

1.1.3 Evaluation of major agricultural development policies

The policy to strengthen the competitive viability of exported products, which is the major targets of agricultural development policy, has been evaluated. Firstly, the trends and issues pertaining to Paraguay's exported agricultural and livestock products have been explained; and secondly, the comparative advantage index of the Revealed Comparative Advantage (RCA) model¹ was estimated in order to compare the competitive viability of exported agricultural products of Paraguay and other MERCOSUR countries. The findings were utilized to pinpoint the issues in agricultural development policies.

(1) Analysis of agricultural produce trade performance and related issues

1) Low export growth rate of agricultural and livestock products

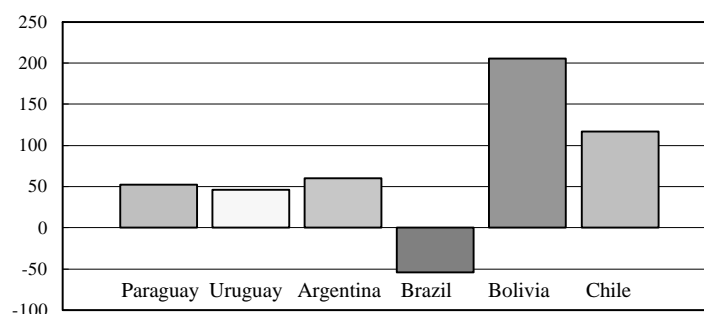
Figure 2 shows the growth rate of exported agricultural and livestock products of the MERCOSUR member and associate member countries (Bolivia and Chile). The export trends of agricultural and livestock products are characterized by the following tendencies.

- a) The average growth rate of exported agricultural products of the MERCOSUR countries for the period of 1985 to 1989 and 1990 to 1996 was 51 % for Paraguay, 61 % for Argentina, 44 % for Uruguay, - 56 % for Brazil, 208 % for Bolivia, and 118 % for Chile. An abrupt drop in the export of surplus of Brazil is indicated.
- b) The sudden growth in the competitive viability of the agricultural exports of Bolivia, Chile, and Argentina is marked.
- c) In regards to export growth in agricultural produce (especially grains) with the MERCOSUR region, Brazil is steadily absorbing the export growth of Paraguay, Argentina, Uruguay and Chile².

¹ The Revealed Comparative Advantage (RCA) index was found using the formula $(X_{ij}/X_j)/(W_i/W)$. Here, X_{ij} is export of commodity i by country j ; X_j is total value of all export commodities by country j ; W_i is export of commodity i by the world; and W is total value of all export commodities by the world. Total export commodities value in this report is the total export value of the following 10 commodities: soybeans, cotton, soyoil, soymeal, meat, sunflower, meal, sunflower oil, tomato, sunflower, and poultry. When the RCA index rises above 1, it shows a corresponding increase in the level of comparative advantage on the world market; when the RCA index falls below 1 (approaching 0), it shows a corresponding increase in the level of comparative disadvantage, and the comparative advantage is lost.

² The following source provides details of the changes in agricultural trade of these countries, mainly Brazil: Rita T. Vieira and Gary W. Williams (1996): "MERCOSUR and Agricultural Markets," TAMRC International Market Research Report No. IM-2-96, Texas A & M University.

Figure 2 Growth Rate of Agricultural Exports of MERCOSUR Countries
(including the associate member countries, 1985/89 – 1990/96, average)



Source: J.Quiroz and L. Opaza (1998): Krueger – Schiff – Voldes Study Ten Years Later A Latin America Perspective

Paraguay achieved a higher export growth rate in agricultural produce than Uruguay, but this is still low in comparison to other MERCOSUR countries. The data in Table 1 clarifies the factors, which had a negative impact on Paraguay's export growth rate. The table shows the export growth rate of Paraguay, including that of agricultural produce and agricultural and livestock processed goods.

It is evident from the data that, since livestock exports in the period 1994-1996 showed minus growth and this growth rate fell significantly in the period 1992-1997, livestock products were responsible for the fall in total export growth rate of agricultural produce. Viewed in the context of a comparison of Paraguay's competitiveness through membership of MERCOSUR, Paraguay's export market may be considered to have been eroded by the livestock products and stockbreeding industries of Argentina, Uruguay, etc. There is no denying the possibility that, in the worst scenario, Paraguay's domestic market for meat consumption will be largely taken over by the highly productive livestock industries of the other countries in the region.

