ECONOMIC INTEGRATION, GROWTH, AND POVERTY

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Integration and Trade Sector

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The opinions expressed herein are those of the author and do not necessarily reflect the official position of the Bank or its member countries.

1. INTRODUCTION:

During the last three decades the world has seen poverty rates fall by about two thirds, growth boost and global individual inequality drop, perhaps for the first time in history (Sala-i-Martin (2006)). At the same time, there has been an increase of more than 60% in international trade. Regional trade agreements (RTAs) have played a major role in this: today, 40% of trade occurs within RTAs. In the early 80's, only 5 RTAs had been reported to the WTO. Today, there over 200 agreements and another 60 are being negotiated.

This paper argues poverty reduction, economic growth and economic integration are, indeed, related phenomena. We review the theoretical mechanisms through which trade boosts growth, reduces poverty, and increases the incomes of the disadvantaged and the empirical evidence that supports these claims. In the final section, some specific considerations will be made for the case of Colombia.

2. OPENNESS, GROWTH, INEQUALITY AND POVERTY: THEORY AND EVIDENCE

2.1 Growth and Poverty

It is widely agreed that the best way for a country to reduce poverty rates is to grow. Growth of per capita GDP shifts the mean of the income distribution to the right (as seen in Fig 1a).

Fig 1a: Growth Leads to Decline in Poverty

Poverty Line
($1/day)

(1) GDP
Growth

(2) Poverty
Declines

Income
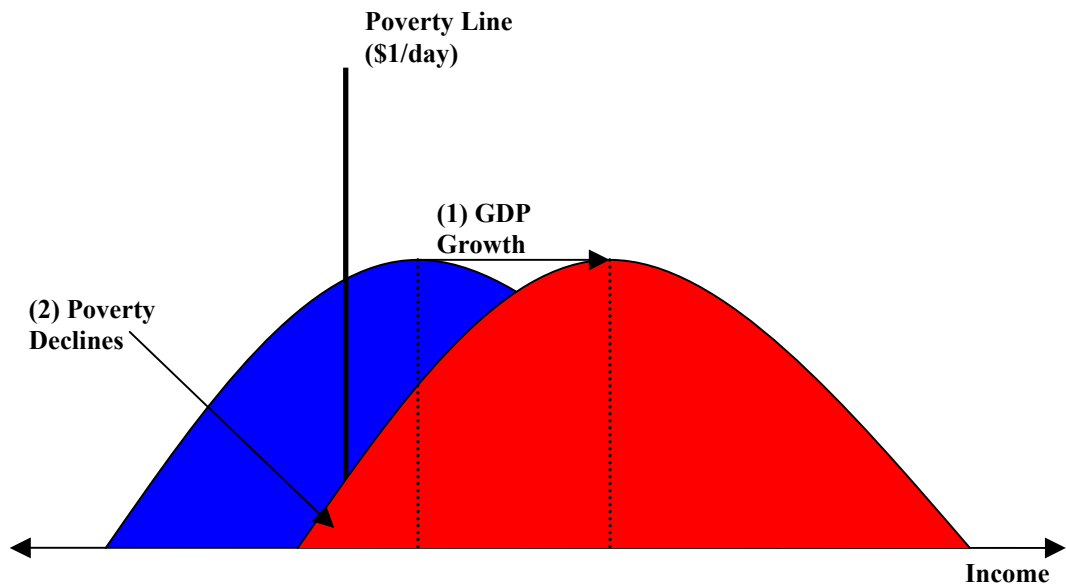
If the dispersion (or inequality) of the distribution does not change, the area under the distribution and to the left of a particular poverty line (say, the one-dollar-a-day line), which corresponds to the poverty rate, automatically declines. Poverty can also decrease if, for a given mean income, the dispersion of the distribution (the inequality) declines as seen in Fig 1b. Conversely, for a given mean, poverty increases when inequality increases. The only way for a country with growth to experience increases in poverty is for inequality to increase. In other words, if positive growth rates did not systematically increase the incomes of the poor, then we would find a systematic association between positive growth and increased income inequality.

