Open regionalism in the Andean Community: a trade flow analysis

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Abstract: This article evaluates the extent to which the establishment of the Andean Free Trade Zone (AFTZ) has led to an improvement of intra-regional trade, as promised by open regionalism, without reducing extra-regional trade. Open regionalism is a dynamic process in which economic agreements serve as intermediate steps towards integration with the world economy. The calculations of ex post income elasticities of import demand show that the establishment of the AFTZ in 1993 led to an increase in Andean Community trade, and not to a contraction of extra-regional trade. The intensity of trade index and the propensity to export intra- and extra-regionally confirm this finding. The article discusses these results in the context of the multilateral trading system and the trade relations between the Andean Community and the rest of the world.

1. Introduction

ECLAC (1994) and Reynolds, Thoumi, and Wettmann (1994) similarly define open regionalism economic agreements as intermediate steps in the process of integration into the world economy. That is, in order to gain the strength necessary to compete at the global level, neighboring countries must first build trade with each other. The reduction of both policy and natural barriers to intra-regional
trade decreases transaction costs, increasing returns and levels of investment. Moreover, as Reynolds et al. point out, this process of building regional agreements, because it relies upon the reduction of internal barriers to exchange, leads to improvement of intra-regional trade. In general, ‘open regionalism’ is differentiated from ‘closed regionalism’ because open regionalism is consistent with GATT–WTO principles of pursuing further collaboration between different preferential trade agreements (PTAs).\(^1\) Additionally, open regionalism promotes liberalization of goods and services, free movement of labor and capital, and harmonization of national policies. As a result, international competitiveness is enhanced through PTAs (Bulmer-Thomas, 1998; Kuwayama, 1999; Pizarro, 1999).\(^2\)

The process of open regionalism in Latin America has been studied from an international political economy perspective by Stallings (1995) and other scholars who view this new regionalism as part of the globalization and transnationalization of the world economy. In general, these authors view regional agreements as an effort by states to maintain some control of their economies and societies in the face of the pressure of globalization and loss of identity due to the increasing power of multinational corporations and organizations (Axline, 1994; Sideri, 1996).

Another group of scholars questions how consistent open regionalism agreements are with the multilateral GATT–WTO system (De Melo and Panagariya, 1993; Bergsten, 1994; Bhagwati, 1995). Bhagwati is the main representative of these critics of the PTAs. Bhagwati, Greenaway, and Panagariya (1998) explain that the proliferation of PTAs reflects the new US support for regional agreements (instead of the former emphasis on multilateral free trade) and the sanction of PTAs under GATT Article XXIV. Bhagwati et al. note evidence of trade diversion, such as in the case of the Common Market of the South (MERCOSUR), to show

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1 GATT Article XXIV does not distinguish between open and closed regionalism. Indeed, members of a PTA could further liberalize their economies not through expanding membership of a PTA but through its members participating in and implementing the results of a multilateral round. Article XXIV regulates under which conditions PTAs can be structured or enlarged to ensure that they do not worsen market access or trade for countries that are not part of the union. For example, one of the important requirements of this article is that tariffs and non-tariff barriers of a PTA must not be higher than the average of the pre-existing tariff levels of the members of this PTA. Also, any intra-region trade restriction must be eliminated.

2 The Asia Pacific Economic Cooperation (APEC) provides an interesting case study of the different perspectives of open regionalism. The simplest version of APEC open regionalism will accept those countries that are willing to accept the APEC rules. A second version of APEC open regionalism will extend to any member’s trading partners the same trade liberalization policies applied to its members. A third version assumes that APEC will broaden the trade liberalization policies only to those non-member countries that accept the same policies. A fourth version deepens the process of unilateral world liberalization while promoting the process of regional integration. Finally, a fifth version proposes that trade liberalization should be supported through non-tariff reforms. The APEC Eminent Persons Group (EPG) proposal integrated the last four versions presented above, considering these the pillars of APEC open regionalism through which progressive regional integration will lead to the integration of APEC into the world economy (Bergsten, 1997).
that PTAs can be very costly and an inferior policy option to free trade. Bhagwati (1995) describes the problem of the proliferation of PTAs in terms of the ‘spaghetti bowl’ phenomenon, whereby several PTAs have different rules of origin and tariffs that make it very difficult to identify ‘who is whose’. This complexity has led to the problem that PTAs tried to avoid: increasing protectionism and transaction costs.

In contrast to Bhagwati, Blackhurst and Henderson (1993) see PTAs as steps in the right direction towards a multilateral GATT–WTO system, for the following reasons: PTAs are not inherently illiberal, depending on their provisions, evolution, and their effect on trade policies of third countries; extra-regional trade is very important for the three main economic blocks (Western Europe, North America, and Asia); and peer pressure in the multilateral GATT–WTO system is a crucial mechanism in enforcing PTA compliance with requirements. In conclusion, the issue is not a choice between regionalism and multilateralism, but how these different approaches to economic integration serve to solve the needs of different social and economic agents, and how they converge over time.

