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Potential gains for Bolivia of the subscription of an Association Agreement with the European Union

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1) INTRODUCTION

Trade liberalization has become over the past years one of the most important issues of economic policy. Not only the links with economic growth matter, but also the *relatively new* interest on the effects it has over poverty reduction.

The biggest economies in the world – measured by their GDP – are the ones taking the most out of international trade, while developing countries participate in this process in a secondary and subordinated position. Even though these large economies experience a lot of benefits from international trade, there is no sounded evidence that the increase of traded volumes will benefit small and vulnerable economies the same way. At this respect, the specific debate is whether trade liberalization could help developing countries enhance their growth rates, promote economic development, and finally be an ally in the fight against poverty.

As the debate over the benefits and costs of trade liberalization continues, there is also another emerging concern about trade openness which is the preferential trade liberalization and its effects over world trade liberalization. What is more, regional integration acquired a new dimension since the 90s due to the new characteristics of the agreements. Not only tariff reduction was negotiated, but also complementary issues that affected international transactions, like non-tariff trade barriers, investment and intellectual property. Additionally, the agreements widened its scope and started to include Northern as well as Southern countries. This resulted in enhanced opportunities and challenges to be faced by developing countries in order to take the more advantage possible of international trade.

In consequence, developing countries find themselves in a crossroads since they want to promote growth and reduce poverty but lack the resources to undertake specific policies. The argument of trade liberalization for promoting growth through increase of exports - even though it increases total welfare – has not worked equally for all countries. Yet it is still the model pursued by many developing countries as a mean to promote development.

On this respect, in this paper we will provide both a theoretical and empirical framework not only for assessing the potential gains for Bolivia of a trade agreement with the European Union, but also the implication it will have over the poor. First we are going to review the theory behind trade liberalization, regional integration and the links of both with poverty. Second, we are going to calculate the products that offer the highest commercial opportunities for Bolivia in the European market, as well as their specific potential gains. Third we are going to select one of the products that have high potentiality and examine how the poor can benefit from an increase in the trade volumes – via trade liberalization-. Finally, the fourth part is going to provide the conclusions and recommendations.

2) PROBLEM STATEMENT

Disregard the sounded academic debate over the benefits of discriminatory trade liberalization, the emergence of preferential trade agreements has continued to grow over the past years, providing opportunities and hazards, not only to member countries of these agreements, but also to countries left behind. It is not a valid option to opt-out from regional agreements, since the discriminatory preferences received by others can cause a serious damage to the competitiveness of the own productive base.

Historically, despite the refuse of the United States until the 80s, the European integration process resulted in a worldwide acceptance of preferential agreements as a

relentless process (Bhagwati, 2009), gaining more and more followers who pursued incremental commercial benefits by assuring markets to their productive base.

After 40 years of existence, the Andean Community is experiencing one of its worst crises, due to the division between the members, especially because of the ideologies of the governments. While Peru and Colombia are following a market-based model, Bolivia and Ecuador – in the same line as Venezuela – are applying a government centralized model. As expected, there is a clear conflict, since the latter bases their policies in the supposition that leaving the market to operate freely will only lead to more poverty and there is the need of government intervention to lead the economy, not only to generate growth but also to improve distribution. The area of international trade is one of the most sensitive ones, since Peru and Colombia are pursuing policies that will end up in trade liberalization with other countries and blocs, while Ecuador and Bolivia are trying to liberalize the economy in a more gradual way, expecting special and differenced treatment.

Furthermore, the conflict in the Andean Community aggravated with the beginning of the negotiation of an association agreement with the European Union in June 2007, and stagnated six months after mostly because of the encountered positions described above. The conflicts arose due to two main subjects: asymmetries and trade related subjects. In the first one, Bolivia and Ecuador were pushing – based on the differential treatment regime of the WTO - for differential market opening, specially taking into account speed and sensitive products. In the second one, Bolivia and Ecuador disagreed with the European position in the following subjects: intellectual property, investment, public purchasing and trade of services.

Specifically, Bolivia´s counter position is due to the belief that the openness of the economy will only benefit the EU and will have negative consequences over the poor in the Andean countries. As they argue, not only the terms of the negotiation are being imposed by the liberal model applied by the EU – incorporating trade-related issues -, but also the reduction or elimination of tariffs will lead to an increase of the EU exports only. The strongest argument for the former is that the size of the productive base and level of technology of Bolivia will limit the increase in exports coming from the reduction or elimination of tariffs. Thus, the EU will not only benefit from a positive commercial balance, but also from the imposed commitment of the Andean countries in subjects such as intellectual property, investment and trade in services.

The EU had an initial position of only negotiating between both integration blocs, but after the negotiations stalled – and because of the request of Peru and Colombia -, in May 2009 country-separated negotiations began. Given the former, Ecuador took the decision to carry on with the negotiations, showing that Bolivia's strong position was only isolating the country and that the fracture of the Andean Community is not half-and-half, but instead three against one.

Consequently, besides the political and ideological conflicts, there still remains the most important concern for the signing of a free-trade agreement, which is in the economic dimension. Specifically, this issue can be simplified in whether or not true economic gains will arise for Bolivia by an increase in exports, not only imports. In other words, the future reciprocal trade liberalization with the EU has to be based in true opportunities for increasing exports as a mean to pursue economic growth and not only to safeguard one of its most important markets – such as the Andean Community – or because of the imposition of an hegemonic bloc - such as the EU -. As Bhagwati (2009) mentions, one of the most common reasons for a small and poor country to join a preferential trade agreement is because it does not want to lose the preferences it already has achieved in a specific country or region. For

Bolivia, the former can be analyzed as joining a free-trade agreement with the EU in order not to reach a disintegration of the Andean Community.

If evidence can be found about commercial opportunities for Bolivia, then the political issues can be addressed from another point of view. On the other hand, if there are no clear commercial benefits for Bolivia in the European market, still there decision about joining the Agreement would have to take into account several political factors.

3) THEORETICAL FRAMEWORK

Trade liberalization

The process of trade liberalization has a market oriented approach, which is based on the assumption that the market is the best allocator of resources. Specifically, trade liberalization is advised to improve growth rates of the economy via an increase in the volume of exports and a better allocation of the resource for domestic production. Hence, although total welfare is increased, the effects of trade are not neutral. The former means that disadvantages will emerge, that can worsen the situation for specific groups.

First of all, is important to examine where do the gains of trade liberalization come from, to then understand why it is such a conflictive topic for developing countries, as well as the multilateral trading system. As Krugman (2006) demonstrates, a tariff reduction or elimination will cause national welfare to increase. The reason for the former is that tariffs produce distortions in the economy that cause resources to be allocated in an inefficient way. Either by protecting the industry or by raising more funds, governments cause that consumers and producers face a price that has been distorted by the imposition of duties. Thus, free-trade will promote economic efficiency and specialization, leading each country to exploit their comparative advantages. Moreover, there are additional gains coming from the liberalization that will reinforce the process, enabling higher growth rates, such as economies of scale and the process of learning and innovation.

