

Paraguay and the United States and the dilemma to play alone or in a team: A General Equilibrium Analysis

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Abstract

After the failure of the FTAA, the U.S. has pursued a policy of bilateral free trade agreements, deepening its trade liberalization agenda in the region. Such agreements include countries both in Central America and the Caribbean (DR-CAFTA) and in South America (Chile, Colombia, Peru). In MERCOSUR, Uruguay has asked, and being denied by Brazil and Argentina, for the approval of a flexibility mechanism that would allow to bilaterally negotiate a FTA with the U.S. Meanwhile, Paraguay has not officially expressed its interest to mimic Uruguay's strategy; however a FTA with the U.S. is still attractive for Paraguay, and has to be considered. The objective of this paper is to quantify the effects of an FTA with the U.S. that would allow to objectively evaluate the possible benefits on Paraguay's economy of deepening trade relations with the U.S. We use a CGE model, and consider different scenarios that evaluate for Paraguay whether to negotiate bilaterally or with MERCOSUR. The results show that such a FTA would bring a modest increase in welfare and GDP for Paraguay, while bilateral trade with the U.S., both exports and imports, would increase. This would cause trade diversion from other partners, especially from Brazil. An FTA would boost natural resource intensive manufactures, while decreasing production in labor intensive manufactures as a consequence of the complementary of both economies and their corresponding competitive advantages. At the sectoral level, sugar would benefit the most while machinery and equipment would be most affected on both production and exports. We conclude overall that it makes little difference for Paraguay to negotiate with the U.S. either bilaterally or along with MERCOSUR.

Key words: Paraguay, free trade, United States, MERCOSUR

Introduction

The literature on Free Trade Agreements (FTAs) is extensive and gives us the sense that developed countries as part of their economic growth strategies, view trade openness as an opportunity for growth convergence and enhance economic and social development. On that sense, developing countries view FTAs as policy tools towards sustained growth, having to push for institutional reforms and change, that would secure that their production structure reaps off the benefits derived from economies of scale. Additionally, the vision that prevails in developed countries is sustained in incentives to expand their production and technology, mobilizing production alternatives to those new markets where return to their capital is more attractive.

Under this context, the Free Trade Area of the Americas (FTAA) developed during the nineties, supported by the United States and other countries of this hemisphere. After some failures and few successes in the negotiations, the process finally stopped due in part to failed multilateral negotiations and lack of content in the offers. From this situation, some countries reoriented their external agenda, deepening trade reforms as part of policies emanated from the Washington Consensus.

Although the failure of the FTAA agenda, the possibility to sign free trade agreement with the United States still remained of interest for a large part of countries in the hemisphere, due to the economic and political attractiveness of the American market. MERCOSUR was not foreign to this process, however with a different strategy, with more political objectives and criteria, under the leadership of Brazil.

However, after the halt of the FTAA negotiations, the possibilities of a FTA between MERCOSUR and the U.S. seem further away, especially, when within the block there is a strong political bias against this type of agreement. Contrary to MERCOSUR's strategy, some of the countries in South America, and other from Central America have been able to reach trade agreements¹ with the United States.

This situation has caused conflicts within MERCOSUR. On one side, the major economies (Brazil and Argentina) are not favorable to push for negotiations with the United States, while the smaller economies, especially Uruguay, have insisted many times their disagreement with this policy towards the U.S. This asymmetry in preferences has complicated the political scenario in MERCOSUR, where there exists a norm (Decision CMC N° 32/00) that prohibits their members to individually sign FTAs with third parties.

Under this context, friction between Uruguay and Brazil and Argentina was one of the focal points of the trade agenda during 2006. That began when Uruguay asked officially to MERCOSUR members to implement a flexibility mechanism that would allow Uruguay (and any other MERCOSUR member) to negotiate with third parties. This request, as expected, received the total rejection of Argentina and Brazil. However, given these circumstances, Uruguay decided to sign a Trade and Investment Framework Agreement (TIFA) with the United States, which in the view of experts constitutes the base for a FTA.

¹ Free Trade Agreements between the U.S. and other countries go beyond free trade and include chapters related to intellectual property rights, services, government purchases, investment and market competition, among others.

Meanwhile, Paraguay, with less enthusiasm than Uruguay, has been tempted to replicate the actions of that country, based on the fact that an FTA with the U.S. could improve the allocation of resources on a complementarity basis that can be observed on the trade structure of these two countries. Nevertheless, it is necessary to take into consideration that these agreements, depending on the rules imposed, do not necessarily conduct to scenarios where all members end up as winners.

Obviously, there is the alternative where MERCOSUR decides to reorient their policy and negotiates with the U.S., considering the fact that the U.S. is an important trade partner with members of this block. However, this situation is probably less likely in the short-term, considering that its application, in practice, depends on developments that occur in the Doha Round of trade negotiations.

It is in this inflection point that Paraguay's trade strategy has to determine whether to reach an agreement with the United States alone, loosing the condition of full member of MERCOSUR, where almost half of its exports go, or not to do it, loosing an opportunity to have full access to the American market and expand their exports.

The objective of this study is to determine, through a quantitative analysis using a computable general equilibrium (CGE) model, the policy options more convenient for Paraguay in the context of trade negotiations with the United States, supposing that it has full autonomy in its external negotiation agenda. We are interested in determine the costs of alternative policies in each of the scenarios considered, that is, negotiate alone with the United States, or negotiate in a format of 4+1, as it is required by MERCOSUR's rules.

This paper is organized as follows. We first review some key characteristics of the Paraguayan economy, its trade structure, tariff policy, among others. In second place we briefly review the most relevant literature of trade agreements, where we emphasize the diverse opinions on North-South FTAs. Afterwards, we describe the main aspects of the methodology used, model characteristics, modifications made to the data base, as well as the different scenarios of FTA between Paraguay and other MERCOSUR members with the U.S. Finally, we present the results obtained from those scenarios and the conclusions reached from this work.

Main aspects of Paraguay's economy

Paraguay is located in the central area of South America, and with Bolivia, are the only two countries in the region that do not have sea shorelines. Production is characterized by the large share of agriculture, where this sector represents 27% of gross production and is responsible for 60% of foreign exchange from exports. Goods are characterized for being natural resource intensive and GDP per capita is only US\$ 1.395.

During the 90's, and after the return to democracy, a set of reforms took place in Paraguay. Of those, the most important and with far reaching consequences, was the foreign trade policy reforms marked by four key developments: i) adhesion to the Asuncion Covenant (1991) that gave birth to the Common Market of the South (MERCOSUR)², ii) the unilateral trade reform of 1992, iii) the adoption of MERCOSUR's external common tariff (ECT) in 1995, and iv) joining the system of multilateral trade preferences through the adhesion to GATT in 1994. These events

² Integrated by Argentina, Brazil, Paraguay and Uruguay.

contributed to create within Paraguay positive expectations of a more dynamic economy.

