by the public that the pre-devaluation values were still pertinent to evaluate current prices probably deterred price increases. It seemed as if the collective behavior of agents invalidated their previous expectations of a monetary collapse if convertibility was abandoned, which had likely contributed to the spread of dollar contracting.

The initial response of the CPI was quite slow. Although this outcome was fragile (the monthly rate of price growth reached a peak 10% in April), it gave fiscal and monetary policies some time to react. The fear of hyperinflation, and its predictable political consequences, operated 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 in replacement.

Relative prices changed abruptly after the devaluation, with a jump in the real exchange rate. While other tax bases were at depressed levels, the imposition of export duties made a considerable contribution to revenues. 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. The value of the domestic monetary aggregates had been reduced relative to that of central bank reserves, increasing the effectiveness of interventions in the foreign exchange market. Thus, the fiscal and monetary difficulties were alleviated, which represented significant news when seen against the recent prospects of total collapse.

(xvi) Spending by liquid agents

Aggregate spending and output, in real and in dollar terms, had dropped to historically very low levels (Graphs 1 and 4). 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 of domestic demand, once the fears of an imminent debacle somehow moderated.

In the second half of 2002 the capital outflow slowed down. The currency appreciated, which dissipated inflationary expectations. The central bank intervened to prevent a large fall in the price of the dollar (a policy that continued in the following years), and purchased considerable amounts of foreign exchange. Restrictions to cash withdrawals from banks were removed without consequence. The issue of quasi-monies stopped, as tax collection grew well above current government spending. Industrial output initiated a recovery, first through some substitution of imports, later mainly to supply a rising 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.

(xvii) Residues of the crisis

The crisis left visible marks, in social conditions and in delayed repercussions of contractual breakdowns. The unemployment rate 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 line. Meanwhile, the real incomes of some sectors, producers of tradable goods, in particular, rose significantly. The re-valuation of dollar assets caused a sizable wealth effect, mostly favoring groups in the upper scales of the distribution, and those who had participated in the capital outflow.

The contractual breakdown remained the source of legal and political controversy. The re-definition of the regulatory framework for public utilities implied long and problematic discussions. The public debt to be re-structured had grown sharply relative to GDP or to tax revenues. In the complicated process of renegotiation, 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. 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.

(xviii) Another recovery: in search of a trend

Despite the remaining doubts, the economy showed a rapid revival. By the end of 2005, real GDP had regained the levels of the previous peak (with an average annual increase of about 9% from the trough of the recession). Savings rates, in the aggregate, and for the public sector, were higher than in the previous decade. This was reflected in the current account and budget surpluses. The rebound in real activity was labor-intensive, so that the unemployment rate declined considerably, approaching 10%.

A self-financed recovery appeared less vulnerable than past instances where a rising domestic demand had as counterpart the use of large amounts of foreign credit. The systemic disruption seemed to have had less permanent effects than once feared. However, there were still uncertainties about the system of policy rules and criteria that might guide longer-run decisions and govern inflationary expectations. The more favorable terms of trade depended on variable international circumstances. Planning horizons, much extended in the recovery, remained relatively short. The political system still faced the traditional problem of reconciling multiple conflicting claims on the budget. 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. Crises disturb plans and motivate revisions of attitudes and beliefs. In some cases, the economic malfunction can endanger the social order (Leijonhufvud, 2003). Such disruptions generate demands for analytical and for policy “lessons”. The search presupposes that there is something to learn in the exercise. The activity makes sense only if there is some relevant knowledge which was previously unavailable. It seems natural to assume that economic agents, who often manifest having been surprised, and shocked, by crises, have also acted on imperfect knowledge.

The “fundamental” estimation of long-run rates of return and repayment capacities relies on uncertain, and variable, conjectures and models of 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 perceived 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. In any case, crises usually alter interpretations of the economy’s past, as well as anticipated prospects. Features of an economy which once could be considered major assets 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 opinions about growth prospects. 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, according to the moment, both deviation-reducing and deviation-amplifying effects of shocks, according to the shifts in the estimates of future incomes and the repayment capacity of prospective debtors. 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 validity of specific arguments, a glance at experiences like that of Argentina should probably 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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