

The impact of high commodity prices on Latin America's developing economies: A comparative study of Argentina and Brazil

Mauricio Cristofaro

Julio Eduardo Fabris

José Villadeamigo

I. Introduction

In this paper, we compare the performance of Argentina's and Brazil's economies from the last quarter of 20th century to the present. During this period, both economies behaved in similar ways, but with several notable differences.

Principally, Brazil began a process of industrialization in the 1960s, spurring modest but constant rates of growth up to the present day. Argentina, in contrast, entered the decade of the 1960s as a country that had already undergone considerable economic development, but Argentina experienced deindustrialization in the late 1970s, stalled in the 1980s and only began a recovery in the first half of the 1990s. This recovery was characterized by relatively high growth rates but with industrial weakening and in the context of the opening of the economy along with other pro-market measures. In the second half of the decade, a period of very slow GDP growth culminated in a severe crisis in 2001.

Since the beginning of the 21st century, both countries have benefited from a rise in global commodity prices. However, as a consequence of this rise, both economies have experienced changes in their productive structure and international positions.

Our interest in studying the behavior of these two economies, the largest in the Southern Cone, is motivated by the question of whether integration into world markets as producers of raw materials and certain manufactured products of low and medium technological intensity could create a path of sustainable development.

We also analyze the differences in the impacts of the rise on commodity prices on each economy, given the differences in the initial development conditions and the economic policies implemented by each country.

The hypothesis we argue is that the rise in commodity prices creates incentives for the production of primary goods, which leads to limited economic development, instead of generating a productive structure that could be sustainable even in the (foreseeable) absence of extraordinary income obtained on exports of primary commodities.

Moreover, we will try to show that there is an opportunity for the implementation of proactive policies that can exploit the aforementioned price boom to complete manufacturing industrialization and achieve an appropriate level of development.

II. Differences and similarities in the economic development of Argentina and Brazil in the twentieth century

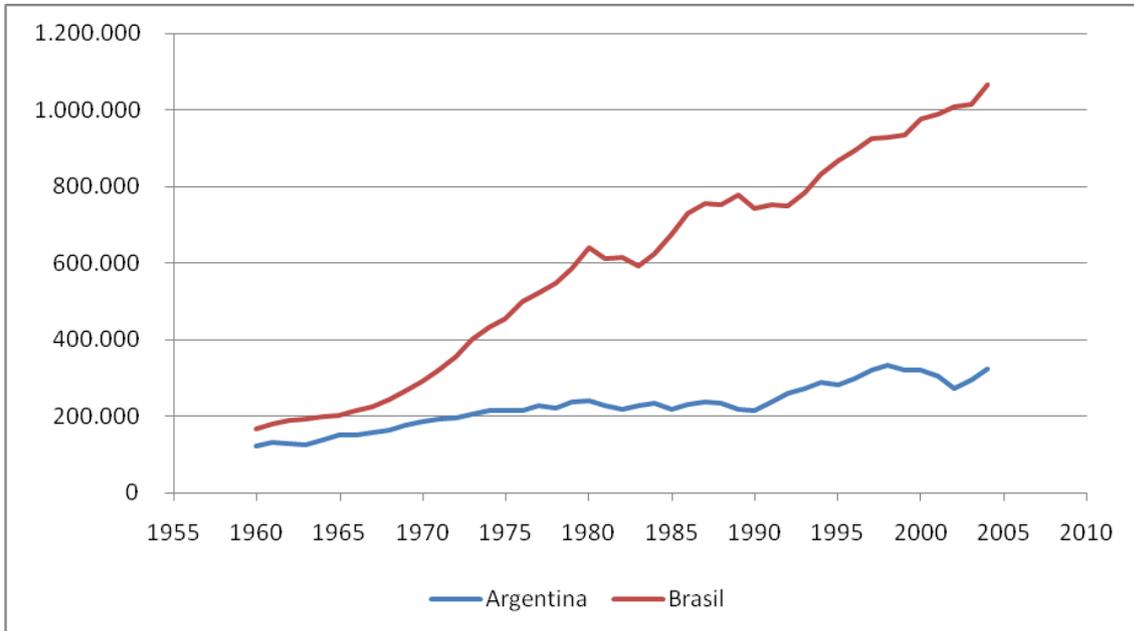
Brazil and Argentina are the largest economies of the Southern Cone, as measured by GDP. Brazil has triple the land surface area of Argentina and five times the population¹. At present, the per capita GDP of Argentina is higher than Brazil².