Trade liberalization will result in a transfer of resources inside the country to the most competitive industries, exporting the goods which are produced more efficiently and importing the other. Thus, the export oriented industries will experience a significant growth that will absorb the work force of the country. The definitive assumption behind the former is that as trade is liberalized the industries will be able to adapt and produce the most efficient products. Nevertheless, it is important to mention that private enterprises as well as the society as a whole experience adjustment costs in the process of reallocation of the resources.

This last point is the source of the most sounded conflict in trade policy: to accept that due to trade liberalization not only benefits are going to be experienced, but also disadvantages. This leads to the question whether only the increase in welfare is important or also the distribution of the income. The classic trade theory argues that after trade liberalization takes places, a change in the production pattern is going to be experienced; and at the same time accepts that the benefits are not going to be equal for all the economic agents. As David et al. (1999) argue, there is evidence that trade liberalization has a positive impact over income, although most trade reforms will create losers in the short and middle-run.

On this respect, the most accepted argument is that the winners would compensate the losers. In other words, it is accepted that the net benefits would be higher than the losses. Moreover, in order to minimize the negative impact of liberalization additional distribution policies are to be applied to accelerate the process of translation of resources to the most

efficient industries. Thus, the market is going to increase the welfare of determined agents, while the government has to take care of the damaged ones.

The deficiency of the former is that it is still based in a utilitarian approach to welfare, and the economics of distribution is not clearly monetarized. As Shelburne (2005) states,

> *"For some, the possibility that these transfers could be made is sufficient, regardless of whether any transfers are actually made. For others, there is a naive belief that after all the income maximizing policies are implemented, that the government (or society) then consistently redistributes income in a manner consistent with its specific social welfare function".*

Hence, even though distributional policies are applied, there is still the possibility that some groups would be worst-off than before.

Regional integration

A specific case in the international economic relations and international trade is the association between countries with the intention to form a bloc in which they will have preferential treatment, with respect to other countries. Even though the Multilateral System of Trade seeks a reduction of tariff and non-tariff barriers to trade by their member countries - which will enable goods, services and capital to move freely around the world - , it contemplates the possibility that countries gather in a "discriminatory way" in order to shape such a regional agreement, that will enable them to "escape" from the regulations of non-discriminatory treatment[1].

We can define regional integration as "the situation where two or more countries come together to discuss common provisions to create a Regional Trade Agreement in the WTO sense of the word with the aim to regulate or encourage cross-border trade, investment and migration. It is not geographically bound to regions or continents of the world and specifically refers to the international integration among countries." (Te Velde, 2006: 3). Narrowing the definition, from a commercial point of view, economic integration can be defined as progressive process of elimination of artificial barriers to the exchange of goods, services and productive factors" (Mariño, 1999).

It is important to notice that the intention of shaping an integration bloc has not only economical reasons, but also political. By analyzing the trade dimension we see that the continuous use by countries of regional integration rather than unilateral trade liberalization has brought two main concerns in the academic debate, one focusing on the impact over trade liberalization and the other on the welfare effects (Hadjiyiannis, 2004). The first one is whether preferential agreements constitute an input to world trade liberalization. The second debate is whether developed and developing countries can both benefit from these agreements. The important fact is that while there is not an academic consensus, the Multilateral Trade System in practice pursues a worldwide reduction and elimination of tariffs, but at the same time accepts the formation of blocs with preferential treatment between members.

The second debate concerns about the benefits that developing countries can experience by participating in a RIA. This debate arises over the new characteristics that regional integration has acquired over the years. As Te Velde et al. (2006) mention, between the 50s and 70s only the liberalization of the trade of goods was intended, but starting from the 90s – which is called the second wave – there was a change in the perspective about the

[1] Specifically we are referring to article XXIV of the GATT, the Enabling Clause and article V of the GATS.

regional integration, including more subjects – like trade in services or investment -, but also opening to having preferential agreements among developing and developed countries. In addition, according to the World Bank (2000), the changes in the regional integration schemes can be gathered in three broad areas. The first one is the need for more actions than just reducing tariffs and quotas. Second, the blocs are trying to boost commerce instead of restricting it - integration between countries has no longer protectionism and import substitution as principles -. And finally, the trading blocs are conformed by developed and developing countries equally - exceeding regionalism in the proper sense of the word -.

Under this new scheme, there are an increasing number of countries and other international actors, mostly referred to as "anti-globalization groups", whose main problem is not anymore whether trade liberalization increases or not welfare. The main concern has become whether developing and developed countries will both experience gains at the same level, keeping in mind that, as Negri and Cocco (2006) argue, developing and developed countries enter the competition in unequal conditions, being the latter in a better position due to the size of their productive base and their level of technological development.

Finally, having analyzed the main issues of regional integration, there are two main reasons that motivate the further assessment of the linkages with poverty reduction. The first is that trade liberalization has the particular characteristic of changing income and distribution within a country. The second is that more and more countries in the world are participating in this process of preferential openness, and since the 90s these agreements started to include both developing and industrialized countries. As Schiff and Winters (2003: 2) articulate,

> *"The growth of regional trading blocs has been one of the major developments in international relations in recent years; virtually all countries are now members of at least one bloc. In addition to the boom in numbers, the past 10 years have also witnessed qualitative changes in regional integration arrangements".*

Association Agreements

"Regional agreements vary widely, but all have the objective of reducing barriers to trade between member countries and are expected to significantly contribute to economic growth, development and poverty reduction" (Te Velde et al., 2006: 118). The former follows the idea that trade liberalization will result in a shift of production to the most efficient sectors, which in turn will result in higher income, due to the increase in the traded volumes and the efficiency gains. Thus regional integration agreements (RIA) are seen as a mean to fight against poverty.

Under this conception, the trade agreements that the EU subscribes with developing countries have gone through several stages and changes in paradigms. The Association Agreement intended by the EU with the Andean countries follows the guidelines stated in Cotonu and has the final objective of enhancing the relations between both integration blocs, not only increasing the level of traded volumes. At this respect, the difference with Free-trade Agreements is that in Association Agreements there are three main dimensions: trade, political dialogue and cooperation. Additionally, besides tariff reduction, the agreement includes provisions for trade related issues such as investment, competition policy, intellectual property, environmental regulations and labor rights.

Thus, the main concern about this specific form of regional integration is whether they foster development or not. In other words, the question is whether this RIA can provide – through trade liberalization - the necessary opportunities for poor countries to develop.

On the contrary, as mentioned in the previous section, this new way of integration proposed by the EU has found a lot of resistance by interest actors, who state that these agreements are an imposition over poor countries, which have the final objective of generating additional benefits for the European only.

4) METHODOLOGY

As stated above, in this paper we will pursue to unveil the products that are more likely to experience benefits if the proposed trade event takes place. In our specific case, we are proposing the tariff reduction coming from the signature of an Association Agreement between Bolivia and the EU.

