Commercial Multilateralism and South American Industrial Development: a panel data analysis

Multilateralismo Comercial e Desenvolvimento Industrial Sulamericano: uma análise com dados em painel

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Abstract

This paper analyzes the impact of some variables in the aggregated value of the manufacturing industry in South American nations, with an emphasis on the degree of trade openness, using panel method under the fixed and random effect. In this regard, intense discussions occur regarding the purposes of trade multilateralism and its impacts in South American countries. Therefore, even if trade liberalization is a positive factor to developed nations, given their obvious economic advantages, the same is not true with the South American economies. Hence, it is necessary to have a convergence of interests to better serve the economic development of the countries of South America.

Keywords: Trade multilateralism, economic development, trade liberalization and manufacturing industry.

Resumo

O presente trabalho analisa o impacto de algumas variáveis no valor agregado da indústria manufatureira de nações sul-americanas, com uma ênfase no grau de abertura comercial, usando o método em painel sob o efeito fixo e aleatório, posto que, intensas discussões ocorrem referentes aos propósitos do multilateralismo comercial e seus impactos nos países sul-americanos. Portanto, ainda que a liberalização comercial seja um fator positivo às nações desenvolvidas, dadas as suas evidentes vantagens econômicas, o mesmo não acontece com as economias sul-americanas. Desse modo, torna-se imperativo uma convergência em bloco para melhor atender aos interesses do desenvolvimento econômico dos países sul-americanos.

Palavras-chave: *Multilateralismo comercial, desenvolvimento econômico, abertura comercial e indústria manufatureira.*

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1. Introduction

The present paper analyzes the impact of some variables on the aggregate value of the manufacturing industry of South American nations, with an emphasis on the degree of trade liberalization, taking into consideration that intense discussions have taken place regarding purposes of commercial multilateralism and its impacts on MERCOSUR.

The South American nations, especially the members of MERCOSUR, suffer various harassments for regional integration and eliminate trade barriers. The countries of South America are interested in reducing subsidies and tariff and non-tariff barriers to export agriculture. In the meantime, both the United States and the members of the European Union have domestic difficulties in reducing such obstacles because of the interests of local producers.

In addition to the liberalization of trade in agricultural products, some South American members are interested in reducing barriers in the trade of minerals. However, the imbroglio of the end of these restrictions implies the exposure of the South American industry, still peripheral, to the foreign competition, which has more intensive capital.

Consequently, the paper seeks to analyze the level of the impact of trade liberalization on the added value of the manufacturing industry in the years of 1990, 2000 and 2010, precisely by the panel method, when the processes of commercial liberalism gain impulse. With the clearest understanding of the effects of trade multilateralism, in the sense of greater openness, it becomes possible to delineate or redefine Brazilian external policy and the South American members.

The second section displays the relevant aspects on the development of the productive structure through the different optics of economic development thinkers.

The third section addresses the purposes of multilateral agreements, such as the Free Trade Area of the Americas (FTAA) and the Doha Round.

And the fourth section is needed for understanding the cooperation between Southern economies, in view of commercial multarealism.

In the fifth section there is a brief presentation of empirical studies concerning the impacts of trade liberalization on economic growth or economic development.

The sixth section presents the results of some variables (degree of openness of the economy as a proportion of GDP, gross fixed capital formation, exports of manufactured goods and unit value index of goods exports) that affect the added value of the manufacturing industry in South American countries, with an emphasis on trade liberalization.

The seventh section emplies the conclusion of the work.

2. Economic Development Thinkers

During the discussions concerning regional integration, the inability of certain manufacturing segments to compete in international trade is evident, while other primary segments are capable of generating net exports in the South American countries.

By the end of the 1950s, the Economic Commission for Latin America and the Caribbean (ECLAC) had begun studies to overcome underdevelopment, in which thinkers such as Furtado (1983) and Prebisch (1949) advocate that the global productive division, in which periphery countries originally produce low capital intensive products. On the other hand, the central countries control the productive dynamics in the world and tends to deepen the economic dependence relations of the underdeveloped nations to the developed nations.

Cardoso and Faletto (2011) analyze that, due to the late entry of underdeveloped nations into the race for capital accumulation, the development of their productive structures takes place with the deepening of dependence on developed nations. The authors show that the peripheral economies must reproduce the means of production of the central countries with foreign capital as an approach in economic development.

