

Monetary dilemmas: Argentina in Mercosur

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Introduction

The Argentine economy was known during decades for its high and stubborn inflation. Price instability reached a climax in several bursts of hyperinflation, which severely disturbed even day-to-day transactions. In the nineties, the country adopted a strict system of convertibility with a hard peg to the dollar. Under this system, inflation definitely stopped. The economy experienced initially a spending boom, and managed to absorb a strong shock on foreign credit flows which provoked a financial crisis in 1995. In the sharp recovery that followed, the reputation of the convertibility regime was much enhanced. But, the long process of economic recession, price deflation, deepening fiscal problems and mounting financial restrictions which started in 1998, in a tougher external environment, eventually led to the collapse of the monetary and financial systems. The devaluation of the beginning of 2002 formalized the end of convertibility, in the midst of a crisis that put into question basic aspects of the economic organization of the country.

The deep economic crisis of Argentina has been causing an active quest for conclusions of topical or general importance (and some of this search is conducted and reported live and direct by assorted commentators and analysts). Indeed, an experience of this kind is likely to generate useful lessons for macroeconomic theory and policy design. Some of them may be simple and straightforward (e.g.: under strong uncertainty, the arguments for precautionary savings should apply particularly to fiscal policies). However, we believe that, despite the temptation to produce instant analysis that may be encapsulated in one-liners (or self-confident exhortations: reform now!, dollarize this way!, float that way!¹..) the questions raised hardly lend themselves to trivial answers. In this paper, we propose to undertake a brief (and certainly, preliminary) discussion of the problems related to the design and administration of a monetary regime in an economy such as that of Argentina, taking into account the regional spillovers generated within the Mercosur area. The specific problems of the Argentine economy take a large part of the discussion. However, in the last section we consider the possible role of Mercosur in the solution of the monetary dilemmas sketched in the rest of the paper. The ultimate aim is to present arguments that may be of practical use. But we do not intend to push forward a particular prescription, or to analyze in depth the available alternatives. Rather, our interest is try to discuss conditions and parameters which can affect the choice of monetary policies in what seems to be a rather complex case.

¹ The tone and the degree of analytical subtlety of some of these pronouncements can be sampled in statements like that of Hanke (2002): "Argentina's devaluation...represented more —much more—than a garden-variety devaluation. It was a great bank robbery... Moral: In a country that fails to adhere to the rule of law, the domestic currency should be replaced with a foreign currency produced in a country that embraces the rule of law", or that of Krugman (2001): "...Let the peso float, and do what is necessary to save the economy...Admittedly, the fact that much private debt in Argentina is indexed to the dollar means that the peso devaluation might create financial problems...There is an answer: Simply issue a decree canceling the indexation... It is more or less what Roosevelt did in 1933". Recently, Caballero and Dornbusch (2002) have made their contribution to the growing and variegated heap of injunctions, by urging Argentina to surrender its economic sovereignty into the hands of a foreign expert; they did not care to express their thoughts about what law such figure would operate under, and what strength they assume would back the enforcement of his/her authority.

I. General issues relevant to Argentina: some comments

There is an enormous literature that deals with the properties of monetary and exchange rate regimes. Some of it raises issues that are particularly significant for the Argentine case and, at the same time, the Argentine experience poses questions of analytical interest which goes beyond the concern for one particular episode. Certainly, we cannot discuss in any detail either that literature or the characteristics of the Argentine economy that may condition choices on monetary matters. However, a brief reference to both is in order. This section contains rapid remarks on some general themes which appear prominent when approaching the Argentine case.

1. The context of monetary and exchange rate policies.

In many instances, starting an analysis of monetary policies with a reminder of the elementary “functions of money” may well be considered a profitless excursion. Normally, one can take for granted the existence of a functioning system of transactions based on the circulation of the national currency and (perhaps with less emphasis), it can be assumed that the broad features of the financial sector will remain under the *ceteris paribus* clause. Most analytical models are naturally built under those presumptions, and the same applies to practical discussions. However, there are cases where the basic elements of a monetary economy are on the table. Hyperinflations question the survival of money as price denominator, and even as means of exchange. In certain economic crises, large-scale bankruptcies may create the danger of almost complete stop in credit flows. The recent Argentine episode exemplifies how an extreme perturbation may disrupt institutions that provide basic frameworks for financial contracts and routine transactions. When that limit is reached, the problem for policies is, with the instruments at hand, to reconstruct a monetary system, starting from the provision of viable mediums of payment, the management of the currency in such a way that it may serve as unit of account at least for cash prices and short-run credit, and the establishment of conditions in which rudimentary forms of financing may emerge once again. Even that may be a difficult task.

Under less extraordinary circumstances, monetary policies have clearly more delimited goals. However, in the discussions on monetary issues (particularly those of a practical sort) it seems often difficult to identify what is the specific set of roles that monetary policies are supposed to have, and how the potential tradeoffs between multiple objectives are assumed to be determined and weighed in decisions. Monetary and exchange rate systems (as, clearly, both cannot be treated separately) may serve a variety of purposes such as defining a nominal anchor for price-setting and the denomination of financial contracts, helping to maintain financial stability (and prevent or handle crises), contributing to macroeconomic management, and especially to smooth cyclical swings, facilitating the adjustment of the economies to shocks which require shifts in the real exchange rate, or promoting the growth of trade, in particular within regional areas².

Some of the restrictions that policy-makers face are of a quite general nature. For example, the tension between the desired degree of autonomy of monetary policies, the

² Cf. for example Turnovsky (1995), Mishkin (1999), Mishkin and Savastano (2000)

desired degree of openness of the capital account and the desired degree of exchange rate stability has been much studied as a “macroeconomic trilemma”(Eichengreen (1999), Frankel (1999)). But, in any case, the analysis of the properties of different monetary systems is an intricate matter, which makes it necessary to introduce (perhaps implicit) assumptions, about the sets of models which are considered admissible, the institutions and parameters which characterize the economy and the instruments that policy makers have at their disposal. Especially when considering a case like that of Argentina, it seems important to try to contemplate the general context of the problem, and the ways in which it conditions the analysis: otherwise, there is a risk to oversimplify and to bias not only the “normative discussion” of policy alternatives, but also the “positive” representation of the reasons for observed past choices.

A central consideration regards the instruments other than monetary policies that the government is able and willing to use. Fiscal conditions which make governments avid for seignorage revenues are of course the primary source of high inflations; of course, pressures on public finances can arise (and there is ample historical evidence) from problems in the financial sector. The demands on fiscal policies in order to sustain monetary stability may vary widely from case to case: with a strong demand for government debt (bonds and money), the “unpleasant monetarist arithmetic” (in the celebrated expression of Sargent and Wallace (1981)) will play itself over long periods, and leave time for adjustments that may contemplate with some care the effects on allocation and distribution of alternative fiscal measures. In other cases, the dilemma adjust-or-(hyper)inflate is posed over very short horizons (certainly, in association with deep doubts about the solvency of the government), and the urgent tensions between the requirement of avoiding deficits that cannot be financed without printing money and the pressures that act on public spending and revenues is likely to deteriorate the quality of fiscal policies, with repercussions on monetary credibility. The lack of appropriate instruments, either because of insufficient administrative resources or through an inability to arrange a political agreement behind systematic policies greatly restricts the opportunities for a steady monetary management. However, there may be effects in the other direction. The link between “tight money” and the burden of the public debt is a particularly clear example, but there can be others. In Argentina, for instance, the large perceived exit costs of the fixed exchange rate system directed towards fiscal policies the pressures to improve the competitiveness of tradeable-goods producing sector, in a way that created a tension between the requirements of fiscal prudence and external balance.