In 1995, with the creation of the Customs Union in MERCOSUR, the Common External Tariff constituted the most important community tool. However, since the beginning of its design, the ECT faced problems related to the asymmetries in policy preferences among MERCOSUR members. As a temporary solution, in 1995, MERCOSUR member countries adopted the ECT, including some flexibility mechanisms³.

One of the most important characteristics of the Paraguayan economy is its trade openness. Prove of that is its trade openness coefficient, that in 2005 reached 66%, more than three times the average of MERCOSUR⁴. In terms of the tariff policy, the levels applied for imports of goods outside MERCOSUR are low and reach averages close to five per cent.

Meanwhile, reexports, which importance goes back three decades, is in practice, one of the most influential factors in the definition of economic policy in Paraguay. In that sense, the greater physical integration with Brazil activated an incentive structure that allows to reap the benefits associated with goods' reexport that come from outside MERCOSUR but that are sold afterwards, without any additional transformation, to "tourists" that go into Ciudad del Este, the border city with Brazil and Argentina. To

³ Some of those mechanisms include that each member country is allowed to exempt 25% of all goods. However, a recent study found that imports into Paraguay through the authorized lists, special regimes, and non-harmonized negotiated trade, reach 80% of the value of all imports from non-MERCOSUR countries.

⁴ Trade openness of an economy is estimated as the proportion of both exports and imports as part of GDP.

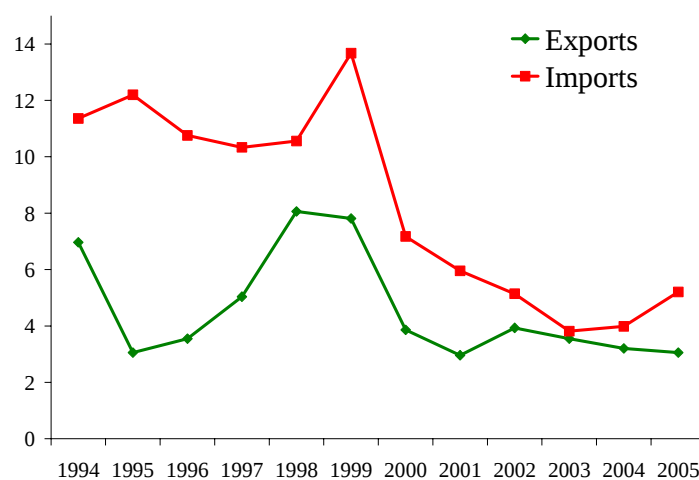
have a sense of this regime, during the period 2003-2006, reexports represented, on average, 21% of GDP and 93% of exports of goods. These goods come from Asian countries (mainly China) and the United States, and mainly include electronics, computers and telecommunications equipment, tools, alcohol beverages and tobacco, cosmetics and perfumes, etc.

As for export structure, there is a high share of traditional agricultural products with low value added that are vulnerable to international price volatility. Import structure is mainly dominated by manufactured products, specially machinery and equipment. An important element in the exporting structure is the growth in the share of non-traditional exports. In 1990, 18% of total exports were non-traditional exports, while in the period 2003-2005 these represented, on average, 33% of total exports. Of those non-traditional exports, MERCOSUR represented almost half (49%) of all exports between 2003 and 2005, while the rest of the world only represented 17% of those exports.

The distinction between traditional and non-traditional exports constitutes a relevant point of analysis in this paper, because from all exports to the U.S. between 2003 and 2005, 84% were non-traditional exports. This indicates *a priori*, some advantage of access to this market for Paraguay in terms of “quality” of potential trade.

The trade dynamics between Paraguay and the U.S. during 1994 and 2005 is shown in Figure 1. This reflects an important reduction in the relative share of U.S. exports as well as imports. In the best years, imports from the U.S. represented 14% of total imports, while exports in some periods reached share close to 8% (1998-1999). The data

show a declining trend from the year 2000 onwards, which has its origin in the Brazilian devaluation of 1999.



Source: Central Bank of Paraguay

Figure 1 U.S. Share in Paraguay's Trade

As mentioned before, a large part of imports into Paraguay are reexports. That is, a large share of imports from the U.S. is reexported to neighboring countries. The Brazilian Real crisis in 1999, activated a series of measures from the Receita Federal do Brazil that effectively ended exports from Paraguay, and reexports from goods from countries outside MERCOSUR, especially Asia and the United States. Since then, the importance of U.S. imports has declined relative to its historical share.

Export and import data in Figure 1 also allows us to deduct that the American market has relative importance for Paraguay, and for that reason we can hypothesize a priori, that gains of a FTA with the U.S. for Paraguay would come mostly from increased investment, as a direct consequence of the FTA.

Meanwhile, trade relations between MERCOSUR and the U.S. are more significant (Figure 2). In 2005, 18.4% of all imports outside MERCOSUR, came from the U.S., and 19.3% of all exports went into that market.

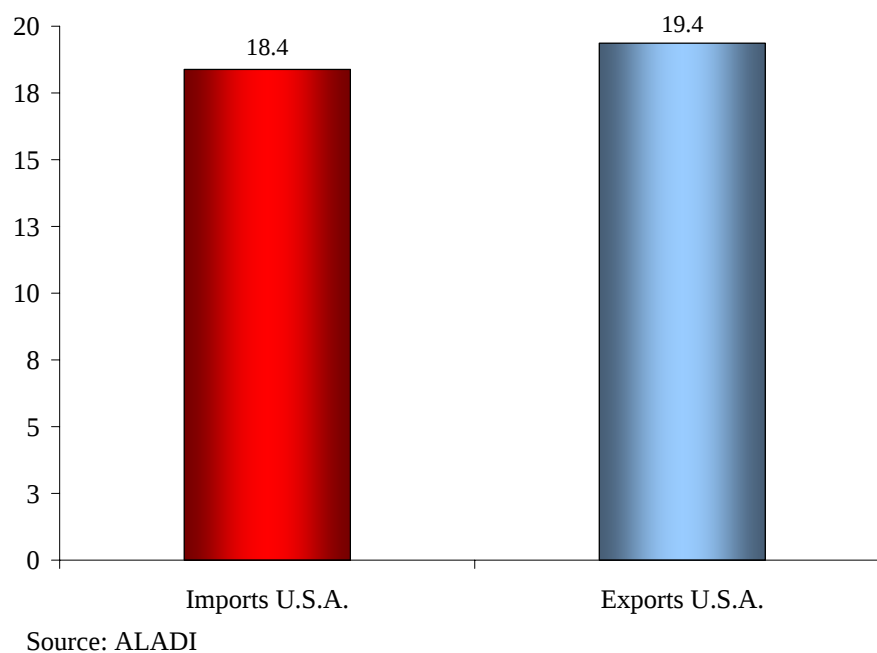


Figure 2 . U.S. Share (%) in MERCOSUR's Trade (2005)

These data suggest that a FTA between MERCOSUR and the U.S. would have significant advantages for both parties, consequently Paraguay would benefit from positive externalities from MERCOSUR. In general, accounting for Paraguay's economic characteristics, there are factors such as the limited access to a sea shoreline that may play a key role in trade relations with countries outside MERCOSUR. Also, it would face retaliation from MERCOSUR that may imply an important additional cost to Paraguay if it signs a bilateral FTA with the U.S., because of the trade importance of its neighbors. For that reason, if the outcome of both scenarios, signing a FTA alone or with MERCOSUR, is positive, that may ease the decision for Paraguay.

