

Project document

MERCOSUR in Transition: Macroeconomic Perspectives

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Abstract

The recovery of the economies of MERCOSUR, and the disturbances that the recent crises generated in the region have motivated reconsideration of the medium term prospects of the integration project. This paper tries to contribute to this activity with a brief analysis of regional macroeconomic interactions, and a discussion in broad terms of incentives and restrictions for macroeconomic cooperation in the specific conditions of the region.

The themes that play through the discussion are that (i) the lack of a shared concrete perspective about the role of MERCOSUR for the growth of the national economies has limited the perception of the integration project as a valuable and "permanent" economic undertaking, which would place individual policies in a context of repeated interactions within a partnership; (ii) macroeconomic spillovers in the region have mainly originated in large fluctuations in national economies associated with crises where the sustainability of past observed trends was put into question; (iii) on several occasions, the countries of MERCOSUR have shown substantial differences in their approach to economic policies, including prominently the management of key macroeconomic instruments; (iv) uncertainties about how (and why) the integration scheme would evolve, and doubts about the incentives and reliability of the partners in their macroeconomic management have induced centrifugal forces, especially in times of economic turbulence; (v) in order to become a progressive project it seems that MERCOSUR would need to go about developing a set of shared views about the growth strategies of the economies, and the part of the regional agreement in them, which would proceed *pari passu* with advances in macroeconomic cooperation; (vi) these would include a non-trivial activity of searching for a certain convergence of "macromodels" of analysis and policy-making (not equivalent to uniformity of policies) and a routine of consultations that would facilitate implementing common actions when circumstances require.

I. Introduction

The recent macroeconomic experience of the countries of MERCOSUR has shown large swings. Events like the dramatic Argentine crisis in 2001-2002 and the subsequent recovery have implied very large changes in economic behavior over relatively short time periods. In these gyrations, macroeconomic policies were managed with little regard for the spillovers on other regional economies. Trade flows showed very big oscillations in size and composition, which caused visible frictions among the partners. In this turmoil, it has been difficult to identify a sense of direction for MERCOSUR as an economic project. However, the belief that countries stand to gain from trying to "grow together" (and would incur losses if the regional arrangement breaks down) seems still widespread, if diffuse. Moreover, the political decision to assume MERCOSUR as a permanent enterprise appears established, and has survived with governments of different orientation. As the region has entered a phase of recovery leaving behind the episodes of extreme turbulence, and the decision horizons have been somewhat extended, it seems appropriate to reconsider the medium term prospects of MERCOSUR, including the possibility of moving towards a process of deepening integration. This paper tries to contribute to this activity with a brief analysis of regional macroeconomic interactions, and a discussion in broad terms of incentives and restrictions for macroeconomic cooperation in the specific conditions of the region.

The themes that play through the discussion are that (i) the lack of a shared concrete perspective about the role of MERCOSUR for the growth of the national economies has limited the perception of the integration project as a valuable and "permanent" economic undertaking, which would place individual policies in a context of repeated interactions within a partnership; (ii) macroeconomic spillovers in the region have mainly originated in large fluctuations in national economies associated with crises where the sustainability of past observed trends was put into question; (iii) on several occasions, the countries of MERCOSUR have shown substantial differences in their approach to economic policies, including prominently the management of key macroeconomic instruments; (iv) uncertainties about how (and why) the integration scheme would evolve, and doubts about the incentives and reliability of the partners in their macroeconomic management have induced centrifugal forces, especially in times of economic turbulence; (v) in order to become a progressive project it seems that MERCOSUR would need to go about developing a set of shared views about the growth strategies of the economies, and the part of the regional agreement in them, which would proceed *pari passu* with advances in

macroeconomic cooperation; (vi) these would include a non-trivial activity of searching for a certain convergence of "macromodels" of analysis and policy-making (not equivalent to uniformity of policies) and a routine of consultations that would facilitate implementing common actions when circumstances require.

II. The regional macroeconomic performance

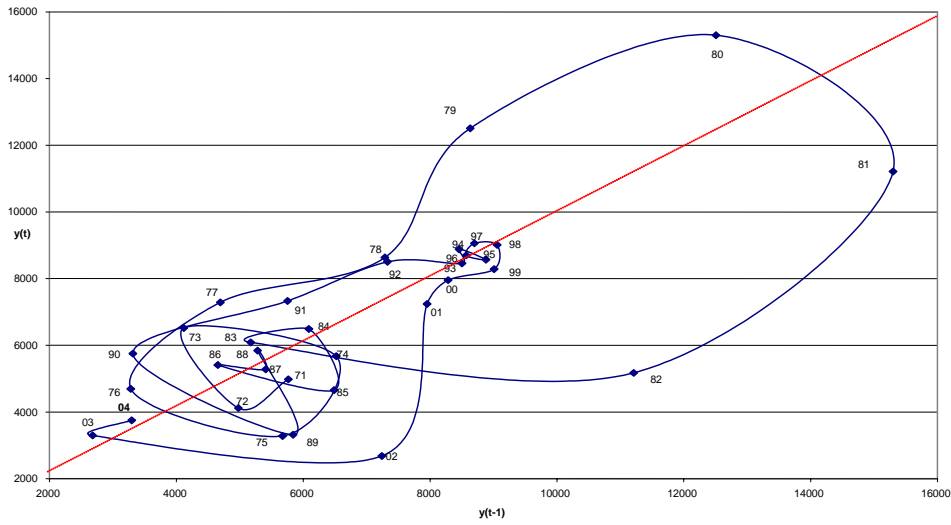
Throughout the region, although in varying degrees depending on the country, agents (both residents and non-residents) have faced difficulties in identifying "permanent" levels of income and sustainable spending. Those difficulties reflected the large fluctuations in real activity and in relative prices, and probably contributed to generate them (cf. Heymann et al. 2001). Also, perceptions about the "relative size" of the economies and about their prospects and growth potential have varied substantially over time

An indication of the magnitude and pattern of these movements can be drawn from the evolution of the dollar values of GDP. Since they embody changes in prices and quantities, those variables certainly do not serve to make comparisons of production volumes, or of standards of living, as would be the case with PPP data. However, they have an analytical meaning of their own. The dollar values of GDP are related to the concrete measure of the purchasing power of a country's output over traded goods, given actual market prices. In this sense, those dollar values, and the expectations that agents form about their evolution, would be related to the magnitude of aggregate demand in terms of tradables and, thus, to the demand for imports and the trade balance. In addition, it seems quite clear that, when a large volume of financial contracts are denominated in foreign currencies (as is the case for the countries of MERCOSUR concerning foreign debts and, in Argentina and Uruguay in the nineties, also for contracts between residents), debt sustainability is closely linked to the performance of the dollar value of incomes.

Clearly (see the time charts and histograms shown in figures) the fluctuations of the series have been particularly intense for Argentina.¹ As it can be observed, the range of variation over the last three decades was very wide between values as high, and obviously unsustainable, as US\$ 15000 in 1980, and minima below US\$ 3000 in moments of crisis such as 1975, 1989 and 2002. Moreover, the changes were noticeably non-monotonic (thus, in the recent crisis, the dollar GDP per capita fell to its lowest level since 1970).

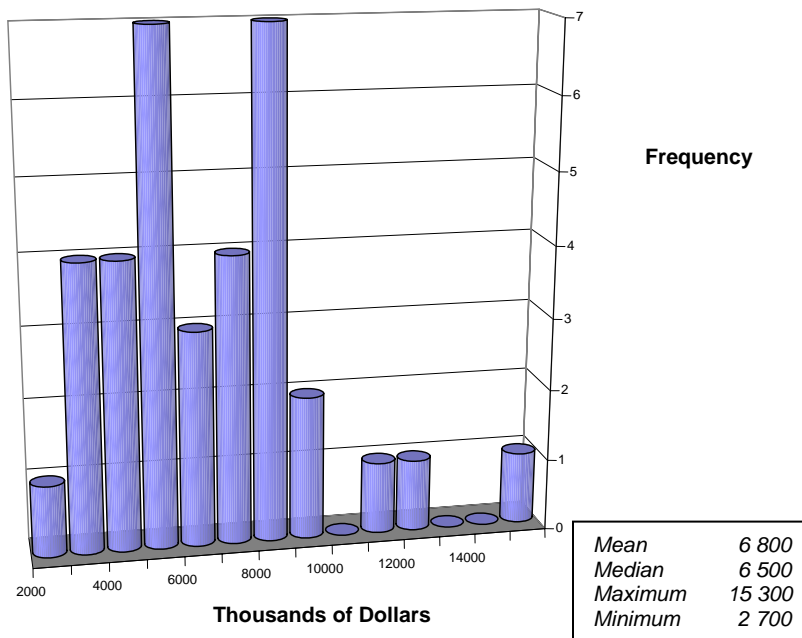
¹ The data refer simply to the ratio between per capita GDP at constant prices and the actual exchange rate, adjusted for the CPI inflation of the US. The phase diagram indicates in the vertical axis the value of the variable in year t-1, and in the horizontal axis the value in year t-1. Points above the diagonal represent increases in year t.

FIGURE 1
ARGENTINA: PHASE DIAGRAM OF PER CAPITA GDP AT CONSTANT DOLLARS OF 2000.
1970-2004



Source: ECLAC, on the basis of official figures.

FIGURE 2
ARGENTINA: HISTOGRAM OF PER CAPITA GDP AT CONSTANT DOLLARS OF 2000

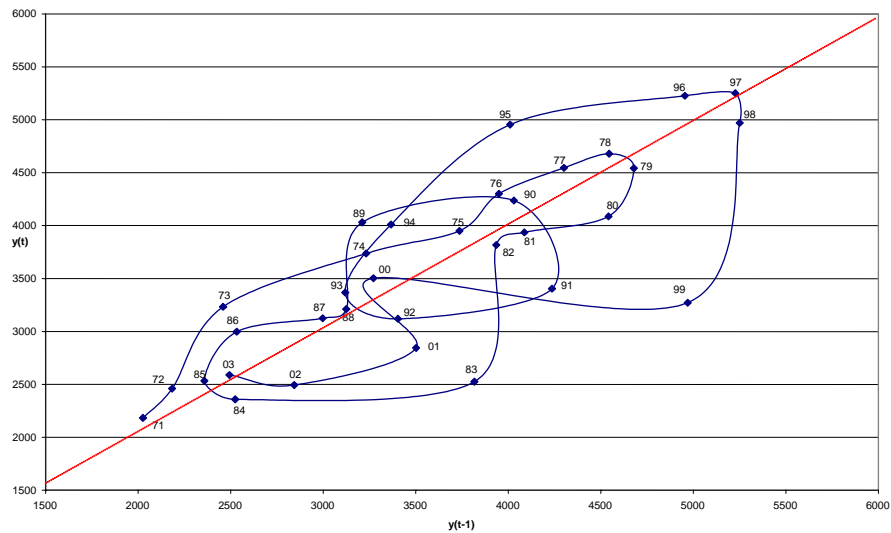


Source: ECLAC, on the basis of official figures.