The choice of a monetary regime has clearly a relevance that goes much beyond the determination of nominal variables, since it can be expected to influence the “real” performance of the economy. The “fiscal” aspects of monetary policies imply themselves a non-neutrality, associated with the behavior of seignorage revenues and the effects on the demand for money. It is generally agreed, however, that the significance of the monetary system would be rather limited in a world of complete markets, common knowledge of the economy’s working model and full price flexibility (cf., for example, Obstfeld and Rogoff (1996, esp. p. 605)). But the extension and depth of markets, the features of expectations-formation processes and the characteristics of price-setting practices are likely to vary between economies. This observation would lead to arguments stressing that there is no single monetary or exchange rate system that would be right for all countries at all times

(cf. Frankel (1999)). Thus, the analysis should take into account the structure of the economy under study, and also the fact that the monetary regime is among the central determinants of economic behavior patterns, so that these cannot be considered as exogenously given when considering policy alternatives.

The literature on monetary and exchange rate policies in developing countries has often emphasized the limited flexibility of nominal prices (cf. Basu and Taylor (1999)), to the point of arguing that “deviations from PPP are always and everywhere a monetary phenomenon” (Taylor (2000)). Indeed, there is ample evidence that flexible exchange rate systems generate more short-run variability in real exchange rates, and numerous examples (Argentina among them) illustrate the difficulties that economies face in order to produce a real devaluation under fixed exchange rates. However, real effects on real exchange rates appear to be potentially quite important (and one is left to wonder whether the wide swings in the average incomes in dollar terms of a country like Argentina can be simply attributed to monetary shocks). Moreover, perfect price flexibility does not eliminate the adjustment problems of an economy with nominal contracting, and similarly with floating exchange rates when financial contracts are denominated in foreign currencies. The traditional debt-deflation theme (Fisher (1933)) which stresses the effects of price movements on the net worth of debtors, and through that, on the supply of credit, has regained prominence in recent discussions, as attention has turned again to the role of monetary policies in financial crises (cf. Easterly, Islam and Stiglitz (2000), Mishkin (2001)). The Argentine case has shown in a particularly dramatic form the potential strength of balance sheet effects both in the development of “twin” financial and currency crises, and in their repercussions on real activity.

Another point concerns model uncertainty. Recent literature has incorporated the fact (quite obvious, notwithstanding the widespread acceptance of the Rational Expectations assumption) that there is no precise knowledge about a definite and unique model that would generate the evolution of the macroeconomic variables of interest (cf. for example, Taylor, ed., 1999; Hansen and Sargent, 2001). Although this makes the analysis more difficult³, the complication is indeed a part of the policy problem, and its recognition leads to realize the convenience that policy recommendations be robust with respect to changes in how the model of the economy is specified (Hansen and Sargent, 2000, von zur Muehlen, 1982, Heymann, 1990). The uncertainty about the specification of the “right” model and about the quantitative value of parameters can be expected to be particularly intense in economies undergoing transitions, because of policy reforms or other reasons. In

³ Some of the difficulties are of a logical nature. For instance, a number of applied exercises use the procedure of building different “rational expectations” models (that is, the expectations of agents are supposed to be consistent with the distributions generated by the model), and then evaluate policy alternatives (on the basis of some set of preferences over macroeconomic outcomes) under the various models, in order to find out which policy courses produce agreeable results over a broad enough range of specifications. This method immediately raises a logical issue: the analyst is acting as if several models were held to be plausible; the agents who “inhabit” each model are assumed to believe exclusively and with no doubts in that particular model. Either the analysts knows more than the agents (about the uncertainty regarding the true model) or one set of “models agents” are right and the others, and the analyst, are wrong (for different reasons). But, actually, for the exercise to make sense, the agents inhabit one and the same economy: how can one “rational” individual entertain several expectations, model-based or not? As (a version of) the saying goes: the analysis may well work in practice, but apparently won’t do in theory....

the specific instance of Argentina, on several occasions agents had to revise their perceptions of “what kind of country they live in” (the next section presents some illustrations). Under those circumstances, “structural parameters” are likely to change, and, at the same time, their identification will be made more difficult by the behavioral adjustments that take place as agents learn to operate in a new environment. This issue, it should be stressed, does not derive simply from a methodological argument (be it a concern for “realism”, or for logical consistency), but from the concrete problems that arise in the design and implementation of monetary policies in “fluid” conditions. It may be noted, in this regard that in states where agents are engaged in a particularly intense learning about their opportunities, the demand for flexibility will be consequently strong. From the point of view of monetary policies, this would imply that strong unconditional commitments would have high costs (e.g. it would be dangerous to establish a hard peg with much uncertainty about the “sustainable real exchange rate”). But it may well happen that at the same time there is a strong demand on the government to provide an anchor to expectations by defining explicit and easily understandable “rules of the game”, and this may mean that reasonable restrictions on policies may also be highly priced. Handling the tradeoff is likely to create a tough decision problem.

The characteristics of the financial system clearly influence the set of instruments available to monetary policies and the nature and intensity of the problems that it has to deal with. At the same time, the monetary regime strongly conditions financial decisions. The Argentine experience from hyperinflation to convertibility to the breakdown of convertibility makes the connection apparent. The perception of an extreme monetary instability causes a sharp contraction of the time length of financial contracts and reduces the volume of financial transactions. In hyperinflation, there is no “natural” unit of account to contract: nominal units have highly uncertain future real values, volatile inflation rates make indexing also very risky, and swings in the real exchange rate create volatility in the purchasing power of foreign currencies. Financial markets “undevelop”, as agents refuse to bear the high risks of making or accepting promises of future payment. The possibilities for production and consumption are consequently reduced; but in such conditions, financial crises are not a first-order issue, since the initial value of (domestic) liabilities is already small. By contrast, in a system like that defined by an established convertibility scheme, the existence of a well defined and highly visible anchor for expectations greatly contributes to increase the propensity to lend and borrow and thus facilitates economic activity. But, as is sometimes the case (and it definitely was in Argentina) most debt contracts are “dollarized”, the expansion of credit may be based in part on the illusion that dollar contracting fixes at the same time the foreign-currency value of claims and the domestic real value of obligations. In that instance, it may be as if the monetary system “promises too much”, by fostering the belief that a hard peg to a certain currency can be sufficient to stabilize the level of incomes denominated in that currency. Here, if agents come to underestimate the risks they take (which, by the way, are hard to determine *ex ante* in an economy undergoing a regime change), and are eventually disappointed, the result may be a crisis, and the “discredit” of the financial system.