¹ Brazil has a total surface area of 8,514,877 square kilometers and a population of 200 million, while Argentina has 2,780,400 square kilometers and 40 million people (2013).

² Current US\$ 11,572 to 11,339 for Argentina and Brasil in 2012 respectively (Source: World Bank) and PPP US\$ 17,917 and 11,876 (Source : IMF)

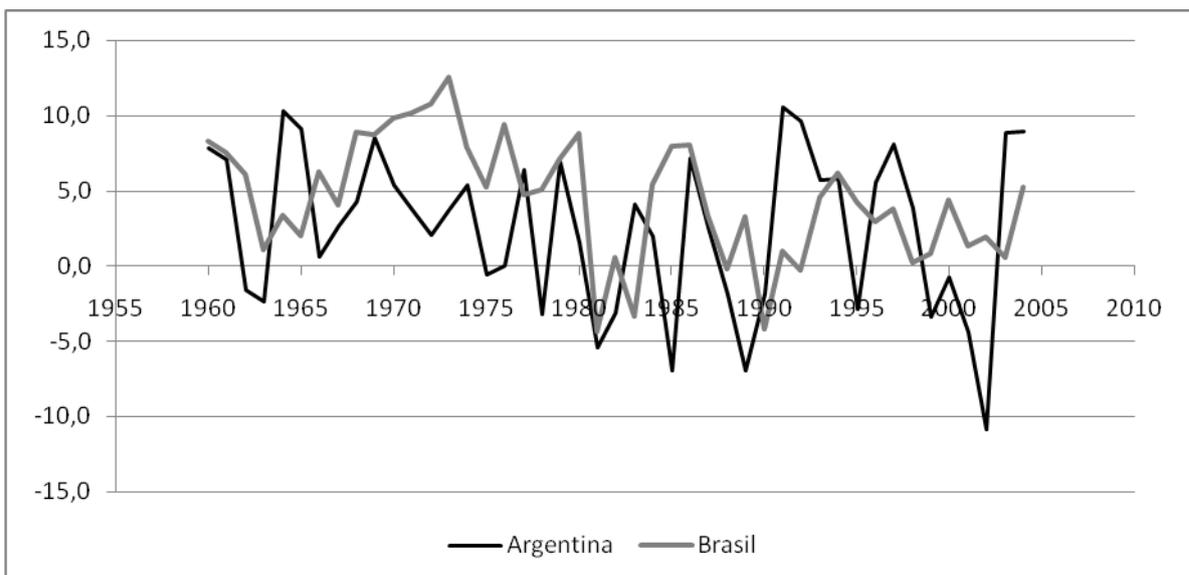
While both economies experienced some industrialization in the second half of the twentieth century under the "import substitution process," the trajectories of the two countries diverged.

On the one hand, Brazil achieved a high growth period (the so-called "Brazilian miracle") in the period 1968-1974 with annual growth rates of 10% followed by a period of fairly stable growth. Overall, Brazil saw an annual average growth rate of 4.7% over the period 1960-2000, with only 5 years of negative rates.