The methodology employed consists of two steps. First we are going to determine the products in which the two blocs are complementary and second we are going to analyze the potential gains that these products offer.[2]

To perform the first part we are going to use the trade indices methodology. Specifically, a product is going to be selected if it complies with three main conditions:

1. Complementarity between Bolivia as exporter and the EU as importer
2. World comparative advantage for Bolivia.
3. The tariff equivalent is 5% minimum

For the first and second conditions we are going to select a product if it scores more than "one" in the Trade Complementarity Index and in the Revealed Comparative Advantage Index respectively. For the third condition, a product is going to be selected if the tariff equivalent it faces if 5% minimum. After calculating both indices, a matching is going to be performed in order to fulfill the former requirements and detail the specific products.

The second part of the methodology consists of running a simulation model developed by Cline et al. (1978) with the insertion of the tariff equivalent for each product.[3] With the former, "the main objective is to produce a value that portrays the market access gains (Calfat and Flores, 2006: 3)". This value is calculated by estimating the trade effects of the reduction or elimination of the tariffs. The final value results from adding up two effects: trade creation and trade diversion. It is useful to comment that the value found is going to be expressed in US dollars and will enable the elaboration of a classification of the opportunities.

Since the motive behind the current research is to introduce the linkage of poverty and trade liberalization to a sensitive event such as the Association Agreement between the Andean Community and the EU, there is still the need for a micro analysis. The reason why we decided to gather both methodologies in is – as stated b y McCulloch et al. (2000: 116) – "once information is available on the price changes that are likely to be introduced by trade reform, it is possible to analyze the extent to which reform will result in output changes in key sectors". In other words, we used the quantitative method by Cline et al (1978) to find the monetary value of the potential gains and the possible tariff reduction – price change – to then analyze the effect over the poor. From our perspective, both methodologies are complementary and can be used to asses any trade event that a country faces, finding the sensitive products in each case, and then analyzing the impact over the affected actors, specifically the poor.

[2] The specific formulas for the indexes can be found in annex 1
[3] The specific formulas for the simulation can be found in annex 2

The data employed in the first part is: Bolivian exports and imports, European exports and imports and finally world imports. All of the former are going to be disaggregated at a six-digit level because we want to find prospective gains for specific products and sectors. The dataset was obtained from the WITS[4] database.

The data employed in the second part (simulation model) is: tariffs and import demand / export supply elasticities. The tariffs and tariff equivalents were taken out of the Market Map database of the International Trade Center. The elasticities were taken out of the World Bank's Global Monitoring Report and the OECD Query Simulation Package

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Limitations of the analysis

The current research is going to be performed under five main restrictions that limit its scope:

1. To assess the effects of regional integration over poverty, we will base the analysis on the assumption that this process is going to affect developing countries whether they are involved or not.
2. Despite the former the analysis is going to focus only on the commercial possibilities for Bolivia if the proposed trade event takes place.
3. The tariffs used in the simulation in section three are the MFN tariffs of the EU. The analysis is not going to take into account the trade preferences that Bolivia receives from the EU (GSP+).
4. Although the impact of regional integrations over poverty works through 3 main channels (trade, investment and migration), due to time constraints only trade effects are going to be analyzed.
5. Despite the sounded academic debate over the direct relationship of trade liberalization and economic growth, to simplify the analysis we are going to base it in the assumption that trade liberalization increases the traded volumes which in turn increase economic

5) EMPIRICS

Identification of products

As mentioned above, with the trade indices we want to unveil the products that both a high complementarity between both blocs and comparative advantage of the Bolivian products. At this respect, with this methodology we want to find a list of the selected products that will show the potential market for Bolivia, if the trade event takes place.

After calculating the TCI, and complying with the first condition set above, we narrow the total products to 105. If we use the second condition, the data set is reduced to 100. Finally, by using the third condition, the final result is 95 products that comply with all three requirements.

The exports to the world of these 95 products have a total final value of more than 1.200 million dollars, reaching in 2006 almost 30% of the total exports (4.069 million dollars). The complete list of products, sorted by the value of the TCI index can be found in annex 1.

Out of the 95 products selected, we can observe that:

[4] www.wits.worldbank.org

- 22 products are from *food, animal and vegetal*, with a value of 358 million dollars (29%)
- 17 are from c*rude mater excluding food/fuel*, with a value of 214 million dollars (18%)
- 4 are from *animal and vegetal oil*, with a value of 152 million dollars (13%)
- 6 are from *chemical products*, with a value of 39 million dollars (3%)
- 28 are *manufactured goods*, with a value of 211 million dollars (17%)
- 8 are *machinery and transport equipment*, with a value of 12 million dollars (1%)
- 9 are from *miscellaneous art and manufactures*, with a value of 101 million dollars (8%)
- 1 is from *commodities and services*, with a value of 125 million dollars (10%)

As can be seen, most of the products come from two sections: *food, animal and vegetal* and *manufactured goods*. Moreover, the first section is the one that has the biggest final value of exports, representing almost one third of the total opportunities. On the other hand only 4 products come from the animal and vegetal oil section, but they comprise 13% of the total.

Although 23 products selected are minerals and their derivates – representing more than 250 million dollars and 23% of the total -, several opportunities were found in products that incorporate added value or that are highly sensitive to the poor. Specifically, we can say that 28 and 22 products found, belong to manufactures and agriculture respectively.

Table 1 details the products that complied with all three conditions that ranked highest on the TCI. As an example, "Brazil nuts" is the product that shows the greatest complementarity while it does not have the highest comparative advantage value. Next we find 3 mineral products and one cereal grain, which is quinoa. In addition there are other agricultural products like coffee and cotton and manufactured products like hats.

Table 1: Top 20 products and their values for the different indices, ranked by TCI

Product Code	Description	Xk Bol (in thousands $)	RCA	RCD	TCI
05772	Brazil nuts, fresh/dried	70,190	1473.24	1.29	1902.99
28911	Silver ore/concentrates	163,560.484	2123.79	0.32	671.85
28799	Ores/concentrates n.e.s.	13,890.729	435.99	1.01	439.57
04599	Cereals grains (quinoa)	9,040.129	207.28	2.06	427.96
28792	Tungsten ore/concentrate	16,387.942	189.92	0.56	105.86
65761	Felt hat bodies/forms	1,149.194	125.00	0.85	105.86
08135	Oil cake of sunflower	8,816.475	48.40	1.58	76.40
68711	Tin not alloyed unwrt.	116,504.829	116.87	0.59	69.21
42119	Refined soya bean oil	18,255	46.40	1.49	68.97
08131	Oil cake of soya beans	211,446	47.89	1.31	62.69
27894	Crude natural borates	4,798.865	72.36	0.78	56.52
42151	Crude safflower oil	29,431	38.40	1.44	55.21
26877	Animal hair combed/carded	2,417.392	38.35	1.33	51.07
08123	Bran, etc of legumes	613.204	38.22	0.97	37.00
42111	Crude soya bean oil	100,526	67.59	0.39	26.40
69978	Tin articles n.e.s.	3,741.324	45.95	0.57	26.17
07132	Coffee/substitute mixes	267.179	21.89	1.19	26.07
52235	Boric oxide and acid	4,210.995	28.97	0.86	24.90
65812	Cotton sacks/bags	400.430	21.42	1.08	23.06
68993	Antimony/articles/waste	2,103.201	19.31	1.00	19.21

Source: author's own calculations

Identification of potential gains

According to the simulation performed, which included the tariffs applied to the EU to the countries without a preferential agreement, we found 30 products that complied with all three requirements explained in the methodology chapter.