From this perspective, the period of the convertibility system appears like one when for most of the time the behavior of agents, public and private, seemed consistent with the expectation that the economy was "fundamentally" productive so as to sustain a level of spending in terms of dollars much higher than in the past (although less than in the extraordinary peaks of the early eighties). Those beliefs were expressed in particular in the large number of commitments expressed in dollars. The disappointment of those expectations and the widespread breaking of economic promises in the chaotic process of the crisis left the economy, as a starting point, with a historically very low level of dollar incomes (cf. Galiani et al., 2003). The following recovery of real output (and the partial reversion of the jump in the real exchange rate) indicated that those levels were transitory, and characteristic of extreme circumstances. However, as shown in the histogram, the distribution of values of the dollar GDP series is clearly not unimodal. This implies that, in addition to the real uncertainties implicit in any projection of real output and exchange rates in an economy with such breaks in performance, there is no easily identifiable reference to mark a likely point for "regression to the mean" after a large shock.

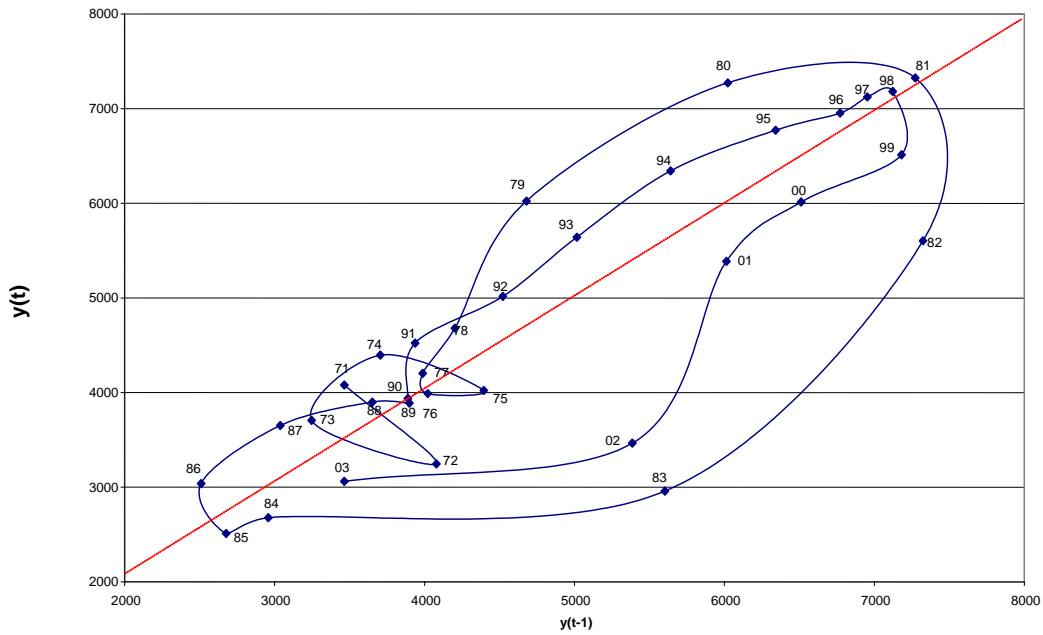
While the movements of the dollar GDP of Uruguay show some analogies with those of Argentina (although with a smaller amplitude) those of the Brazilian series are different, with a lower volatility and more observations concentrated around central values. This suggests, in a very simple fashion, that the pattern of macroeconomic fluctuations has been heterogeneous in the region, and that the uncertainty about permanent incomes was less intense in Brazil.

FIGURE 3
Brazil: Phase diagram of per capita GDP at constant dollars of 2000
1970-2003



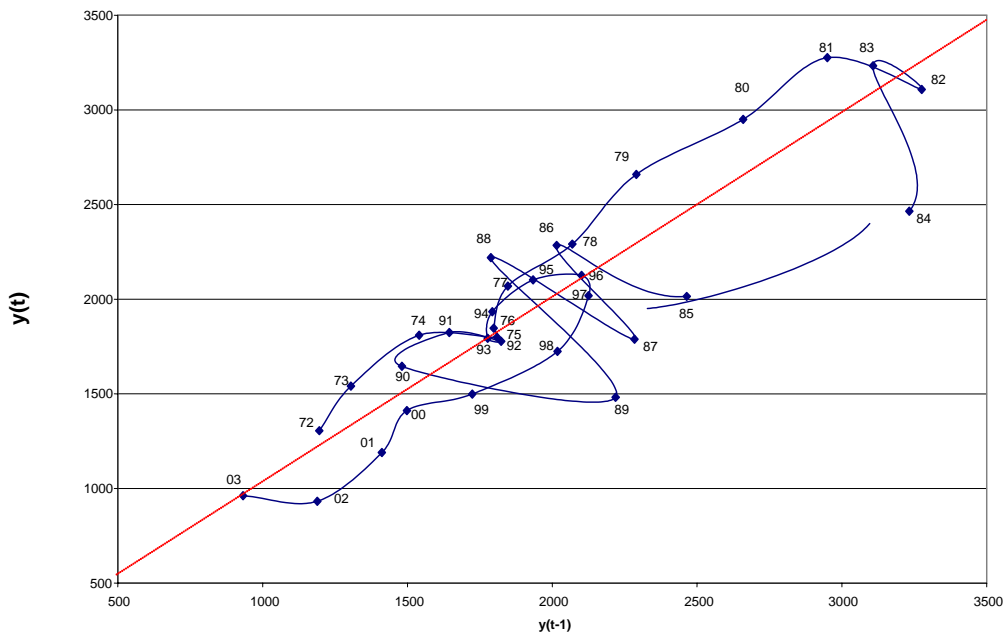
Source: ECLAC, on the basis of official figures.

FIGURE 4
Uruguay: Phase diagram of per capita GDP at constant dollars of 2000
1970-2003



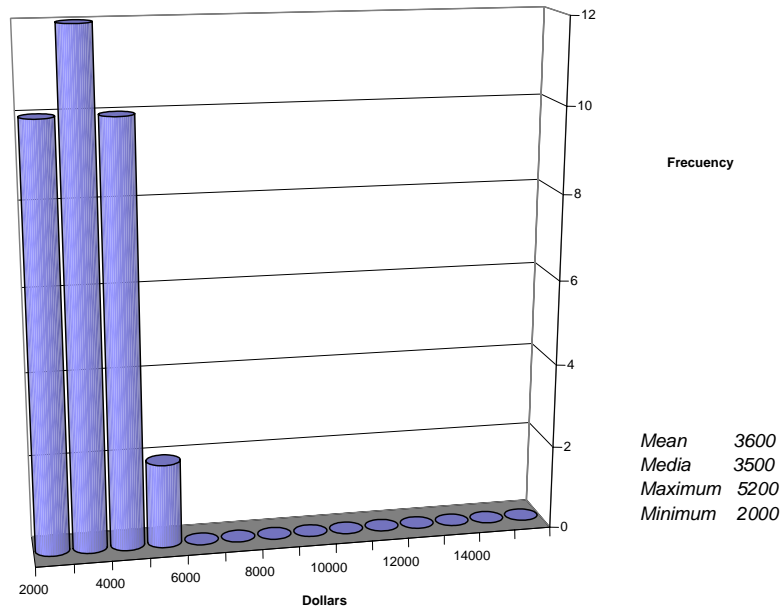
Source: ECLAC, on the basis of official figures.

FIGURE 5
Paraguay: Phase diagram of per capita GDP at constant dollars of 2000
1971-2003



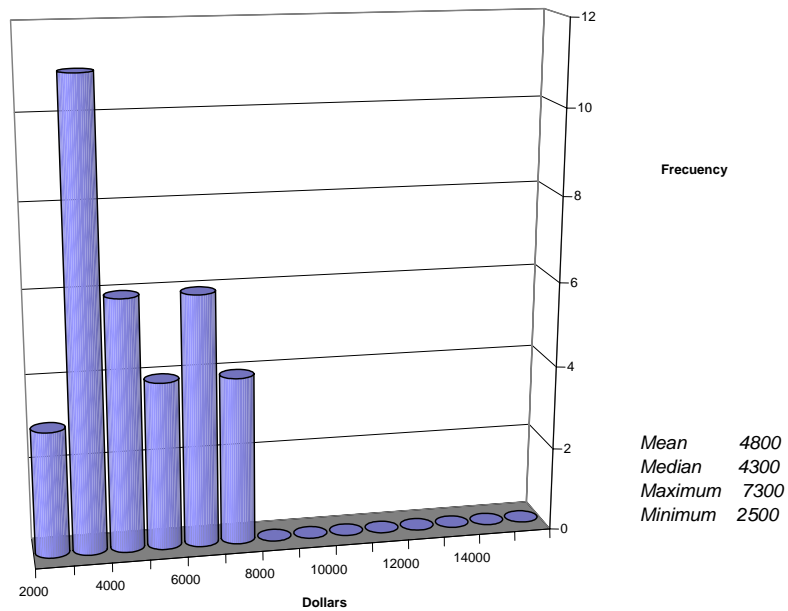
Source: ECLAC, on the basis of official figures.

FIGURE 6
Brazil: Histogram of per capita GDP at constant dollars of 2000



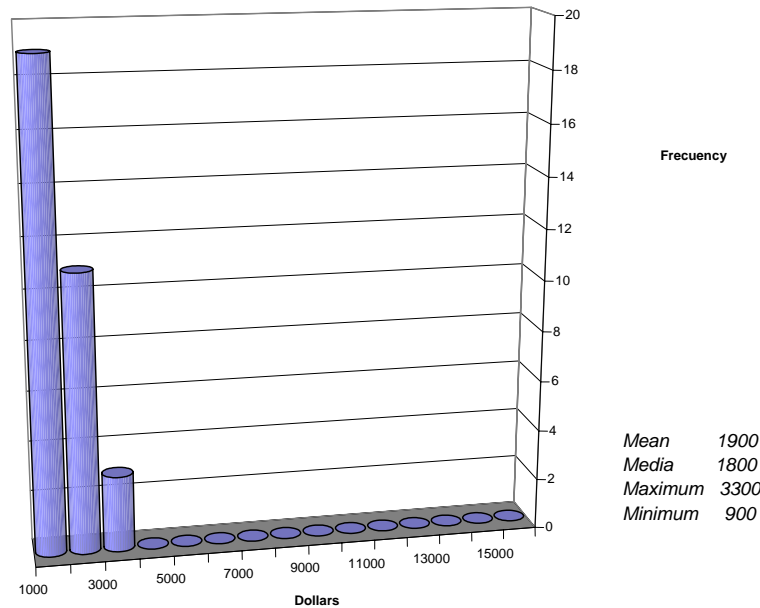
Source: ECLAC, on the basis of official figures.