One finds here in a particular form a problem related to the incompleteness of contracts. A system like convertibility certainly helps to widen the spectrum of existing financial contracts in comparison with hyperinflation. Asset dollarization protects agents against a

particular type of shock: a situation where, say, the government “repudiates its commitments” and produces a more or less neutral inflation (maybe in an attempt to collect more seignorage). However, the real value of contractual payments will vary widely when the real exchange rate shifts for some reason or other. Insulating obligations from both nominal shocks and real exchange rate “surprises” would require a richer (or different) set of contracts. If such instruments do not emerge, and individuals keep their focus on the “inflation risk”, then the contractual system would be very vulnerable to exchange rate movements. This, in turn, would influence the incentives for the government by inducing “fear to float” (Calvo and Reinhart (2000)). But, if in the end there is after all a sizeable real devaluation, the system of dollarized contracts is likely to break down. In those circumstances, concerns about the preservation of property rights are no doubt in order, but exhortations in that sense may beg the question of how these rights should be defined when the contingency that has been realized is precisely the one the parties “chose to be silent about” when making the contract.

Crises can be very traumatic events. It follows immediately that the chances of ending in a crisis situation should be eliminated, or at least minimized, at all costs. Or does it, really? In a case like that of Argentina (for the sake of the argument, we are advancing this proposition as one of those “stylized facts” based on a couple of observations), it proved to be quite difficult to have at the same time a more or less flexible, non-appreciated exchange rate and a reasonably fluid supply of credit. If this apparent tradeoff is taken as given, it does not seem trivial at first glance to define what should be the “acceptable” probability of a crisis that would compensate for making the financial system work (and the probability of a crisis seems hardly identifiable in an “objective” way). One may well wish for much prudence in policy decisions, but how to handle that choice does not look as a foregone conclusion. Of course, it would be very desirable to avoid such difficult tradeoffs, like many economies have in fact managed to do. But depending on the initial conditions, this may require a big effort of imagination and skill in policy-making.

2 . Dealing with shocks and gaining credibility

Posing a decision problem for monetary policies in an uncertainty-free setting is almost a contradiction in terms. And, in any case, the answer would be trivial and straightforward: announce the policy sequence that you always knew was the optimal one (and make it a non-contingent rule: it does no harm and it may do good to make a commitment). The traditional analysis of monetary policies dealt in a central way (even if more or less formally) with the properties of policy systems from the point of view of the stabilization of real activity in economies subject to disturbances. The analysis led to the argument that fixed exchange rates are superior to floating rates when the dominant source of shocks is money demand, while flexible rates are appropriate when shocks are mostly of a real type. In the context of developing countries, that distinction seemed too simplified. It was observed that many countries that adopted fixed exchange rates were mostly concerned with the effect on anti-inflation credibility and with establishing a nominal anchor than on short-term stabilization. It was also observed that in a context of open capital accounts “credibly fixed rates may not be a viable long-run option for most countries, given the pervasive possibility of speculative attacks” (Obstfeld and Rogoff, 1996). According to Fischer (2000), “all the massive crises of the past five years -the really big ones- have been

associated with the collapse of formally fixed or quasi-fixed exchange rate systems" (p. 223). This observation has led to the argument for a "bi-polar" approach, with either a very hard peg or a float. However, there remains influential support for intermediate regimes (cf. Ocampo (2001), Williamson (2001)).

From an analytical point of view, there appear to be no definite, clear-cut recommendations. It has been mentioned (although of course, the statement should be duly qualified in a discussion made from an Argentine perspective) that the property of being "crisis free" does not necessarily make a policy regime superior to any alternative (in the same way that, in general, a good investment project need not have a zero probability of bankruptcy). More specifically, Frankel (1999) argues that both floating and fixed exchange rate regimes may be subject to instabilities, in the form of currency overvaluation and large volatility. In turn, the costs and benefits of different alternatives will depend on features of the economy such as the degree of development of financial instruments that may contribute to hedge risk. For instance, the potential effects of exchange rate volatility on trade and investment are likely to be stronger where forward markets or trade in derivatives cannot be used for that purpose, which is often the case in developing economies (Fanelli and Medhora, 2001).

The use of financial contracts to diversify risks derived from shocks such as movements in world commodity prices is also limited. Consequently, national income and consumption are more variable than they may otherwise be (Athanasoulis, Shiller, and van Wincoop, 1999; Obstfeld and Rogoff, 2000; Agénor, Mc Dermott and Prasad, 1999). In fact, it has been observed that the volatility of consumption of Latin American economies is strikingly high (IDB, 1995; Fanelli, 2000), which suggests that the degree of international diversification was small⁴. Also, while consumption is less volatile than GDP in many countries, the opposite is observed in Latin America (Fanelli, 2000). Investment volatility also tends to be higher in the Latin American countries, although the difference with developed countries is less marked than in the case of consumption.

The association between international market failures and macroeconomic fluctuations suggests that counter-cyclical policies and institutional arrangements should take into account the potential for cross-country "mutual insurance". National, regional and multilateral institutions may have comparative advantages for performing different types of counter-cyclical functions. Notwithstanding the natural concentration of policy makers in Argentina (and its neighbors) in coping somehow with the ongoing crisis, and the absence of an international institutional framework, the exploration of possible forms of regional cooperation to moderate real instability is likely to remain an important issue.

In any case, "emerging" economies are likely to face large real shocks, that in some cases may endanger the solvency of resident debtors. If the bonds issued by some countries

⁴ With diversification, the consumption levels of different countries would be highly correlated (Basu and Taylor, 1999). However, in Latin America, the correlation between national and world consumption growth (proxied by consumption in USA) is typically lower than the correlation between the growth rates of the country and the world economy. In some instances (such as that of Argentina), the consumption correlation has been actually negative.

offer (in normal times) returns as large as those of equity, it may be expected that occasionally they show difficulties in repaying, perhaps to the point of falling into open default. When perceptions about the potential growth rates of an economy are subject to large swings (at times, going from images of “economic miracles” to those of “disaster cases” in a few years), optimism may lead to decisions that, while made with expectations that may have seemed down-to-earth and realistic at their time, can very well look after the fact as wild gambles. In the specific case of Argentina, the data shown in the next section suggests that it was indeed quite difficult for agents to project the trend of output and incomes.

In such circumstances, there appears to be no guarantee that risk will be priced appropriately. Bad news can lead to major revisions of beliefs about the economy’s future, inducing flight-to-quality behavior by asset holders. One immediate consequence will be that the country will face a sudden worsening in credit market conditions and will experience a tightening in liquidity constraints, amplified and propagated by the effects of economic contraction on net worth, which are fed back into a reduced credit supply (Bernanke, Gertler and Gilchrist, 1983, Bernanke and Gertler, 1995)

In a world of imperfect contract enforcement and limited information, reputation is quite valuable. Consequently, the authorities will have a strong incentive to meet the country’s obligations. If interest rates are unusually high or the country is rationed out of credit markets, the response may be to induce or to allow a temporary increase in the real exchange rate, so as to generate trade surpluses in order to meet the external constraint, and in so doing, signal that the country simply experiences liquidity problems. Depreciation of the currency, in this sense, may be assimilated to the behavior of an individual firm which decides to liquidate inventories at a price below cost just to honor bank debt and preserve the value of its reputational capital. However, in some cases, this strategy for preserving “external” reputation may seem very costly to monetary policies, particularly if they have at stake their credibility for sound, low-inflation behavior, and the financial sector is highly dollarized. Clearly, Argentina has been one of these cases.