It is important to explain that even tough Bolivia receives unilateral preferences by the European Union, in the present document we are working with the standard tariffs. The explanation for the former is twofold: first, for the negotiation of the Association Agreement the EU made it clear that the reduction of tariffs was going to be negotiated without taking the GSP into consideration; and second, since the preferences are unilateral, there is no predictability of the process, with the hazard of losing the benefits the same way that happened with the United States.

Following the analysis, we observe that although in the previous section 95 products were selected, only 30 remain in the final list if we insert the current tariffs and run the market access simulation. What calls for attention is the fact that a lot of the Bolivian products that have complementarity with the EU have a zero MFN tariff. In other words, they didn't offer potential gains due to the fact that the tariff reduction coming from the agreement would no offer significant opportunities of expansion.

Table 2 summarizes the results of the market access simulation at a 2-digit level for a 100% reduction of the tariffs. One can see that the opportunities are diversified, since 30 opportunities were found but furthermore they show that 18 sectors have at least one opportunity.

Table 2: Opportunities per sector at 2-digit level and their effect in thousands of dollars

No	Description	Opportunities found	Effect
01	Live animals	1	35,235.0
02	Meat and edible meat	1	411.6
04	Dairy, eggs, honey	2	36,777.0
07	Edible Vegetals	1	977.7
09	Coffe, tea, mate and spices	1	21.1
10	Cereals	1	1,226.6
11	Oil seeds, grains, plants	2	2,258.0
15	Animal or vegetable fats/oils	6	12,322.1
20	Misc edible preparations	1	4,584.5
22	Beverages, spirits and vinegar	1	15,040.8
23	Residues from food industries	1	20.7
33	Oils and resinoids, perfumery and cosmetic	1	349.9
41	Raw hides and skins and leather	1	2,733.1
44	Wood and articles of wood	3	12,384.6
61	Articles of apparel and clothing accesories	3	14,568.1
63	Made-up textile articles	2	186.1
69	Ceramic products	1	9,941.8
96	Misc manufactured products	1	346.6
	Total	30	149,385.22

Source: author's own calculations

According to the final value, the 30 opportunities found offer the possibility of an increase in exports of 149 million dollars. The simulation performed with only a 50% of tariff reduction finds that the possibility of increase in exports is of 74 million dollars. Compared to the 243 millions exported in 2006, both values represent 60% and 30% respectively of the current exports. As stated in the limitations of the analysis, this significant value can be misleading, mostly because of the assumption that the productive base can have an almost immediate response to increases in the demand, and that the elasticity of the supply is infinite.

By analyzing the number of opportunities, we can see that oil seeds and vegetable oil are the products that have more opportunities with a total of 6, apparel and textile with 5 and wood manufactures with 3, and finally 2 opportunities in the dairy and cereal section respectively. In other words, as expected there is predominance of the soy and sunflower derivates, followed by the biggest growing non-traditional sector as the textile and the wooden manufactures.

Table 3 shows the value of the potential increase in exports at 6-digit for the 30 products found – ranked by total market access gains -.As mentioned, the values used for the analysis are average of the results found with all three elasticities.

Table 3: Specific products with their trade creation and diversion effects

DESCRIPTION	Code - HS	Average			
		Trade Creation	Trade Diversion	Total Effect	%
Raw solid sugar n.e.s.	017011	4,666	30,569	35,235	1.10
Milk/cream powder n.e.s.	040221	7,682	12,369	20,051	2.39
Milk powder, fat < 1.5%	040210	6,791	9,935	16,726	1.28
Ethyl alcohol not denat.	220710	7,327	7,714	15,041	1.25
Men/b trouser cotton k/c	610342	10,676	2,795	13,470	0.79
Glazed ceramic paving et	690810	6,487	3,455	9,942	0.26
Veneer sheets non-coniferous	440890	5,531	967	6,498	0.39
Fruit/nuts n.e.s. preserved	200840	1,939	2,645	4,584	0.52
Fiberboard dens>0.8g/cm3	441111	2,677	1,557	4,234	0.21
Mixtures animal/vegetable oil	151790	1,345	2,756	4,101	0.68
Margarine excluding liquid	151710	1,522	1,601	3,123	0.50
Tanned bov./equin. leather	410419	1,570	1,163	2,733	0.16
Crude safflower oil	151211	1,150	722	1,871	0.16
Plywood-standard	441210	486	1,167	1,653	0.18
Cereal meal/flour n.e.s.	110290	1,018	632	1,651	2.11
Crude soya bean oil	150710	356	1,081	1,437	0.23
Cereals grains n.e.s. (quinoa)	100890	917	310	1,227	1.26
Refined soya bean oil	150790	602	550	1,152	0.18
Legumes, fresh/chilled (beans)	070810	654	324	978	0.13
Refined safflower oil	151219	294	344	638	0.12
Maize (corn) flour	110220	342	266	607	1.30
Shawls/scarves/etc.	611710	69	530	599	0.13
Men/boys ensembles woven	620321	265	234	499	0.24
Other meat n.e.s. fr/ch/frz	020830	226	185	412	0.10
Essential oils-citrus	330119	148	202	350	0.17
Slide fasteners	960711	94	253	347	0.15
Wool/hair blankets	630120	78	72	150	0.32
Cotton sacks/bags	630520	17	19	36	0.17
Coffee/substitute mixes	090190	0.2	21	21	0.13
Bran, etc of legumes	230250	9	11	21	0.12

Source: author's own calculations

Besides the fact that the first three products come from the "animal and vegetal products" section, we can say that the diversification of the opportunities is high. Moreover, the last product is only one tenth of the first, showing that all opportunities have an attractive potential market. By gathering the products we see that only 5 are agricultural consumer goods, while the rest are products that incorporate added value.

The difference of the products found with the simulation to the products found with the trade indices is really clear, showing that even though most of the products that have a high degree of complementarity of Bolivia as exporter and the EU as importer, they were not selected with the simulation, because the tariffs they faced were low or inexistent. A proof of this is that in table 7 - which is the final list of products – we don't find raw materials which were in a huge quantity chosen in the previous section.