FIGURE 7
Uruguay: Histogram of per capita GDP at constant dollars of 2000



Source: ECLAC, on the basis of official figures.

FIGURE 8
Paraguay: Histogram of per capita GDP at constant dollars of 2000

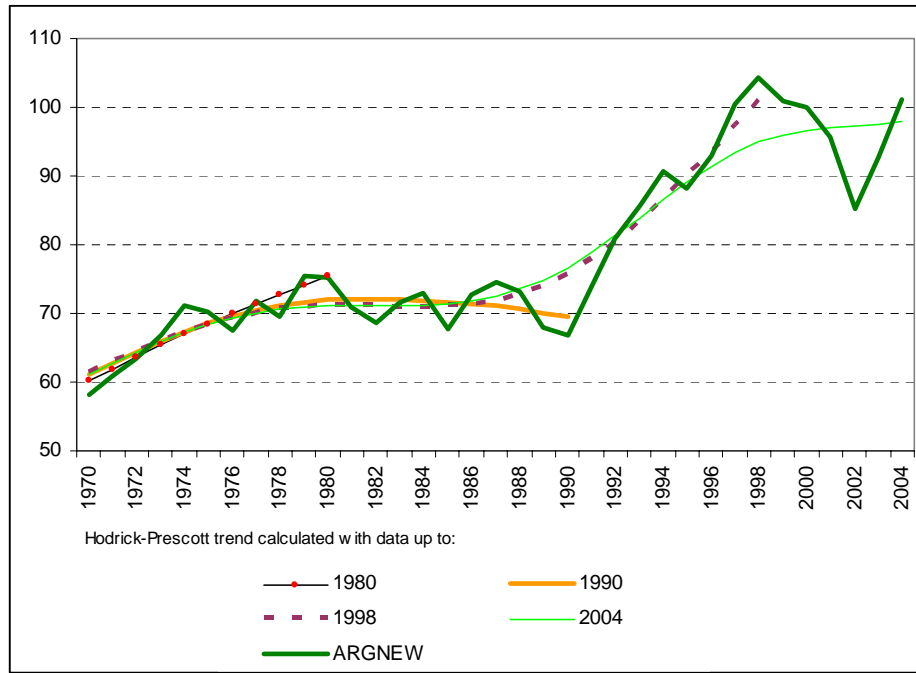


Source: ECLAC, on the basis of official figures.

A similar picture emerges from the evolution of real GDP (see the figures below). In Argentina, the macroeconomic swings appear not only as oscillations around a more or less steady trend, but also as ups and downs of the measured trend lines; those trend lines vary visibly as new observations are added.² To a lesser extent, the performance of Uruguay shows indications of a similar feature. By contrast, the Brazilian trend is more neatly defined, and has been relatively steady despite the short-run fluctuations in aggregate output; this is also observable for Paraguay.

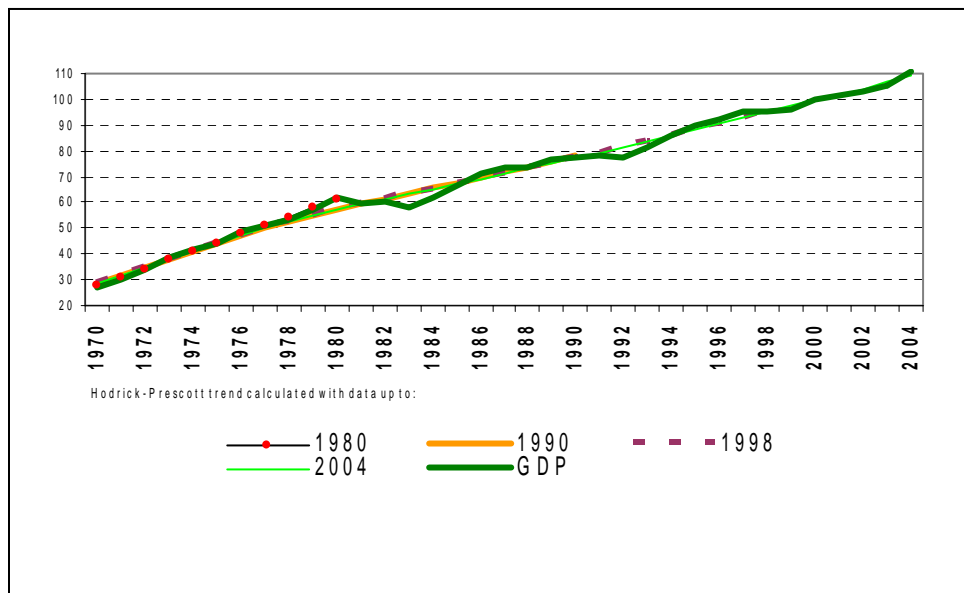
² The exercise consisting of calculating "recursive" trends tries to capture in a simple fashion the notion that measures of "normal" levels of a variable like GDP at a certain moment typically rely on data which is unobtainable at that moment (and some which, referring to later periods, will remain unavailable for sizeable intervals). In this sense, it is merely a descriptive device, and lacks statistical accuracy. However, it seems to be the case that, in an economy where those calculated trends show more variability, it may be expected that agents have more uncertainty about their future levels of income (since simple extrapolations may not serve as good approximations) and, on occasions, macroeconomic forecasts incorporated in market decisions can end up having large errors.

FIGURE 9
Argentina: GDP at constant prices and recursive trends



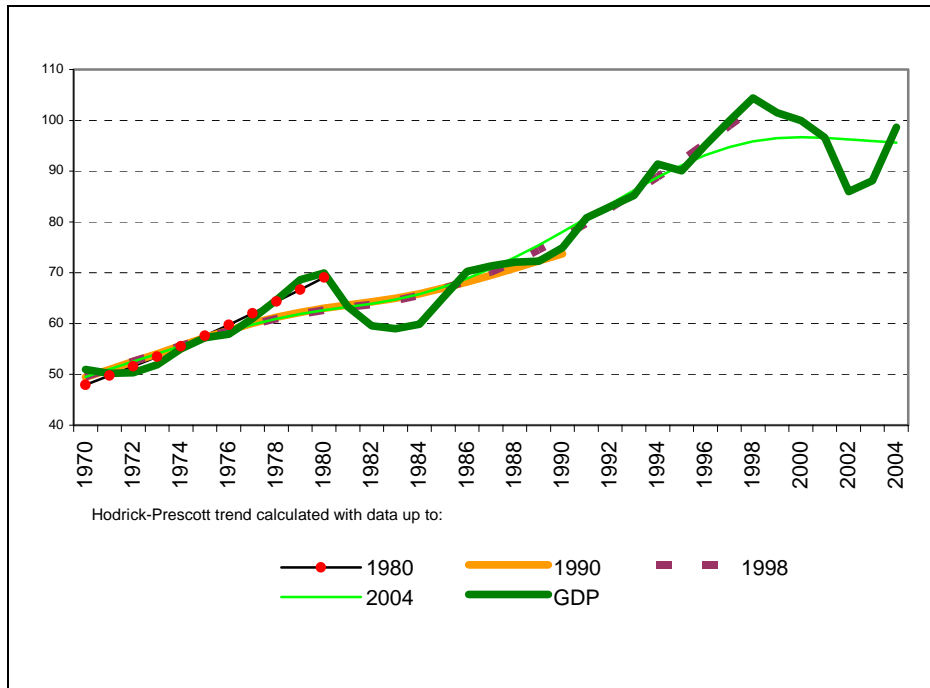
Source: ECLAC, on the basis of official figures.

FIGURE 10
Brazil: GDP at constant prices and recursive trends



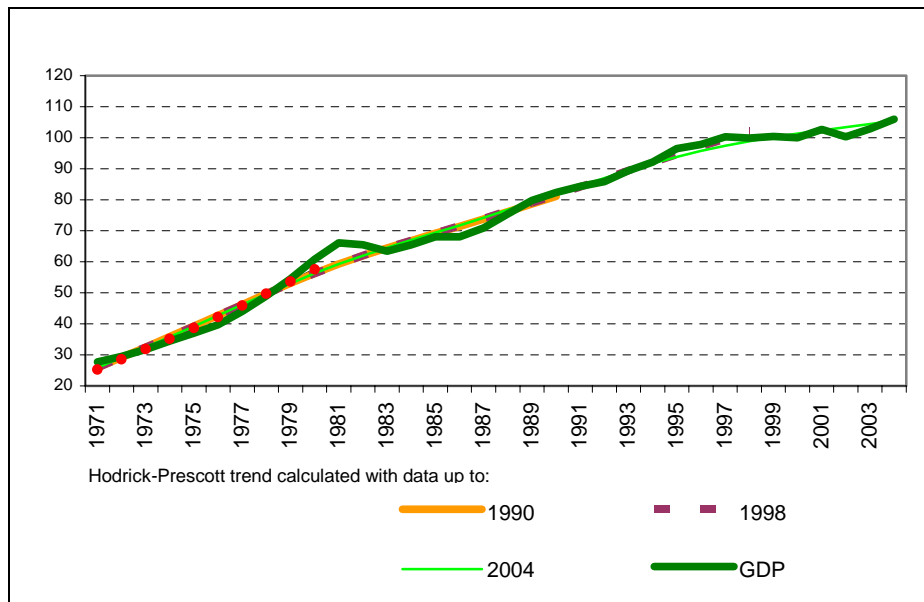
Source: ECLAC, on the basis of official figures.

FIGURE 11
Uruguay: GDP at constant prices and recursive trends



Source: ECLAC, on the basis of official figures.

FIGURE 12
Paraguay: GDP at constant prices and recursive trends



Source: ECLAC, on the basis of official figures.

In any case, when measured in current (dollar) magnitudes, the "relative sizes" of the economies of the region have varied considerably. That is, beyond the fact that the economies of MERCOSUR have large and well defined "structural" asymmetries in size, the magnitude of those asymmetries has shifted from period to period. For instance, in several moments during the nineties, the economy of Argentina appeared to be around half the size of that of Brazil (with a peak of near 60% in 1992); the ratio of GDPs fell to 22% in 2002. The Uruguayan GDP represented around 7% of the Argentine figure in years like 1994 and 1999, and 12% in 2002. These fluctuations seem to have influenced perceptions about "how large" are the economies, and their respective markets.³

The differences in macroeconomic behavior seem related to the patterns of movements in international terms of trade and in capital flows that were observed for each country (see figure).⁴ As can be seen, Argentina has been characterized by a large variability in the magnitude of foreign financing compared with the neighbors, and with Brazil, in particular.⁵

³ Although some statistical analyses suggest that the bilateral real exchange rate between Argentina and Brazil is a stationary series (cf. Fanelli and González Rozada, 2003), this was not necessarily reflected in the interpretation agents made of the data: casual observation suggests that part of the large changes were taken to be permanent.