Fig 1b: Reduction in Inequality Leads to Decline in Poverty

Poverty Line ($1/day)

Same mean (same GDP per capita)

(2) Poverty Reduction

(1) Reduction in Inequality

**(1) Reduction in Inequality**
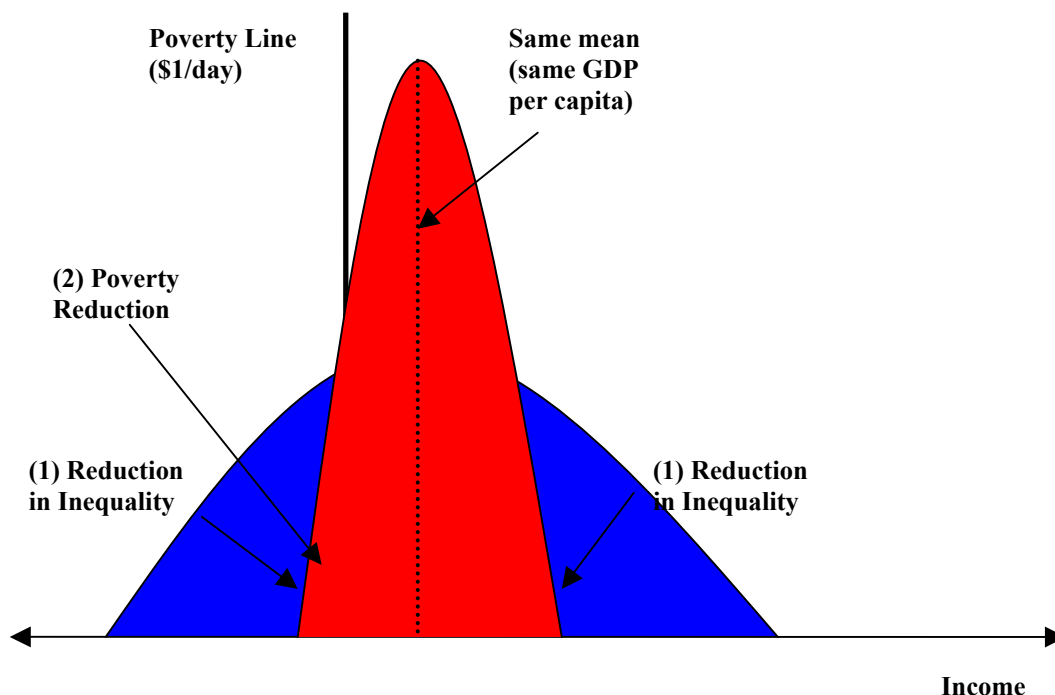
Income

The empirical literature has failed to find such an association (see Barro (2000).) It follows that, on average, growth is good for the poor. Deininger and Squire (1996) show that in 88% of the growth episodes around the world, the income of the poor increased. Using household data from pairs of surveys in 42 countries, Ravallion and Chen (1997) find that aggregate income growth reduced poverty. Dollar and Kraay (2001a) use a large panel of 137 developing countries to show that the income of the poorest quintile tends to growth **one for one** with per capita income.[1]

To document the empirical correlation between growth and poverty erradication, Figure 2 plots the decadal change in $1/day poverty rates as

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[1] The case of China has been put forth as an example of growth being associated with enormous increases in inequality. The Gini coefficient in China has indeed increased from 0.32 to 0.38 between 1980 and 2000. However, this increase has not been large enough to offset the beneficial effects of aggregate growth (Quah (2002)). In fact, poverty rates in China have declined from 27% in 1980 to 3% today. Thanks to growth rates of 10% per year, over 250 million people have escaped poverty in China (Sala-i-Martin (2006).) Hence, although China is an example of growth being associated with inequality, it is not an example of growth not reducing poverty.

measured by Sala-i-Martin (2006) and the corresponding annual growth rate during the same decade. That is, for each country we estimate the change in one-dollar-a-day poverty rates between 1970 and 1980, between 1980 and 1990 and between 1990 and 2000, and we compute the annual growth rate during the same decade. Figure 1 presents the scatter plot of these two variables. We see that countries that have reduced poverty fastest are the countries that have grown the most. In fact, according to the data used to construct this figure, an increase in growth of 1 percentage point leads to a reduction in poverty rates of about 3 percentage points. Overall, aggregate growth explains up to 63% of the variability in poverty rates.