Free Trade Agreements

In a globalized world there has been various form of integration according to each country's particular interest. Under this system of integration, there are two main forms: South-South integration between developing countries (leaded by emerging economies

such as Brazil, China and India), and North-South integration (lead by the EU, U.S. and Japan). In Latin America during the 1970's, South-South agreements were the norm and pursued actively. However, during the 1980's, the so called "lost decade" for Latin America, saw the first contacts for North-South integration, given the fact that this type of agreement is more prone to success due to complementarity of these economies. For that reason, these agreements were viewed as beneficial for all participating countries, no matter in which side they were.

According to Salazar-Xirinachs (2003), South-South treaties have a higher probability of generating trade diversion because these economies are similar and competitive instead of complementary. North-South treaties offer increased technology transfer and productivity opportunities, with the additional effect that better institutions in developed countries would allow them to have positive externalities. For those reason, potential benefits that a FTA may have on developing countries is strongly dependent with internal reforms and better institutions.

Köhler de Alvarado (2006) warns about potential negative effects for developing countries of FTAs with developed economies, because in those negotiations there is no special and differentiated treatment that recognizes the asymmetries between these countries. Additionally, these agreements look for more strenuous compromises on investment, trade in services, intellectual property rights, environment, labor issues, etc., than the existing multilateral system of trade (OMC). She also mentions that there might be substitution of agreements based on no reciprocity for reciprocity agreements, which might negatively affect developing countries. Francois et al. (1996) argues that

incentives for countries to sign FTAs not only include more efficient use of resources, but also capital accumulation in all its forms (human, physical and knowledge).

Paraguay within its goal of improving its economic development, took the decision to deepen its relationship with MERCOSUR. However, after 16 years of being part of this trade agreement block, the results show only modest economic growth, as well as no institutional improvement that could serve as a platform to develop an exporting structure to other regions of the world.

These not significant results are attributed mainly to important asymmetries that exist between Paraguay and other MERCOSUR member countries, a fact that has not been explicitly in the block's foundation act. These events have generated discomfort in the Paraguayan economic development process. Consequently, both claims of a non effective attention from MERCOSUR and the incentive to search for new markets have increased.

Methodology: A General Equilibrium Model

The analytical tool chosen for this study is computable general equilibrium (CGE), usually used to analyze *ex-ante* the quantitative effects of policy changes on optimal resource allocation, efficiency and welfare. These models are used widely by public and private research centers around the world to evaluate free trade agreements.

CGE models are based on the optimization behavior of economic agents in walrasian type general equilibrium models (Arrow and Debreu, 1954) and constitute their quantitative counterpart. The pioneers in the application of CGE models were the

studies of Harberger (1962) about fiscal effects with a two sector quantitative model, as well as Scarf (1967) which determined the equilibrium of a walrasian system. Afterwards, Shoven and Whalley (1984, 1992) promoted studies with CGE models and most recently contributions such as GTAP (Hertel, 1997) and Rutherford (1999) has contributed to the development and use of this methodology.

A computable general equilibrium model is basically a system of equations representation of an economy composed by economic agents that behave with microeconomic optimization principles. Modeling interactions between different sectors of an economic allows to analyze the effects, direct and indirect, of changes in policy to evaluate impacts (positive and negative) on different sectors. This allows CGE models to be an ideal tool to identify winners and losers after policy changes.

To analyze the economic effects of alternative trade policies, the methodology used with CGE models is counterfactual experiments. These experiments try to find what would have happened on the base year if a specific policy is implemented and the rest of domestic policies and external conditions remain unchanged, that is, isolating it from other factors. These are basically “controlled experiments” in which we only modify exogenous variables, maintaining everything else constant.

The GTAP database and model

The model and data used to analyze the FTA with the United States is a computable general equilibrium (CGE) model of the world economy, called GTAP. The Global Trade Analysis Project (GTAP) model and database (Hertel, 1997), version 6.2 has 96 regions or countries and 57 sectors/commodities. The model has a base year of 2001,

and identifies Paraguay as an individual country for the first time. The aggregation used in our simulations includes 22 sectors and 6 countries/regions, which we describe next.

The GTAP model is a neoclassic CGE model, multi-sectoral and multi-regional that includes an explicit treatment of international trade and transport margins, a global bank of savings and investment, and responsive to prices and income in all regions. It assumes perfect competition with production functions with constant returns to scale, full use of primary factors of production, limited factor supply, and an Armington specification of bilateral trade that differentiates imports by country of origin.

GTAP Model and database modifications

Model Modifications

Since the standard GTAP model only allows to capture gains from trade that originate from more efficient use of resources and increased consumption possibilities, we have modified it to better capture the economic reality.

The models extensions are twofold: First, capital accumulation, and second, efficiency gains generated by increased trade. These modifications to the standard model try to capture the dynamic effects of trade liberalization. On that sense, “dynamic” describes the cumulative on factor productivity and capital stock that results from increased trade (Hinojosa, 2000).

Due to the weakness of static models to capture capital accumulation, Baldwin (1992) established at the theoretical and empirical level, the positive relationship that exists between trade and growth through investment. In the static model, the representative

agent in each country/region saves part of their income (these savings are equal to investment in the model). This investment does not increase capital stock, and the only effect is on the composition of final demand. The way to introduce capital accumulation in the model is by making investment as a positive change in capital stock. Income increases after trade liberalization, which raises savings in each country/region. These savings become afterwards, through investment, increased capital stock, which generates additional income growth in the medium term (Francois et al., 1996).

Also, the standard model specification does not capture the dynamic effects that come with increased levels of trade, such as the positive effect on total factor productivity that has an important effect on increased exports and/or imports. They are the so called “trade related externalities” that began to be incorporated into CGE models beginning with De Melo and Robinson (1990).

The neoclassic standard model only captures efficiency gains obtained after trade liberalization. These effects are usually too small that they are not able to explain the difference in economic performance observed between countries that have opened their trade and those who do not. This model does not capture stylized facts that come from countries that have had high growth rates due to increased exports.