The significant increase of intra-regional trade during the 1990s has not led to a reduction of trade between the different regions in the world. On the contrary, all of the regions of the world show an increase of inter-regional trade with the majority of the rest of regions of the world. Considering the significant increase of open regionalism agreements during the 1990s, the increase of world trade may be an indicator of how regionalism can support the new multilateralism.\(^3\)

This paper evaluates the extent to which the establishment of the Andean Free Trade Zone (AFTZ) has led to an improvement of intra-regional trade, as promised by open regionalism, without reducing extra-regional trade. The reduction of both policy and natural barriers to intra-regional trade decreases transaction costs, increases returns and levels of investment, and leads to an improvement in regional trade. This paper calculates \textit{ex \ post} income elasticities of import demand, the intensity of trade index, and the propensity to export intra- and extra-regionally before (1980–1992) and after (1993–2000) the establishment of the AFTZ.

The first period of analysis, 1980–1992, represents the era previous to the establishment of the AFTZ. In the year 1980, the Andean economies were still in the closed regionalism stage of the Andean Pact, and were not yet affected by the foreign debt crisis. By 1992, some of the Latin American countries had recovered and others were in the process of recovering from the foreign debt crisis. In 1992, in addition, trade between Andean countries began to increase in response to the imminent establishment of the AFTZ. The second period of comparison begins

\(^{3}\) The annual growth rate in exports during the 1990–2000 period, according to WTO statistics (2001), averages 7.33\% for North America; 9.35\% for Latin America; 4.08\% for Western Europe; 9.90\% for Central and Eastern Europe, Baltic States, and Commonwealth of Independent States; 3.35\% for Africa; 6.95\% for the Middle East; and 8.36\% for Asia.
in 1993, with the official establishment of the AFTZ, and runs until 2000. One sub-period examined runs from 1993–1997, a cutoff that separates the Andean integration process from the Asian crisis and from the financial crises endured by several countries, such as Ecuador and Colombia, after that year.

The analysis of ex post income elasticities of import demand shows that the establishment of the AFTZ led to an increase in Andean Community trade, as the open regionalism view proposes, and not to a contraction of extra-regional trade. These results are confirmed by the intensity of trade index and the propensity to export intra- and extra-regionally. Additionally, in keeping with the open regionalism approach, the integration of the Andean Community has supported the agenda of becoming part of wider economic agreements such as MERCOSUR and the Free Trade Area of the Americas (FTAA), following the multilateral GATT–WTO principles.

Section 2 of this paper reviews the study methodology. Sections 3 and 4 present and discuss the results, respectively. Section 5 offers concluding remarks.

1.1 The Andean community

The Andean Pact was formed in 1969 to reverse the stagnation of the Latin American Association of Free Trade and to address the development needs of the Andean countries (Venezuela, Colombia, Chile, Ecuador, Peru, and Bolivia). The Pact sought to harmonize policies, define a common external tariff, liberalize intra-regional trade, regulate foreign direct investment in the region, and to organize production across member Andean countries by encouraging the development of promising industries. This strategy was consistent with the import substitution, or closed regionalism, model that predominated in Latin America during the 1970s. According to this model, the government must coordinate economic policies and regional development plans in order to direct the market toward proposed goals. The consequence of this model is that protected rent activities develop, mainly in the industrial sector, which are financed in part by the resources generated by primary-resource-intensive exports. The initial stage of the Andean Pact was characterized by this closed regionalism model. This early stage of the Andean Pact became very inefficient and failed for several reasons: many products were exempted from the tariff liberalization process; a clear consensus about the common external tariff was lacking due to significant differences in the level of protection of each Andean country; the production requirements established by the Andean Pact did not match the trade needs of each country, especially after the foreign debt crisis; the market was too small; and trade activity was directed mainly to the members of the Andean Pact. Therefore, the Andean countries were limited in their

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4 The document that formalized the establishment of the Andean Pact is the Cartagena Agreement. Venezuela became part of the Andean Pact in 1973. Chile withdrew from the Andean Pact in 1976 to pursue more liberal trade policies.
capacity to generate new foreign exchange, which became very important for paying the increasing foreign debt (Edwards, 1993).5

The external debt crisis that Latin America experienced during the 1980s led Andean countries to apply adjustment policies. These new policies reduced the trade preferences that had been established among the Andean countries and, thus, reduced trade during the mid-1980s.6 However, the Andean Pact reactivated itself with the Quito Protocol, which was signed in 1987 and later modified over the course of several presidential meetings.7 The most important modification, the Trujillo Protocol of 1996, resulted in the name change from the ‘Andean Pact’ to the ‘Andean Community of Nations’, a new structural organization, and a shift in emphasis from closed regionalism (inward integration) to open regionalism (outward integration) with the rest of the world. The establishment of the AFTZ in 1993 and the Andean tariff union or the Andean common external tariff in 1995 gave rise to private initiatives and innovative rent-seeking activities – instead of protected rent activities – that aimed at achieving an efficient allocation of resources and exploiting the competitive advantages of the region (see also Garay, 1991).8

This increasing efficiency and innovation is the main reason behind the shift towards the open regionalism model. The next step for the Andean Community is the establishment of the Andean Common Market in the year 2005, as ratified in the presidential meeting of the Andean countries in June of 2000. This market will enable the free movement of goods, services, capital, and people. The Andean Community envisions that, in this way, it will integrate itself gradually into the world market.