Argentina and Brazil GDP in the second half of the twentieth century (Source: Ferreres)

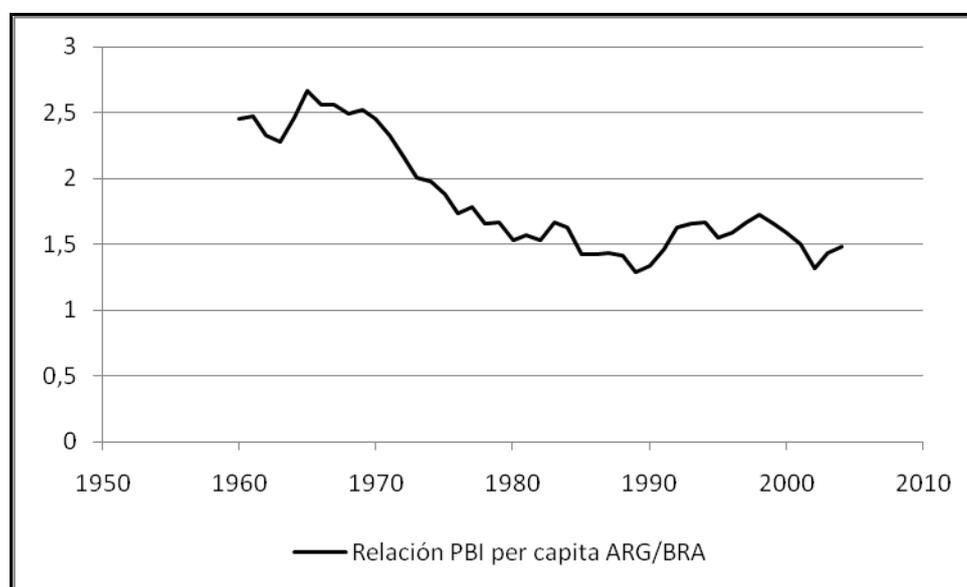
Meanwhile, Argentina saw more moderate growth rates (averaging 2.7% per year over the same period) exacerbated by greater instability manifested in 13 years with negative growth rates.



GDP growth in Argentina and Brazil (Source: Ferreres)

The result of this difference in growth rates over the period led to the divergence between of the GDP of the two economies. The two countries began the decade of the 1960s with similar levels of GDP, but by the close of the century, Brazilian GDP had tripled that of Argentina.

However, in terms of per capita GDP in the period 1960-2000, Brazil was unable to close the gap with Argentina, likely due to the lower population growth rates of the latter³.



Ratio of GDP per capita between Argentina and Brazil (Source: Ferreres)

Both economies suffered debt crises in the early and late 1980s, but Argentina was more severely affected by the crises, worsened by additional domestic crises brought about by economic policy failures. In Argentina, the worst case scenario came true at the beginning of the 21st century: a default on external debt, half of the population pushed into poverty and an unemployment rate hike to around 20%.

Various socioeconomic indicators, metrics of production and human capital, measure the degree of development reached by the two countries at the end of the century, as shown in the Table 1:

Indicador	Unidades	Argentina	Brasil	Fuente
		2000	2000	
PBIpc	US\$ PPA	9.433	7.218	FMI
PBIpc	US\$ Corrientes	7.701	3.694	BM
PBIpc	(\$/Reales) constantes (1993/1995)	7.424	4.596	INDEC/IBGE
PBI	M(\$/Reales) constantes (1993/1995)	266.173	779.483	INDEC/IBGE
VABM/PBI (Val. Corr.)	%	17,81	17,22	BM
(MOA+MOI)/EXPO	%	61,1	74	BM
Población	Millones de personas	35,86	169,59	INDEC/IBGE
Pobreza (Datos oficiales)	% individuos	28,9	35,26 (1999)	INDEC/IPEA
Pobreza (4 US\$/día)	%	27,5	43,5 (1999)	SEDLAC
Gini	%	50,4	58,6 (1999)	SEDLAC
IDH		0,755	0,669	PNUD

Socioeconomic Indicators - Argentina and Brazil - 2000

³ Argentina increased from 20 to 36 million inhabitants between 1960 and 2000, while Brazil went from 70 to 170 million inhabitants in the same period. The GDP per capita then went from US\$ 5,900 to US\$ 8,800 in Argentina and US\$ 2,400 to US\$ 5,600 in Brazil (measured in PPP dollars, Source: Ferreres). IMF data differ from previous ones.