Additionally table 7 reflects that there is an enormous potentiality of the non-traditional Bolivian exports in the European market. As an example, we can mention oilseeds and their derivates, textiles, wooden manufactures and agricultural products.

Moreover, we can analyze the share of the value - potential opportunity - over the total imports of the EU. At this respect, almost all the products represent less than 1% of the EU imports, demonstrating the size of the potential market and the size of the Bolivian productive base. In case the free trade agreement takes places, and supposing infinite supply elasticity, the European consumption could easily absorb the extra imports coming from Bolivia. This is an important fact since the Association Agreement incorporates previsions for safeguards and antidumping measures. The only products that represent more than 1% of the current imports are: sugar, milk, ethyl alcohol, cereals and maize.

Finally, it is useful to assess the trade creation and trade diversion effects in the results. Out of the 30 products selected only 14 have a higher trade creation value. Firstly, this means that for only 14 products Bolivia has reached a high level of competitiveness, while for the other 16 products the EU would have a distortion in its market, buying from an inefficient source. Secondly, by looking at the specific products and their tariffs we can argue that even though the EU has low tariff barriers – zero in a lot of cases –, the non-tariff barriers they apply are the ones that distort trade. Most of the products that have a higher trade deviation are agricultural or related products that receive a significant protection with quantitative restrictions to trade.

It is enriching for the analysis to assess these special cases separately. We have that the top 4 products – ranked by the potential gains – are products that have are strongly protected in the European market and face quantitative restrictions for market access.

6) EFFECT OVER THE POOR

After determining the list of products that can benefit of trade agreement with the EU and their potential gains, we want to assess the implications of the former over the poor. Therefore, we are going to follow the framework proposed by McCulloch et al (2000), tracking the enterprise channel. As mentioned by the authors "enterprises include any unit that produces and sells output and employs labor also from outside the household".

As mentioned in the limitations, this analysis is only going to be aimed to one specific product and the transmission to the poor by only one specific channel. Further studies can complement the quantitative analysis by including all the sensitive products found.

The assessment is based on the price changes that the trade reform brings and affects the production inside the country. The distinction to the farm-household defined above is that

the inputs, outputs and factors are acquired through market transactions. Thus, the three important areas for the analysis are subsequently demand, supply and factor markets.

Trade liberalization proposed

The trade event proposed is the signature of an Association Agreement between Bolivia and the EU, which will result in a complete bilateral tariff reduction for the universe of products. Moreover, as the EU stated, the process of tariff elimination would follow the principle of the WTO of special and differenced treatment for developing countries.

The international price for the regular quinoa is between 680 and 750 dollars per metric ton, while the price of royal quinoa reached values as 1.180 dollars per ton.

The current tariff equivalent in the EU for the imports of quinoa is 73,3% while the tariff applied for the same product in Bolivia is 10%. The proposed tariff reduction is a 100%, due to the signature of the bilateral agreement.

Product selected

"The impact of trade reform on production in the economy as a whole depends on the nature of the goods subject to liberalization" (McCulloch et al, 2000: 116). Thus, we need to define the specific product, in order to have a complete idea about its nature. As mentioned, in the current research the objective is to apply the theoretical framework to one of the products found in the previous section. The product selected is the cereal grain quinoa (HS code 100890) due to the following main reasons:

- Quinoa is a cereal that grows only in determined countries due to the climatic characteristics of the region.
- There is a special variety of this cereal that is called *royal quinoa* (quinua real) that grows only in the highlands of the south of Bolivia. The main difference with other types of quinoa is the nutritional characteristics.
- Currently, the product is being exported to several countries, the EU among them.
- It is produced in the poorest areas in Bolivia.
- The income of the producers comes almost entirely from the production of this grain.
- The product shows a high complementarity with the EU while it is one of the products that has major competition inside the Andean Community

Characteristics of the agricultural sector in Bolivia

Out of the 1.098.000 Km^2 that Bolivia has, only 3% (3.3 million hectares) are cultivated. Despite the fact that in 1952 the country went under a process of land redistribution, according to several authors it did not solve the problem, resulting in uncontrolled division of the land and inappropriate use of production techniques. The policies that the Bolivian government was applying in the agricultural sector since 1985 until 2005 are characterized by the complete liberalization of the economic activity. Despite the contradictions in economic growth and distribution, the success of the policies applied resulted in the stabilization of the country. The openness policies were reflected in the imports regime, eliminating the licenses, quotas and other non-tariff measures. The tariff policy establishes the application of a general uniform ad valorem tariff of 10% for the totality of the products, with the exception of 5% for capital goods. Additionally, since 2007 the government eliminated unilaterally the tariffs

to agricultural products such as rice, maize and wheat due to a constant increase in their prices in the internal market.

In the former *General Plan of Economic and Social Development* as well as in the new *National Development Plan* the agricultural sector is considered a national priority due to the fact that 40% of the workforce in the country is dedicated to this activity and it represents only 14% of the GDP. Among both frameworks several principles can be observed like increase of the rural income through generation of the improvement of productive opportunities, promotion of productive transformation of the sector and promotion of international competitiveness of agricultural production through decrease of the costs and improvement of the production techniques.

Currently most of the agricultural production consists of oilseeds, maize, rice, wheat, potato, coffee, cotton and sugar cane. At this respect it is important to mention that even though quinoa and royal quinoa have a relative small size of production and local consumption, they have the biggest growth rates besides the oilseeds.

Next we can address the external position of the sector. First of all, we have to remember that Bolivia was until 2007 one of the most opened economies in the world (Olarreaga, M. and Giussani, 2006). The requirements for import are one of the easiest in the world, since only ad valorem tariffs are applied, without using quantitative restrictions or mixed tariffs. Additionally, as REDPA (2006) argues, the agricultural protection has an even and low tariff protection, not applying protection measures that are authorized by the WTO such as safeguards or import licenses. The average tariff applied to agricultural imports – chapters 01 to 24 of the HS – is 10%.

Among the technical measures, we can mention that the agricultural production requires a sanitary and phitosanitary certificate that can be easily acquired at the National Service of Agricultural Sanity (REDPA 2006). Additionally, the export subsidies that Bolivia grants to the agricultural production are only the authorized by the WTO, such as tax refund, duty-free zones, and the regime for temporary admission of inputs destined to export production.

Main characteristics of the firms and workers

Inputs and outputs

For the production of organic royal quinoa there are only two inputs that are required. The first one is the seeds and it is obtained from the production of the previous year. There is a careful selection of this input in order to assure a quality plant, which will give a quality grain. The second one is the fertilizers. Special attention is need in this input due to the strict requirements of the organic market. At this respect only organic fertilizers can be employed in the process of preparation of the land.

The output of the production process is the raw quinoa that is only washed and dried, ready to be packed by the importer. Additionally, over the past years there have been several attempts by medium scale enterprises to industrialize quinoa grain and export added value products, which include chocolates, energy bars and even quinoa beef. It is important to stress that this production is currently in the phase of marketing and the volumes are still low.