Economic policy-making confronts incentive problems leading to opportunistic behavior, as well as shocks on the economy that may require “flexible” actions. The analysis of policy games has generated a large and varied literature. But a caricature of some applied policy advices may look perhaps as a prescription of the kind: “Be flexible and credible, not rigid or discretionary”. Direct and full of common sense, except for the fact that what once seemed a “sensible rule” to gain credibility may suddenly be perceived as a straightjacket which impedes an effective response to a shock, or an “escape clause” meant to retain some flexibility may appear to some as an open door for discretion that the country pays dearly with high interest rates. There does not seem to be an escape from trying to deal with the tradeoffs in the terms in which they present themselves.

In this regard, some quite simple propositions seem uncontroversial:

- a) Since it is not possible to identify and to implement an “optimal contingent rule” for monetary and exchange rate policy, a first-best arrangement is unattainable.

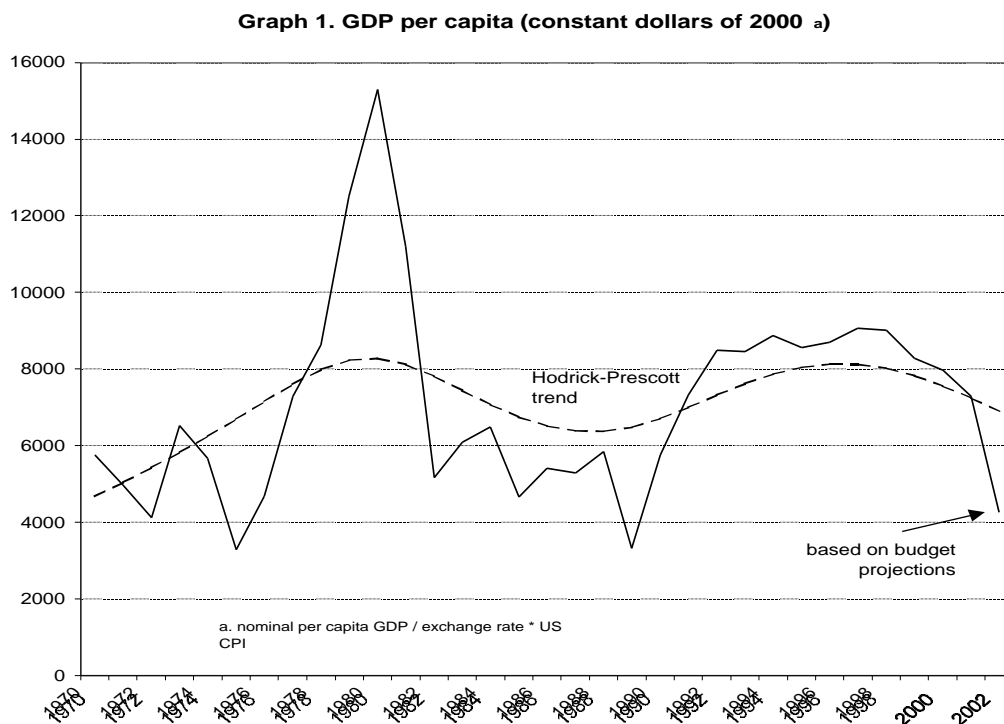
- b) Decisions regarding monetary institutions will have to consider, explicitly or implicitly, trade offs which are to some extent economy-specific. There is no general presumption that the same arrangement will fit different economies. In particular, countries may vary considerably with respect to the strength of the potential policy credibility problems vis-à-vis the likely intensity of real shocks, and with respect to features of their financial systems which can influence the opportunities and instruments available for monetary policies.
- c) In principle, choices about monetary systems should weigh costs and benefits that will accrue over time. This implies that “rates of time discount” can have strong effects on the relevant decisions, as the time profile of gains and losses from the policy-makers’ point of view may vary significantly for different arrangements. In addition, the choice must rely on some evaluation of the nature and characteristics of possible disturbances and about the model(s) that may represent the economy’s evolution. Consequently, the decisions may depend on attitudes towards risk and perceptions of dangers and opportunities. In any case, alternatives that were originally preferred may be made inappropriate by some “atypical” shock or simply by learning from experience: ex-ante and ex post policy evaluations may well be different. Also: some regimes can have (by design or by chance) high “exit costs”. The irreversible decisions to give up such institutional frameworks can then be “rationally” delayed, even if the status quo is no longer considered the best option.

II. The Argentine Experience

The previous discussion emphasized matters such as the existence of conflicting goals and lack of instruments, model uncertainty, the role of debt-deflation processes, and the complexities of risk management and credibility problems. Such issues appear to be relevant to Argentina, in ways that the following arguments try to illustrate.

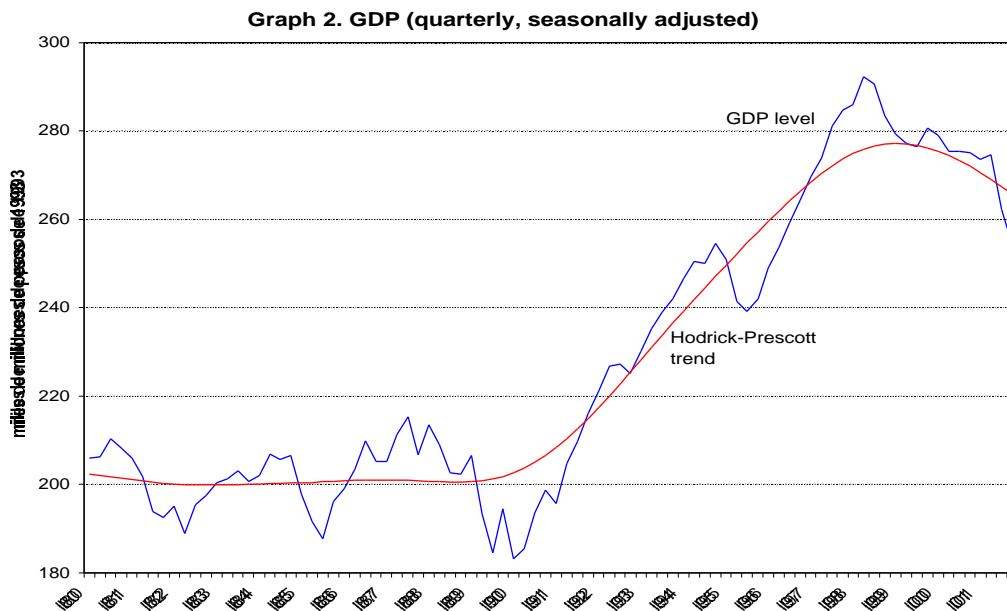
1. Trends, shocks and fluctuations

In 1980, the per capita nominal GDP of Argentina, valued at the ongoing exchange rate and “inflated” by the increase in the CPI of the US from that year to 2000, exceeded 14,000 dollars. The economy was then running a trade deficit, so that the per capita domestic absorption was even higher. After the sharp recession and real devaluation that followed the crisis at the beginning of the eighties, a similar measure of per capita GDP fell to about 4,000 dollars in 1982. In the hyperinflationary environment of 1989, aggregate per capita output fell below US\$ 3,000, and spending dropped even lower. Throughout the recovery with exchange rate real appreciation which took place under the Convertibility regime, the dollar value of GDP rose to above 9,000 per capita in 1994, once again, together with a sizable trade deficit. In the deflationary recession of 1998-2001, the GDP indicator steadily declined, but maintained comparatively high levels (still more than 7,000 dollars in 2001). The devaluation of early 2002 in some sense closed a cycle, as per capita GDP went back to values comparable to those of the early eighties (see graph 1).