Based on data from various sources ⁴

Analysis of the data in Table 1 shows that the main differences between the two countries are in the *absolute values* of goods and services, manufactured goods and population. The production indicators from these sectors as well as the population are always higher in Brazil. In comparing the relative size of the economies, it should be taken into account that Brazil gained its dominant position gradually during the 1980s, a position most starkly notable in the present century.

The composition of manufacturing output in the 1960s reveals differences indicative of a different productive structures - with a relatively advanced degree of integration - between the Argentinean and Brazilian industrial sectors. Up to that time, Argentina's industrialization process had extended to a number of sectors beyond those producing easily substitutable goods, with production volumes and degrees of intersectoral integration that Brazil would only achieve later.

Additionally, since the mid-1970s, Argentina experienced a period of deindustrialization due to trade openness policies implemented by the military government following the 1976 coup. Brazil did not undergo these setbacks, and for fifteen years (1975-1990) was able to advance in manufacturing and establish various industries producing intermediate and capital goods, led by a greater domestic demand than that of Argentina ⁵.

The repercussions of the sovereign debt crisis, which affected all Latin America countries, also affected the Brazilian economy, but it did not impact the pace of industrial sector growth in Brazil as significantly as in Argentina.

External constraints prevailed in both economies, and Argentina and Brazil ran up current account deficits with similar regularity. The composition of exports evolved over time so that agro-industrial and manufacturing exports constituted an increasing share from 1950-1989, though the role of primary product and agro-industrial exports remained central throughout the process of industrialization by import substitution. The first *absolute*, and later, *strategic*, importance of commodity exports to both Brazil and Argentina accounted for their outward-looking and inward-looking growth strategies, respectively.

Both countries shared problems caused by deteriorating terms of trade. Both economies were classified under the category that ECLAC ⁶ characterized as underdeveloped or "developing" economies, typical of Latin America, emerging economies with outward-looking growth policies.

Finally in the 1990s, both countries adopted the neoliberal model inspired by the so-called "Washington Consensus," but the impact on the industrial structure was more severe in Argentina. One justification for the disparity of the impact of these policies is the exchange rate appreciation in Argentina, as a result of the adoption of a currency board regime. Following the adoption of the currency board, the real exchange rate appreciated excessively stimulating the import of consumer goods, bankrupting a large part of national manufacturing.

Indicators of poverty and inequality along with the Human Development Index (HDI) for both countries are shown in Table 1. In the case of poverty, the index difference is significant when measured with local methodologies (official government indices) as when using the income level of \$4 (2005 PPP) per day. This last measure roughly coincides with the median poverty line in Latin American countries.

⁴ IMF (International Monetary Fund), World Bank (WB), INDEC (National Institute of Statistics and Census of Argentina), IBGE (Brazilian Institute of Geography and Statistics), UNDP (United Nations Development Programme), SEDLAC (Socio- Economic Database for Latin America and the Caribbean), IPEA (Institute of Applied Economic Research)

⁵ Brazil also had military governments during this period, but these did not change the industrialist orientation of the economic policies

⁶ Economic Commission for Latin America and the Caribbean

In the case of inequality, the Gini indices reflect strong inequality in both countries, although the values are clearly higher in Brazil. Finally, the HDI, which includes GDP per capita, educational attainment and life expectancy, captures a disparity in social development in those areas between the two nations.

It could be said that although the rapid economic growth in Brazil during the last four decades of the twentieth century allowed the establishment of a strong and diversified industrial sector - and in this sense was also *economic development*, it did not result in an increase in the absolute levels of social welfare usually associated with such development.