International commercialization

Bolivian quinoa is exported mainly to the organic market which absorbed 85% of the production in 2007. These markets are concentrated in two regions across the world: North

America and Europe. Additionally, several importers from the kosher markets have revealed their interest in purchasing this grain. At this respect, we can say that Bolivia is the major producer and exporter of organic quinoa in the world followed by Peru and Ecuador.

According to official data the exports remained relatively constant in a value rounding the 2.000 tons yearly, until the year 2002. From 2003 on, they experienced a constant increase reaching 8.200 tons in 2007, with a final value of almost 10 million dollars.

About the demand, we can say that France, Holland, Germany and the US are the most important destination markets. Over the past two years the purchases of Denmark have exceeded the purchases of the other, becoming the largest importer. Other markets include: Israel, Belgium, Japan, United Kingdom, Canada, Ireland and Brazil. In addition, in these countries the final product is sold through two main groups: big supermarkets and organic specialized stores.

Location of the production and number of workers

The production of the cereal is concentrated in a number of small and poor villages. As mentioned, royal quinoa grows only in the highlands of the country, near the salt-plains. This region is called *Altiplano Sur* which means south highland plains and comprehends the departments of Oruro and Potosí. The geographic advantage that this region has is that the biggest salt-plain in the world is located there. *Salar de Uyuni* is a salt reserve that occupies more than 12.000 Km^2.

Narrowing the analysis to the specific region where royal quinoa is produced in, a study made by the Ministry of Agriculture shows six provinces in these two departments that are identified as the location of its production. It comprehends a total surface of 80.000 km^2, with more than 55.000 useful hectares. Out of the former, only 22.000 hectares are cultured each year, reaching an average production of 15.000 tons. According to data of the 2001 Census, 51.055 persons live in this region, gathering 12.763 families that are spread over 9 municipalities and approximately 242 communities.

Skill and gender of the workers

The work done in the production process can be classified as unskilled and totally physical. Of course that know-how is required but in most of the cases the methods of production used are the same as 100 years ago. About gender, we can say that even though in the rural area in Bolivia only 17% of the households have a female head, 51% of the inhabitants of the rural area are women. At this respect, it was verified by several studies that women participate equally in the production of this grain.

Likely poverty status of the workers

The production of royal quinoa brought our attention due to the fact that Oruro and Potosí are the poorest departments in Bolivia. In a broad sense, we see that poverty in the highlands reaches 45% of the total, while in the valleys and the plains the value is almost 27% for both. Additionally we have to consider the difference between urban and rural areas, having the later the largest quantity of poor. In Bolivia 42.5% of the population live in the rural area, out of which 94% lives in poverty and 34% in extreme poverty. As Velazquez (2007) mentions, “rural areas of La Paz, Oruro, Potosi and Chuquisaca are characterized by a high incidence of poverty, vulnerability and inadequate social risk management; rural households face the risks

of suffering from different types of covariate and idiosyncratic shocks especially in the highlands and the central valley region."

Additionally, according to a study made by the Andean Promotion Fund, the production of quinoa is the most important source of monetary income for more than 12.000 families which are classified as poor. Specifically, quinoa provides from 55 to 85% of the income of the agricultural units in the South highlands of the country. In the cases that families have other activities, it explains 35 to 50% of the monetary income. (CAF, 2008)

Complementary measures

Through the enterprise channel of the McCulloch framework, we have evidenced that the liberalization of this product has larger benefits that threats for the producers. The reasons for the former are twofold. First, the protection applied to the agricultural sector is already low. Second the specific product is only produced in Bolivia and in the mentioned region, giving the producers a significant comparative advantage. In other words, we have evidenced that the poor are affected in a high degree from the liberalization of quinoa, but they do in a positive way. At this respect a number of complementary measures are needed in order to enhance the benefits that the poor can get out of the proposed trade event. Once more, the complementary measures in this case are not to facilitate the transition due to harm to the local industry, but to increase the benefits of the poor.

There are three main obstacles that the poor farmers have to deal with in the production of quinoa. Firstly, according to several studies, the biggest deficiency in the production of the cereal is that the farmers are still employing antique agricultural tools, which do not cater to cultivate large areas. Only a few producer employ machinery for seeding or cultivating. Secondly, since the quality of the land is not good, a lot of natural fertilizers are needed year after year. The regular fertilizers cannot be employed due to the requirements of the organic market. At this respect, "humus de lombriz" is used in order improve the conditions of the land, resulting in bigger and more vigorous plants which can in some cases double the production. Thirdly, the incidence of natural climatologic phenomena is of a great consideration for the production of the cereal. The lack of water that the region faces in some opportunities, plus the strike of the "fenomeno del niño" are two of the most important causes for losses in production.

At this respect a number of complementary measures are needed, not to ease the transition to free trade, but to increase the production for the huge potential market that the trade event is opening. In other words, the public policies to be applied are necessary to overcome the own limitations of the Bolivian productive base, in order to match the increase in the demand. With the former, not only the potential European market can be exploited, but also the internal market which was left-out in the previous years, mostly because of the increase in the international prices and demand.

Moreover, even though it is not a limitation to the production, the fact that the producers are not able to sell their own production to the international buyer implies that there is one part of the earnings that is being shared. Thus another limitation for the poor farmers is that an additional actor - such as the collectors - is entering the production chain and receiving a large share of the profits only due to gathering the production, storing it and having the formal requirements to sell to an international buyer.

Thus, the first set of public policies should be destined to eliminating the intermediaries in the productive chain and giving the farmers the possibility to sell their own production directly. At this sense, the proposition of the own farmers is the one that the

public policies should aim to, and is the organization of small producers into big associations. Currently almost all communities that are involved in the production of royal quinoa are associated with their neighbors or partners, which results in a larger supply of the product. The disadvantage is that in most of the cases, these associations lack funding or knowledge to compete with a private enterprise destined to intermediate. Thus we can say that not only association is needed, but capacity building within associations. Among the specific policies proposed we can mention advisory in the fields of international certification and the process of exporting.

On the other hand, the second set of public policies should aim the difficulties in production that all communities face. As mentioned above, there are several limitations in the production of quinoa which can be overcome with the appropriate level of funding. At this respect, besides capacity building, there is the constant need of access to the credit markets in order to improve the production methods which will result in higher levels of production. As shown by a lot of authors, it is almost impossible for poor small producers to access the formal credit markets, which results in a deepening of poverty. Thus, there is the need of intervention by the government to channelize the funds, in order to achieve a successful technological enhancement in the processes.