Empirical evidence indicates that models who incorporate trade related externalities allow to better capture patterns of industrialization and changes in total factor productivity that usually come with trade openness. For these reasons we introduce these trade related externalities into the model. The basic idea is that trade liberalization

can affect a country's productivity through different channels: learning by doing, access to better production technologies, lower capital prices with increased investment, increased competition in previously protected markets, among others.

We also assume that a greater degree of trade openness is associated with higher levels of productivity. These externalities relate total productivity of factor endowments with the degree of trade openness of the economy. We model this through two different forms that relate trade and productivity: i) increased exports in a sector relative to imports in that sector, rises productivity in that sector; and ii) increased aggregate exports augment capital productivity generating gains in efficiency of the production process of the economy.

Database Modifications

Version 6.2 of the GTAP database contains information about most favored nation (MFN) tariffs in 2001 and all existing trade agreements up to that date, such as NAFTA, UE-EFTA, UE, and ANZCERTA. It also incorporates preferential agreements of some Latin American countries: Colombia, Argentina, and Mexico. To adequate this information to the tariff reality of MERCOSUR we modified it, by bringing bilateral tariffs between Argentina, Brazil, Paraguay and Uruguay to zero. Also, using the Ruling National Tariff (ANV in Spanish) of 2001 in the case of Paraguay and the Applied National Tariff (ANP in Spanish) of 2001 from ALADI, we corrected the tariff structure imposed by MERCOSUR countries to products coming from the United States.

However, version 6.2 of the GTAP database contains tariff information from 2001, and although we made corrections to it, it would be the information at 2001 and does not

reflect the tariff structure of 2006. For the database to reflect the tariff structure in 2006, or at least, an approximation, we have updated tariffs for MERCOSUR countries, using the ANV 2006 in the case of Paraguay and the External Common Tariff (AEC in Spanish) 2006 for Argentina, Brazil and Uruguay. Finally, it is worth noticing that the GTAP database does not contain trade barriers to services.

Sectoral and Regional Aggregation

Sectors and regions in the GTAP database were aggregated into 22 sectors and 6 regions/countries as shown in Table 1. There are six categories in which we have grouped these 22 sectors: i) agriculture, ii) mining, iii) natural resources intensive manufactures, iv) labor intensive manufactures, v) capital intensive manufactures, and vi) services.

Table 1. Sectoral and Regional Aggregation

SECTORS		COUNTRIES/ REGIONS	
<i>AGRICULTURE</i>		<i>MERCOSUR</i>	
1 CEREAL	Cereals	1 PARAGUAY	Paraguay
2 FRUTA	Fruits and vegetables	2 ARGENTINA	Argentina
3 OLEAG	Oils Seeds	3 BRAZIL	Brazil
4 OTRAG	Other agricultural products	4 URUGUAY	Uruguay
5 ANIMA	Animal Products	5 USA	United States
<i>MINING</i>		6 ROW	Rest of the World
6 ENERG	Energy		
7 MINER	Mining		
<i>NATURAL RESOURCES INTENSIVE MANUFACTURES</i>			
8 CARNE	Meat Products		
9 ACEIT	Vegetable Oils		
10 LACTE	Dairy Products		
11 ALIM	Other Food Products		
12 AZUCA	Sugar		
<i>LABOR INTENSIVE MANUFACTURES</i>			
13 TEXTI	Textiles and Wearing Apparel		
14 CUERO	Leather Products		
15 OTLIV	Other Manufactures		
<i>CAPITAL INTENSIVE MANUFACTURES</i>			
16 PETRO	Petroleum Products		
17 QUIMI	Chemical Products		
18 METAL	Metals		
19 PRMET	Metal Products		
20 VEHIC	Vehicles and parts		
21 MAQUI	Machinery and Equipment		
<i>SERVICES</i>			
22 SERVI	Services		

Sector selection took into consideration the importance of each sector in the production and exporting structure of MERCOSUR countries. Country/region selection took into consideration the objective of the study, focusing primarily on MERCOSUR countries and the United States. Appendix A contains the description of all 22 sectors considered.

Sensible Sectors and Scenarios

Sensible Sectors

In the process of building the different negotiation scenarios for Paraguay in a FTA with the United States, it is important to identify those sectors considered sensible. That is, to identify those sectors that in the negotiation would be necessary to exclude or that require at least the maximum time possible to reduce their tariffs.

Those sectors identified as sensible were used afterwards to simulate the effects of a restricted agreement with 50% tariff reduction for those sectors. This lower tariff reduction would give these sectors more time for “adaptation” to the free trade zone. The methodology used to identify sensible sectors in each country MERCOSUR countries and the United States, is described in the following paragraphs.

To identify those sectors considered as sensible, we combine two criteria: *relevant sensitivity* criterion, and *explicit sensitivity* criterion. In the relevant sensitivity criterion, we consider “sensible sectors” those sectors that in the GTAP database have a tariff 50% higher than the average tariff in the country. In the explicit sensitivity criterion, we follow Carrera and Cicowiez (2004), in which the analysis is based on the trade liberalization offers during the FTAA negotiations. In this case the “offer” can be interpreted as an explicit index of sensitivity that reveals which sectors are sensible for

those countries involved in the negotiations. The compatibility of these two criteria allows detecting sensible sectors and designing several negotiation scenarios according to countries involved.

Using the revealed sensitivity criterion, Paraguay, as an individual country, reveals as sensible sectors with the United States food, sugar, and leather products, followed by textiles and wearing apparel, metallic products, dairy, and other light manufactures (see Table 2). For MERCOSUR, sensible sectors with the United States are the same as Paraguay's, except for other light manufactures.