Argentina saw more modest growth punctuated by bouts of high volatility and deindustrialization which, added to the debt crisis and the liberalization reforms of the 1990s, undermined Argentina's relative position, especially in the industrial sector. Even so, Argentina's social welfare indicators, which also declined, remained higher than those for Brazil.

III. The economic performance of Argentina and Brazil during the surge in commodity prices

At the turn of the century, both economies were in trouble, probably due to the economic models implemented during the 1990s. In 1999, Argentina found itself submerged in an economic depression that soon became an economic collapse when the convertibility regime in place since 1991 proved unsustainable. The crisis led to high capital flight and a declaration of default on external debt. On the political front, the elected government was forced to step down and was followed by a succession of emergency interim presidents until the inauguration of a new elected president in 2003⁷.

Brazil's economy meanwhile, suffered from the Asian and Russian crises, which led to nearly zero growth in the economy from 1998 to 1999. In 2000, there was a recovery, but the economy did not achieve high rates of return until 2004. The interim government of Fernando Henrique Cardoso was succeeded by Lula da Silva, causing some changes in economic policy.

Following the turn of the century, both economies began to feel the gains of rising export commodity prices. In Argentina, the export of agricultural products increased, especially soybeans, which due to its profit-loss equation, became the favorite crop of agricultural producers. Exports of vegetable oils, fuels and minerals also soared. Likewise, the main exports from Brazil were iron ore, oil, soybeans and coffee.

Large foreign capital inflows resulting from the increase in the volume and prices of primary product exports allowed both countries to improve their currency position, pay down part of their debt to the International Monetary Fund and increase their international reserves. However, as Bastian and Soihet (2012) indicate, each country's economic policy focused on a different objective.

In the case of Argentina, the economic policy adopted aimed to boost exportable surpluses to stimulate industrial development. Since the 2001 crisis left high unemployment, the strategy to reduce unemployment focused on creating jobs in the industrial sector. This approach diverted foreign exchange from its original recipients, farmers, to the government, which was implemented through retentions, i.e. export taxes. These taxes actually had two motivations. On the one hand, the export taxes fulfilled a need for revenue, given the financing needs of industrial development while at the same time, export taxes decoupled the international commodity prices from domestic prices, given that export crop production competes with domestic food production⁸.

⁷ Nestor Kirchner, who took office May 25, 2003

⁸ In the case of food exports, the decoupling of international price and domestic price is clear. In the case of soybeans - which is not consumed in Argentina - the reason is that such cultivation displaces grain and livestock, competing for land use.

The industrial stimulus policies implemented were innovative relative to the policies typically implemented in the developing countries under import substitution. Perhaps because of a negative stigma attached to industrial credit in Argentina (the National Development Bank - BANADE- had to close due to a corruption scandal over the granting of bad loans⁹), capital was channeled to the industrial sector in the form of subsidies. Subsidies to transportation and energy (electricity, gas and oil) kept prices low, compensating companies' production costs. Additionally, labor costs decreased, since reduced utility rates were part of the consumption basket of subsistence. Labor costs grew less than other industrial costs, stimulating employment. The measure, still in effect today, is a subsidy to the business sector as a whole, not just the industrial sector.

In parallel, the public sector funded new allocations for vulnerable sectors, e.g. the Universal Child Allowance - AUH and maintained others that had been implemented as a result of the economic crisis, e.g. Unemployed Heads of Household Plans. The objective of these policies was to stimulate domestic demand for consumer goods that in the long run would stimulate consumer goods production.

Of course, given the excessive foreign exchange, Argentina ran the risk of exchange rate appreciation and, as a result, that any growth in consumer demand would be satisfied through imports. This was handled by various ad-hoc policies. For example, Argentina's central bank purchased the foreign currency surplus on the open market and neutralized the money supply increase by issuing treasury bonds. Another mechanism used to restrict imports which competed with domestic goods was the implementation of cumbersome procedures for authorizing imports, that was managed by the Trade Secretary¹⁰.