Previously Tavares (1982) and Mello (1986) stress the fact that to the fact that the underdeveloped nations, as in the case of the Latin American countries, have a development *turned outwards*, where in the economic dynamics of these nations

depends on primary exports, connected with the external demand. Whereas, in the developed nations, the economic dynamics have the endogenous variable of investment, so that development *turns inward. Or, as Mello (1986, p. 92) has put it, "the dynamic center of the economy moves into the nation".*

Thus, to overcome underdevelopment, Tavares (1982) and Mello (1986) understand that it is necessary to make development with foreign capital endogenous as a means of guaranteeing long-term economic growth, since in this way the development of the productive structure is no longer you will find restrictions for economic progress.

However, unlike Cardoso and Faletto (2011), Tavares (1982) and Mello (1986) do not focus on the expansion of economic dependence in the underdeveloped countries, they analyze the implementation of the import substitution process in the sectors of greater capital intensive, through the co-ordination of foreign capital with state capital.

Prebisch (1949) considered as one of the prominent Latin American thinkers who attacked economic dependence when the export agenda is predominantly primary. According to him, industrialization is the means for a nation to enjoy the benefits of technical progress because in the long run, primary commodity prices tend to lose value compared with manufactured goods. The author analyzes the importance of the dynamics of foreign trade for the development of productivity and capital formation. However, such development is very restricted under the primary exporting conditions.

Due to the decline in primary relative prices, underdeveloped nations have current deficits, as dollar-equivalent resources are insufficient, for the needs of underdeveloped countries, there is a loss of trade (PREBISCH, 1949).

Therefore, it is necessary to develop an industrial export structure, because with technical progress and an increase in the export coefficient, the underdeveloped nation will achieve the economic benefits, since it will no longer depend on the income level of the central countries to export agricultural products (PREBISCH, 1949).

With regard to the analysis of the development of the national productive structure, Arend (2012) observes that the cycle of a technological paradigm begins with a technological revolution [1], or a new technological standard, like the microelectronics[2] between the beginning of the 1970s and the early 1980s, in which the old production succumbs and then there is an asset inflation, due to a financial dominance. Thus, in the next phase there is a full expansion of productive capital. However, when productive capital has less space to expand, that is, when it acquires a level of maturity, it overflows production to underdeveloped markets, such as the installation of multinationals in South American markets between the 1960s and 1980s.

And it is mainly in the period of maturity where the underdeveloped nations are able to reduce the technological frontier[3] and obtain financial resources abroad. However, when this stage ceases, the frontier is once again expanding, and the underdeveloped countries dependent on the inflow of foreign capital tend to become more indebted externally, as in the case of the high external debt, throughout the 1980s, in the countries of South America (AREND, 2012).

Consequently, Arend (2012) divides the development strategy into dependent and autonomous. In the former, the backward nation internationalizes production with foreign capital, and in the latter there is the development of national production through national and state private capital in sectors capable of imposing greater dynamics in the national economy.

Thus, as investments in research and development are tend to be in the world's producing centers, the development of the development of the dependent strategy, in particular from the emergence of another technological wave until the new maturity period of the technological paradigm, is limited with regard to the fact that the country of dependent development is unable to enter autonomously into the new technological paradigm (AREND, 2012).

[1] The interstice between the irruption of a paradigm or a technological revolution and another technological paradigm may be more than fifty years old.
[2] Actual technological paradigma.
[3] Reducing the technological frontier of an underdeveloped nation relative to the developed nation is a process commonly called catching up.

Thus, in contrast to Tavares (1982) and Mello (1986) foreign direct investment generates a short-term import substitution effect (AREND, 2012), since in the long run term the underdeveloped nation is back to economic stagnation.

Arend's approach (2012) presents a congruence with the evolution of past events to the current situation of peripheral economies. However, Tavares (1982) and Mello (1986) note the scarcity of capital intensive and financial capital in underdeveloped economies, despite the abundance of raw materials and resources of traditional sectors (food, beverages, etc.).

3. Multilateral agreements

With the introduction of policies adopted in the 1990 Washington Consensus by the International Monetary Fund, including trade liberalization, the question of the trade multilateralism, or even, the regional integration, with a view to free trade.

While the European Union is formed depending on its common market in 1993[4], a common market in South America was already formed in 1991, comprising Brazil, Paraguay, Uruguay and Argentina. In North America, NAFTA has been formed since 1988 and was completed in 1992 with the accession of Mexico to its free trade policy. And since 1993 there has been a trade liberalism agreement in the Andean Community.