Table 2. MERCOSUR's Sensible sectors with U.S. according to MFN tariffs

Sectors	Paraguay		Argentina		Brazil		Uruguay		Average MCS	
	Tariff	%	Tariff	%	Tariff	%	Tariff	%	Tariff	%
CEREA	5.5	-39.6	1.6	-86.2	6.0	-39.3	4.3	-56.5	4.4	-57.3
FRUTA	11.5	26.3	9.5	-21.1	10.9	10.0	7.2	-27.4	9.7	-4.5
OLEAG	0.0	-100.0	5.0	-58.6	5.2	-47.1	6.6	-33.4	4.2	-59.0
OTRAG	8.6	-5.0	0.9	-92.8	6.4	-34.7	4.1	-57.9	5.0	-50.7
ANIMA	3.4	-62.9	3.5	-70.7	3.7	-62.8	4.7	-52.2	3.8	-62.6
ENERG	1.5	-83.7	0.0	-100.0	0.0	-100.0	0.0	-100.0	0.4	-96.4
MINER	5.2	-42.8	5.2	-56.5	4.3	-56.1	5.4	-45.1	5.0	-50.6
CARNE	12.9	42.2	11.9	-0.5	14.2	43.4	12.7	29.2	12.9	26.8
ACEIT	12.3	35.1	11.2	-6.6	11.6	17.8	11.5	16.8	11.7	14.2
LACTE	17.4	91.3	16.4	37.4	16.7	69.0	17.2	75.1	17.0	66.2
ALIME	20.4	124.3	15.7	31.5	14.6	47.6	17.8	80.4	17.1	67.9
AZUCA	25.3	177.7	17.5	46.2	17.5	77.1	17.5	77.7	19.4	90.6
TEXTI	17.3	89.7	18.5	54.4	16.9	70.8	18.5	88.2	17.8	74.4
CUERO	20.6	126.0	15.8	31.8	15.6	57.6	10.8	9.8	15.7	53.8
OTLIV	16.7	83.2	13.3	10.7	13.0	31.2	16.3	65.3	14.8	45.0
PETRO	2.4	-73.8	1.3	-89.2	1.9	-81.0	1.3	-87.0	1.7	-83.2
QUIMI	11.8	29.0	11.4	-5.1	10.3	3.7	11.5	16.7	11.2	9.9
METAL	12.1	32.4	10.4	-13.3	10.8	9.6	9.0	-8.9	10.6	3.5
PRMET	16.4	80.4	17.9	49.8	17.4	76.4	16.4	66.9	17.1	67.2
VEHIC	11.7	28.9	9.4	-21.5	3.7	-63.0	10.7	8.7	8.9	-13.0
MAQUI	7.4	-18.2	12.6	5.1	11.5	16.4	7.7	-21.4	9.8	-3.8
Weighted Av.	9.1		12.0		9.9		9.8		10.2	

Note: Cells with percentages denote the percentage that a tariff for a specific sector is higher or lower than the Average Weighted Tariff for each country with the U.S.A.

Table 3. Sensible Sectors according to MERCOSUR offers to FTAA (%)

Sectors	Description	%
CEREA	Cereals	36.7
FRUTA	Fruits and vegetables	6.1
OLEAG	Oils Seeds	7.7
OTRAG	Other agricultural products	3.6
ANIMA	Animal Products	1.6
ENERG	Energy	0.0
MINER	Mining	5.8
CARNE	Meat Products	43.5
ACEIT	Vegetable Oils	23.3
LACTE	Dairy Products	92.3
ALIME	Other Food Products	46.6
AZUCA	Sugar	57.1
TEXTI	Textiles and Wearing Apparel	68.7
CUERO	Leather Products	98.1
OTLIV	Other Manufactures	71.5
PETRO	Petroleum Products	5.6
QUIMI	Chemical Products	42.0
METAL	Metals	64.2
PRMET	Metal Products	83.5
VEHIC	Vehicles and parts	71.4
MAQUI	Machinery and Equipment	49.6

Source: Auhors calculations.

Table 4. U.S.'s Sensible sectors with MERCOSUR. according to MFN tariffs

Sectors	Paraguay		Argentina		Brazil		Uruguay		Average MCS	
	Tariff	%	Tariff	%	Tariff	%	Tariff	%	Tariff	%
CEREA	0.0	-100.0	0.1	-97.5	0.4	-85.1	0.0	-100.0	0.1	-97.3
FRUTA	0.0	-100.0	0.9	-69.4	1.5	-42.0	0.0	-100.0	0.6	-86.0
OLEAG	48.1	594.5	37.9	1196.2	1.3	-47.9	0.0	-100.0	21.8	418.3
OTRAG	4.7	-31.6	9.3	217.2	7.8	207.2	0.3	-87.0	5.6	32.6
ANIMA	0.0	-99.8	0.3	-89.8	0.8	-67.2	0.3	-92.8	0.4	-91.3
ENERG	0.0	-100.0	0.0	-100.0	0.0	-100.0	0.0	-100.0	0.0	-100.0
MINER	0.0	-100.0	0.3	-88.9	0.2	-91.9	0.0	-100.0	0.1	-96.9
CARNE	3.7	-46.2	4.9	66.0	3.8	50.9	4.6	3.0	4.2	0.9
ACEIT	0.0	-100.0	9.1	210.5	2.0	-20.6	0.0	-100.0	2.8	-34.2
LACTE	0.0	-100.0	28.9	888.0	29.4	1064.1	30.4	580.1	22.2	426.5
ALIME	0.2	-96.8	4.8	63.9	5.1	103.7	0.6	-86.2	2.7	-36.1
AZUCA	49.9	621.1	25.1	760.1	43.3	1616.0	24.6	450.1	35.7	749.0
TEXTI	10.9	58.1	5.9	100.5	9.2	265.8	9.0	101.8	8.8	108.2
CUERO	2.5	-63.9	3.1	5.3	8.0	215.4	0.8	-83.1	3.6	-15.1
OTLIV	0.2	-97.2	0.3	-90.8	1.3	-50.0	0.1	-97.8	0.5	-89.2
PETRO	0.0	-100.0	2.0	-33.1	2.0	-21.9	0.0	-100.0	1.0	-76.7
QUIMI	0.1	-98.7	4.8	63.7	4.0	59.5	0.5	-88.5	2.4	-44.1
METAL	0.0	-99.7	1.3	-55.0	1.1	-56.5	0.0	-99.9	0.6	-85.5
PRMET	0.0	-100.0	2.5	-16.1	2.7	7.0	0.1	-97.1	1.3	-68.6
VEHIC	0.0	-100.0	0.5	-82.9	0.8	-70.0	0.0	-99.6	0.3	-92.4
MAQUI	0.2	-97.7	1.5	-47.4	1.0	-59.5	0.2	-95.4	0.7	-82.7
Weighted Av.	6.9		2.9		2.5		4.5		4.2	

Note: Cells with percentages denote the percentage that a tariff for a specific sector is higher or lower than the U.S. average weighted tariff with each MERCOSUR country, and with MERCOSUR as a block.

With the second criteria of “explicit sensitivity” (Table 3), which accounts for sectors offered by MERCOSUR under the FTAA, we can notice certain similarities with the first criteria. Under this criterion we identify that sensible sectors in MERCOSUR are, among the most important, leather, dairy, metallic, other light manufacture and vehicles and parts. Finally, for the United States, identified sensible sectors are dairy products, sugar, textiles and wearing apparel, and oil seeds (Table 4).

Trade Liberalization Scenarios

The objective of the simulations is to evaluate the convenience for Paraguay to undertake these negotiations alone, where it has control of them, or to cede part of that control to MERCOSUR and bet on a joint negotiation with the other countries of the block. Based on trade negotiation policy alternatives for Paraguay and the sensible sectors previously identified, we have identified four scenarios⁵, classified en two main groups:

1. FTA Paraguay – U.S.: This simulation considers the possibility that Paraguay reaches an FTA with the United States, excluding the other MERCOSUR member countries from the negotiations. At the same time we consider two variants. First, which we call *non restricted*, is that one that supposes that all bilateral tariffs are brought to zero between both countries, without considering sensible sectors. The second one, called *restricted*, assumes that negotiations recognize the existence of sensible sectors in each country and reduces tariffs by 50% for those sectors, while for all non sensible sectors tariffs are reduced to zero. For both these scenarios, tariffs between MERCOSUR countries remain zero, and all other preferential vis-à-vis tariffs with non FTA countries remain the same.