The Andean tariff union, as it has functioned since 1995, establishes four basic tariff levels: 5% for raw material and industrial output, 10% for intermediate output, 15% for capital goods, and 20% for final goods. There are some exceptions to this common external tariff. For agricultural products, price bands help protect Andean agricultural products from subsidies and price variations in the international market. Venezuela, Colombia, and Ecuador have an agreement to trade vehicles freely, while tariffs between 10% and 35% are applied to other countries. Additionally, Bolivia has a 10% flat tariff rate, while Ecuador’s tariffs are 5% higher than the common external tariff for about 1,000 items. In 1997, Peru decided to join up with the AFTZ, and started a program of tariff reduction with Colombia, Ecuador, and Venezuela that is scheduled to be completed in 2005.

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5 In 1980, about 25% of items included initially in the tariff list were exempted. The differences of protection between countries became stronger due to the overvaluation of each national currency.
6 In 1985, the Andean Pact was practically moribund. Intra-regional trade did not follow the initial industrial planning and only about a third of the investment programs (metalmechanic, petrochemical, and automobile sectors) were approved (Edwards, 1993).
7 See Salgado (1990) on the evolution of the Andean Community until 1990, including a discussion of the protocols that led to the new global perspective of the Andean Community.
8 The common external tariff defined in 1995 applied only to Venezuela, Colombia, and Ecuador. Bolivia was able to maintain its own lower tariff structure.

2. Methodology

The most important objective of this paper is to evaluate – using the *ex post* income elasticity of import demand – whether the reactivation of the Andean Community with the implementation of the AFTZ and the Andean common external tariff has led to an improvement of intra-Andean Community trade without reducing extra-Andean Community trade, as the open regionalism view proposes.

The *ex post* income elasticity of import demand could be defined as the ratio of the average rate of change of imports to that of the gross national product (GNP) or, alternatively, the gross domestic product (GDP). The use of GDP instead of GNP promotes consistency: The concepts are quite similar, and most countries use GDP as their preferred measure of economic activity.\(^9\) The *ex post* income elasticity of import demand could also be calculated using a regression analysis.

The import demand function has been widely covered in the literature due to its implications for equilibrium in the balance of payments, exchange rate management, the impact of trade policy on economic growth, and the evaluation of trade effects on PTAs.\(^{10}\)

The general formula for import demand is

\[
M = \alpha Y^{\beta_1} (D_1 Y)^{\beta_2} (MPI/CPI)^{\beta_3} e
\]

where \(M\) is imports, \(Y\) is the activity variable (here the GDP), \(\alpha\) is a constant term, \(e\) is a random term assuming a log normal distribution with constant variance and unit mean, and \(D_1\) is a dummy variable (here with the value of 1 if the data corresponds to the year that the AFTZ is established or subsequent years, and 0 otherwise), MPI is an index of import unit values, which also incorporates the exchange rate effects, and CPI is the consumer price index.

\(^9\) Gross national product is GDP plus net receipts of factors income from the rest of the world. GDP rate of growth is calculated using GDP volume indices on a standard 1995 reference year as reported by IMF (2002).

\(^{10}\) See Goldstein and Khan (1985) for a recent review, Houthakker and Magee (1969) for an initial approximation, Faini, Pritchett, and Clavijo (1992) for an application to developing countries, and Senhadji (1997) for a methodological proposal about the calculation of the import demand function using time-series.
Running a OLS regression of the log linear form of this equation, $\beta_1$ and $(\beta_1 + \beta_2)$ and $\beta_3$ are the *ex post* income elasticity of import demand for the period previous to the establishment of the AFTZ, the *ex post* income elasticity of import demand after the establishment of the AFTZ, and the price elasticity of import demand. Hence, $\beta_2$ indicates the difference between the income elasticity of import demand before and after the establishment of the AFTZ.

The elasticities are calculated using total imports, extra-Andean Community imports, and intra-Andean Community imports for the periods 1980–1997 and 1980–2000. Assuming that in the absence of integration the *ex post* income elasticities of import demand should remain constant, an increase (decrease) in the income elasticity of import demand for intra-Andean (extra-Andean) Community trade would indicate an improvement (reduction) of intra-regional (extra-regional) trade. An increase in the income elasticity of total import demand would indicate an improvement of total trade. If there is an improvement of intra-Andean Community trade without reducing extra-Andean Community trade, then open regionalism is working.

