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Mercosur Economic Research Network

Trade, Foreign Exchange Regime and Volatility: Coordination of Macroeconomic Policies in Mercosur

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I . INTRODUCTION

At present, there is a renewed and growing interest in the analysis of the factors determining the autonomy of economic policy and its relation to exchange-rate regimes. Two features characterizing the international scenario are closely associated with this interest: first, the raise in the size and volatility of international capital flows; second, the increasing volume of trade flows within regional agreements. Today, one third of total world trade takes place under the umbrella of some kind of regional agreement. The issues presented in this Brief are directly related to these facts. They summarize the results of a project on "Macroeconomic Policy Coordination in Mercosur", undertaken by three research institutions: CEDES (Argentina), the Economics Department from Universidad Federal do Rio de Janeiro (Brazil) and CINVE (Uruguay). Each research team elaborated a country study focusing on the changes in the trade structure, the characteristics of the exchange-rate regime and the interaction between trade and the macroeconomy. The principal target was to identify advantages and restrictions for the coordination of macroeconomic policies in Mercosur. On the basis of the three country studies, CEDES, which acted as coordinator, elaborated a synthesis paper which presents the main stylized facts and draws economic policy lessons.

II. THE TRADE STRUCTURE

Taking into account the factors highlighted by the literature on macroeconomic policy coordination, the analysis focused on three variables: changes in the degree of openness, volume of trade and trade structure (interindustry vis-a-vis intraindusty trade and index of sectoral contributions to the trade balance). The stylized facts identified were the following.

Openness and volume of trade. The Mercosur agreement has had a favorable influence on both the members' degree of openness and the magnitude of trade flows in the region. Nonetheless, in addition to the advances in regional integration, the countries in the area simultaneously implemented unilateral measures to open their economies. The three countries under analysis show a sharp increase in imports and, in some years, registered trade imbalances. Interestingly, while the participation of each member in the others' total imports did not change significantly, the proportion of exports to Mercosur in each member's total exports increased heavily. This suggests that the elimination of trade barriers within Mercosur prevented the proportion of each member's exports in the other members´ imports from falling in a context with a steep increase in the demand for imports in the region. At present, Uruguay is the country whose exports depend most heavily on the demand from Mercosur, followed by Argentina. Brazil shows the lowest proportion of exports destined to Mercosur.

In spite of the efforts to open, the two most important economies in the region (Argentina and Brazil) are still markedly closed. This represent an obstacle to macroeconomic policy coordination. Uruguay, in contrast, is much more open.

Trade structure. Trade with countries outside Mercosur still reflects the traditional pattern of comparative advantage. This is notably so in the case of Uruguay and Argentina. Trade within Mercosur, in contrast, shows departures from traditional patterns. Many sectors with important trade flows within Mercosur do not trade with the rest of the world. It seems that the regional agreement created opportunities to exploit scale economies and to diversify exports. This is suggested by the fact that intraindustry trade showed a continuous increase. Particularly relevant is the case of the transport industry. In Uruguay, nonetheless, the increase in intraindustry trade is only substantial with Argentina. Trade flows between Brazil and Uruguay are still dominated by traditional comparative advantages. Likewise, the analyses of intraindustry trade flows between Argentina and Brazil at a less aggregated level reveal they are of a better quality compared to flows with the rest of the world.

Beyond the higher diversification and the greater exploitation of economies of scales, the index of revealed comparative advantage (that is, contributions to the trade balance) shows that trade specialization patterns are still dominated by traditional factors associated with factor endowments. This is specially true in the case of Uruguay and Argentina. Argentina shows a high surplus in the trade balance of the energy and food sectors and deficits in non-food industrial sectors. This means that Argentina finances the trade deficit in industrial products with the surplus in food and oil. This deficit/surplus pattern, however, is much less significant in the Mercosur area.

III. VOLATILITY AND THE EXCHANGE RATE REGIME

The real exchange rate depends on two domestic price levels and a bilateral nominal exchange rate. Therefore, to understand the dynamics of the real exchange rate it is necessary to analyze both the stochastic properties of domestic prices and the restrictions that a given exchange rate regime pose on the adjustment of the nominal exchange rate.