⁵ It is worth noticing that none of the scenarios consider retaliatory measures from countries excluded from the agreement, as well as changes in production subsidies or non tariff barriers.

2. FTA MERCOSUR – U.S.: These scenarios consider that MERCOSUR as a regional block reaches a FTA with the United States. Same as in the previous scenarios, we consider two variants of the agreement. One non-restricted and one restricted. In the last case, the list of MERCOSUR’s sensible sectors considers both revealed preferences as well as explicit preferences.

The following matrix summarizes the four scenarios considered according to their characteristics:

Treatment of Sensible Sectors	FTA Paraguay - USA	FTA MERCOSUR - USA
	Scenario 1	Scenario 3
Non Restricted	100% reduction in all tariffs between Paraguay and U.S.	100% reduction in all tariffs between MERCOSUR and U.S.
	Scenario 2	Scenario 4
Restricted	50% reduction in tariffs for sensible sectors between Paraguay and U.S. 100% reduction in all other sectors.	50% reduction in tariffs for sensible sectors between MERCOSUR and U.S. 100% reduction in all other sectors.

Results of an FTA with the U.S. on Paraguay

This section shows the results from the simulations of an FTA between Paraguay and the U.S., under the four possible scenarios used in the general equilibrium model. We first start with the economic indicators of the Paraguayan economy at the aggregate level (Table 5) under the different scenarios. Welfare changes under a CGE model are measured by Equivalent Variation (EV). This welfare measure indicates in monetary terms how much a change in trade policy affects general welfare. We can observe in Table 5 that if Paraguay signs a bilateral FTA with the United States, welfare in Paraguay will increase by 145 millions of US dollars. Table 5 shows that for all scenarios considered, a FTA with the United States has a positive effect for Paraguay,

around an average of 142 million dollars. We also observe that the change in real GDP World increase around 1.9% for all scenarios.

Table 5. Aggregate Results for Paraguay

Variable	FTA Paraguay – US		FTA MERCOSUR – US	
	Non Restricted	Restricted	Non Restricted	Restricted
Welfare Change (mill. US dollars)	145.4	142.5	142.5	140.3
Change in Real GDP (%)	1.9	1.9	1.9	1.9
Change in Total Exports Volume (%)*	2.6	2.1	2.6	2.2
Change in Total Imports Volume (%)*	4.2	3.5	4.0	3.5

Source: Authors calculations. * = Includes Services

As for trade, Paraguay's exports increase in all scenarios. This increase is higher in the non restricted scenarios than in the restricted ones. Whether Paraguay negotiates alone or along with other MERCOSUR countries as a block, exports increase between 2.1% and 2.6%. As for imports, they would increase between 3.5% and 4.2%. When we exclude sensible sectors for each country from the agreement, total imports for Paraguay are less than in the opposite scenario.

The main reason why Paraguay benefits with a FTA with the United States, independently of whether it negotiates alone or as part of MERCOSUR would come from the fact that even negotiating by itself, Paraguay does not loose preferential access to MERCOSUR (we assume that there are not retaliatory measures from those countries excluded from the agreement).

In Table 6 we can observe that changes in trade of goods for Paraguay by origin and destination to their different commercial partners. In all scenarios, exports from Paraguay to the United States increase, being the largest increase in the non restricted scenarios versus the restricted ones. Negotiating alone or as part of MERCOSUR,

Paraguay's exports to the United States would increase in more than 40%, assuming the non exclusion of sensitive sectors from the negotiations. But if we consider sensible sectors, increase in exports is lower, around 20%.

Table 6. Change (Millions US \$ and %) in Bilateral Trade for Paraguay

Scenarios	Argentina		Brazil		Uruguay		U.S.A		ROW	
	Mill. US\$	%	Mill. US\$	%	Mill. US\$	%	Mill. US\$	%	Mill. US\$	%
<i>Exports from Paraguay</i>										
FTA PRY – US (Non Restricted)	-0.8	-1.2	-4.9	-1.7	-1.7	-1.1	37.9	49.2	-14.1	-2.1
FTA PRY – US (Restricted)	-0.5	-0.8	-3.0	-1.0	-1.6	-1.1	9.4	19.3	-9.4	-1.4
FTA MCS – US (Non Restricted)	-5.6	-10.0	-7.9	-2.7	-2.3	-1.6	29.7	43.1	-10.8	-1.6
FTA MCS – US (Restricted)	-3.6	-5.8	-6.4	-2.2	-2.1	-1.4	8.5	17.9	-7.4	-1.1
<i>Imports into Paraguay</i>										
FTA PRY – US (Non Restricted)	-21.5	-4.9	-84.3	-12.1	-4.5	-4.7	280.7	40.8	-109.7	-11.3
FTA PRY – US (Restricted)	-19.7	-4.5	-79.4	-11.3	-3.3	-3.4	169.1	29.4	-345.9	-46.8
FTA MCS – US (Non Restricted)	-17.8	-4.0	-85.3	-12.2	-5.2	-5.5	199.9	33.0	-358.7	-49.4
FTA MCS – US (Restricted)	-17.0	-3.8	-79.2	-11.3	-4.4	-4.6	167.8	29.2	-348.0	-47.3

Source: Authors calculations. Note = Value do not include Services

For imports, Paraguay's imports from the United Status World increase in 40% in the case of a bilateral FTA without restrictions. Meanwhile, as part of MERCOSUR, U.S. imports would increase by a third of the base case. U.S. imports would grow by 29% in the case negotiations exclude sensible sectors, whether Paraguay negotiates alone or along with MERCOSUR.

For those scenarios where Paraguay negotiates bilaterally with the U.S., exports from Paraguay to other MERCOSUR countries experience only a slight reduction (they decrease by only 1% with each member country). That is not the case with the FTA between MERCOSUR and the U.S., where Paraguay's exports to MERCOSUR decrease to a greater extent, especially those to Argentina.

That is not the case of Paraguay's imports from MERCOSUR. In all scenarios, imports from Argentina and Uruguay decrease between 4% and 5%. However, imports from Brazil are most affected with a reduction of 12%.

Trade Patterns

Table 7 shows that exports from Paraguay to the United States double with respect to the base case in the non restricted scenarios and experience small growth in the restricted scenarios. In all scenarios, MERCOSUR countries remain as an important commercial partner for Paraguay's exports, as their relative importance remains unchanged with respect to the base case.