Finally, there is the need of a more aggressive attitude of the government towards the certification of royal quinoa in the world. Since the year 2001, the producers of this cereal are attempting to acquire an international patent, due to its unique characteristics. This international certification would result in the biggest promotion for this cereal, resulting not only in increases in the demand and price, but also in the prohibition to multinational companies to claim rights to derivates of the product.[5]

7) CONCLUSIONS

Even though it is an unsolved question whether the regional agreements proposed by the EU promote development or not, we can state that the Association Agreement for the Andean Community will not serve as a mean of promoting regional integration since it is aggravating the difference between the four members, resulting in a further isolation by Bolivia. Nevertheless it is pretty obvious why the EU decided to carry on the negotiations without Bolivia, since the trade volumes with this country represent only 4% of the totals with the Andean Community. On order to improve the external position of the Andean countries, there is the need to strengthen their regional integration process.

There are several commercial opportunities for Bolivia in the European market, since 95 products resulted to be complementary. A lot of the products selected, besides showing large values of exports, are part of the fast growing non-traditional exports of the country, like oilseeds derivates or jewelry manufactures. The potential market for these 95 products offers large possibilities, since their current exports to the world are 1.1 billion dollar whilst the EU imports from the world are more than 57 billion. In addition we can say that the Association Agreement offers large potential gains for Bolivian products, since the monetary value of the gains of the top 30 products reach up to more than 149 million dollars, which represent 60% of the current exports to this bloc.

It is interesting that a lot of the products found to be complementary were not selected for offering potential gains because the tariff the face is zero. This reflects the fact that the biggest barriers for Bolivian products are its limitations. If the productive base does not experience an

[5] In February 2009 the Andean countries gather to discuss the measures to be taken due to the fact that a French company already requested in the World intellectual Property Office, the legal rights to the use of quinoa derivates in the cosmetic industry.

increase and implements technological advances there is the possibility that the potential gains mentioned are never experienced. This can be also proven due to the fact that currently Bolivian imports don't have to pay tariffs because of the Generalized System of Preferences, and the exports didn't experience an increase.

Given the former we can say that the Association Agreement for Bolivia is asking more than it is offering. First, currently Bolivia is a beneficiary of the GSP and will lose these benefits when the agreement comes into force. Second, Bolivia's relation with the EU is threatened by its negative to carry on negotiations. Third, Bolivia's exports to the Andean market are threatened by the extension of the preferences that are going to be given to the European products. Out of the former we can state that the signature of an Association Agreement with the European Union is based more in political than economical motives. At this respect, the preservation of the Andean Community is the most important one.

By analyzing the specific effect of the proposed trade event over a sensitive-for-the-poor product like the quinoa we found that the liberalization will affect the poor in a positive way, offering possibilities of increasing the income of the analyzed group without exposing the production to "unfair" competition. Nevertheless, it is clear that the incidence of trade liberalization is case specific and a detailed analysis for all the sensitive products is needed.

About quinoa we can say that the increases in the exports will be reflected in increases in the income of the poorest regions of Bolivia, that at the same time depend on the production of this grain. Even though the final value of exports is not as large as other cereals –for example compared with soy – or other Bolivian non-traditional exports, it is a product that shows great possibilities of expansion. The reason is the constant increase in the demand, but also the elevated international price, which is almost five times higher than soy.

Finally we can say that the specific case of royal quinoa demonstrates the need of public policies, not to ease the transition to more competitive industries – in case that trade liberalization takes place – but to improve the conditions of the productive base in order to increase the income through increases in exports.

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ANNEX 1: TRADE INDICES

Trade Complementarity Index

The TCI measures the degree of complementarities between two countries, respect to their flows of trade. Specifically, "the TCI measures the level of complementarity between the export supply and the import demand structures of the countries or regions", (Calfat & Flores, 2006: 18). It is important to clarify that this indicator relies on the assumption that, the greater the similarity between two countries or integration blocs, the bigger the trade between them is going to be.

Algebraically, the index can be represented as:

$$TCI = \frac{X_i^k / X_i}{M_w^k / M_w} \cdot \frac{M_j^k / M_j}{M_w^k / M_w}$$

Where,

X_i^k = Exports of country i for good k

X_i = Total exports of country i

M_w^k = Total imports of the world for good k

M_w = Total imports of the world

M_j^k = Imports if country j of good k

M_j = Total imports of country j

As decision criteria, values of TCI of more than 1 suggest a strong complementarity between both countries, and values less than 1 suggest weak complementarity. On the other hand, if the value is closer to zero, we can say that there is a high degree of competitiveness between them. In our specific analysis, we are not pursuing to determine whether or not both interested parts are complementary or competitive, since the Association Agreement is already in the agenda. In turn, we want to determine which specific products do have complementarity as analyzed from the Bolivian point of view.

Additionally, as Calfat and Flores (2006) state, the above mentioned index can be decomposed into two separate indices. The first one is the revealed comparative advantage and the second one is the revealed comparative disadvantage. Each one is going to be described separately since they are part of the decision criteria and enrich the conclusions.

Revealed Comparative Advantage Index

This index "equals the ratio between the share of a product in a country's total exports and that of the same product in world trade" (Calfat & Flores, 2006: 19). The intention behind constructing this indicator is providing information about the products in which a country has comparative advantage. This is the reason why the indicator is also known as the export specialization index. This index provides us an alternative way to measure comparative advantage, using the trade patterns of a country and comparing them with the world average, to determine specific sectors that have advantage.

As Hoekman et al (2002) argue, there are two main situations in which this indicator can be useful. The first one is to measure if the supply of the products in which it has comparative advantage is growing or on the other hand is static. The second one is to provide information as decision criteria when a country is analyzing the potential gains for new trade partners.

Algebraically we can define the RCA as:

$$RCA_i^k = \frac{X_i^k / X_i}{M_w^k / M_w}$$

Where:

X_i^k = Exports of country i for good k
X_i = Total exports of country i
M_w^k = Total imports of the world for good k
M_w = Total imports of the world

A value of RCA that is less than 1 shows that the country has a revealed comparative disadvantage. On the other hand, values above 1 show comparative advantage.

Revealed Comparative disadvantage Index

This index is analogous to the former, showing the comparative disadvantage of the country in specific products. This is the reason why this index is also known as the import specialization index.
Algebraically, the index can be defined as:

$$RCD_i^k = \frac{M_i^k / M_i}{M_w^k / M_w}$$

If the RCD is less than one it shows that the country has comparative advantage in that good, while values above show the contrary – comparative disadvantage.

ANNEX 2: SIMULATION OF GAINS

As mentioned, once the specific products are identified with trade indices, we want to produce a ranking of the opportunities, in monetary values. This is made by introducing the tariff equivalent – tariff and non-tariff barriers - that each product faces in the destination market and finding a value – in US dollars – that reflects the prospected gains to be experienced. For the former, two main effects are calculated and then added: trade creation and trade diversion.

"The simulations are based in a model originally developed by Cline et al (1978) and used among others, by Laird and Yeats (1990), to analyze the effects of either changes in trade preferences or unilateral trade liberalizations" (Calfat and Flores, 2006: 19). The complete derivations can be found in Calfat and Flores (2006).