⁴ The argument is based on a comparison between terms of trade effects and capital movements "scaled" by the magnitude of imports. That is, the variables that are measured are the averages of absolute values of:

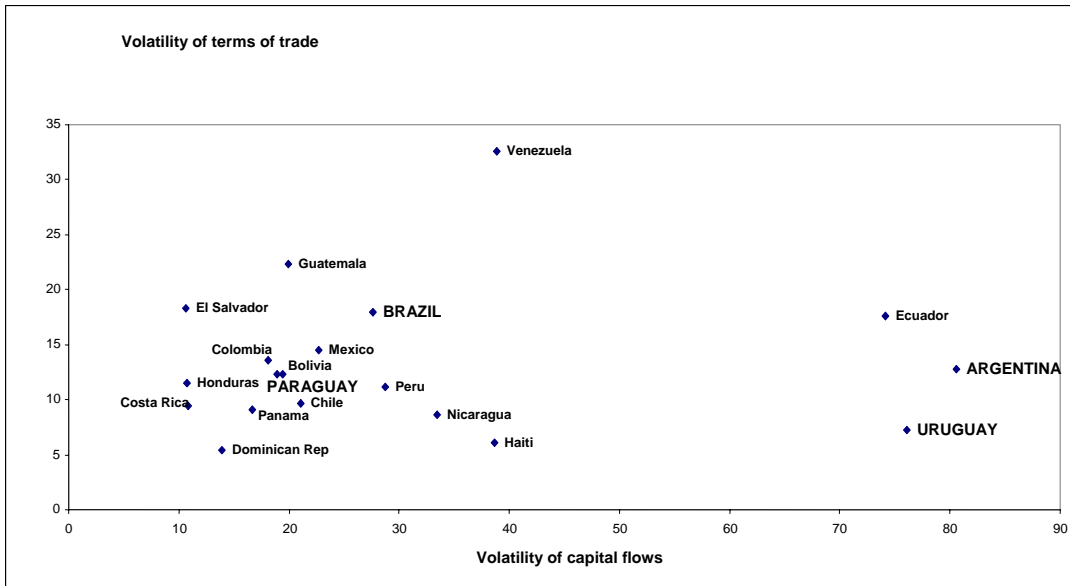
$$\hat{p}_X \frac{X}{M} - \hat{p}_M$$

(where \hat{p}_X , \hat{p}_M are, respectively, the proportional changes in export and import prices and X,

M are the values of exports and imports), and $\Delta F / M$ (where ΔF is the annual change in the magnitude of capital flows, and M are imports). The use of this metric derives from an assumption that the macroeconomic significance of movements in balance of payments variables (in terms of the adjustments in domestic spending and output with which they would be associated) is better measured by indicators which use as a reference the value of imports/exports, or that of the output of tradable goods, rather than the standard proportions of GDP (cf. Heymann, 1996; Calvo, Izquierdo and Talvi, 2003). Concerning this exercise, it may be stressed that we do not interpret capital movements as purely exogenous variables (as if they were some kind of "rain from above"): residents must be willing to sell assets if foreigners are to buy assets from them, and it is likely that the expectations about the prospects of the economy have a strong influence on the decisions of both groups. From this perspective, a large variability of capital flows would be related with large swings in those expectations.

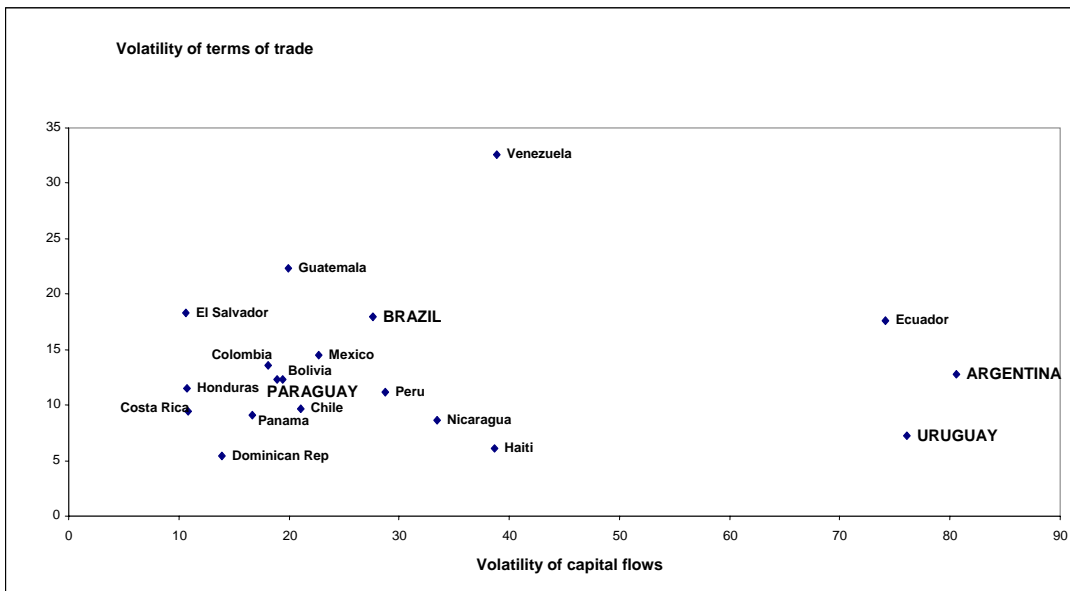
⁵ To illustrate the magnitude of the volatility of private capital flows the IADB (2002) identified cases in which annual variations in net private capital flows exceeded 20 percent of exports in the period 1972-1999. The report found that MERCOSUR, which shows almost 40% of the observations with these characteristics, had a higher level of volatility than other regions.

FIGURE 13
Latin America: Volatility of international terms of trade and capital flows
1981/2003



Source: ECLAC, on the basis of official figures.

FIGURE 14
Latin America: Volatility of international terms of trade and capital flows
1990/2003



Source: ECLAC, on the basis of official figures.

These contrasts correspond with the different features, and intensities, of the crises that the countries have experienced. In particular, the Brazilian episode of 1999 was much more circumscribed as a "devaluation crisis" than the epochal crisis that marked the end of the Argentine convertibility, which involved not only a breakdown of the exchange rate regime, but was also associated with default on the public debt and put into question the whole system of contracts. However, despite such noticeable differences, there is a common element in that the macroeconomic fluctuations in real activity and relative prices in the region do not correspond to the image of ups and downs generated by recurrent, transitory shocks drawn (as it were) from given, well known distributions. Rather, the large swings (which, in one way or another have had regional repercussions even though they may have originated in one of the countries and had their main effects in it) appear more like "individual events", where, apart from the general logic that applies to macroeconomic dynamics of any sort, the performance seems to have been strongly influenced by behaviors and decisions specific to time and place (such as large-scale policy reforms and the responses that they induced). Also, in these instances, the "sustainability" of the macroeconomic evolution was typically an issue. It would follow that there was an interaction between macroeconomic fluctuations and changing views about the longer term economic prospects of the countries (and of the region): this applies particularly to the recent period, where "moods" appear to have varied widely and where, in fact, the behavior of the economies have kept generating signals that could well deny expectations formed not long before. From another point of view, the possibility that shocks and fluctuations have had a non-recurrent component implies that care should be exercised when interpreting and using prospectively "stylized facts" that try to summarize performance features across potentially heterogeneous episodes.

In addition, the macroeconomic crises have left a residue of high government debts. The experience in this respect has been quite varied. Brazil avoided restructuring. Uruguay looked for a rapid agreement with its creditors. Argentina declared default and engaged in a long negotiation in order to redefine debt services and make them sustainable; the proposal of a bond swap with a sizeable debt relief was accepted by a substantial majority of creditors, although litigation still proceeds with the remainder. Despite these noticeable differences, large fiscal adjustments have been performed throughout the region, but the magnitude of public debt is likely to remain a major macroeconomic constraint, and a potential source of shocks.

The degree of openness and the share of the region in international trade are very different for the various countries of the region, have been quite variable over time. Clearly, the generation of macroeconomic spillovers through the exchange of goods is strongly asymmetrical.⁶ However, even Brazil seems to have experienced impacts as its neighbors went through very large fluctuations. Between 1990 and 1994, for instance, Argentina multiplied by more than five its total imports, and its purchases from Brazil by six; the magnitude of the increase in bilateral imports amounted to about 11% of the exports of Brazil in 1990 (and 0.8% of its GDP of that year), a non-negligible proportion, even if not extremely large. Similarly in the 1998-2002 depression, Argentine bilateral imports declined by about two thirds; the fall represented 9% of the Brazilian total exports in the starting year.⁷ In the other direction, the rapidly increasing demand from Brazil between 1993 and 1998 was macroeconomically significant for its

⁶ Cf. Lacunza et al. (2004). As Bevilaqua et al. (2001) suggested, the vulnerability of the smaller regional partners in Mercosur (especially to sharp changes of the Brazilian real exchange rate) increases in step with the share in total output and consumption of "regional goods" (i.e. those tradable within the region but largely nontradable with the rest of the world).

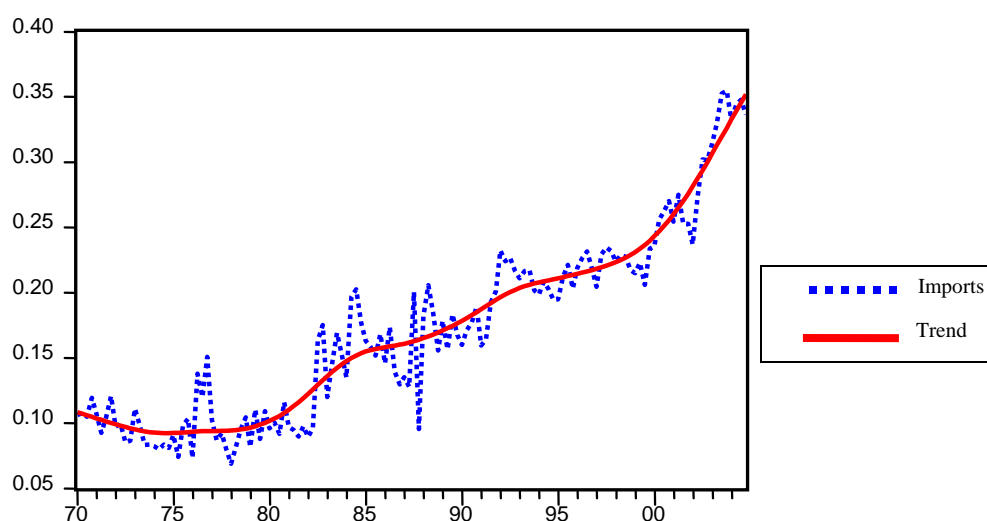
⁷ These are undoubtedly very rough indicators of macroeconomic impacts transmitted from one country to another. They serve simply to give a first impression of orders of magnitude. In any case, it may be noted that, although the size of intraregional trade as a proportion of total trade is relatively small for Brazil, the large amplitude of its movements has made that changes in the sales to the region represented fractions of total exports which are comparable to those observed, say, in the trade between large partners in the EU.

neighbors: in that interval, the rise in Argentine bilateral exports represented nearly 40% of the initial value of total exports. The confidence in the perspectives of MERCOSUR during the booming period of the nineties (and the implicit belief that the regional agreement was on its course without much need for action) contrasted strongly with the attitude in the period of declining trade which followed.