The calculation of the *ex post* income elasticity of import demand can be complemented by calculating the intensity of the trade index and the propensity to export intra- and extra-regionally. The intensity of the trade index ($I_{ij}$) shows that if trade does not have a geographic bias (a fraction of trade of country $i$ going to country/region $j$ must be equal to the weight of $j$ in the international market), then the value of the index is the unity for country/region $j$. If the index is above (below) the unity, country $i$ has a larger (smaller) bilateral trade than expected considering $j$’s share of imports in the world market (Anderson and Norheim, 1993 and Drysdale and Garnaut, 1982 have applied this index to several economic regions in the world, and Yeats, 1997 applied it to MERCOSUR).

The general formula for the intensity of the trade index is

$$I_{ij} = \frac{x_{ij}}{m_{ij}}$$

where:

$x_{ij}$: $X_i/X_j$, share of exports of country $i$ going to country $j$,
$m_{ij}$: $M_j/M_w$, share of imports of country $j$ in total world imports.

The general formula for the propensity to export intra- or extra-regionally ($P_{ij}$) is

$$P_{ij} = t_i I_{ij}$$

where:

$t_i = X_i/GDP_i$: ratio of total exports and GDP of $i$

This index is useful in showing that, when a country participates in a PTA, it may increase the value of total exports, even though it may reduce trade with some specific countries. Hence, this index complements the calculation of *ex post* income elasticities of import demand showing the increase of extra-regional trade
(Anderson and Norheim, 1993). The interpretation of these indexes becomes richer when presented in a historical series that may show any change of pattern in bilateral trade.

In this paper, the intensity of the trade index and the propensity to export index have been applied to the bilateral trade between the five Andean countries and the Andean Community, emphasizing the intra-Andean Community trade and the extra-Andean Community trade dimension.

2.1 Data

The trade data, output data, and import prices for the Andean Community are from ECLAC (2000, 2001, and 2002). CPI data are from the IMF (2002). The time series include annual information for the years 1980, 1985, 1990–2000 for the five Andean countries (Venezuela, Colombia, Ecuador, Peru, and Bolivia). Considering the limited number of observations per country, a panel analysis is conducted to calculate the ex post income elasticity of import demand for the Andean Community. Foreign direct investment and intra-Andean investment information is from the Andean Community (2002).

3. Results

The creation of the AFTZ leads to an improvement of intra-Andean Community trade and of total Andean Community trade, according to the calculations of the ex post income elasticities of import demand (Table 1). The total income elasticity of import demand increased from 0.76 ($\beta_1$) to 0.78 ($\beta_1 + \beta_2$) between the periods 1980–1992 and 1993–2000, and the intra-Andean Community income elasticity of import demand registered an increase from 0.83 ($\beta_1$) to 0.9 ($\beta_1 + \beta_2$). In all cases, the income elasticity of import demand also augmented in the same amount between 1980–1992 and 1993–1997. Hence, the regression results do not change using either 1997 or 2000 as the cutoff year. The regression analysis indicates that the difference between the total and intra-Andean Community income elasticity of import demand before and after the establishment of the AFTZ is statistically significant at the 98% and 99% confidence levels, respectively. The increase in the extra-Andean Community income elasticity of import demand is not statistically significant at the 95% confidence level; this elasticity is significant only at the 91% confidence level. Hence, the regression analysis at least reveals no evidence of contraction of extra-regional trade in the Andean Community before and after the establishment of the AFTZ.

These results are confirmed by the progressive increase of the intensity of trade index of the Andean Community between the years 1980 and 1998 at the regional and extra-regional level. This index tends to be slightly smaller for the years 1999–2000, especially in the trade relationship with Ecuador and Colombia (Table 2).

<table>
<thead>
<tr>
<th></th>
<th>Intra-Andean imports</th>
<th>Extra-Andean imports</th>
<th>Total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>EE</td>
<td>t-statistics</td>
</tr>
<tr>
<td>Intercept</td>
<td>-2.89</td>
<td>0.63</td>
<td>-4.60</td>
</tr>
<tr>
<td>$\beta_1: \ln(GDP)$</td>
<td>0.83</td>
<td>0.06</td>
<td>13.25</td>
</tr>
<tr>
<td>$\beta_2: D_1*\ln(GDP)$</td>
<td>0.07</td>
<td>0.01</td>
<td>5.01</td>
</tr>
<tr>
<td>$\beta_3: \ln(Import \ prices/CPI)$</td>
<td>-0.04</td>
<td>0.02</td>
<td>-1.84</td>
</tr>
<tr>
<td>R-square (not adjusted)</td>
<td>0.84</td>
<td>109.87</td>
<td>0.00</td>
</tr>
</tbody>
</table>