During the Brazilian government of Itamar Franco (1992-1994) there were a efforts to integrate all the South American countries into a bloc of Free Trade Area of South America (FTASA). Since then, the Government of the United States has proposed a Free Trade Area of the Americas (FTAA) in 1994. For many, the FTAA is an interventionist claim in Latin American countries, following the Monroe Doctrine (DRUMMOND, 2001).

This bloc provides for measures that go beyond free trade. There are proposals for phytosanitary convergence, labor laws, environmental laws, patent safeguards,

[4] The European Union is a regional integration much broader than a free trade area because it covers other points, such as monetary union and military defense.

and other measures. According to Drummond (2001), unlike MERCOSUR[5], the FTAA does not aim to constitute an organic structure capable of having a political-strategic position of economic development, because it does not preserve common elements or identities, as it does within MERCOSUR.

> [...] Mercosur is more than simply the sum of the four member countries, but it is an entity in itself, a mark of success, endowed with an intrinsic value. Its objectives are long-term, and are expressed in the creation of a common market [...] whereas the objectives of the FTAA, bound to a free trade area, are much more modest (DRUMMOND, 2001, p.13).

Consequently, an American free trade zone implies immense disadvantages within the block, precisely because USA companies are provided with more intensive capital and financial capital.

However, during the FTAA negotiations, there is some fear in the USA market of competitive loss, for reasons of less environmental and labor control in other American countries. In this context, the United States proposes a greater rigor in these controls, under the threat of being subject to trade sanctions. Such sanctions would have been resisted by many Latin American governments, including Brazil, because they consider that as a non-tariff barrier (DRUMMOND, 2001; SILVA & SILVEIRA, 2012).

The negotiations around the FTAA created obstacles to Brazil's position because the Brazilian government is seeking measures to delay the fast-track. A track according to which the United States Congress recommends and asks the executive branch to negotiate trade agreements (in addition to reducing agricultural safeguards) so that to avoid resistance in USA domestic sectors. In 2005, the negotiations on the presumed FTAA are ended (SILVA & SILVEIRA, 2012).

For Drummond (2001), in terms of political-strategic benefits, it is more advantageous for MERCOSUR to negotiate trade liberalizations with the European

[5] The MERCOSUR or Common Market of the South is a treaty signed in Asuncion, capital of Paraguay, on March 26, 1991, between Paraguay, Uruguay, Brazil and Argentina for the constitution of a customs union. Since 2012, Venezuela belongs to the economic bloc.

Union[6] than with the FTAA, since in this case there is the possibility of technical and commercial cooperation agreements instead of trade liberalization.

In any of the blocs, if there is no long-term understanding of the development of national productive structures, although in the short term there is a need, amid trade negotiations, for foreign exchange of commodity exports, underdeveloped countries tend to put the development of their industries at stake. Otherwise, underdevoloped countries would have a higher level of exports of commodities with low added value of the manufactured goods, since the technology of the large producing centers stands out of the capital of the underdeveloped industry.

In 2001, the Doha Round in Qatar was launched under the auspices of the World Trade Organization (WTO) with the aim of liberalizing world trade in the agricultural and manufactured sectors. Other sectors such as information technology are treated later on.

The Doha Round or, known as the Development Round, presents the United States, Australia, the European Union, Brazil and India as prominent actors in the negotiations. The first two actors advocate reductions in tariff barriers. Such reduction and openness would be against the favors of the poorer nations, which will be unable to compete with the richer nations. However, India praises that countries that are still underdeveloped and have a serious poverty problem and need to maintain their subsidies to local production, along with the elimination of barriers to facilitate the entry of their products into the rich countries markets (PRADO & CANESIN, 2011).

Added to the difficulties of convergence, the lobbies of European agricultural producers are against the reduction of export subsidies or any drop in protection of local products. Another factor that increases the differences in the negotiations is the possible liberalization of agricultural trade and the broad access of the markets for services and industrialized products, mainly the automotive, textile, electronic and

[6] On December 15, 1995, a framework agreement was signed between MERCOSUR and the European Union to study forms of interregional political and economic association. However, there is still no verdict due to the existence of products sensitive to competition, local agricultural interests, and the high expenditure in the budget of the European Union countries to have to support a minimum price under a common agricultural policy between the economic blocs (SAVINI, 2001).

chemical products[7]. Such openness would obviously be for the interests of the producers of the developed nations of the European Union and the United States (CAMPOS, 2008; PRADO & CANESIN, 2011).

On the other side, Drummond (2001) and Prado & Canesin (2011) point out that instead of multilateral trade openings between countries, MERCOSUR members can act as a bloc to defend their common interest.