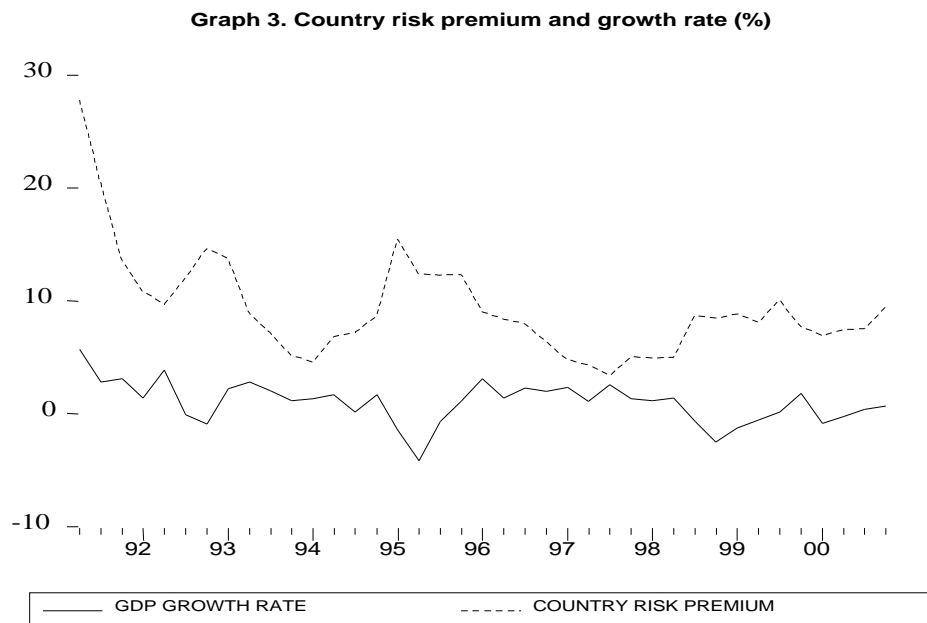
Such wide swings do not merely indicate that the economy went through a strong “medium term” volatility, but they also point to a serious problem for the decision-making of agents: there was (ex-post) ample chance that plans based on estimates of individual or aggregate “sustainable” incomes would be disappointed. Standard measures of trends paint quite different pictures depending on the time period covered by the data. For example, with information up to 1989, the HP trend of dollar per capita GDP for that year would have been estimated slightly above 4,000, with negative slope, the trend measure for 1989 calculated using data that includes the nineties has a value clearly over 6,000 dollars. Using hindsight, an individual could have found that in the late eighties he had underestimated the permanent purchasing power of income in dollar terms. By 1998, the trend could have looked solid: the HP calculation showed a value over US\$ 9,000, and an upward slope. Perhaps, numerous agents may have found tenable the notion that economic reforms were placing the economy on a catching-up path. By 2000, the trend had flattened out: the evolution of the nineties could have looked more like a change in levels than in the growth rate. Two years later, that level itself seemed highly overestimated: in fact, with data that took into account the devaluation, the whole period of convertibility showed a trend well below the actual values of GDP in dollar terms, and substantially lower than the realized values of domestic spending.

Clearly, there is no reason to impute behavioral value to a formula for interpolating data. However, the problem of identifying permanent incomes was indeed there, and could not be bypassed when making decisions dealing with production, spending and asset holding. In addition the problem did not arise only from relative price (real exchange rate) movements, but from the changes in the volume of GDP itself: the conventional trend measure shows a well defined downward turning point in the late nineties, after a sharp increase during that decade (see graph 2), In Argentina, extrapolating past trends has proved to be a hazardous activity.



The difficulty in determining sustainable levels of spending can significantly affect the quality of decisions (cf. Heymann, Kaufman and Sanguinetti (2001)): with a shifting trend, agents may learn at some point that their expenditures have been in fact highly procyclical and that they had been “living beyond their means” (negating the perception at the time when the decisions were taken). In Argentina, the realization that wealth estimates had been exaggerated has caused an extremely traumatic adjustment. This was made even more painful by the fact that the system of mostly dollarized financial contracts developed under the convertibility monetary regime was highly vulnerable if the dollar value of incomes fell well short of expectations –and, in turn, the breakdown of contracts was itself a source of economic disorganization.

A country with fluid access to international credit markets where the appropriate assets are traded may be able to diversify a good deal of its idiosyncratic risks and to redistribute the effects of shocks across time and states of nature. But, for Argentina, the volatility of consumption has been very large, and larger than the volatility of output; moreover, there was no correlation between its consumption that of the world economy, proxied by that of the US (Fanelli, 2000). In recent years, credit market conditions have been visibly associated with the performance of the Argentine economy, as can be seen in the co-variation between real GDP and an indicator of “country risk” (see graph 3). Clearly, there may be causation in both directions (since risk premia incorporated in interest rate spreads will depend on the perspectives of the economy), and it is conceivable that, in general, the correlation between output and interest rates be either positive or negative (as the driving impulse may come from the demand side or the supply side of credit markets). In any case, it seems undeniable that the tightening of financial constraints was one of the main elements in the drastic fall in aggregate demand and output in the long Argentine recession still under way.



When it is not easy to smooth the effects of shocks, monetary policies face stronger dilemmas. Tighter liquidity constraints induce financial accelerator effects which tend to accentuate cyclical fluctuations and to generate financial instability. Such disturbances can be particularly strong when capital inflows are liable to experience sudden stops (Calvo, Izquierdo and Talvi, 2002). As foreign finance contracts, the pressure mounts in the foreign exchange market. The link between capital flows, foreign reserves, and the exchange rate is a source of tension for any monetary system and, under certain circumstances, may induce a regime change.

2. The real exchange rate: variability and regime shifts

In trying to identify a “sustainable” real exchange rate, one searches for a relative price that would be compatible with intertemporal equilibrium, given the economy’s future opportunities and performance. Not a trivial matter, to say the least. In Argentina, both analysts and economic agents have faced problems in going about the task. The series of the real exchange rate of the Argentine currency with respect to the US dollar has shown high volatility and several breaks (cf. Fanelli and Rozada, 1998). Typically, sharp upward jumps were followed by periods of strong variability (see graph 4). Such jumps coincided with the sudden ends of currency pegs of some type or other, after balance of payments crises with significant capital flight. Such regime changes (in 1975, 1981, 1989 and 2001) were associated with major swings in economic policies. The two periods of lowest volatility in the series correspond to systems where the exchange rate was used as the nominal anchor: the “tablita” 1978-1981 and the decade of convertibility (1991-2001).