1980–1987

<table>
<thead>
<tr>
<th></th>
<th>Intra-Andean imports</th>
<th>Extra-Andean imports</th>
<th>Total imports</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>EE</td>
<td>t-statistics</td>
</tr>
<tr>
<td>Intercept</td>
<td>-3.50</td>
<td>0.74</td>
<td>-4.74</td>
</tr>
<tr>
<td>$\beta_1: \ln(GDP)$</td>
<td>0.89</td>
<td>0.07</td>
<td>12.12</td>
</tr>
<tr>
<td>$\beta_2: D_1*\ln(GDP)$</td>
<td>0.07</td>
<td>0.01</td>
<td>4.56</td>
</tr>
<tr>
<td>$\beta_3: \ln(Import \ prices/CPI)$</td>
<td>-0.03</td>
<td>0.02</td>
<td>-1.60</td>
</tr>
<tr>
<td>R-square (not adjusted)</td>
<td>0.85</td>
<td>84.40</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note: Number of observations: 65.
Source: Trade data, output data, and import prices for the five Andean Community countries are from ECLAC (2000, 2001, and 2002). CPI data are from IMF (2002).
A similar tendency is observed in the share of exports of the Andean Community to each member country. This share increases in the years that follow the establishment of the AFTZ. However, the Andean Community shows a reduction in the share of exports to each member country after the year 1998, while there is an increase in the share of exports to the rest of the world (Table 2).

Member Andean countries show a significant increase of the intensity of the trade index from the early 1980s to the pre-AFTZ period (1990–1992). After the establishment of the AFTZ, this index increases until 2000, except in the cases of Venezuela and Peru. Venezuela shows a reduction in the index in the year 2000, while Peru shows a lower intensity of the trade index in the period that follows the establishment of the AFTZ, and then recovers in the year 2000 (Table 3).

The Andean Community’s propensity to export generally increases during the period studied, with the exception of the middle 1980s, when there is a reduction in its propensity to export to all of its member countries. The propensity to export extra-regionally shows a contraction during the 1980s, then stabilizes during the 1990s (Table 2). These results are also consistent with the calculation of ex post income elasticities of import demand.

The Andean countries show an increase in the propensity to export intra-regionally in the 1990s and in the period after the establishment of the AFTZ, with the exception of Peru, which shows a contraction of this index for the period 1990–1992. Venezuela shows an increase of this index until 1997, after which the index decreases. The propensity to export from the Andean countries to the rest of the world does not show major changes in the period studied (Table 3).

Table 2. Andean community: intra- and extra-regional trade indicators, 1980–2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Intra-region</th>
<th>Extra-region</th>
<th>Intra-region</th>
<th>Extra-region</th>
<th>Intra-region</th>
<th>Extra-region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>3.508</td>
<td>0.011</td>
<td>0.813</td>
<td>0.003</td>
<td>3.95%</td>
<td>96.05%</td>
</tr>
<tr>
<td>1985</td>
<td>3.199</td>
<td>0.008</td>
<td>0.607</td>
<td>0.002</td>
<td>2.62%</td>
<td>97.38%</td>
</tr>
<tr>
<td>1990</td>
<td>7.698</td>
<td>0.005</td>
<td>1.689</td>
<td>0.001</td>
<td>4.10%</td>
<td>95.90%</td>
</tr>
<tr>
<td>1991</td>
<td>9.638</td>
<td>0.006</td>
<td>1.811</td>
<td>0.001</td>
<td>6.10%</td>
<td>93.90%</td>
</tr>
<tr>
<td>1992</td>
<td>10.451</td>
<td>0.007</td>
<td>1.782</td>
<td>0.001</td>
<td>7.88%</td>
<td>92.12%</td>
</tr>
<tr>
<td>1993</td>
<td>12.807</td>
<td>0.007</td>
<td>2.306</td>
<td>0.001</td>
<td>9.69%</td>
<td>90.31%</td>
</tr>
<tr>
<td>1994</td>
<td>14.929</td>
<td>0.006</td>
<td>2.555</td>
<td>0.001</td>
<td>10.67%</td>
<td>89.33%</td>
</tr>
<tr>
<td>1995</td>
<td>16.181</td>
<td>0.007</td>
<td>2.622</td>
<td>0.001</td>
<td>12.06%</td>
<td>87.94%</td>
</tr>
<tr>
<td>1996</td>
<td>15.276</td>
<td>0.006</td>
<td>2.772</td>
<td>0.001</td>
<td>10.37%</td>
<td>89.63%</td>
</tr>
<tr>
<td>1997</td>
<td>15.152</td>
<td>0.007</td>
<td>2.555</td>
<td>0.001</td>
<td>11.84%</td>
<td>88.16%</td>
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<tr>
<td>1998</td>
<td>17.074</td>
<td>0.007</td>
<td>2.376</td>
<td>0.001</td>
<td>13.98%</td>
<td>86.02%</td>
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<tr>
<td>1999</td>
<td>15.727</td>
<td>0.005</td>
<td>2.612</td>
<td>0.001</td>
<td>9.18%</td>
<td>90.82%</td>
</tr>
<tr>
<td>2000</td>
<td>15.836</td>
<td>0.005</td>
<td>3.274</td>
<td>0.001</td>
<td>9.08%</td>
<td>90.92%</td>
</tr>
</tbody>
</table>