Given the objective, the results were satisfactory, as shown in Table 2.

⁹ In 1993 he was settled with an irrecoverable liabilities of almost 6 billion dollars.

¹⁰ Membership in the World Trade Organization (WTO) prevented the application of high import taxes.

Table 2

Indicador	Unidades	Argentina		Brasil		Fuente
		2000	2012	2000	2012	
PBIpc	U\$S PPA	9.433	17.917	7.218	11.876	FMI
PBIpc	U\$S Corrientes	7.701	11.573	3.694	11.340	BM
PBIpc	(\$/Reales) constantes (1993/1995)	7.424	11.414	4.596	5.871	INDEC/IBGE
PBIpc Tasa de crecimiento	% acumulativo	3,65		2,06		
PBI	M(\$/Reales) constantes (1993/1995)	266.173	468.301	779.483	1.153.876	INDEC/IBGE
PBI Tasa de crecimiento	% acumulativo	4,82		3,32		
VABM/PBI (Val. Corr.)	%	17,81	19,67	17,22	13,25	BM
(MOA+MOI)/EXPO	%	61,1	68	74	50,3	BM
Población	Millones de personas	35,86	41,03	169,59	196,53	INDEC/IBGE
Pobreza (Datos oficiales)	% individuos	28,9	6,5	35,26 (1999)	15,92	INDEC/IPEA
Pobreza (4 U\$S/día)	%	27,5	10,8	43,5 (1999)	21,5	SEDLAC
Gini	%	50,4	42,3	58,6 (1999)	52,3	SEDLAC
IDH		0,755	0,811	0,669	0,73	PNUD

Economic -Social Indicators for Argentina and Brazil - 2000 and 2012

Based on data from various sources ¹¹

¹¹ IMF (International Monetary Fund), World Bank (WB), INDEC (National Institute of Statistics and Census of Argentina), IBGE (Brazilian Institute of Geography and Statistics), UNDP (United Nations Development Programme), SEDLAC (Socio- Economic Database for Latin America and the Caribbean), IPEA (Institute of Applied Economic Research)

GDP grew at an average annual rate of 4.8% while GDP per capita grew at 3.7%. Equally important was the restructuring of the industrial sector, whose share in GDP increased from 17.8% to 19.7%, showing the relative success of policies towards that sector. The industrial sector managed to grow at a rate higher than the rest of the sectors. Also, in the case of export composition, indicators were positive. Manufacturing exports (i.e. agroindustrial and industrial) represented 68% of total exports, compared to an initial 61%.

Social indicators improved significantly. Unemployment measured as a percentage of the economically active population (EAP) decreased from 15% to 7%, while moderate poverty fell from 29% to 7% in the period¹². Income distribution of individuals measured by the Gini index also improved from 50.4 to 42.3 percentage points. The Human Development Index, which adds an educational dimension to economic growth and equality, increased from .76 to .81

In short, the favorable international economic conditions were used to implement a pro-industrial policy resulting in a significant improvement of economic and social indicators.¹³

However, there were some problems that offset some of achievements of the government's economic model. For one, the policy of financing industrial development with the redistribution of the surplus generated by agricultural exports (via export taxes) generated a conflict in 2008 with the agricultural productive sector which threatened the continuity of state institutions. Moreover, the policy of decoupling local and international oil prices, by compensating oil companies for controlled domestic prices with the right to freely export any surplus not consumed domestically at international prices, led to overexploitation of the oil deposits and exhausted reserves. The situation has worsened now because Argentina has now become a net importer of oil, creating problems in the current account of the Balance of Payments. Oil imports now account for close to 10 billion dollars, which is a jump from 4.1% of total imports in 2000 to 13.5% in 2012.

Finally, the policy of encouraging consumption and underinvestment by the producers led to an adjustment by raising prices that, combined with the distributive struggle, has generated a sustained inflation. While Argentina has always been a country with high inflation, after the 90 decade - with almost no inflation, the current rate of about 30% causes social unrest that complicates the course of the economy.