The movements in Argentine-Brazilian trade followed the fluctuations in the aggregate performance of the economies, as expressed particularly in their total demand for imports, but they have also displayed specific features of their own. The shares of the imports from the partners in the total imports of the countries showed large changes, in both directions (see figures).

FIGURE 15

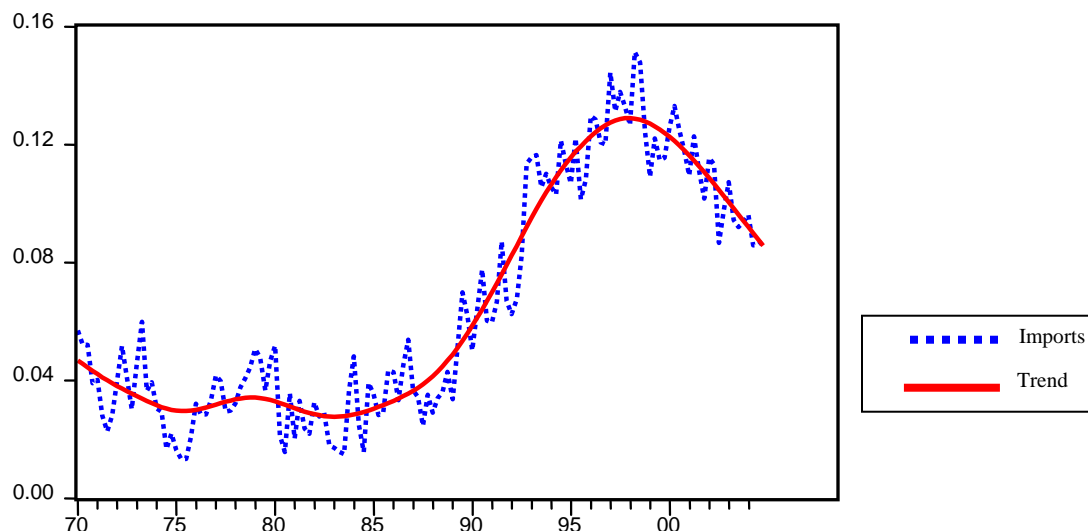
Argentina: Imports from Brazil as a share of total imports and trend (percentage)



Source: ECLAC, on the basis of official figures.

Since the start of MERCOSUR as a regional agreement, several phases can be distinguished regarding the evolution of Argentine-Brazilian trade. In the early nineties, both Argentina and Brazil increased their share in the imports of the other country (in the case of Brazilian imports from Argentina, starting from very low levels, of less than 5% of the total). In the second half of the decade, the bilateral imports of Brazil kept growing as a proportion of its total purchases (reaching peaks of around 15% in 1998), while Argentine bilateral imports remained around 20-22% of the total. Since these shares remained roughly constant, or increased, while the total imports of each country were also rising, the considerable growth in the volume of trade, in both directions, possibly suggested that MERCOSUR was on a sustained path of expansion with stronger interdependences. The performance in the following years, marked by the Brazilian devaluation of 1999 and the Argentine crisis clearly differed from that image. While the total bilateral trade between Argentina and Brazil declined sharply between 1998 and 2002 (by no less than 50%, against a 600% increase between 1990 and 1998), the share of Argentine goods in Brazilian imports showed a substantial fall, while Brazil took a much larger share of Argentine imports, reaching over 33% in 2004.

FIGURE 16

Brazil: Imports from Argentina as a share of total imports and trend (percentage)

Source: ECLAC, on the basis of official figures.

These very large changes in the pattern of trade can also be seen on sectoral data (see, for example, Heymann, 2004, Ribeiro, 2004). Considering the overall period since 1990, a wide range of Argentine and Brazilian economic activities simultaneously increased their share in the imports of the neighbor country. This behavior was observed across a range of sectors that include agriculture, mining, food products, paper and chemicals, basic metals, and motor vehicles. Overall, this performance may suggest that the expansion of trade was associated in part with complementarities in production. Nevertheless, a noticeable break took place since the late nineties. A large number of Argentine activities (which, in the manufacturing sector would represent about two-thirds of value added) reduced their presence in the Brazilian market (as a proportion of that country's imports). At the same time, the share of Brazilian goods in Argentine imports increased in sectors as varied as textiles and apparel, leather and footwear, chemicals, rubber and plastic, metal products and machinery.

Such changes would indicate the existence of a structural break in recent years, particularly regarding Argentine imports, although it still seems difficult to make a definite argument about their (micro and macro) origins and their likely persistence. Possible contributing factors include such heterogeneous effects as productivity increases in Brazil due to maturing investments, fiscal incentives for the localization of industries, particularly in connection with the choice of production sites of multinationals, or the comparative willingness of Brazilian exporters to sell to Argentina in the midst of its crisis. In any case, those shifts in the configuration of trade have been the cause of frictions (especially by inducing various sectoral demands in Argentina for protection against the imports from Brazil, and consequent reactions from this country), and they have caused uncertainty about the nature of exchange opportunities in the future.

One way to analyze in a simple way the changes in the behavior of trade flows is through the estimation of "reciprocal aggregate import functions" (see the Appendix). The evidence suggests that the parameters of the equation for the Brazilian imports from Argentina have not shown large

changes in the recent years. This would mean that, overall, the large movements in these flows can be represented approximately as responses to the changing macroeconomic outlook of Brazil, in roughly similar terms as in the past (in particular, an acceleration of Brazilian growth would have a sizeable impact on Argentine bilateral exports).⁸ By contrast, in the Argentine import function it is possible to identify a significant structural break, which has increased the demand for goods from the neighbor. Since this break appears to have occurred recently (around 2002, in a period where the Argentine currency had a large depreciation), it is difficult to establish whether this has been a jump in levels or a drop in the exchange rate elasticity of imports from Brazil. It remains that the value of Argentine imports from Brazil in 2004 was larger than that observed in 1997, when (for a roughly similar level of real GDP) the real exchange rate was considerably lower.

To summarize, the macroeconomic performance of the region has been quite varied (especially in the case of Argentina) and marked by episodes of crisis. Macroeconomic spillovers were particularly strong during those episodes. In recent years, there have been visible changes in the configuration of intra-regional trade, with a strong increase in the share of Brazilian goods in the Argentine import market and smaller flows in the opposite direction. These swings have created tensions, which distracted attention from the search for longer-run opportunities through integration. In any case, the observed behavior has made it difficult to identify trends and patterns of macroeconomic interaction which could be projected into the future.

⁸ There were signs in that sense since the last part of 2004. The bilateral imports of Brazil show a large elasticity with respect to that country's aggregate output, which implies that there is a strong cyclical response of the regional imports of Brazil.

III. Macroeconomic cooperation in states of transition

The management of macroeconomic spillovers is only one aspect of the challenges faced by MERCOSUR. Rather, after a period of strong turbulence, the features and the direction of the integration project remain still to be defined in a way that the countries perceive as conducive to the growth of their respective economies. The motives and the conditions for some type of joint work in the macroeconomic field cannot be separated from the "real" elements of integration. Even though the simple existence of macroeconomic interdependences may induce agents in one economy to watch the other economies and react to their evolution, it does not automatically trigger (as the experience of MERCOSUR itself suggests), a concrete demand and a concrete supply of coordinated or cooperative (i.e. jointly decided by mutual agreement) policy activities.⁹ In addition, it would not seem that formal pronouncements would themselves generate cooperation with actual consequences. A necessary condition appears to be a common perception that "neighborhood effects" are and will be important for each economy (perhaps, through different channels and with different intensities according to the country) and that policy interactions will recur over time and can generate significant flows of individual benefits.

In a region with differences in size as large as those of the countries of MERCOSUR economies, macroeconomic interdependences will be clearly asymmetric, and thus the incentives to engage in concrete policy interactions. However, the asymmetry of those incentives does not seem too different from that concerning the participation in the buildup of an integration project. The question comes down, again, to the existence of real perceived gains from integration for all parties. Clearly, these gains would be of different size (and, possibly of different nature) for the large, medium and small partners. However, if the cost-benefit evaluation of progressive economic integration is positive, and the regional project starts providing a long-run perspective for private and public decisions, the investment in mechanisms to deal with regional macroeconomic spillovers, and, especially, to help avoiding crises, or in the event, absorbing their effects, may consequently appear valuable.

⁹ See Meyer et al. (2002), Mooslechner and Schuerz (1999) and Canzoneri et al. (2002) for surveys of economic models and experiences with international macroeconomic policy coordination.

The development of common views on macroeconomic issues seems an important element for that process to take place. It is conceivable in principle that countries may engage in some type of coordinated actions even though the respective governments have pessimistic expectations about the other economy, and doubts about the way in which that economy is managed (in a similar way as heterogeneous beliefs might be an inducement for trade). However, this argument does not appear relevant given that coordination is largely an intertemporal exchange (where, in general, *quid pro quo* need not be immediate) and where reputation effects play an important role. The development of practices and routines of macroeconomic cooperation seems to demand a long run perspective, such that the participants envisage a persistent and useful interaction with the others, which in turn would require a "progressive" view of integration as an important part of each country's growth strategy. Otherwise, the incentives for either inaction or "differentiation" are likely to dominate. This has been apparent in the recent experience of MERCOSUR. Both in the case of the Brazilian devaluation and the Argentine crisis, the authorities in the other countries made visible efforts (sometimes with expressions of a loud tone) to "separate" their economy from the one which happened to be in trouble, while the government of the concerned economy was absorbed with its own problems. Clearly, the "supply of cooperation" was quite limited in those instances.¹⁰

MERCOSUR is in a state of flux. In order for the integration project to move forward it seems important to start defining a direction that allows the countries to perceive that the regional agreement can be an instrument to widen productive opportunities in a concrete way (and dilutes the pressures associated with the notions that the economies are involved in a zero-sum game competing for bits of the regional market). While this does not require necessarily a detailed "sectoral" approach, it may involve outlining, at least implicitly, elements of a common development strategy that identifies areas of complementarities between the economies (and, particularly, those that may strengthen the export potential of each economy towards third markets).¹¹ In this framework, the incentives to advance towards a deeper integration would emerge from the anticipated gains in taking advantage of those complementarities.