Source: Data based on export FOB prices are from ECLAC (2000, 2001, and 2002).
4. Discussion

The results for the intensity of trade index and the propensity to export of the Andean Community are consistent with the calculations of \textit{ex post} income elasticities of import demand, and with the observation that exports from the Andean region to different economic blocs in the rest of the world have increased (11.12\%), albeit at a slower pace than the intra-regional annual trade growth rate (20.56\%) for the 1993–1997 period.\footnote{Buitelaar (1995) confirms the existence of this tendency in different Latin American countries, and also in Ecuador, using the traditional Grubel and Lloyd measure.} However, the growth rate of exports of the Andean Community was very low during the 1980s, probably as a consequence of the foreign debt crisis. In the pre-AFTZ period (1990–1992), the annual growth rate for intra-regional exports increased significantly (32.5\%), while the growth rate for extra-regional exports temporarily decreased (−4.56\%). The reactivation of Andean exports is stronger than the mild increase observed by Edwards (1995) in intra-regional Andean trade through 1992, and probably arises from the elimination of restrictions to foreign investment in 1991, the new definition of the common external tariff, and the export-oriented emphasis of the Andean economies in the 1990s.\footnote{New regulations enacted in 1991 by the Andean Community give foreign investors the same rights and duties as national investors have, with the exceptions regulated by each national legislation. Foreign}

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<td>Intra</td>
<td>Extra</td>
<td>Intra</td>
<td>Extra</td>
<td>Intra</td>
<td>Extra</td>
</tr>
<tr>
<td>Brazil</td>
<td>3.345</td>
<td>0.009</td>
<td>15.065</td>
<td>0.006</td>
<td>26.381</td>
<td>0.006</td>
</tr>
<tr>
<td>Colombia</td>
<td>8.109</td>
<td>0.009</td>
<td>15.464</td>
<td>0.006</td>
<td>22.691</td>
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</tr>
<tr>
<td>Ecuador</td>
<td>4.185</td>
<td>0.009</td>
<td>10.669</td>
<td>0.006</td>
<td>13.239</td>
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<tr>
<td>Peru</td>
<td>7.832</td>
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<td>11.809</td>
<td>0.006</td>
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<td>Venezuela</td>
<td>1.436</td>
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<td>5.254</td>
<td>0.006</td>
<td>11.908</td>
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<td>9.262</td>
<td>0.006</td>
<td>14.869</td>
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</table>

<table>
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<tr>
<th>Intensity of trade index</th>
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<tr>
<td>Bolivia</td>
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<tr>
<td>Colombia</td>
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<tr>
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<tr>
<td>Venezuela</td>
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<td>Intra-Andean</td>
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<table>
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<tr>
<th>Propensity to export</th>
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<tr>
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<tr>
<td>Peru</td>
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<tr>
<td>Venezuela</td>
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<tr>
<td>Intra-Andean</td>
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</tbody>
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Source: Data based on export FOB prices are from ECLAC (2000, 2001, and 2002).
Intra-Andean Community investment increased significantly and in different areas than direct investment by other countries during 1993 and 1994 (141% and 23%, respectively), when the common external tariff was established. The same pattern is evident in intra-Andean exports (31% and 30% growth in 1993 and 1994, respectively). Since that time, several economies have suffered from crises related to banking (Ecuador, Colombia, and Venezuela), politics (Colombia, Venezuela, Ecuador, and Peru), the military (Peru, Ecuador, and Venezuela), and economic and natural resources (all Andean countries), in part because of El Niño (Peru and Ecuador). These crises, in turn, may have triggered the reduction of investment in neighboring countries. However, foreign direct investment in the Andean Community kept growing until 1997. The attraction of foreign direct investment during the 1993–1997 period (23.3% average annual growth rate) can be explained in part by the opening of the Andean economies, the elimination of the restrictions to foreign direct investment associated with the closed regionalism model, the new securities offered to foreign capital, and the privatization processes. Foreign direct investment, as the previous indicator shows, deteriorated in 1998, probably as a result of the financial and political crises in the Andes as well as the effects of the Asian financial crisis.

The share of total Andean exports held by manufactured goods increased from 26.7% in 1990 to 44.3% in 1992 and 47.8% in 1998. This share then fell to 44.5% in 1999 and 43.3% in 2000. Part of the explanation for this decline is an increase in prices for oil, the main export product of Venezuela and Ecuador, in 2000; hence, the relative importance of energy exports also increased. Technology diffusion goods, even though they account for a small share of total exports – 1.20% in 1990 and 1.98% in 2000 – show the highest growth rate of exports (15.77%) in the period after the establishment of the AFTZ (1993–2000), compared to an annual growth rate of −4.61% in the pre-AFTZ period (1990–1992).