Table 1 Annual Growth Rate of Paraguay Exports: Agricultural Related Products

	1992/93	1993/94	1994/95	1995/96	1996/97
1.National total registered export	10.4	12.6	12.5	13.5	9.5
2.Primary products	13.2	4.2	15.5	7.4	7.9
Agricultural products	12.0	1.2	19.6	14.7	8.9
Livestock products	18.8	17.2	- 4.2	- 21.7	3.2
3.Manufactured products	4.8	31.5	7.3	25.2	12.1
Edible oils	- 20.1	56.8	5.5	5.6	- 10.4
Lumber	19.7	23.2	13.6	5.3	7.1
Others	10.2	26.5	4.8	45.9	22.0

Source: Boletín de Cuentas Nacionales, BCP, 1998

2) Limited number of export items and tendency to concentrate agricultural exports on the countries within the MERCOSUR region

A further factor which impacts negatively on Paraguay's export growth in agricultural produce is the limited number of items on which exports depend. For example, on BCP data estimates, soybeans, cotton, livestock products (including hides), and timber accounted for 89 % of the total amount of agricultural exports averaged over the three-year period 1995-1997, dropping to 70 % when all items, including other industrial goods, are taken into account. Much of the literature points out the importance of introducing new crops for export strategy under the Agricultural Diversification Policy being promoted by the Paraguay government (MAG). However, at the same time, a strategy is required to expand the number of export countries while raising productivity (especially labor productivity).

As shown in Figure 3, by becoming a member of MERCOSUR, Paraguay has tended to concentrate export of its agricultural produce largely on the countries within the MERCOSUR region. As pointed out by INTAL MERCOSUR Report (IDB No. 4 January-June 1998), since joining MERCOSUR Paraguay has made little attempt to pursue trade outside the region, or to encourage direct investment from outside the region. This is perhaps understandable in view of the change in system already mentioned, particularly the change in trade pattern following membership in MERCOSUR. However, with MERCOSUR still immature as a tariff alliance, limiting the export market to the region is liable to jeopardize this market as a stable source of income.

Figure 3 Paraguay Soymeal Export



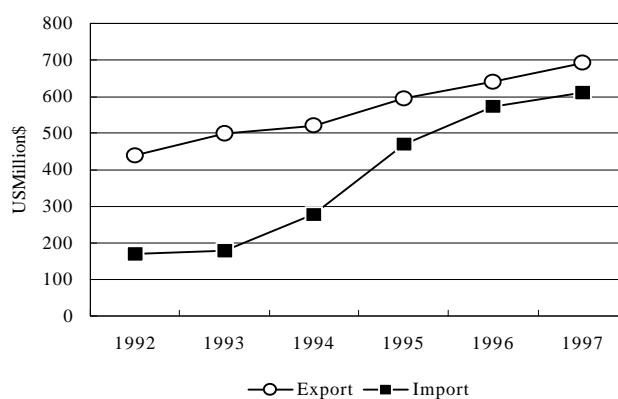
Source: Prepared, based on Boletín de Cuentas Nacionales, BCP, 1999

3) Increased agricultural produce and foodstuffs imports

Figure 4 shows trends in export and import quantities of agricultural produce and foodstuffs (foodstuff includes tobacco and beverage goods). This can be read as the influence on imports of Paraguay's membership in MERCOSUR. Paraguay's imports of agricultural produce and foodstuffs increased in the period 1993-1996, and they are now not far behind exports. The following two scenarios occurring at the same time may be posited as pertinent factors.

Firstly, as a result of membership in MERCOSUR, informal sector trade imports, which accounted for 45 % of the total in 1993, began to be subject to customs clearance, resulting in an increase in the formal sector trade figures. A further indication of this is that the informal sector trade estimate for 1997 fell to 28 % of the total³. The second possible scenario is that per capita income, which increases purchasing power, rose steadily along with the stable macroeconomic growth in this period, and imports of agricultural produce and foodstuffs increased along with the lowering of regional tariffs. According to BCP data, the per capita GDP (fiscal year 1982, US\$) was US\$ 1,597 in 1992, US\$ 1,619 in 1993, US\$ 1,625 in 1994, US\$ 1,656 in 1995, and US\$ 1,634 in 1996. Thus, in the periods when imports increased, incomes also rose. Therefore, it may be supposed that spending by the people of Paraguay has become more diversified, as in other countries.