The existence of a concrete long-run view of integration as a tool for growth may induce the emergence of specific demands for coordination, which would not otherwise appear. For example, if countries consider that it is in their best interest to promote (rather than restrict, as they sometimes seem to perceive) the mobility of goods and services inside the region, tending towards a "single market", they would also find incentives to start harmonizing the relevant taxes and, in general, to move together towards the reduction of transaction costs. At the same time, the perception that substantial gains can be obtained from exploiting productive complementarities can dilute the competition for the localization of investments, and help to make the respective authorities (at the national, and maybe also local levels) more willing to discuss their investment-promotion policies with the regional partners, and to agree on common criteria.¹²

¹⁰ It may be noted that the centrifugal impulses were not only internal to the region, but came also from influential international actors. The effort to divide countries into those of "good" and "bad" behavior was visible, for example, in the attitudes of the IMF. While this was probably part of a policy of avoiding "contagion", it also tended to drive the policies of the region apart from one another, in a way that reduced even further the incentives for cooperation.

¹¹ In the nineties, Lavagna (1996) argued that the countries of MERCOSUR would gain by coordinating strategic goals in technological and productive areas, on the basis of a common evaluation of the prospects of international markets.

¹² While there may be reasons for not having strict uniformity in those policies (cf. Fernández-Arias et al., 2001), it seems clear that outright policy competition for investments, in addition to its direct fiscal costs, places the economies in a visibly non-cooperative setting, and can cause frictions capable of contaminating an integration process.

Deeper integration intensifies the spillovers between the economies. Thus, each country would have higher stakes placed on the performance of the region as a whole. The anticipated payoffs from participating in the integration project would depend (with due regard for asymmetries) on the expected growth, and volatility, of the economies of the partners. It seems hard to anticipate that countries may seriously engage in an exercise of progressive integration if the participants are skeptical about the future performance of the others and where they do not perceive clearly how they would benefit from the growth of the region as a whole. Once under way, a project of deepening integration has large exit costs, in fact and by design. By standard arguments, the willingness to make such an "irreversible investment" would depend on the expectation of gains large enough to offset the preference for flexibility. Conversely, governments would be reluctant to "undo" formally an already existent regional arrangement even if they have doubts about the future gains to be derived from it. This bias toward the status quo may lead to stalemates, where integration remains stagnant (or maybe, limited to wide political issues or to the role of instrument in negotiations with some third parties) and, in practice, is not assumed as a concrete joint project. Breaking this stalemate seems to require a long-run perspective of the expected evolution of individual economies in the regional context. Also, such a perspective would set the stage for macroeconomic cooperation.

In fact, the search of a reasonably predictable, sustainable trend appears as a task of major macroeconomic significance for the economies of the region: if intertemporal budget constraints can be satisfied without major adjustments or oscillations in real spending, a very major source of disturbances would be removed. The big macroeconomic fluctuations have been mainly induced by crises which, in one way or another, put into question the sustainability of the course that the economies (and central elements of macro policies) had been following. From this point of view, a crucial element for the prevention of crises and large recessions would be to establish a path on which "permanent" levels of income and spending are reasonably well defined, so that agents (public and private, within and outside the country in question) can make informed decisions, with due regard for the unavoidable real uncertainties about future growth. In this regard, the views about the macroeconomic sustainability of the region would influence rational evaluations of creditworthiness of individual economies.

At the same time, the perceptions that the governments and public opinions of the region develop about the macroeconomic sustainability of the partners are likely have an important influence on their attitudes towards integration. These perceptions, in turn, would depend on how those agents evaluate the prospects and the management of each economy, that is, figuratively, on what is their working "macro model" and how it corresponds, or not, with the model which they see as implicit in the policies of the countries. The willingness to make international commitments, and to develop integration in a way that would increase the strength of spillovers seems to require some degree of confidence on the macro management of the economies of the partners and a certain commonality of views about macroeconomic strategies (which does not necessarily imply identical policies, but a mutual understanding of why each party acts as it does, given the circumstances and the conditions of the respective economies). This appears as a previous stage with respect to potential regional agreements on the concrete management of specific policy tools. "Strategic coordination" would then have to go in parallel (or some steps before) "instrumental coordination".

The development of a set of common views, both on the growth process and about the broad outlook of macroeconomic policies is not a trivial matter, and should not be regarded as mere "small talk". It is a question of practical relevance. In the nineties, the macroeconomic approaches and criteria (and not only the actions) of the Argentine and the Brazilian authorities were quite different, and this showed especially at times when one of the economies experienced difficulties (which, obviously, would be instances where the value of cooperation seems

particularly high.). Broadly speaking, it looked at certain moments that, for many Brazilians, the Argentine reluctance to contemplate alternatives to convertibility while this was in place was seen as a simple ideological whim, without much regard for the exit costs of that system, while influential opinions in Argentina viewed the Brazilian search for monetary flexibility as a refusal to establish clear institutional constraints to discretion, without much consideration for the pertinence of having instruments to respond to shocks. More recently, the criteria used in debt management differed from country to country (and, of course, thinking of any type of coordination on the issue looked far-fetched, not to say heretical). In this context, when one of the neighbors experienced a macroeconomic disturbance, the perceivable attitude in the others that "it had only itself to blame" certainly did not induce a cooperative mood.

In any case, there has been some "spontaneous" convergence of views, for example regarding monetary systems as, in their own particular ways and sequences, the policies have been moving towards some kind of "constrained discretion" (to use the term of Bernanke and Mishkin, 1997) to regulate inflation without explicit anchoring of variables, particularly the exchange rate. Clearly, however, the general definition of macroeconomic policies and, of course, their design and implementation, have remained strictly domestic businesses.¹³

The importance in regional contexts of repeated interactions, reputation effects and "tacit agreements", developed over time, has been stressed for the case of Europe. In particular, the useful review and interpretation of the European macroeconomic experience presented in Ghymers (2004) suggests that: (i) international cooperation on macroeconomic management, which must be seen by the parties as a means of achieving self-interested national objectives, can hardly be conceived as the result of a pre-determined "grand design"; (ii) rather, the evidence would indicate that it evolves through processes of trial and error or "natural selection" of instruments and procedures; (iii) also, cooperation would not arise from a diffuse perception of occasional interdependences, but it requires that the countries see themselves involved in a repeated game that generates incentives to accumulate reputation and knowledge about one another; (iv) in the process of building that collective "capital", and apart from the existence of formal commitments on the management of instruments, it matters much to develop interactions and contacts of policy-makers and implementers, so as to develop a "common language" at the political and technical levels. This common language can generate a joint understanding of the policies that the partners are following (and help to handle the unavoidable disagreements), and allow agreed-upon reactions to disturbances that may "internalize" spillovers in mutually acceptable ways.

That logic can rationalize in a simple way why some joint activities in the macroeconomic field that do not require strong institutional commitments (but do presuppose a reputational buildup) can generate shared benefits over time, simply by reducing the scope for "un-coordinated" policies (in the sense of policies based on wrong assumptions about the behavior of the other interdependent economies).

From the viewpoint of the major macroeconomic channels of interdependence, large movements in real exchange rates have been indeed a source of significant spillovers, which sometimes became the cause for trade and investment frictions. While it would be hard to characterize events like the Brazilian depreciation of 1999 or the traumatic exit from

¹³ This has also applied to trade policies, as indicated in the episode in November 2004 when Brazil, by itself, recognized China as a "market economy", and some days later Argentina did likewise, on its own (but apparently influenced by the earlier Brazilian move). Interestingly, when those decisions created fears in industrialists in both countries, these got together to "coordinate" demands for safeguards and assurances of protection from the governments. Such quick reflexes of triggering joint actions for protective purposes against third parties contrasted with the conflicts over bilateral trade and, especially, with the apparent scarcity of ventures aimed at exploiting "productive complementarities" to compete internationally.

convertibility in Argentina as policy actions "directed against the neighbors", the effects on those neighbors were clearly felt. Defensive sectoral reactions to higher imports from the region have often resulted in demands for trade restrictions of one type or another. An integration project where intra-regional flows are subject to restrictions which vary, in an uncertain way, according to the macroeconomic conditions does not provide good incentives for productive undertakings with a regional perspective. At the same time, the lack of a long-run view of integration makes policies concentrate on the immediate claims of sectors demanding protection, and less on the opportunities for growth through trade. But in any case, those claims are likely to be stronger (and based on an actual perception of problems that it would be naive for policies to just disregard) when macroeconomic shocks generate large sectoral disturbances. On the basis of the observed experience, progressive integration may not easily resist recurrent macroeconomic crises with regional impact, and would probably generate only lukewarm responses if decision-makers anticipate that shocks will be large and difficult to handle for policies. Some sort of "coordinated flexibility" would thus be in order to reduce the chance of shocks and to moderate their effects.

This demand for shock absorbers clearly points towards exchange rate policies. But the possible shocks may be of quite different natures, intensities and "degrees of permanence" and a forward-looking identification of sustainable intra-regional real exchange rates for policy purposes seems a very hard task. This implies that it would be quite difficult to define in advance numerical target zones of some sort. Moreover, monetary policies institutionally driven by domestic objectives (like an inflation targeting) do not have much scope to coordinate formally. However, the move that has been observed in the region to monetary systems that try to combine a commitment to low, predictable inflation with exchange rate flexibility seems to provide a potential framework for an interaction of monetary policies (provided, to repeat, that such interaction is motivated, and supported, by a belief that the economies will be persistently, and progressively, interconnected).

Monetary stability, especially in the larger partner(s) has an element of regional public good (cf. Wyplosz, 2004). Monetary shocks can be a source of excess volatility of exchange rates, with repercussions on the other countries. The denomination of financial instruments also seems a crucial issue. In a region where currency substitution and dollarization of contracts have traditionally been a response of the private sector to the perception that future domestic monetary conditions are uncertain, the capacity to adjust through exchange rate movements can be limited: if the transmission of regional instability disturbs the use of the local currency as an asset and a denominator of contracts, the ensuing "fear of floating" (cf. Calvo and Reinhart, 2000) would restrict the ability of the economy to adapt to real shocks. Seen from a long-run perspective, also, the chances of contemplating possible regional monetary arrangements (cf. Machinea, 2003; Carrera and Sturzenegger, 2000; Giambiagi, 1998) would seem to depend (apart from the necessary "real conditions" of strong interdependences), on the accumulation of a reputation of consistent monetary management throughout the region. In this regard, apart from OCA considerations, the possibilities for monetary cooperation would seem quite restricted if the agents in the region use out-of-area units in their contracts.