The relative increase in manufactured good exports and the high growth rate of exports for technology diffusion goods signal the transformation of the industrial structure in the Andean Community, which allows this region to export products with higher technology content and value added. Ffrench-Davis (1995) and Buitelaar (1995) recognize a similar process, showing how Latin American countries in their integration processes tend to move from natural resources-intensive products to manufactured goods. Developing countries can be competitive in international markets in food or resource-intensive products, because of the low cost of their labor force and the underestimation of the cost of natural investors are free to remit home the net profit of their investment as well as the proceeds of liquidations (Salazar-Xirinachs et al., 2001).

13 About two thirds of intra-Andean investment is between Colombia and Venezuela, about a fifth between Colombia and Ecuador, and less than 10% between Ecuador and Venezuela (ECLAC, 1999).

14 According to the aggregation used by ECLAC (2002), technology diffusion goods refer mostly to capital goods and some intermediate goods.
resources (which in the long term leads to their depletion). However, industrialized products such as capital or non-basic consumer goods from developing countries must compete with more efficient industries from all over the world; therefore, these products tend to compete only in their regional markets until sufficient technological developments and economies of scale allow them to be competitive extra-regionally. In fact, Martin (1992) finds that total factor productivity growth is stronger after trade liberalization than before trade liberalization in a diverse group of Latin American countries (Argentina, Bolivia, Chile, Costa Rica, and Uruguay). This finding probably reflects the increasing challenge presented by the international market and the importance of the development of technology-intensive industries, facilitated by regional markets.\textsuperscript{15}

During the 1998–1999 period of economic and political crisis, when several internal and external political and economic crises affected Latin America, the intra-regional growth rate of exports in the Andean Community fell by 2.61%. In 2000, a period of relative recovery, the growth rate of exports for the Andean Community jumped to 30.4% for intra-regional trade and 31.8% for extra-regional trade. This phenomenon can be explained partly by a unilateral change of national economic policies, and partly by variations in national conditions.

For example, in the case of Venezuela, a reduction in oil prices and a catastrophic mudslide in 1999 led to a contraction of the economy by 6%, and to a reduction of intra-regional exports from 11.61% in 1998 to 6.08% in 1999. In 2000, oil prices rebounded, leading to a significant increase in Venezuelan oil exports and a further reduction of intra-regional trade, and thus to a reduction of the Venezuelan intensity of the trade index in relation to the Andean Community. In the case of Peru, the reduction of the intensity of the trade index with the Andean Community between 1993 and 1997 is explained by the government’s decision not to participate in the AFTZ. In 1997, Peru initiated a trade liberalization program with the Andean Community that should be completed in 2005. As a result of this new trade policy, the propensity to export and the intensity of the trade index of Peru in relation to the Andean Community improved in 2000.

The emphasis of the open regionalism approach on the use of the regional integration process as a step towards integration with other economic blocs might have helped the Andean Community overcome the critical situation of the 1990s without significantly reducing intra-regional trade. In March 2000, the Andean Community began negotiations with the Northern Triangle (El Salvador, Guatemala, and Honduras) to establish a tariff preference agreement. The Andean Community's approach to regional integration as a step towards integration with other economic blocs might have helped it overcome the critical situation of the 1990s without significantly reducing intra-regional trade. In March 2000, the Andean Community began negotiations with the Northern Triangle (El Salvador, Guatemala, and Honduras) to establish a tariff preference agreement.

\textsuperscript{15} The investment on research and development in the region is still very limited. For the period 1981–1995, investment in research and development as a percent of the gross national product averages 1.7% for Bolivia, 0.1% for Colombia, 0.1% for Ecuador, 0.1% for Peru, and 0.33% for Venezuela (1999), while for USA it is 2.63% (World Bank, 2002, and for Venezuela, Ministerio de Ciencia y Tecnología, 2001). The protection of intellectual property rights will give further incentives to local or regional research and development initiatives, especially in the area of software development and information technology.
Community has also represented the Andean countries in the FTAA negotiations (see Andean Community and US Government, 1998), and lobbied the US government for the extension of the Andean Trade Preference Act of 1991. In addition, the Andean Community has continued negotiations with the European Commission to renew the Generalized System of Preferences for the period 2005–2014. In April 1998, the Andean Community signed an agreement with MERCOSUR to create a Free Trade Zone. This agreement opened up a market of 216.5 million that, combined with the Andean Community, creates a total market of 330 million.