Table 7. Paraguay's Regional Trade Composition (%)

Scenarios	Argentina	Brazil	Uruguay	USA	ROW	Total
<i>Exports from Paraguay</i>						
Base case	5.3	24.0	12.0	3.1	55.6	100
FTA PRY – US (Non Restricted)	5.2	23.3	11.7	6.1	53.8	100
FTA PRY – US (Restricted)	5.3	23.8	11.9	3.9	55.1	100
FTA MCS – US (Non Restricted)	4.8	23.3	11.8	5.5	54.6	100
FTA MCS – US (Restricted)	5.1	23.7	11.9	3.9	55.5	100
<i>Imports into Paraguay</i>						
Base case	18.4	31.1	4.0	13.3	33.3	100
FTA PRY – US (Non Restricted)	17.1	27.1	3.7	23.8	28.3	100
FTA PRY – US (Restricted)	17.3	27.5	3.8	22.5	28.9	100
FTA MCS – US (Non Restricted)	17.3	27.2	3.7	23.6	28.2	100
FTA MCS – US (Restricted)	17.4	27.5	3.8	22.5	28.8	100

Source: Authors calculations.

As for imports, Table 7 shows that the share in imports of the United States in the Paraguayan goods market would double, regardless of the scenario considered. This growth in U.S. imports would divert trade from other partners, especially Brazil and the

rest of the World. The share of Brazilian products in Paraguay's imports would shrink from 31% to 27%, while the share of ROW would fall from 33% to 28%.

Considering the sectoral composition of Paraguay's exports as well as of imports, we can observe in Table 8 the importance of the different economic sectors does not change substantially relative to the base case. Paraguay would still be, at least in the short run, an exporter of primary goods and products with intensive use of natural resources and labor, as well as an importer of capital intensive manufactures.

Table 8. Paraguay's Sectoral Trade Composition

Scenarios	Agriculture	Mining	NN.RR. Intensive Manuf.	Labor Intensive Manuf.	Capital Intensive Manuf	Total
<i>Exports from Paraguay</i>						
Base Case	55.3	0.1	24.1	14.7	5.9	100
FTA PRY – US (Non Restricted)	53.4	0.1	26.3	14.5	5.8	100
FTA PRY – US (Restricted)	54.6	0.1	24.7	14.7	5.9	100
FTA MCS – US (Non Restricted)	54.3	0.1	25.9	14.3	5.5	100
FTA MCS – US (Restricted)	55.0	0.1	24.7	14.7	5.6	100
<i>Imports into Paraguay</i>						
Base Case	3.1	0.8	11.5	17.4	67.2	100
FTA PRY – US (Non Restricted)	3.0	0.7	11.4	17.6	67.2	100
FTA PRY – US (Restricted)	3.1	0.7	11.4	17.3	67.5	100
FTA MCS – US (Non Restricted)	3.0	0.7	11.4	17.6	67.2	100
FTA MCS – US (Restricted)	3.0	0.7	11.5	17.3	67.4	100

Source: Authors calculations.

Considering the sectoral composition of Paraguay's trade with the United States, we can observe in Table 9 that relative to the initial equilibrium the scenarios that consider a non restrictive agreement mean greater intensity on exports of natural resource intensive manufactures and a lower participation of labor intensive manufactures. For those non restrictive scenarios, although the effect is lower, there is still an important increase on

natural resource intensive manufactures from 16.5% in the base to almost 28%, and a decrease from 52% to 43% in the case of labor intensive manufactures.

Table 9. Paraguay's Sectoral Trade Composition from and to the United States

	Agriculture	Mining	NN.RR. Intensive Manuf.	Labor Intensive Manuf.	Capital Intensive Manuf	Total
<i>Exports from Paraguay</i>						
Base Case	19.9	0.0	16.5	51.7	11.9	100
FTA PRY – US (Non Restricted)	13.9	0.0	52.5	27.6	6.0	100
FTA PRY – US (Restricted)	18.3	0.0	28.9	43.3	9.5	100
FTA MCS – US (Non Restricted)	15.2	0.0	47.1	30.9	6.7	100
FTA MCS – US (Restricted)	18.4	0.0	27.6	44.2	9.7	100
<i>Imports into Paraguay</i>						
Base Case	0.3	0.0	5.9	9.0	84.8	100
FTA PRY – US (Non Restricted)	0.2	0.0	5.8	11.9	82.0	100
FTA PRY – US (Restricted)	0.3	0.0	4.6	8.1	87.1	100
FTA MCS – US (Non Restricted)	0.3	0.0	5.9	11.9	81.9	100
FTA MCS – US (Restricted)	0.3	0.0	6.2	8.0	85.6	100

Source: Authors calculations.

As for imports from the U.S. into Paraguay we can observe that relative to the base case, in the restricted scenarios the share of capital intensive manufactures increases, and the share of labor intensive manufactures diminishes. By contrast, for the non restricted scenarios, the opposite occurs. As for regional trade with MERCOSUR countries, the composition of Paraguay's exports as well as of imports from MERCOSUR does not change relative to the initial equilibrium (Table 10).

Table 10. Paraguay's Sectoral Trade Composition from and to MERCOSUR

	Agriculture	Mining	NN.RR. Intensive Manuf.	Labor Intensive Manuf.	Capital Intensive Manuf	Total
Exports from Paraguay						
Base Case	58.3	0.2	20.8	13.6	7.1	100
FTA PRY – US (Non Restricted)	58.1	0.2	20.9	13.7	7.1	100
FTA PRY – US (Restricted)	58.1	0.2	20.9	13.7	7.1	100
FTA MCS – US (Non Restricted)	59.4	0.2	21.0	13.0	6.3	100
FTA MCS – US (Restricted)	59.1	0.2	20.9	13.5	6.4	100
Imports to Paraguay						
Base Case	3.9	1.4	15.4	14.5	64.8	100
FTA PRY – US (Non Restricted)	4.2	1.5	16.1	14.8	63.5	100
FTA PRY – US (Restricted)	4.1	1.5	16.3	15.2	62.9	100
FTA MCS – US (Non Restricted)	4.1	1.5	16.0	14.7	63.7	100
FTA MCS – US (Restricted)	4.1	1.5	15.9	15.1	63.4	100

Source: Authors calculations.

Sectoral Results

An FTA with the U.S. would, under any scenario, have important effects on all economic sectors of Paraguay. While some sectors increase production, others would have negative impacts on production due to the change in relative prices after the reduction in tariffs (Table 11). At the same time, export oriented sectors expand, and those sectors that compete with import products are negatively affected diminishing production.