In 2005, an *Ad hoc* Consultation and Coordination Group was set up within the framework of MERCOSUR to deal with issues related to negotiations at the World Trade Organization (WTO) and the Global System of Trade Preferences among Developing Countries (GSTP)[8] (PRADO & CANESIN , 2011).

As Prado & Canesin (2011) observe~~s~~, despite the lack of success of the negotiations in the Doha Round, MERCOSUR signs important free trade agreements, such as the compromise between the bloc and Israel, which includes trade in goods, rules of origin, safeguards, cooperation on technical standards and sanitary and phytosanitary standards, technological and technical cooperation and customs cooperation and access to services and investments.

According to the authors, similar trade agreements took place with Egypt, the countries of the Middle East and North Africa, India and the Southern African Customs Union (SACU).

Like Drummond (2001), the authors highlight the advantages of the MERCOSUR negotiations with the European Union, which include access to trade of goods, investment, competition policy, sanitary measures, intellectual property. Thus, according to the authors,

[7] Differently, Cesar & Sato (2012) argue that the ineffectiveness of the Doha Round is to use traditional methods of intergovernmental negotiation with the sole bias of finished and agricultural products, in which trade defense is discussed, such as external tariffs, subsidies, antidumping measures. The authors expose the prominence of the interfirm relationship so as to diminish the participation of States in the negotiations and to highlight the Global Value Chains (GVCs), in which there is coordination of the production chain at an international level among firms under the direction of multinationals.

[8] Within the framework of the United Nations Conference on Trade and Development (UNCTAD), GSTP represents a differential treatment in the entry of certain products of underdeveloped nations into the market of developed nations with a view to reducing asymmetries and the search for development in international trade.

> The prospect of gaining trade preferences in the MERCOSUR countries has encouraged the European bloc, especially in its current economic environment aggravated by the crisis. The possibility of a different treatment for trade and the good return on direct investment in South America contribute to offsetting losses in the European market [...] (PRADO & CANESIN, 2011, p. 13).

As a result, Drummond (2001) and Prado & Canesin (2011) point out, an agreement with the European Union, or any other nation or group of countries, involving multiple bilateral actions, in addition to the mere commercial treatment tends to present net gains to the members of MERCOSUR.

4. South-South Cooperation

The nature of international economic relations, especially since 1990, has undergone major changes. After the end of the Cold War, there is greater concern for diversification among the emerging powers of the Global South – the so-called South-South Cooperation. Since then, this diversification strategy, in the face of a multipolar world, has focused on strengthening with other developing countries, which have sought to coordinate their policies and intensify cooperation among themselves (STUENKEL, 2013).

In the last three decades there has been an increase in economic cooperation among the countries of the South in the form of trade, investment, assistance in economic development, technological upgrading, knowledge exchange, production diversification, investments in stocks and bonds, etc.), among other benefits, given that the growth of the relationship between countries combines access to wider markets to reach more natural resources, which contributes to the increase of productive capacity and economic growth (JHA; MCCAWLY, 2011).

Within this framework, in the face of the new post-1990 world order, for example, in 2001 the Shanghai Cooperation Organization was created to integrate China, Kazakhstan, Russia, Kyrgyzstan, Tajikistan and Uzbekistan, having in 2015 incorporated India and Pakistan (HASNAT; AWAN, 2016).

Under this logic, South-South trade is no longer concentrated among small countries, but is stimulated by emerging economies, given the increase in Asian trade

with Latin America and the Middle East. Therefore, in South-South Cooperation there is a strengthening of regional institutions, which allows for greater security and economic stability (JHA; MCCAWLEY, 2011).

In this environment, the relationship between the MERCOSUR, African Union (AU), Association of Southeast Asian Nations (ASEAN) and other economies has gained prominence in the economic and political field, such as the South America-Africa Summit and the South America-Arab Countries Summit. However, in a general way, these structures are considered to be adapted to the North-South cooperation modalities, still with little priority in the South-South strengthening, considering that emerging powers, such as Brazil, China and India, are becoming important world economic poles, a fact that sets in a hierarchy of the Global South (STUENKEL, 2013).

Despite of this dynamic, South-South Cooperation has been a key concept of organization and a set of practices aimed at overcoming the context of disadvantage in the world system, through solidarity and mutual benefits among the cooperated nations, in a manner to achieve economic progress (GRAY; GILLS, 2016).