Figure 4 Paraguay Trade Growth in Agriculture and Food Products



Source: Prepared, based on Boletín de Cuentas Nacionales, BCP, 1998

(2) Analysis of major agricultural produce trade patterns based on comparative advantage index and productivity

Figure 5 (1) to (10) show the RCA Index estimated for 10 typical export commodities of Paraguay and the other MERCOSUR countries. The first point to note is that the only one of the

³ According to the Central Bank of Paraguay estimates, the proportion of Paraguay's total imports accounted for by informal sector imports decreased over the period 1992-1997 as follows: 36 %, 45 %, 39 %, 36 %, 32 %, 28 %. Source: *INTAL MERCOSUR Report*, IDB No. 4, January-June, 1998, p. 10, Table 4.

10 commodities for which Paraguay has a comparative advantage over the other 3 countries is soybeans, productivity of which is being increased through the introduction of new technology, such as non-tillage cultivation. The second point to note is that, while Argentina and Brazil have the greatest number of commodities of comparative advantage, even Uruguay ranks above Paraguay, having 2 commodities. The third point to note is that, in cotton, Paraguay's performance is close to the world average, but that advantage is showing signs of decreasing.

This is due partly to the price of cotton in the world market being low in recent years, as well as to the stagnation of cotton productivity in Paraguay (average per capita productivity fell from 122 kg in the 1980s to 101 kg in the period 1990-1995).

These figures indicate another characteristic of the fluctuation in Paraguay's comparative advantage index, which is linked to productivity. In addition to cotton, another commodity exists for which the RCA Index shows a downward tendency. That commodity is Paraguay's traditional vegetable, the tomato. Yet the productivity per hectare of tomatoes in Paraguay is not necessarily low in comparison to world levels and is high by MERCOSUR standards⁴. The decrease in RCA Index, however, may be attributed to the fact that in the period 1993-1995, productivity by hectare showed a tendency to stagnate, and that per capita productivity fell over the long-term.⁵ In addition, the failure to secure economization of scale (lack of development of middle-scale farms), problems vis-a-vis strategic marketing know-how and systems (lack of agricultural organizations) and problems vis-a-vis access to export markets (lack of hard and soft distribution channels) are possible factors for the decrease in comparative advantage index.

Commodities for which the RCA Index shows a firm tendency to decrease are absent in the other three countries (the closest is soybeans in Uruguay, but this does not show as clear a trend as do cotton and tomatoes in Paraguay). If we exclude soybean-related processed goods, this situation represents a significant problem for Paraguay. Namely, it shows that in the MERCOSUR formation transition period Paraguay did not, in comparison to the other MERCOSUR member countries, adopt a constructive and effective policy for the development of agricultural produce exports (the pattern in the other three member countries differs from the pattern in Paraguay in that commodities with a high RCA Index in these countries show a firm tendency to increase during this transition period).

⁴ According to FAO data, the 1992-94 average production of tomatoes (ton/ha) by Paraguay, Argentina, Brazil, Uruguay, and the World average, was 39.8, 22.8, 42.8, 16.8, and 26.4 respectively, making Paraguay's position relatively high.

⁵ According to *LA DIMENSION MERCOSUR* (pp. 564-567), productivity per hectare of tomatoes in Paraguay increased from approximately 20.0 ton in the latter half of the 1980s, to an average of 39.0 ton in the 1990s. However, per capita productivity over the same period decreased from 18.5 kg to 9.8 kg. This shows that the number of laborers employed on tomato farms has increased, and production costs have risen accordingly.

However, as explained above, the increase in the comparative advantage index of the two primary processed soy products (soybean oil, soybean scrap) signifies a bright future for the competitiveness of Paraguay's exported products. Accordingly, Paraguay should utilize this opportunity to diverge from its traditional role as an exporter of primary agricultural products, which was promoted by past agricultural policies, to one of fostering the agricultural processing industry, raising the value added of its products, and thereby, raising employment opportunities in the rural communities. These are the policy issues that currently need to be addressed.