Andean countries must also align their foreign policies with those of the Andean Community to ensure that this open regionalism agreement works effectively. To date, Andean countries have not developed multilateral cooperative policies, and have conducted independent bilateral agreements with other economic blocs (Bonilla, 2000). For example, Venezuela and Colombia signed an agreement with Mexico in 1994 that formed the Group of Three (G-3), which will reduce tariffs at an annual rate of 10% to achieve a free trade area in 2005. This agreement broke the Andean Community into two blocs. Additionally, the tariffs established with Mexico complicated the definition of the Andean common external tariff. Bolivia and Peru already have bilateral agreements with MERCOSUR. Peru is also a member of the Asia Pacific Economic Cooperation (APEC). Venezuela, Colombia, and Ecuador are in the process of signing their own bilateral agreements with MERCOSUR. The Andean common external tariff of 1995 was only applied to Colombia, Ecuador, and Venezuela. Peru wanted a lower common external tariff, leading to its retirement from the Andean Community in 1992, until it decided to join the AFTZ in 1997. Bolivia had used a flat tariff, and has prioritized involvement with MERCOSUR over involvement with the Andean Community. It is important to note that these unilateral initiatives of Andean Community nations, as well as the policies of other economic regions towards Andean countries, may account in part for the improvement of total Andean Community trade observed after the creation of the AFTZ.

5. Conclusions

The increase in ex post income elasticities of total import demand and of import demand for intra-Andean Community trade indicate that the establishment of the AFTZ led to an increase of total Andean Community trade and of intra-Andean Community trade. The fact that the ex post income elasticities of import demand for the extra-Andean Community do not decrease after the establishment of the

16 Further negotiations continued in the presidential meeting of 2000 and in Paraguay in 2001 (ECLAC, 2002a).
17 Mexico is interested in becoming a commercial intermediary between North America and South America. In the period 1994–1999, bilateral trade between Mexico and Colombia increased by 35% and between Mexico and Venezuela by 60% (Robert, 2001).
AFTZ shows, as the open regionalism view proposes, that the establishment of the AFTZ does not lead to a reduction of extra-Andean Community trade. These results are confirmed by an increase in the intensity of the trade index and the propensity to export intra-regionally, as well as by the limited change in the propensity to export extra-regionally. Additionally, Andean Community manufactured goods exported increase in the period that follows the creation of the AFTZ.

Several issues related to the Andean integration process should be further researched. A first consideration is the coordination of macroeconomic policies; and especially of the exchange rate policy, because of its impact on the effective protection of each country. A successful trade agreement requires a similar level of effective protection between its members, with only the exception of less privileged countries. In the case of MERCOSUR, for example, the equilibrium between the major currencies in 1995 and 1996 was secured through the stability of the Real Plan in Brazil and the convertibility of the Argentinean peso with the US dollar. The implicit harmonization of the exchange rate policies between Argentina and Brazil helped to spur intra-regional trade. When the Real Plan became ineffective, intra-regional trade contracted significantly.

A second consideration is the integration of Andean capital markets through homogenizing legal systems, corporate governance structures, and technical and accounting standards. The capital markets of the region have stagnated since 1998, when the Asian as well as internal financial and economic crises exploded. International investors have limited their participation in the capital markets of the region in light of the banking crises in Venezuela (1993), Colombia (1998), and Ecuador (1998), the political instability in the region, and the small size of each individual market. Confidence in the regional markets remains very limited.

A third consideration is how to promote the transition from low- to high-technology export industries in the Andean region. Investments between Andean countries have already led to the development of new corporations in such diverse industries as finance, automobiles, and floral, and to the distribution of technology and capital among Colombia, Venezuela, and Ecuador. Thus, trade between Colombia and Venezuela represented about half of the intra-regional total in 2001.

18 In the presidential meeting and in the advisor council meeting of the Andean countries in June of 2000 and in June of 2001, respectively, the finance ministers agreed to harmonize macroeconomic policies toward reducing inflation to one-digit rates, the public sector deficit to a maximum of 3 % of the GDP, and the public sector debt to a maximum of 50 % of the GDP.
19 In 1998, Colombia and Ecuador became the second and fourth largest cut flower producers in the world. See Kouzmine (1999) for a presentation of nontraditional exports in Latin America.
20 An important advance in the technology area is the establishment of a regional fiber-optic network between the five Andean countries.
21 Even though, the process of integration has been slowed down in part by the restrictions of national transportation associations. For example, in the border between Ecuador and Colombia, the merchandise must be unloaded from Colombian trucks and then loaded into Ecuadorian trucks because the Ecuadorian
In conclusion, the Andean Community has increased intra-regional trade without reducing extra-regional trade, and has supported linking up with wider economic agreements, as the open regionalism approach and the multilateral GATT–WTO system propose. The obstacles that different national and foreign policies raise to advancing economic integration have been compensated for by the stronger political and institutional agenda for the five Andean countries.

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transportation associations do not allow trucks of a foreign registration to cross the border; in reciprocity, Colombian transportation associations have imposed the same requirement for merchandise coming from Ecuador. In the case of Venezuela, the government restricted the circulation of Colombian trucks in Venezuela. In response, Colombia also limited imports from Venezuela.

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