5. Rewiew of Empirical Studies

In an analysis exclusively focused on the Brazilian economy, Ferreira and Guillén (2004) analyze the behavior of the manufacturing industry between 1985 and 1997. Through the OLS method and instrumental variables, the authors estimate, during the commercial system change, the model with equal and different productivity shift in the manufacturing industry sectors and the model without imposing constant scale return constraint.

In effect, Ferreira and Guillén (2004) have the result that the increase in productivity is not due to the increase in competition, since the mark-up does not change significantly. However, the increase in productivity can be due to greater ease of access to imported inputs and technologies.

Differently, Soares & Teixeira (2010) evaluated, between 1990 and 2007, the phenomenon known as deindustrialization in Brazil, with the relative fall in

employment and output in the national industry according to time series analysis in OLS and VAR. The authors emphasize that the exchange rate policy adopted in that period negatively impacts the added value of industry.

Therefore, the models estimated by Soares & Teixeira (2010) show that the loss of the value added of the industry is related to the appreciated exchange rate policy and the commercial opening.

San Millán and Rodríguez (2002) analyze the impact of trade liberalization on MERCOSUR member countries, in view of the imminence of the FTAA, in relation to the use of panel data for the years 1994 and 2000. The results show that the expansion of foreign trade for the respective countries under study has a positive impact on economic growth, since exports are expanded and even imports have a positive impact on GDP, given the greater access to productive factors in the international market.

Likewise, Berg (2006) studies the impact of trade liberalization in South American countries, in particular Argentina, Brazil, Colombia, Chile, Venezuela and Mexico between 1960 and 1990.

In the case of Granger's causality studies of time series, Berg (2006) argues that there is little evidence that foreign trade generates growth in Latin American economies, in contrast to other studies of relations between trade and economic growth, as the author observes.

According to the results, the relationship between GDP and exports shows statistical significance for Colombia, Mexico and Brazil. And the relationship between GDP and imports is significant only for Argentina, Colombia and Venezuela. Exports and imports are significant only for Colombia.

As can be seen, the results between international trade and economic growth vary widely among sampled countries.

Berg (2006) performs the three-stage least squares regression (3SLS) using the simultaneous equations model, because of the possibility of positive results in the condition of the model of an equation having simultaneity problem, such as the analysis of time series.

Similar to the time series, the relationship between international trade and economic growth is quite different between countries, as is the lack of significance between exports and GDP in Argentina and Venezuela, unlike the other countries.

Finally, according to the author, the 3SLS, when compared to regression in time series, presents larger and more significant results in the countries with significant export and import variables, except in Brazil for the import variable. Consequently, the simultaneity bias underestimates the relationship between international trade and economic growth.

Any how, Berg (2006) also evaluates that the degree of openness of the economy weighs on significance, noting that the Argentine and Venezuelan trade policy was more closed, while that of Brazil and Chile was more open.

6. Empirical Analysis

6.1. Data and method

This research makes use of the panel data method, using the Ordinary Least Squares (OLS) method, under fixed and random effects, with respect to the years 1990, 2000 and 2010. The purpose is to evaluate the impact of the variables of degree of openness of the economy (% GDP), gross fixed capita formation, exports of manufactured products and unit value index of goods exports in the added value variable of the manufacturing industry.

These variables are compiled secondarily in the 2012 Statistical Yearbook of ECLAC. And the countries whose data are compiled, are Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela.

Whereas:
VAL_IND - Added value of the manufacturing industry
OPEN - Degree of economic opening (% GDP)
EXPORT - Export of Manufactured Products
IND_VAL_EXP - Index of the unit value of goods exports
GCF - Gross capital formation

The dependent variable VAL_IND is a relevant indicator that indicates the level of development of a national economy, as a national economy with a higher degree of development has the capital intensive industry in the direction of the country's production.

Regarding the independent variables, the variable OPEN points out how much the economy is integrated into international trade and, actually, how much the national productive sectors are exposed to foreign competition.

The variable EXPORT represents the exporting level of manufactured products, regardless of their technological content. However, the absolute value also plays a role in the formation of the added value of the industry because it allows the inflow of the needed capital to carry out the process of import substitution and, sequentially, the development of the productive structure.

Also, the IND_VAL_EXP has the relevance of the higher the technological intensity in the product is the higher the added value level, since it indicates the intensity of the exported product.

Finally, the GCF represents another relevant variable in the formation of the added value of the manufacturing industry, since it indicates the level of investment in the national productive structure.