Graph 4. Real Exchange Rate (WPI) USA - Arg.



Movements in the real exchange rate have been highly correlated with shifts in the nominal exchange rate (Fanelli, 2001). Thus, here too, domestic price adjustments have contributed comparatively little (relative to the nominal exchange rate) to the variations in the real exchange rate (Rogoff, 1996, Froot and Rogoff, 1995, Basu and Taylor, 1999). Different degrees of price inertia may imply that disinflation processes take place with significant movements in relative prices (which can generate “entry costs” for such policies). In Argentina, disinflations have usually taken place together with real appreciations, although the large increases in domestic demand that were observed in some cases (noticeably, the start of the convertibility system) suggest that this was not simply the result of frictions in price-setting.

Anyhow, in the initial period of the convertibility regime, the inflation rate was higher than the international levels, which resulted in a sizeable price increase before a definite stabilization occurred (the CPI rose 60% between March 1991 and December 1996, while the WPI increased 20%). This was associated with a significant real appreciation. In the second half of the nineties, the currency depreciated in real terms against the dollar as Argentine prices stopped growing, and later fell in nominal terms during the recession until the end of 2001. However, this gradual and “incremental” effect was offset by the revaluation of the currency (along with the dollar) with respect to the euro and, particularly, the Brazilian real.

During the nineties, the transmission of macroeconomic impulses between the countries of Mercosur grew more important as the volume of trade expanded, starting from quite low levels. In consequence, the bilateral real exchange with Brazil became an increasingly significant variable for Argentina. Fanelli (2001) examined the properties of the series using GARCH models. This study found a large volatility in the variable, with strong effects of regime changes such as the launching of the Argentine convertibility in 1991 and the floating (cum devaluation) of the Brazilian currency in 1999. In the case of developed countries, the purchasing power parity property (PPP) does not hold in the short-run, but seems to apply after a long adjustment period; there is no evidence of this behavior for developing countries, due to lack of data (Froot and Rogoff, 1995; Edwards and Savastano, 1999). In the case of Argentina and Brazil (maybe because of the comparatively weaker price inertia in economies with inflationary experience), the variance around the mean is larger than for other economies, but deviations have smaller mean durations. In fact, the presence of a unit root is rejected more easily for the Argentina-Brazil bilateral real exchange rate than it is for the exchange rates of developed countries (Fanelli, 2001). That is, the historical experience has been one where the bilateral exchange rate has varied a great deal, but does not seem to have a “permanent” drift. This results may be relevant when examining the possibilities of monetary cooperation within Mercosur after the current crisis has passed one way or the other.

3. Financial intermediation

A number of studies found that financial constraints have been particularly strong in Argentina, even during periods where the supply of credit was fluid by the country's

standards (Fanelli and Keifman, 2002, Bebczuk, 2000, Schmuckler and Vesperoni, 2000, Bebczuk, Fanelli, and Pradelli, 2002). This research suggests that: (i) credit markets have been very markedly segmented, (ii) firms are to a good extent financed with retained earnings, and the volume of cash flows influences strongly investment decisions, (iii) the capital structure of firms varies much with the macroeconomic environment (iv) changes in the volume of credit anticipate movements in real activity, and (v) movements in “country risk” indicators are strongly related to domestic financial variables (e.g. one percentage point increase in that index was associated on average with a 2.2 fall in the value of firms whose shares trade in the Argentine stock market).

Lack of depth, instability and dollarization marked the evolution of financial intermediation in Argentina in the last decades. Under convertibility, higher integration with the world economy and price stability changed the behavior with respect to that observed in previous periods, but the expansion and diversification of financial activity proved to be transitory. In the nineties, the demand for domestic financial assets increased significantly as a share of GDP, but it was quite variable, and very dependent on external conditions, with large shocks associated with events like the Mexican devaluation, the Russian episode of 1998 and, later on, the strong scepticism of international operators about the future of the local economy. Also, the degree of dollarization of the domestic financial system increased. In the end, the process of erosion of the financial system that started in the last part of the past decade escalated in 2001 into an extremely deep crisis, which seems likely to have lasting consequences, and leave the economy with quite undeveloped credit markets.

This crisis has been a particularly extreme episode in a history of large changes in financial conditions, which were reflected in indicators like firms’ leverage ratios and the relative share of short- and long-run debt in total financing. Typically, in times of scarce supply of funds, firms tend to issue short-term debt, or liquidate assets in order to cushion the effects of credit crunches and try to reduce their financial obligations, while in “tranquil” periods, leverage levels tend to increase, and more long-term financing is utilized. In this regard, it has been a feature of the Argentine economy that most assets with more than a few months duration (or less, depending on circumstances) have been denominated in dollars. This characteristic, which of course derives from the uncertainties of agents about the future of the economy, particularly with respect to monetary management (and, in the nineties, was probably also influenced to some extent by legal restrictions to price indexation) has implied that an expansion of longer-run credit (either of external or internal origin) carried with it the risk of currency mismatches if the exchange rate varied significantly.

Typically in Argentina, when macroeconomic conditions worsen, creditors react by shifting their demand towards dollarized assets with short-term maturities. The shortening of duration can be linked to a desire to monitor more closely the performance of debtors, and to the fact that uncertainty raises liquidity premia. If the duration of the assets of firms does not vary much, then their financial position deteriorates, and default becomes more likely. This, in turn, reduces the supply of credit as it is perceived by prospective lenders. Such effects are consistent with the cyclical evolution of the balance sheets of Argentine

firms. A macroeconomic consequence is that economic downturns are associated with pressures on both financial and exchange markets. When the disturbance is strong enough, it may end in “twin crises”.

Problems of liquidity and duration mismatch can be linked to the behavior of risk management by banks, and to certain features of prudential regulations (cf. Calomiris and Powell, 2000; Fanelli and Medhora, 2001). In Argentina, the experience has been that, when the level of perceived systemic risk increases, banks hedge against currency risk and seek a better matching of the duration of assets and liabilities. This behavior puts financial pressure on business firms, and can lead to higher counter party risk. Risk tends to migrate in the financial system because hedging does not reduce systemic risk: it transfers the exposure elsewhere or transforms the type of the exposure, from currency or interest rate risk to credit risk. (cf. Kimbal, 2000). The phenomenon of risk migration would qualify the argument that credit contraction in a downturn is a healthy reaction of a banking system subject to market discipline. The current Argentine crisis indicates that when the economy is very weak, transferring risks to their business borrowers may not solve the fragility of banks.

4. Credibility and rules under a hard peg

Monetary policies typically face a tradeoff between credibility and flexibility. The emphasis varies with the times: high inflation tend to cause great dislike for monetary discretion (with muted calls for flexibility), while depressions give prominence to the problems of rigid systems. The question (which the Argentine case raises in a particularly sharp form) is how to address monetary management in an economy where policy-making as a whole has suffered much discredit and where at the same time simple, seemingly unconditional rules have shown their defects (and limited credibility) in the event of large disturbances. What seems clear is that, when strong perceived incentive problems for policy-making are combined with potentially large real shocks, what remains is to pick among high-cost alternatives, although not necessarily the timing of the costs will be the same under different choices.