The Brazilian case is different in the sense that the policies adopted had another goal. Although Brazil also suffered a currency crisis (in 1999) the consequences were not catastrophic as in the case of Argentina, where it caused a default on external debt. Economic policies were focused on controlling inflation and obtaining fiscal surpluses in the context of a flexible exchange rate. It should also be noted that because of the ideological characteristics of the new government that took office from 2002, redistributive social policies were favored (eg bag-family plan).

The incidence of the commodity boom, in the absence of a specific policy to counter its primarization effects as was the case of Argentina, led to a change in the production and importer profile in Brazil. The values in Table 2 indicate this.

Of course the favorable international conditions led to growth of GDP and per capita GDP, with cumulative rates of 3.3% and 2.1% respectively between 2000 and 2012. However, this economic growth was accompanied by a process of primarization of the economy as evidenced by changes in indicators related to product and exports composition. The share of manufacturing in GDP decreased in those 12 years from 17% to 13%, while the share of manufacturing (MOA and MOI) in total exports fall from 74% to 50%.

The social indicators improved, probably not influenced by the change in the production pattern but rather by redistributive social policy of the government. Unemployment fall from 9.5% to

¹² The measurement of poverty by INDEC methodology is sensitive to the measurement of inflation. As the government intervened this dependence since 2007, suspicion was generated indicators that depend on prices. For this reason an indicator is not based on price measurement (4 U \$ S 2005 daily PPA), which also shows a significant reduction is reported.

¹³ A critical review of the policies can be found in Fabris y Villadeamigo (2011).

6.1%, while poverty declined substantially both measured by official statistics (from 35% to 16% of the population) and by other indicators (decreased from 44% to 22% of the population taking as the poverty line 4 U \$ S PPP a day).

Inequality measured by the Gini coefficient of individual earnings fell from 58.6 to 52.3 percentage points, remaining at an still high value, while the HDI improved from 0.67 to 0.73.

The balance of the period is favorable but reprimarization of the production structure and the composition of exports is worrying as the rise of commodity prices is likely temporary and essentially linked to Chinese demand (the main export destination for both countries, with the exception of trade between them).

If Chinese demand weakens, or technological changes cause reduction of prices of commodities, the exceptional conditions for foreign exchange income through this trade will disappear. It seems that Brazil is not well prepared for this contingency in view of the primarizator bias with its economy develops..

IV. Conclusions

The similarities and differences in the behavior of both economies recognize causes that refers firstly to the economic policies adopted and to the characteristics of the impact of the international context; and secondly, the structural aspects, the economic system and political and institutional issues.

Economic policies established in the '90s, incorporated in both Argentina and Brazil, the guidelines of the Washington Consensus. While several measures taken by the two countries were not identical or even similar, for example, the currency-exchange rate system, oil policy, some of its effects tended to coalesce.

This confluence is expressed in several areas of the economy. In production, a change in the relative significance of the industrial product and its composition was held.

The continuation of Brazilian industrialization in the context of neoliberal policies meant to establish a new pattern of specialization in addition to not establish a horizon of sustainable economic growth, because it focused on generating value added in subsectors with low aggregate value and dynamic, only ratified a competitive specialization that the country had reached into the '70s. In Argentina there was also a process of decline in the share of industrial output and regressive specialization sectoral output during the '90s. In both cases the more than proportional increase in imports of capital goods and intermediates are found, as associated with this transformation phenomenon.

The current account deficit bias and external debt increasing, extremely manifested in the Argentine case, are also an example of the confluence of the effects of economic policy introduced in both countries in the last decade of the XXth century.

There were also differences, as is the case for most attracting foreign investments in certain manufacturing areas of Brazil and Argentina correlative loss, as the production of agricultural machinery and miscellaneous supplies of the automotive , iron and steel industry. This were related to differences in the respective market sizes and relative endowments of certain natural resources associated with the global strategies of the subsidiaries of Transnational Corporations (TNCs).