With regard to the variables used, the paper proposes a panel data analysis under both the random and fixed effects, considering the possibility of having a specific not-observed effect (c_i). This effect can be proven through the Hausman Test:

$$\begin{cases} H_o = E(c_i/x_i) = 0 \\ H_1 = E(c_i/x_i) \neq 0 \end{cases}$$

(1)

This test compares the consistency of the estimator in both hypotheses (H_o and H_1).

By using the random effect, the model does not show autocorrelation, so that $E(x_{it}{}' c_i) = 0$, and has as its hypothesis strict exogeneity, that is, $E(u_{it}/\, x_{it}, c_i) = 0$.

However, when the model has a correlation between x_i and c_i, that is, $E(x_{it}{}' c_i) \neq 0$, so that the model has strict endogeneity, so $E(u_{it}/x_{it}, c_i) \neq 0$, if we use the fixed-effect method, since this method eliminates c_i from the model to solve the correlation problem between c_i and u_i (WOOLDRIDGE, 2002).

Thus, by the Hausman test, in the first hypothesis the random effect is consistent and efficient, so the specific effect is not correlated with the explanatory variables. And, in the second hypothesis, fixed effect is consistent and efficient (WOOLDRIDGE, 2002).

In accordance with this analysis, the following equation shall be used:

$$\text{VAL\_IND} = \beta_0 + \beta_1 \text{OPEN} + \beta_2 \text{EXPORT} + \beta_3 \text{IND\_VAL\_EXP} + \beta_4 \text{GCF} + c_i + \mu \qquad (2)$$

6.1. The results

In the results below, as already mentioned, we have the response of the added value variable of the manufacturing industry, rather the impact of the explanatory variables.

Table 1 - Panel data under the fixed and random effects

Regressors	Random effects	Fixed effects
C	11457,2600***	11245,7200
	(3488,9820)	(7099,7440)
	[3,2838]	[1,5840]
EXPORT	1,2132***	1,3464***
	(0,3199)	(0,3963)
	[3,7918]	[3,3971]
GCF	0,4814***	0,4640***
	(0,0584)	(0,0727)
	[8,2415]	[6,3856]
OPEN	-76,7464*	-43,0618
	(44,4401)	(51,1071)
	[-1,7270]	[-0,8426]
IND_VAL_EXP	-57,9823**	-73,3939
	(29,0465)	(58,5787)
	[-1,9962]	[-1,2529]
Adjusted R^2	0,9931	0,9938
Statistic F	1044,5660	357,1067
Prob. (F)	0,0000	0,0000
Hausman Test	0,5137	-
Cross-sectiosn	10	10
Observations	30	30

Obs.: ( ) for standard deviation and [ ] for t statistics. (*) level of significance of 10%, (**) 5% and (***) 1%. Source: Own elaboration.

According to the above data, the most effective model is the random effect, since the Hausman test points to p-value at 0,51, ie $H_0 = E(c_i/x_i) = 0$. From this, it can be seen that the variable OPEN has the greatest negative impact (-76,74) on the variable response followed by IND_VAL_EXP (-57,98), precisely because this

variable represents how much the deterioration in export prices impacts the value aggregate of the industry given the lowest technological content exported.

Already EXPORTATION and GCF exert a positive effect on the added value of the manufacturing industry, respectively, at 1,21 and 0,48.

It is also observed that all variables present statistical significance. Also, the exogenous variables explain the model very well, with the adjusted R-squared of 0,99. And the model presents global significance, in 0,00.

Based on these results, this paper concludes that the economic opening in the South American countries had a negative impact on the added value of the manufacturing industry, as well as the index of the unit value of the exportation of goods, since the manufacturing industry in the underdeveloped countries has less competitive power vis-à-vis the manufacturing industry of developed countries.

7. Conclusions

Based on Arend (2012), the South American countries will obtain the desired economic development when adopting an autonomous strategy, rather than the detriment of the dependent strategy, and when the solid industry prevails on national private capital bases, in addition to the state complementation.

However, the regional union between the South American countries needs to be endorsed in order to overcome MERCOSUR, or reformulate it with the presence of all neighbors in the southern hemisphere, always converging in international policy strategy.

Agreements in the Doha Round, in MERCOSUR with the European Union or any other regional integration agreements should guide the development of productive structures. And it does not simply expose the industrial sector to the benefit of primary exports or low added value goods, when industrialization with the highest unit added value, guarantees economic progress of the dynamic productive center of the national economy.

According to Tavares (1982) and Mello (1986) through inward development, and regional integration the underdeveloped countries, especially South Americans, are able to develop their industry, so that the added value produced increase in the field of foreign trade.

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