In all scenarios, we can observe increased production in those industries related with primary sectors, as well as intensive natural resources. Benefiting from Paraguay's natural comparative advantages would lead to increased production, and therefore, more specialization in those sectors. Sugar would be especially benefited by the FTA under any scenario, with less impact in the case where a sector is considered sensible. All those primary sectors that would have increased production would also have increased

exports at the same time. Increased production and exports would demand more domestic inputs, with higher intersectoral demand.

Table 11. Sectoral results on Paraguay's economy under different scenarios

Sectors	FTA PRY – US (Non Restricted)		FTA PRY – US (Restricted)		FTA MCS – US (Non Restricted)		FTA MCS – US (Restricted)	
	Exports	Production	Exports	Production	Exports	Production	Exports	Production
CEREA	0,15	0,96	1,07	1,43	1,09	1,27	1,55	1,45
FRUTA	-1,06	1,54	-0,49	1,62	-0,70	1,54	-0,34	1,57
OLEAG	0,83	1,00	1,04	1,21	1,26	1,35	1,30	1,41
OTRAG	-2,65	4,15	0,60	2,17	-1,33	3,50	0,91	2,11
ANIMA	0,37	1,97	0,80	2,14	0,82	1,95	1,06	2,11
ENERG	0,70	1,56	0,60	1,58	0,90	1,63	0,84	1,64
MINER	1,04	1,41	1,01	1,52	0,39	1,27	0,42	1,37
CARNE	2,12	2,10	2,71	2,16	2,67	2,15	2,89	2,16
ACEIT	1,51	1,71	2,02	1,96	1,62	1,77	1,91	1,90
LACTE	0,97	2,03	1,42	2,09	-0,27	2,10	1,50	2,14
ALIME	1,18	1,00	1,47	1,49	0,61	0,93	0,77	0,94
AZUCA	528,73	36,82	117,73	9,53	404,97	28,54	104,83	8,51
TEXTI	1,12	0,82	1,63	1,61	-4,47	0,28	-0,50	1,42
CUERO	1,72	1,51	1,80	1,77	2,09	1,79	2,26	2,06
OTLIV	2,61	0,88	2,73	1,96	-0,13	0,58	1,61	1,85
PETRO	1,30	1,50	1,32	1,55	1,20	1,47	1,20	1,51
QUIMI	0,90	0,91	1,15	1,00	-4,31	0,51	-4,25	0,54
METAL	1,04	0,94	1,33	1,18	-4,92	0,18	-1,53	0,92
PRMET	-0,20	2,30	-0,02	2,64	-6,18	2,15	-2,40	2,56
VEHIC	-0,97	0,65	-0,81	0,67	-0,53	0,69	-0,37	1,53
MAQUI	-1,59	-14,95	-1,31	-15,03	-10,78	-15,51	-10,79	-15,65

Source: Authors calculations.

When we compare the effects on capital intensive sectors under a FTA Paraguay-U.S., with those MERCOSUR-U.S., we can distinguish that increased production (except for machinery and equipment) would be higher in an agreement between Paraguay and the U.S. Export volumes also signal a differentiated behavior between sectors, In the case on a FTA Paraguay-U.S., export volumes would increase for petroleum products, chemicals and metals, falling for the rest of sectors. Under the FTA MERCOSUR-U.S. all capital intensive sectors, except for oil products, would increase their export volumes. Machinery and equipment would be negatively affected in both production and exports, in any of the four scenarios considered.

Conclusions

The current paper has tried to evaluate the impact over Paraguay's economy of a Free Trade Agreement between Paraguay and the United States, under different negotiation scenarios. In all scenarios the impact on macroeconomic indicators and general welfare of Paraguayan economy would be small but positive. Trade with the United States would also increase, which could indicate that society as a whole would gain with an agreement with the United States under any of the scenarios analyzed. Within the Paraguayan economy there would be winners and losers, and because of that, it could generate positions in favor or against the FTA.

Other relevant aspect of this study, is that the Paraguayan economy would obtain similar results on a bilateral negotiation with the United States as with negotiations as part of MERCOSUR. GDP and trade (exports and imports) would increase with the United States. An agreement with the United States would promote those sectors with that are natural resource intensive manufactures affecting labor intensive manufacture sectors. These effects are mainly due to the complementarity between Paraguay and the United States economies, as well as taking advantage of comparative advantages.

Finally, we can argue that the political decision from Paraguay to negotiate a FTA with the United States, under any negotiation model (bilateral or with MERCOSUR), would be subject mostly of its economic and social development plan than the trade benefits that it would receive. Therefore, if the purpose for Paraguay is to become a more specialized economy as producer of raw materials and natural resource intensive goods, the FTA with the United States would accelerate and favor that path. However, if the path of economic development chosen by Paraguay includes strengthening those capital

and labor intensive sectors, then an agreement with the United States, under any format, will have an adverse effect.

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Appendix A. Sectors Description

Code	Sectors Name	Description
<i>AGRICULTURE</i>		
1 CEREAL	Cereals	Paddy rice, wheat and other cereals
2 FRUTA	Vegetables and fruits	Fruits, vegetables and nuts
3 OLEAG	Oils Seeds	Soybeans, sunflower
4 OTRAG	Other agricultural products	Sugar cane, plant-based fibers, other crops, and forestry
5 ANIMA	Animal Products	Bovine cattle, sheep and goats, horses, other animal products, raw milk, wool, silk-worm cocoons, and fishing.
<i>MINING</i>		
6 ENERG	Energy	Coal, Oil and Gas
7 MINER	Mining	Other minerals
<i>NATURAL RESOURCES INTENSIVE MANUFACTURES</i>		
8 CARNE	Meat Products	Bovine meat products, and other meat products
9 ACEIT	Vegetable Oils	Vegetable oils and fats
10 LACTE	Dairy Products	Dairy products
11 ALIME	Other Food Products	Processed rice, other food products, and beverages and tobacco
12 AZUCA	Sugar	Sugar
<i>LABOR INTENSIVE MANUFACTURES</i>		
13 TEXTI	Textiles and wearing apparel	Textiles and wearing apparel
14 CUERO	Leather Products	Leather products
15 OTLIV	Other Manufactures	Wood products, paper products and publishing, and other manufactures
<i>CAPITAL INTENSIVE MANUFACTURES</i>		
16 PETRO	Petroleum Products	Petroleum and coal products
17 QUIMI	Chemical Products	Chemical, rubber, plastic products, and other mineral products
18 METAL	Metals	Ferrous metals, and other metals
19 PRMET	Metal Products	Metal products
20 VEHIC	Vehicles and parts	Motor vehicles and parts, and transport equipment
21 MAQUI	Machinery and Equipment	Electronic equipment, and other machinery and equipment
<i>SERVICES</i>		
22 SERVI	Services	Electricity, Gas manufacture and distribution, water, construction, trade, other transport, water transport, air transport, communication, financial services, insurance, business services, recreational and other services, public Administration, defense, education, health, and dwellings