The analysis of the evolution of the level and volatility of the real exchange rate was based on monthly observations of consumer and wholesale prices in Argentina, Brazil and Uruguay in the period January 1975 / September 1999. Time series techniques were used to model the stochastic process, including intervention analysis, unit root tests and volatility models (ARCH and GARCH). The most important findings are the following.

The relative PPP condition and the real exchange rate. The empirical evidence suggests the rejection of the relative PPP hypothesis in the case of the bilateral real exchange rate between Brazil and Uruguay. In contrast, it is not possible to reach a definite conclusion on the bilateral rate between Argentina and Uruguay, and Brazil and Argentina. The unit root test is not powerful enough to discriminate between the alternative hypotheses. In the case of Argentina and Brazil, however, the tendency toward the purchasing power parity is markedly stronger when wholesale prices are used to perform the tests. This suggests that the forces of arbitrage are stronger in the case of tradable goods. If this is correct, one could expect the tendency toward the PPP benchmark to be reinforced by the integration process.

The relative PPP condition, nonetheless, is a long-run one. In the short run, significant variations in the real exchange rate can be observed. In this sense, the fundamental determinants of the bilateral real exchange rate are more complex than the PPP suggests for the long run. The Uruguayan case study highlights some features of the dynamics of bilateral exchange rates that can be very useful to understanding the behavior of future bilateral exchange rates in the region. In particular, this study shows that a modification in the nominal exchange rate in Brazil and Argentina has different effects on the bilateral real exchange rate with Uruguay. The change in the exchange rate in Brazil induces permanent changes in Uruguay's relative prices. In contrast, the variations in the exchange rate in Argentina are partially absorbed by modifications in Uruguayan prices. This behavior is consistent with the fact that Argentina and Uruguay show a much higher degree of trade integration. Argentina and Uruguay, to a great extent, constitute a natural regional bloc and share non-tradable regional goods. Trade flows between Brazil and Uruguay, on the other hand, are still dominated by commodities whose prices are independent of the evolution of the Brazilian and Uruguayan economies. Hence, if the integration between Brazil and Uruguay deepens, one can anticipate that the behavior of prices and bilateral rates will resemble the behavior observed in the cases of Uruguay and Argentina. In other words, the integration process should reinforce the tendency toward PPP. If this occurs, there will be an increasing pressure to coordinate macroeconomic policies in order to harmonize domestic inflation rates within the region.

Strong volatility in the bilateral real exchange rate. Strong volatility is a characteristic of the evolution of both nominal and real exchange rates and it affects all members of the regional bloc. The existence of volatility, nonetheless, did not impede the increase in trade. In fact, the

first initiatives favoring the economic integration of Brazil and Argentina were implemented in the late 1980s, a period characterized by extremely high volatility in the real exchange rate. In fact, the volatility observed in this period was the highest in the sample.

For a more complete picture of the relation between volatility and trade, however, we must take into account two points. First, the consolidation of the regional agreement and the most important increment in trade took place in a period with a significant decline in volatility, the period in which the Plan Real in Brazil and the Convertibility Plan in Argentina coincided. Second, the higher level of volatility in the time series seems to be associated with an average adjustment period that is not too long. In the case of the bilateral real exchange rate between Argentina and Brazil the estimated models suggest that the period of adjustment toward the long run value of the exchange rate is shorter than in developed countries. This is coherent with the hypothesis that the duration of contracts is shorter in a volatile environment. This could make the coordination of macroeconomic policies easier even in the context of different exchange rate regimes.

Non-neutrality of the exchange-rate regime. Time series tests indicate that changes in the exchange rate regimes in Argentina, Uruguay and Brazil produce permanent changes in the stochastic proper ties of real exchange rate series. This occurs via the effects of such changes on nominal magnitudes. Specifically, the implementation of the Convertibility Plan in Argentina led to a remarkable reduction in the variance of the bilateral real exchange rate. Likewise, the Plan Real also induced a strong fall in this variance. After the Plan Real was discontinued with the devaluation in January 1999, there was a renewed increase in volatility, although it did not return to its previous level.