Trade creation (TC) can be expressed as:

$$TC = \Delta M_{jt} P_{jt}^{0} = V_{jt}^{0} E_m \frac{\Delta t_{jt}}{\left(1 + t_{jt}^{0}\right)}$$

Where,

ΔM_{jt} = Import demand of country j for a good k produced in the country i

P_{jt}^{0} = Price of the good I in the country j, at time zero

V_{jt}^{0} = Value of imports of country j

t_{jt} = Ad valorem tariff in country i

E_m = Import demand elasticity

On the other hand, trade diversion (TD) can be expressed as:

$$TD = \frac{V_{jB}^{0} E_s \frac{\Delta t_{jB}}{\left(1 + t_{jB}^{0}\right)}}{1 + \frac{V_{jB}^{0}}{\left(V_{jNB}^{0}\right)\left(1 + E_s \frac{\Delta t_{jB}}{1 + t_{jB}^{0}}\right)}}$$

Where,

V_{jB}^{0} = Volume of imports from the country that has a preferential agreement

V_{jNB}^{0} = Volume of imports from the country that has a preferential agreement

t_{jB} = Tariff applied

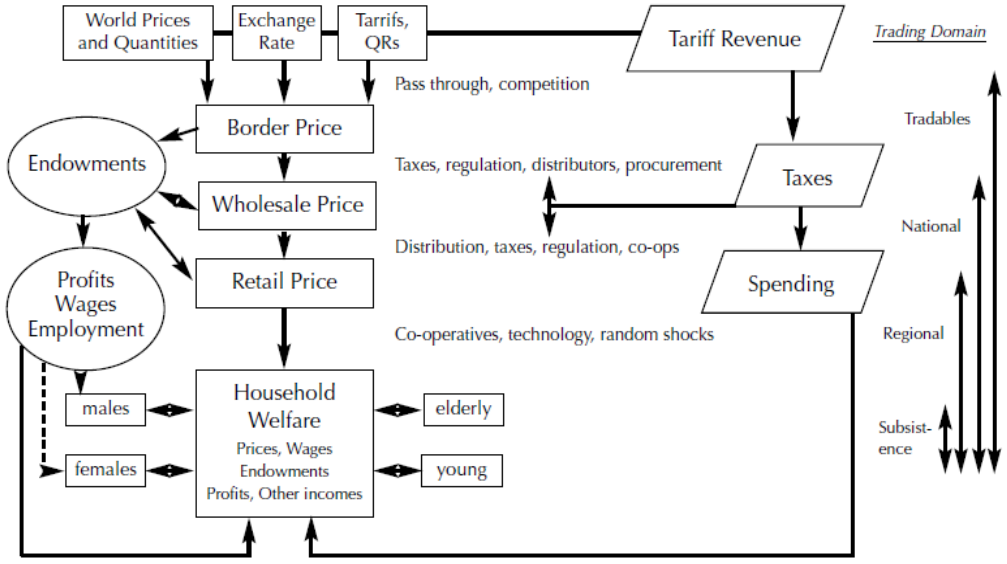
E_s = Substitution elasticity

ANNEX 3: TRADE LIBERALIZATION, REGIONAL INTEGRATION AND POVERTY: A FRAMEWORK

Once determined which products are most likely to benefit from the RIA and their potential gains, we still pursue the goal of analyzing in detail the relation between the trade liberalization and poverty for specific sectors and products. For this purpose, the precise framework going to be used is the one presented by McCulloch et al. (2001). As the authors state, "the implications of liberalization for poverty are case-specific and that identifying the effects requires a detailed understanding of the pathways or channels through which such influence may occur" McCulloch et al. (2001: 66).

Furthermore, it relies on the assumption that "trade policy affects trade, and that trade then has effects on both economic growth and poverty. Positive and negative, direct and indirect effects will result from a country opening its markets to a greater volume and range of traded goods and services and in easing restrictions on exports. Impacts will affect segments of the population and sectors of the economy differentially over the short, medium and long term, and these effects may intensify the poverty of one group of people over the short term, while decreasing the poverty of another over the longer term" (Bird, 2004). As shown in graph 1, the analytical framework is based on the fact that trade liberalization will have the effect of changing prices in the economy – for tradable goods - and that this shock in prices will affect the poor through three different channels: enterprise, distribution and government. The main objective is to analyze how these changes on prices are transmitted to households and then to individuals.

Trade policy and poverty, casual connections



Source: McCulloch et al. (2001: 73)

The distribution channel refers to the world price and how they increase until they reach the final consumer. What is important is that households have to face the final price, which is the result of the added costs of the distribution chain - like tariffs, regulations, retail costs, etc -. "More significantly, the translation of price signals into economic welfare

depends on the household's characteristics – its endowments of time, skills, land, etc. – as well as technology and random shocks like the weather" McCulloch et al. (2001: 72).

The government channel refers to the changes in the government revenue due to the reduction or elimination of tariffs. As mentioned above, developing countries rely to a great extent on the income generated by tariffs. This income is used in a variety of programs, but also involves social programs and policies that affect the poor indirectly. Thus, a reduction of the government income threats the funds that will be destined to pro-poor policies. In turn, the authors mention that in some cases the revenue loss is compensated by the increase in the traded volumes. At this respect, governments that suffer a great loss in revenue should try to find new ways of receiving income – like for example an increase in the added value tax -.

Finally, the enterprise channel refers to the firms that produce a good or service that can be sold inside or outside the country, and their relation with the workers. The principle behind this channel is that workers receive a wage, with which they purchase the goods and services for them and maybe the members of their household. The main effect over households is that since trade liberalization has the effect of increasing production – destined to international markets -, more workers can be contracted and the wages they receive can be improved. Consequently, the impact of the price change over the poor will depend on the productive base of the country and the extent to which the labor intensive goods where liberalized. At this respect, two opposite positions are found, the trade approach and the development approach. According to the first, the increases in labor demand will have the effect increasing wages due to a full employment of labor. In turn, the second assumes that the elasticity of labor supply is infinite due to the existence of unemployment. According to this position, an increase in labor demand will result in an increase in employment – assuming wages are fixed.

It is important to mention that the authors use the term household, referring to the "farm household" as defined by Singh et al. (1986), which gives the possibility to analyze the effects of the liberalization over the income and expenditure. Thus, income refers to all the activities that generate earnings – wages ad own production -, plus the net transfers. Nevertheless, despite the benefits of the former approach, it is important to expand the analysis in a deeper assessment. The reason is that the income and the costs of poverty are not equally distributed inside the household. As argued by a lot of authors, women and children receive the biggest share of adverse effects. Additionally, the effects of the price change over the household will depend on the substitution effects, which are the ability of the household to change the goods it produce or consume. This is also known as the vulnerability of the household, making mention to the ability they have to "adjust to or cope with negative shocks could have major implications for the translation of trade shocks into actual poverty" (McCulloch et al., 2001:72).