When the Argentine government decided to implement the convertibility regime the foremost concern was to cut inflation, and there was a widespread conviction that economic disturbances originated from policy malincentives, manifested particularly in lax and erratic monetary policies. Moreover, the salience of the US dollar as a unit of account, savings instrument and even medium of exchange (particularly in large transactions, like those in real estate) was already well established. A tight link to the dollar with strong constraints to monetary discretion was then seen as a mechanism that would discipline policies, by legally eliminating the monetary financing of deficits, and provide a definite anchor for the price system. Dealing with negative real shocks was not a primary consideration and, in any case, arguments to that effect could easily be perceived as subterfuges intended to “re-open the door to monetary discretion”. The fact that under convertibility inflation definitely stopped and the monetary system withstood a shock as large as the 1995 financial crisis greatly enhanced its reputation. In the recovery that followed, convertibility was widely identified with sound policies (to the extent that proposals for policy reform in other areas were given names such as “fiscal convertibility”, or “social convertibility”).

The convertibility regime eventually came to be regarded as one of the country's basic institutions, with a significance that grew beyond the limited areas of monetary policies or even economic matters as such. The confidence in convertibility promoted the growth in the volume of transactions and in the size and depth of financial markets. At the same time, the participants in dollarized credit operations were likely to entertain inconsistent expectations: lenders probably focused on the legal basis of their claims to dollars, while borrowers may have had the perception that in the "rare" event of a change in regime, their obligations would be re-negotiated. The expectations of both sides could only be validated if the exchange rate remained fixed, and (in order to maintain the solvency of debtors) the dollar values of income were growing, or at least more or less steady. Since under convertibility the economy had generated a quite high average level of dollar incomes for a relatively long period of time, the "adaptive" perception that those incomes could be projected forward may have been strengthened. In any case, the widespread use of the dollar clause suggested that there remained doubts about the future of the monetary system, but interest rate spreads did not indicate a strong skepticism⁵ until the recession which ended convertibility was well under way. In turn, the diffusion of dollar contracting vividly increased the costs of leaving convertibility. There was thus a lock-in effect, derived not only from the legal framework but, mainly, from the financial behavior that had been induced under the monetary regime. The implicit "escape clause" of rules was only to be applied in this case under extreme circumstances, when it had become obvious that the regime was unsustainable. If it had to happen, the exit from convertibility was bound to be a very disruptive event, after a process that closed the options of holding to the system.

The strong reluctance of successive governments (shared by the large majority of public opinion) to even consider removing the dollar anchor after export prices had dropped substantially, the dollar had appreciated against the euro, Brazil had devalued, foreign credit had tightened and the economy was in recession with unemployment well in the two digits, and rising, did not come (as sometimes interpreted) from some peculiar preferences with respect to a presumed output-inflation tradeoff, but from a concrete fear that devaluation would cause such a disturbance in financial contracts that the effect would be a drastic fall in activity. In fact, apart from cautious suggestions to contemplate a process of monetary convergence with Brazil, the proposals that circulated to modify the monetary regime went rather in the direction of full dollarization. The notion behind those proposals was that the growing troubles of the Argentine economy were due to concerns about possible policy tampering with the monetary system. In that argument, a further tightening of the monetary rule (such that the tie to the dollar was seen as irreversible) would signal a commitment to sound policies, and induce a fall in "country risk" indices, and a revival of activity. The assumption was that if only that signal could be sent (and, maybe also, policies were to be disciplined by strengthening the monetary regime) the level of dollar incomes could be hopefully sustained, with the contribution of a renewed wave of capital inflows. The "external constraint" (which made the credit structure vulnerable in instances where the equilibrium real exchange rate was noticeably higher than the going value) and the

⁵ Taking into account that part of the spreads could be attributed to a risk premium, given that a "devaluation state" could be expected to be one of low consumption, so that having peso debts carried value as a consumption hedge.

possibility that dollarization also had an implicit “escape clause” were left out of the picture.

Convertibility was meant, among other purposes, as an instrument to constrain fiscal policies. However, persistent deficits, especially after the 1994 reform of the social security system (which does not seem to have been interpreted in Ricardian fashion by the public and by asset holders), caused a continuous increase in public debt. Whether the performance of fiscal policies was mostly due to a problem of incentives or to the belief that future growth would provide the funds to repay is a moot point here. When the economy went into recession, fiscal policies were burdened with a variety of demands: they had to contemplate the increasing scepticism of creditors, which was causing visible rises in the cost of financing (before it led to a complete closure of the access to new funds), the claims for social spending, and the mounting concerns about the competitiveness of tradable-goods producing sectors while tax revenues were falling. As the exchange rate was unavailable to deal with the external adjustment, the government was urged to compensate the observed loss of competitiveness as deflation and reduced real activity operated to lower taxation. In the end, the credit constraint became the foremost worry, and the authorities decided to adopt a “cash rule” where payments of the public sector for primary expenditures would adjust to receipts. Government salaries and pensions were reduced (with the understanding that future levels would follow the evolution of revenues), and tax policies were modified in rapid succession trying to capture revenues and boost activity. Under a strong economic shock, the unconditional monetary rule was administered together with practically complete discretion in fiscal policies (which included the delegation of emergency powers in economic matters to the executive branch). But this did little to restore expectations: by now, the burden of the proof rested clearly on those who still expressed some hope that the collapse could be prevented. “Country risk” indices showed that markets assigned a rapidly rising probability to a default. Small local savers also ran for cover. The quick fall in the demand for deposits started to put strong pressure on monetary policies themselves, as the Central Bank intervened to assist the banks with rediscounts, and rapidly lost reserves. The “internal drain” of deposits, combined with the “external drain”, the extreme difficulties of fiscal policies and the deepening recession acted jointly to generate explosive economic and social conditions, where the credibility of the statement that “one peso equals one dollar” was quickly vanishing. When the government decided in December 2001 to impose exchange controls and to restrict the withdrawal of funds from the banks, the convertibility system had in fact been broken. At the beginning of 2002, a formal devaluation sanctioned the end of the convertibility era, while the government declared default on its debt.

The episode involved a wholesale breaking of explicit and implicit contracts, both in the process where policies made a final attempt to sustain convertibility and avoid explicit default on the public debt, and after the devaluation. In the resulting turmoil, the economic system was devoid of reference points (as, prominently, convertibility had been for a decade), and fell into a state of disorganization and severe conflict: in particular, credit transactions stopped, a final run on the banks was only repressed by a compulsory re-programming of deposits and, while owners of dollar-denominated assets (naturally) held fiercely to their claims to receive “actual dollars” and thus loudly rejected “pessification”,

many debtors resisted the adjustment of their obligations by a CPI-linked index after they had been transformed into pesos at a 1 to 1 rate.