In our research we try to measure each country's influence on the volatility of the bilateral real exchange rate. Historically, Argentina is by far the country that has contributed most to increasing the volatility of the real exchange rate. But this fact changed radically after the implementation of Convertibility. The ARCH models utilized to measure the volatility of expectations of the real exchange rate shows that Convertibility induced a structural change. From 1991 on, it is Brazil the country that contributes more to volatility in the short run. Uruguay, on the other hand, only sporadically becomes an important source of volatility for the bilateral real exchange rate. In fact, the Uruguayan role was only relevant when the country abandoned the "tablita" in 1982. This suggests that Brazil should make an important effort to reduce volatility for the coordination of macroeconomic policies within the regional trading bloc to be viable.

When discussing economic policies within the bloc, it is assumed that the diversity of regimes and, particularly, the Argentine Convertibility, is an almost insurmountable obstacle to the efforts of coordinating macroeconomic policies. The empirical evidence in the project is not fully compatible with this view. In the first place, the Convertibility Plan induced a marked reduction in volatility and this improves the conditions for coordinating macroeconomic policies. Likewise, it made arbitrage easier to the extent that there was a reduction in the uncertainty over the future evolution of prices. Second, the evidence suggests that, in the future, there could be enough overall flexibility in absolute prices in the countries of the region to permit the adjustment in the real exchange rate. We have already

mentioned that the tendency for the PPP condition to be met is stronger in the case of wholesale prices and that changes in the Argentine exchange rate tend to affect prices in Uruguay. We can reasonably assume that price arbitrage would be reinforced if the integration process showed substantial progress.

IV. ECONOMIC POLICY IMPLICATIONS

Regarding the exchange rate regime, there are basically three possibilities for the trading bloc. The first is the status quo, which implies no macroeconomic policy coordination in Mercosur. The second is dollarization. The third is to implement a gradual coordination process for macroeconomic policies, which will eventually lead to a monetary union in Mercosur. Given the non-neutrality of the exchange rate regime, these alternatives are not irrelevant to the real side of the economy.

The empirical evidence in the project does not favor the status quo. The maintenance of the status quo implies that the member countries do not have profitable coordination opportunities to exploit and this is false. Specially under a scenario of deeper trade and economic integration. There is much to be done, for example, to reduce the volatility of bilateral exchange rates within the bloc.

Neither dollarization nor a monetary union seems to be the best choices in light of our research. Both alternatives imply the fixation of the nominal exchange rate. And there are two factors, which suggest that the two main economies in the bloc do not meet the conditions for a successful fixation of the nominal exchange rate between them. First, Argentina and Brazil are very closed and, in spite of its rapid growth, intra-regional trade is still low. Second, a high degree of volatility still subsists in the regional economies regarding both nominal and relative prices.

The most important challenge facing Mercosur at present is to advance decisively toward the deep integration of the national economies in a single economic area. Two closed economies like Brazil and Argentina need trade and more trade. This strategic goal does not favor the utilization of macroeconomic policy tools which could deter trade. Specifically, we refer to the proposal of using tariffs and subsidies to make up for changes in bilateral real exchange rates. Besides, these instruments are difficult to utilize in a volatile context. Given the sizable variance of the real exchange rate, there would be permanent changes in the tariff/subsidy mix, although the level of preferences given to member countries would bind the range of the possible compensatory changes. It would make no sense to discriminate more against one country in the bloc than against the rest of the world just because the country devalues its currency. The research undertaken in the project shows there can be long periods of currency appreciation/depreciation and, consequently, compensatory measures should be in force for long periods. This, no doubt, would affect the structure and level of bilateral trade flows.

In sum, the countries in the Mercosur area show much less volatility and instability now than in the recent past. But there is still much work to be done. So, these countries could reap substantial benefits if they found a way to gradually advance in macro coordination. They should aim, in the first place, to reduce the remaining volatility in the evolution

of nominal and relative prices within the bloc. Nonetheless, under the present circumstances, to set ambitious coordination goals such as a monetary union, would be neither beneficial for macroeconomic stability nor for the regional agreement. In this regard, the recent "Declaración de Buenos Aires" which established the gradual harmonization of inflation rates, fiscal deficits and public indebtedness, seems to be a step in the right direction.

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