While the convenience of operating monetary policies with a single inflationary objective or with multiple targets in some "loss function" may be subject to discussion, it would appear that, in the region, a sustained performance with low, steady inflation excludes large shifts in the real exchange rate: although the coefficients of pass through in recent episodes have been small, large real devaluations (of the order of magnitude, say, of the ones experienced by central currencies) could hardly be expected to take place without some significant inflationary effects. From this point of view, avoiding real exchange rate misalignments (with due regard to the difficulties in specifying when one exists) would be a legitimate concern of central banks worried about determining a steady trend for inflation (cf. IADB, 2002). Also, inflation targeting schemes

normally incorporate a margin of flexibility allowing policies to respond to a set of macroeconomic variables. In practice, central banks do not seem to disregard or treat with indifference sizeable movements in exchange rates.

In any case, national monetary policies indirectly influence trade flows. It is conceivable to have a dialogue between central banks organized around the transmission of monetary policies to exchange rates and the associated international spillovers. The fact that the practices of inflation-targeting systems involve the estimation and the use of explicit macroeconomic models may allow an interaction at the technical level in order to discuss those models and their cross-border implications (and maybe, at some point, develop some articulation between the models, that may provide a commonly understood basis for estimating the regional impacts of policies). To the extent that these discussions generate a common analytical ground (or clarify disagreements) they could help to focus and to orient actual policy interactions, especially in the event of shocks. In practice, those interactions are certainly not going to be *inter pares*. But, in a transitional period, establishing formal schemes, whether explicitly asymmetric or would-be symmetric, would ignore the deep uncertainty about the medium term evolution of national economies and their policies, and about the performance of the regional arrangement as a whole. "Playing the game" of policy dialogues over time can allow to identify if and how a *de facto* "monetary (or, more generally, policy) leadership" emerges, and whether the evolution leads to a demand for tighter forms of cooperation, with reputations reasonably established through the experience of actual behavior in a regional framework.

The reference to the European experience often leads to the argument that formal commitments among regional partners can serve as commitment devices for national policies, in order to deal with domestic pressures and to solve problems of credibility. Clearly, this can be so in some circumstances. However, the conditions prevailing in MERCOSUR do not suggest that the argument would be applicable in the immediate future. At the regional level, the "enforcement" of the agreements to meet certain numerical targets would be mainly given by the reactions of the partners in the case of non-compliance of a certain country, by say, a refusal to allow that country to participate in some common project (e.g. the creation of the euro). The strictness of the enforcement, and the consequent disincentive to ignore a regional agreement on a certain variable would depend on the value assigned by the country to the "joint projects" to be foregone or delayed, either formally or through reputational effects, and, ultimately, on the importance that the country attributes to being part of the integration process. That value would be subject to the asymmetries implied by the differences in size. In any case, the perception that integration is important for each country would have to be more or less established in order to sustain the credibility of the targets or the commitments. Thus, it would seem that, while common monitoring of macroeconomic variables, particularly fiscal results, may have a useful role in the search for a regional trend with sustainability, looking for the establishment of formal targets does not appear as a plausible priority.

At this point, besides, the "purchase of credibility" through institutionalized promises does not seem the most urgent matter for the fiscal and monetary policies of the region. In their own way, and with differences in the policy approaches, the countries of MERCOSUR have been normalizing their macroeconomic behavior after a period of great disturbances. The strengthening of public finances (with due regard to the heavy debt burdens still to be dealt with), and the low inflations that were obtained under systems with a degree of flexibility, have contributed to generate a certain confidence on macroeconomic policies over short horizons: the accumulation of reputation through observed performance appears as an important mechanism to gradually extend those horizons. Given the experience of the economies concerned, a crucial element in macroeconomic stabilization (and in that reputational buildup) would be the avoidance of large crises.

If the countries perceive that progressive economic integration can allow geographic proximity to be translated into joint growth, the increasing interdependences and the interest in promoting steady macroeconomic conditions for the region as a whole would provide incentives for cooperation. As it has been mentioned, a non-trivial aspect would seem to be to monitor in common the trends of the economies, in order to keep track of signals about their sustainability and, if necessary, to deal with shocks. Also, it has been suggested (Ocampo, 1999; Agosin, 2001) that regional funds can provide first lines of defense against disturbances. In a project of increasing integration, and apart from the practical issues involved in the design and the management of such institutions, the fact of placing some actual resources under "regional" administration may establish a specific context for these activities (because the potential use of funds would naturally require an agreement among the partners about the nature of the problems that are faced and about the ways to handle them) and signal the willingness to deal with the macroeconomic aspects of integration.

IV. Concluding remarks: looking ahead

MERCOSUR is in a state of transition in several ways. The region has just emerged from a period of macroeconomic crises. The economic recoveries and the reinforcement of macroeconomic policies have been noticeable, but it still seems difficult to identify the new trends. Sustainability remains an issue. The trade patterns within the region have changed visibly, and this has sometimes been a source of frictions. The "growth strategies" of the individual economies and, concretely, the role assigned to economic integration do not appear well specified yet. Thus, the nature and the intensity of macroeconomic interdependences cannot be anticipated with any precision.

The regional agreement appears to be near a bifurcation. The way that will be followed is not likely to be established in one dramatic event, but rather would result from an accumulation of actions over time. The crucial condition seems to be whether governments and public opinions in the different countries come to perceive integration as a practical instrument for growth, in order to exploit concrete opportunities generated by geographical proximity and by specific productive complementarities. In addition, a progressive integration would appear to require the view that (apart from fits and starts which historically have implied that, in turn, some economies and then others progressed more rapidly or had more difficulties) a process of continued development for a single country may be limited if the region as a whole does not advance. Otherwise, centrifugal forces and a sense that MERCOSUR has no clear economic purpose can eventually prevail.

Macroeconomic policies and macroeconomic behavior cannot be isolated from the general choices ahead. The main question does not seem which could be the "macroeconomic components" of an ongoing integration project, but whether there will be a "common approach" to growth, which would include macroeconomics as an important part.

There is a legitimate question as to whether the lack of a definite regional strategy on the part of the countries of the region has derived from the absence of a clear perception of existing opportunities, or rather emerged because such a strategy would add no positive value compared with a purely autonomous alternative. This remains an open issue, although at the same time, it would seem that the disappointing experience of recent years need not be extrapolated into the future. In this sense, it does not appear to be the case that the experiment of trying to develop a "vision" of MERCOSUR (in the graphic sense of a rough picture of where the countries of the region would be headed and how the region would fit concretely into national projects) has been

tried and delivered a negative answer, but rather that it has not been carried out. Of course, the search for a strategy is not an issue that belongs only to the regional aspects of each economy's growth, but applies also to the view that each individual country would have of its direction of movement.

Macroeconomic imbalances certainly contributed much, through several channels, to induce turbulence and frustration about the integration process. Macroeconomic instability has shortened decision horizons, and made agents, private and public, focus on the negative spillovers generated in the region, leading to predominantly defensive attitudes. It has also clouded the perception of longer-run possibilities, and strengthened the view that the interaction between the regional economies involves high risks. On the other hand, in periods of relative macroeconomic tranquility (as in the years between the Mexican and the Russian crises), it looked as if complacency prevailed, and diluted the incentives to consider in more or less explicit terms the longer term outlook of the regional project. This experience suggests that it would be costly to disregard the chances that become open at times of recovery, to contemplate a "search for trends", and to make provisions for macroeconomic contingencies. Also, it would matter to view MERCOSUR from a perspective that would incorporate centrally, but not exclusively, the foreign trade policies strictly defined.

Disparities between the economies are of course a noticeable feature of the region. Some of them may have a transitory component (as it was mentioned, for example, the relative size of the countries' national markets has been quite variable over time), but the asymmetries of scale and structure will remain considerable. The motives for and against deep integration would then vary among the different countries, and so would their outside options and their bargaining power within the region. However, this does not imply either the inevitability of integration ("imposed by a leader"), or its impossibility (because of the difficulties posed by the very different sizes). Deals between agents of dissimilar scale can obviously take place, if the parties recognize the existence of mutually beneficial exchanges, and they do not insist on conditions unacceptable for their counterparts. In any case, there would seem to be, for all countries of MERCOSUR, although not necessarily for the same reasons, a reinforcing effect of growth prospects of the individual economies on the incentives for the others to progress in the integration with them. The appeal of an expanding Brazilian market, of course, would be felt strongly by the other countries. If these other economies, and particularly Argentina, show signals of being capable of sustained growth, the economic size of the rest of the region relative to that of Brazil would remain non-negligible, and probably Brazil would have an interest in putting itself at the front of a growing area. This would suggest the possibility of a bifurcation between a scenario of region-wide growth with advances in integration, and one of comparative stagnation, maybe with increasing heterogeneity within the region, where the economies would be more likely to drift apart.

In any case, deeper integration would require a *pari passu* development of practices of interaction between macroeconomic policies. At some point, deep integration brings about a lock-in effect (in the form of international commitments, and of private investments predicated on the regional arrangement). The generation of significant macroeconomic spillovers, probably of increasing intensities, can then be expected to become a permanent feature of the region, and attitudes of "differentiation" in times of difficulties are likely to have a reduced effectiveness. The weight of decisions that are taken as a function of the macroeconomic outlook of the region as a whole is likely to rise. The overall macroeconomic performance and that of the partners will grow as a concern of the individual countries. Therefore, the benefits of a smooth behavior of the regional economy, and the costs of disturbances, will rise accordingly. With all due regard to the strong differences between the two cases, the logic of deep integration may lead to a similar phenomenon as in Europe, where problems in individual economies quickly become "European"

problems, either because the smaller countries are concerned about spillovers from the larger, or because these want to prevent localized disturbances to generate regional instability.

Here again it seems pertinent to stress the importance of crisis prevention, and of the buildup of instruments and criteria in order to handle large shocks (as, for example, Europe was able to deal ultimately with the big currency disturbances of 1992 without “breaking ranks”). The measurement of the costs of economic fluctuations has been a matter of discussion, especially since Lucas (1987) argued that the welfare losses of the US business cycle were not too large. However, this does not seem to apply to strong disruptions, like depressions (or hyperinflations, for that matter). In the context of the US, it has been suggested that driving to zero the probability of a depression from an already low value may imply sizeable welfare gains (Chatterjee and Corbae, 2003). The argument would apply with more emphasis in a region where, judging from history, the likelihood of recurrence of extreme macroeconomic disturbances cannot be ruled out easily.

The responsibility of preventing and absorbing macroeconomic shocks is of course mainly a national matter. However, since large-amplitude fluctuations can generate significant spillovers even between economies without too strong trade links, the possibility of those events in one country would also be a matter of concern for others. If those countries are engaged in a deepening integration process, the value of effective commonly established mechanisms for prevention and handling would increase, because the strategy of “isolation from the troubled neighbor” might be blocked and the potential for contagion through expectations could be stronger. These mechanisms need not rely on strict numerical targets (although, of course, large deviations from “normal” values of variables like the budget deficit or the current account would call for a close look), but rather involve a continued joint monitoring of macroeconomic trends and the development of instruments, and policy criteria to act in the case of shocks.