The (probably inexorable) end of the tight monetary rule left the economy without a framework for financial contracting, and monetary policies were thrown into trying to manage a system of dirty floating lacking a defined institutional setting, in conditions where the demand for bank deposits or government debt was practically non-existent. The crisis posed no less a policy problem than to (re)establish the basic elements of monetary and financial systems, which had been shattered and discredited.

III. Concluding Remarks

The breakdown of the convertibility regime left the economy without a functioning financial system and a visible lack of instruments of monetary control, in a state of disillusionment and uncertainty such that demand for foreign currencies remained strong after a sharp initial devaluation. The disappearance of credit meant that an aggregate excess supply of money could well coexist with a situation of “illiquidity” and restricted trades in significant segments of the economy. Although traces of the behavior patterns developed in the nineties were present in the relatively slow initial response of prices to the jump in the exchange rate, the risk that a runaway depreciation would induce agents to dollarize transactions was clearly perceived. There was then a possible scenario where the economy would switch in a short period of time from deflation to a widespread refusal to use the domestic currency. Beyond the immediate concern of economic policies of trying to avoid that outcome, the problem of redefining a monetary regime was urgently posed.

The historical experience indicates that Argentina did not find a practical way around the typical dilemmas of monetary management, which were made tougher by the loss of reputation of policies (which favored the dollarization of contracts) and by the difficulty of identifying a useful “working model” of an economy which often seemed to be in a state of transition. If the design of a monetary regime is not a trivial business even when most other features of the economic system can be left under the *ceteris paribus* umbrella, the complexity of the matter needs not be stressed when that is not the case.

However, some pragmatic principles have a quite general validity. An obvious one is that budgetary control represents a necessary condition for any reasonably stable monetary system to work and be sustained. The need to have a monetary framework with a well defined institutional status, and objectives which give high priority to slow-moving and predictable prices is generally well understood. But the monetary regime is only one component of the institutional infrastructure: sooner or later, it will be threatened if fiscal policies do not cooperate to make it viable. Also, it has been amply verified that financial instability can result in large fiscal costs and strong (and possibly unbearable) pressures on monetary management.

In turn, the behavior of the financial system is influenced by the monetary setup. A well-managed and well-capitalized banking system is a requisite for avoiding financial crises which may jeopardize monetary stability. However, it is not a sufficient condition, since the health of the banking system is dependent on the macroeconomic environment. In the Argentine experience, it has been observed that the financial position of business firms can rapidly deteriorate under unfavorable macroeconomic circumstances. Clearly, when the debtors are vulnerable, the solvency of banks may turn to be at stake. And the recent Argentine crisis shows how perceptions that banks are solid can gradually be transformed into doubts and eventually change into a distrust that induces a panic withdrawal of deposits. Thus, the macroeconomic properties of a monetary system (including both its institutional credibility and its capacity to help the economy absorb shocks) are ultimately among the main factors in its robustness or fragility. But also, these depend on the presence

or absence of ways for the economy to diversify its idiosyncratic risks. The matter has international aspects, both at regional and global levels. Defects in the international “architecture” may well combine with domestic misperceptions and incentive problems to hinder the development of sound and stable macroeconomic policies.

Historically, Argentina has not managed to establish a monetary system that may combine credibility of a stable performance of nominal variables with flexibility (particularly, in the exchange rate) to deal with shocks. A long experience has greatly damaged the credibility of “hands free” policies, while at the same time the economy has experienced extremely large disturbances which demanded policy flexibility of some type or other. The problem was posed in a particularly harsh way in the crisis that led to the end of the convertibility system, and after the devaluation. In the crisis, Argentina was in a way forced to float the currency, an event which was much feared for its potentially destructive effects (which, unfortunately, were observed) on the system of financial contracts. Under the conditions of Argentina after convertibility, the management of monetary policies with a floating exchange rate is very difficult. De facto dollarization may result as consequence. Formal dollarization (at some, possibly quite high parity) also presents itself as possibility, to go along with the argument that “people only want dollars”, and that the chance of keeping a national currency has been lost. However, dollarization does not guarantee (as convertibility did not) stability in aggregate incomes in dollar terms, or in the value of assets: Argentina will not get this just by adopting the U.S. currency. Therefore, the problems of having prices and contracts denominated in a unit of account with a potentially variable value in terms of domestic goods will remain there, and would be likely to result once again in large macroeconomic fluctuations. Also, after a financial crash and with extreme institutional uncertainty, the most relevant risk is credit risk: prospective lenders care about the denomination of the contract, but are mostly concerned with the perceived low probability that the contract will be honored. It is clear that having a generally acceptable means of exchange and a viable unit of denomination are basic conditions for a functioning economy. It will soon be seen whether the domestic money may serve those purposes. But, in any case, it remains unclear how credit risk would be mitigated and managed with dollarization. Also, the actual unconditional irreversibility of a decision to dollarize may be subject to questions.

The matter has a regional dimension: the effects on Mercosur are also to be contemplated. Clearly, the optimism about the integration process which prevailed in the mid-nineties, when the intra-regional flows of goods were expanding at a very fast rate, was changed later into deep scepticism, with macroeconomic conditions in Argentina and Brazil being the cause of increasing controversies between the participating countries in conditions where trade stagnated. Mercosur figured visibly in Argentine perceptions as a source of problems during a good part of the current recession; it lost prominence as the crisis got deeper and the attention was concentrated on the pressing and urgent domestic problems, and the view on international matters was focused on the US attitudes regarding the country’s financial troubles. However, the choice of a monetary system is not a matter to approach with an extremely short-run view (although certainly, time horizons tend to shrink dramatically at times of crisis). The performance of the regional neighbors will still have effects on Argentina, and even more after the devaluation has sharply raised the measured degree of openness of the economy. Given the increased importance of exports

for Argentina, it may be argued that the possibility of re-starting and developing the integration process may have a high value (Chudnovsky and Fanelli, 2002). At the same time, extreme macroeconomic instability is a serious restriction for any growth-oriented policy, and clearly, the regional role in the treatment of the Argentine crisis appears quite limited (although neighbors have an interest in a recovery of the Argentine economy, among other reasons, because of the size of income effects on trade, cf. Heymann and Navajas, 1998).

The outcome of the crisis will greatly condition the possibilities that will remain open (or become closed) for Argentina in the future. But the option value of getting Mercosur moving again seems significant enough to take into account. In this regard, formal dollarization would imply a permanent (in principle) impediment to any form of monetary coordination within the region, and would likely be interpreted as an obstacle to economic integration. With independently floating currencies, on its side, bilateral exchange rates are likely to show considerable volatility, and the resulting spillovers may well be a source of friction (as, for instance, it was observed in the occasion of the 1999 devaluation of Brazil). If Argentina manages to define a viable monetary policy in the immediate future, and proceed towards a normalization of its economy a (certainly long and gradual) process of macroeconomic coordination with Brazil may appear as an interesting possibility, aiming at the establishment of regional macroeconomic standards and the search of strategic goals for policy coordination. In the end, if the current crisis is somehow solved, and mechanisms to promote steady and systematic policies and to reduce and diversify risk can be found, Mercosur maybe could still be an actor in the international system.

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