Imbalances were favored by indiscriminate application of the policy of openness, deregulation, privatization and financial liberalization. And also by the lack of industrial development strategy that takes into account the degree of industrialization achieved in both economies at the time of the adoption of those policies, and appropriate analytical consideration of the likely effects of the measures adopted.

The introduction of new technologies in agricultural production in Argentina and Brazil in the '90s was a key factor to get the rise of international commodity price factor.

Regressive social consequences of the New Economic Model were similar in both countries although expressed more intensely in Argentina: accentuation of poverty and informality, rising unemployment, loss of bargaining power of labor unions and concentration income and wealth.

After nearly one and a half decade of this century the statistics indicate different results:

- i) The growth rate of the global production of goods and services and investment,
- ii) The significance of the product of the primary activities and manufacturing in GDP.
- iii) The share of exports of manufactures and primary products in total sales abroad,
- iv) The establishment of foreign investment and thus the share of foreign savings in financing capital accumulation.
- v) The employment growth.

These differences indicate that the Brazilian economy had a less dynamic growth than Argentina and more pronounced role of the primary activities in the domestic industrial production and foreign trade. Brazil had too a much larger magnitude of Direct Foreign Investment (DFI), and a significant level of foreign savings to finance the process of domestic accumulation.

The downside is that the deficit in the current account of the balance of payments in Brazil was higher in absolute and relative magnitude and in number of years in the Argentine. Thus, the use of the international context by Brazil -receiving a very large flow of foreign investment given the high level of international liquidity and low existing performance in world- contributed to the local abundance of foreign exchange, the formation of increased reserves and the funding of international balance of payments.

The difference in the flows of exchange tended to overvalue the Brazilian currency and maintain the Argentina devalued, at least for almost eight years¹⁴. Thus, there was a higher effective protection in Argentina than in Brazil. The latter then set up the Dutch disease phenomenon that some Brazilian economists have highlighted¹⁵, which have attributed the process of loss of manufacturing competitiveness and thus the less dynamism in relation to the Argentine.

The question arises whether a change in current international conditions, in the sense of increased absorption of the prevailing liquidity in the developed world as well as an increase in performance of financial and real investment in the central economies, could affect the availability of foreign savings to Brazil. In that case, we should take into account the possibility of a revival of external constraint given the large deficit in the current account.

This problem tended to reappear in the Argentina economy, but only in recent years and for different reasons. Argentina has not received external input proportional to Brazil to finance the deficit of current account items. This forced the adoption of exchange controls and the use of part of its international reserves to get international payments.

But what is common and notable in both economies, is that the manufacturing industry has a tendency to external deficit : manufactured exports are not sufficient to address imports. The trade balance surplus for both economies is because the role played by the products generated by primary activities. Thus, the strong growth of Brazilian manufacturing exports and also proportionally in Argentina has not been able to finance imports of sector. With increasing industrial production in these economies, imports grow in absolute terms. It then reproduces the problem of the industrialization by import substitution (ISI).

The rationale is that the competitiveness of manufacturing production in both countries do not allow them to enter in the necessary and desirable proportions, to markets around the world beyond Latin America.

¹⁴ The delay of the devaluation of the currency relative to the rise in domestic prices in Argentina, was accentuated after 2010. In 2013 an exchange market flee led to the establishment of exchange controls that concluded in 2014 with a devaluation

¹⁵ L. Bresser Pereira, and others.

The participation of the subsidiaries of Transnational Corporations (TNCs) in the continuing process of industrialization in the early years of this century, which has been around since the '60s and accelerated in the '90s, has not significantly altered such behavior.

In this regard it is worth considering whether their presence calls for the strategy to be adopted in order to overcome this central difficulty - which summarizes the limitations of the industrialization process in these countries - pay particular attention to ensure that there is compatibility between the requirements of the national economy and performance of these companies.