As Moccero and Winograd (2004) have stressed, MERCOSUR has not developed a “macroeconomic leadership” by one or more large countries, whose policies can easily serve as references or anchors for the others. It is not clear what may be the role of mechanisms like “regional inflation targets” in helping the policies in individual countries. However, there is a common interest in monetary stability in the region. If the decision of the countries is to move towards deeper integration, the establishment of stable (and flexible) national monetary systems and the buildup of their reputations would have a value for neighbors too, because it would reduce the chance of shocks originated within the region, and facilitate the search of opportunities for practical monetary coordination. Here too, more than strong announcements, what seems to be called for is the willingness to cooperate and to develop common views on policy-making.

There is no strong evidence suggesting that the economies of the region will be subject to symmetric shocks such that real exchange rates should move roughly in parallel. At the same time, large fluctuations in bilateral real exchange rates have visibly been a source of conflicts and, in one way or another, have led to pressures to restrict intra-regional trade. Moreover, in a process towards deeper integration, the correlation between “equilibrium” real exchange rates (defined somehow) is likely to increase, and so would the weight of intra-regional stability in policy-makers preferences. Managing jointly this set of effects, operating with an uncertain sequence, would seem to require a persistent interaction of policy-makers in order to identify trends and shocks, and sort out tradeoffs when they present themselves.

The general logic for coordination is simple. If the countries are interested in integrating their markets, they will find benefits in harmonizing the conditions (e.g. on taxes and regulations) for performing economic activities and investing in the region. The existence of macroeconomic spillovers and interdependences would open “exchange opportunities” in policy-making that may lead to concerted policy actions. However, these coordination activities will not happen

automatically: there have to be investments in "mutual knowledge" and confidence-building so that the potential agreements can be expected to be based on reasonable information about their likely results, and to be determined in a context where reputational arguments limit opportunistic behavior. Those investments require sustained efforts over time, and seem to have an element of irreversibility. In that case, coordination may face large "transaction costs" in the initial stages of integration, and become much easier (and "natural" for decision makers) later on. The development of conditions for meaningful, practical coordination coincides, to a good extent, with the search for a more or less common vision of a medium-term path of sustainable growth in the region. This seems a non-trivial task.

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Appendix. Bilateral import demand functions for Argentina and Brazil

The bilateral trade flows between Argentina and Brazil have been studied in previous works (cf. Heymann and Navajas, 1992 and 1998). It was found that, overall, those flows could be represented by "import functions", so that their magnitude depends mainly on the macroeconomic conditions of the importing country. That is, the principal determinants of the Argentine exports to Brazil, say, were the levels of real activity and real exchange rate in Brazil. Diagnostic tests did not indicate the presence of significant "cross effects" of macroeconomic variables of the exporting country. However, there was evidence of "jumps" in the trade flows, measured by dummy variables, which could perhaps represent unidentified supply effects.

The main question addressed here is whether those models can still account for the movements in bilateral trade in recent years, or rather these is evidence of structural breaks. The bilateral import demand functions were estimated over the extended sample period 1970:Q1-2004:Q1. Results are shown in the table below. The function representing Argentine imports from Brazil shows some important changes with respect to that of the earlier period. If the same specification is used, the real exchange rate of Argentina would now appear as non-significant (this derives from the relatively small drop in Argentine bilateral imports following the large depreciation of 2002). In any case, the recursive residuals and p-values for a one-step forecast test suggest that structural breaks or parameter instability may be present in the data. Likewise, Chow tests for forecasts in the interval 2002:Q2 to 2004:Q1 point in the direction of a structural break, as the null hypothesis can be rejected. Furthermore, recursively estimated coefficients, both for the autoregressive and the real exchange rate variables, show noticeable changes around 2002 (by contrast, the GDP coefficient has remained reasonably stable). This evidence strongly suggests the inclusion of a shift dummy or an interaction term (or both) for that period.

Accordingly, the model was re-estimated with a "level" dummy variable for the period 2002:Q2-2004:Q1 (see the table below). The results show a satisfactory fit. All expected signs of the parameters are significantly confirmed in the estimation results. Argentine GDP and real exchange rate (contemporaneous and lagged one year) were found to be significant variables. The value of the short-run GDP elasticity of demand for imports is significantly higher than unity. The estimated coefficient of the long-run elasticity of GDP (3.47) is very high; this indicates a very intense response of bilateral imports to changes in real activity (although such an elastic

behaviour clearly cannot represent the evolution over indefinitely long time periods). The measured elasticity with respect to the Argentine real exchange rate is -0.46 in the short run, while the long-run exchange rate elasticities close to one (-0.94). All these key estimated coefficients are statistically significant at 5% level.

The dummy variable is not only significant, but also quite large. Its size would imply that Argentine imports from Brazil after 2002 were 40% larger than the estimate generated by the model ignoring the shift variable. Since this shift took place after a large devaluation, it would also be possible that the change in the behaviour of bilateral imports reflected in fact a break affecting the exchange rate elasticity. When this alternative was tried, the estimation admits a structural break, with a noticeable fall in that elasticity. With the data so far, the type of structural break cannot be precisely identified. The fact remains that either the response of imports to the exchange rate has declined, or there has been an upwards jump in levels.

With regards to supply effects from Brazil, measured through that country's macroeconomic indicators, the omitted variables tests for the contemporaneous and lagged GDP and real exchange rate, in levels and growth rates, have indicated that the quality of the estimation is not substantially affected by leaving aside those macroeconomic variables.

On their side, the bilateral imports of Brazil (or exports from Argentina) can be represented with a model which is similar to that obtained for past periods. Among the changes that were observed, the autoregressive term now shows a 2 period lagged effect. The short-run reaction of bilateral imports to the Brazilian GDP is somewhat higher (1.53, in comparison with 1.46 previously estimated); also, earlier evidence of an "acceleration effect" such that the level of imports responds to the change in GDP is not present now. Although the long-run GDP elasticity has a high value, it is not as large as the response estimated for the period up to 1997. The short-run elasticity of bilateral Brazilian imports with respect to the real exchange rate is lower than the previous estimation (-0.41 for the one-year effect, compared with 0.48 in the previous equation). In the long run, that elasticity is also lower. In conclusion, the extension of the sample for a longer period indicates that the imports of Brazil from Argentina still show a considerable response to both the domestic product and the real exchange rate, but maybe not as strong as it seemed some years ago. Argentine "supply effects" have been studied through an omitted variable test, and were not found significant. Moreover, recursive residuals suggest the lack of structural breaks. This is confirmed by Chow tests, indicating that the null hypothesis that two sub samples were generated by the same structure cannot be rejected over the periods 1999:Q1-2004:Q1 (after the Brazilian currency depreciation) and 2002:Q2-2004:Q1 (after the Argentine currency devaluation).

Thus, the available evidence about the determinants of trade flows between Argentina and Brazil again indicates that there is an asymmetry in the effect of the macroeconomic variables (real output and exchange rate) of the buyer and the seller. Roughly speaking, the influences on the demand side have been more important, both for the Argentine sales to Brazil and for the flows in the opposite direction. Another salient characteristic of the trade between the two countries is that, although exchange rate effects are sizeable, there is a particularly large response to the level of activity in the economy of the importing country. The fact seems important when studying the causes of the volatility of trade flows: this appears to be generated in part by shifts in real exchange rates, but particularly by the fluctuations in real output.

In brief, the Brazilian imports from Argentina can be represented in approximately similar terms as in the estimates made some years ago. Those flows respond to the macroeconomic conditions of the buyer country, with a particularly elastic response to real output. In the case of the Argentine import demand function, there is significant evidence of a structural break, with a sizeable increase in imports from Brazil relative to what would have been

predicted using the equation estimated in the nineties. Since the parameter change appears to have occurred in recent times, it is hard to ascertain whether this was a “jump” in the level of imports, or a fall in the elasticity of bilateral imports with respect to the Argentine real exchange rate.

TABLE 1
DETERMINANTS OF BILATERAL IMPORT DEMAND, 1970:Q1-2004:Q1
(Standard errors in parentheses)

Argentine imports from Brazil in dollars	1970-1997	1970-2004a	1970-2004b	1970-2004c
Constant	-0.987 (1.86)	-5.370 (1.35)	-3.570 (1.38)	-3.624 (1.38)
AR imports from BR in dollars (lagged)	0.502 (0.08)	0.529 (0.06)	0.515 (0.06)	0.517 (0.06)
AR real exchange rate with US dollar (contemporaneous)	-0.368 (0.09)	-0.138 (0.07)	-0.341 (0.08)	-0.338 (0.08)
AR real exchange rate with US dollar (lagged 1 year)	-0.215 (0.10)	-0.029 (0.07)	-0.115 (0.07)	-0.107 (0.07)
AR GDP at constant prices	1.244 (0.44)	1.804 (0.34)	1.685 (0.32)	1.685 (0.32)
APER80 (dummy)	0.232 (0.09)	0.277 (0.08)	0.196 (0.08)	0.197 (0.08)
Dummy 1982:Q3	0.566 (0.09)	0.322 (0.07)	0.460 (0.07)	0.454 (0.07)
Dummy 1991:Q2	0.208 (0.10)	0.281 (0.07)	0.139 (0.08)	0.142 (0.08)
SEAS(1)	-0.183 (0.05)	-0.036 (0.05)	-0.043 (0.05)	-0.043 (0.05)
SEAS(2)	0.135 (0.05)	0.030 (0.04)	0.037 (0.04)	0.037 (0.04)
SEAS(3)	0.068 (0.05)	0.063 (0.04)	0.063 (0.04)	0.063 (0.04)
Dummy 2002:Q2			0.351 (0.10)	
Dummy02*AR real exchange rate				0.072 (0.02)
N	112	133	133	133
R2	0.97	0.98	0.98	0.98
F	345.4	618.6	618.2	615.3

Source: ECLAC, on the basis of official figures.

TABLE 2

Brazilian imports from Argentina in dollars	1970-1997	1970-2004
Constant	-1.367 (0.54)	-1.898 (0.52)
BR imports from AR in dollars (lagged)	0.424 (0.09)	0.529 (0.09)
BR real exchange rate with US dollar	-0.484 (0.13)	-0.412 (0.09)
BR GDP at constant prices	1.464 (0.26)	1.527 (0.23)
“Acceleration effect” GDP – GDP(-1)	1.208 (0.53)	
Dummy 1989:Q3	0.209 (0.09)	0.204 (0.09)
Dummy 1992:Q4	0.375 (0.11)	0.497 (0.10)
SEAS(1)	-0.203 (0.07)	-0.173 (0.06)
SEAS(2)	-0.431 (0.10)	-0.190 (0.06)
SEAS(3)	0.265 (0.07)	-0.197 (0.06)
BR imports in dollars (lagged 2 periods)		-0.132 (0.08)
N	112	135
R2	0.96	0.97
F	248.6	436.8

Source: ECLAC, on the basis of official figures.