Figure 2: Growth and Poverty Eradication
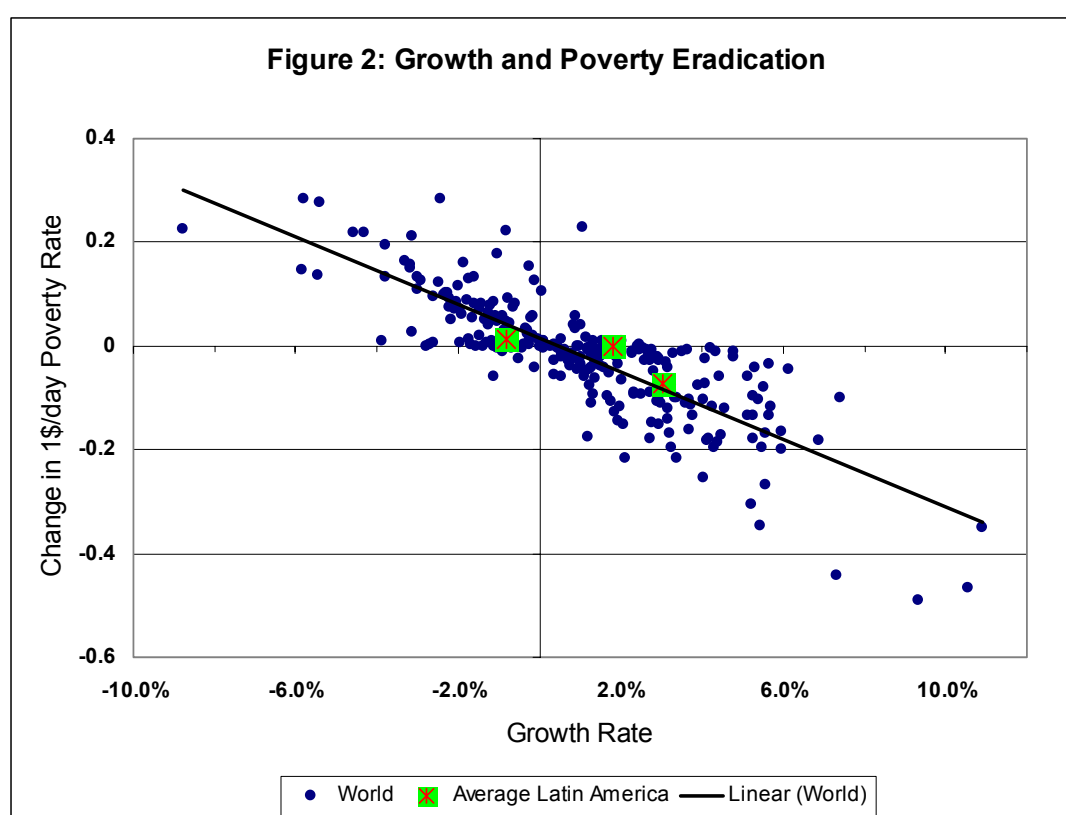
Latin America is not an exception to the rule that the larger the growth rate the faster poverty rates fall. In a marked lighter (green) square we display the three observations for the average growth in Latin America and the average poverty reduction in the region during the same decade. We see that they line up quite well along the regression line.

The finding that growth tends to reduce poverty applies both when the source of growth is economic trade and integration as well as some other alternative factor. As Berg and Krueger (2003) put it: "Growth associated with

trade openness is as pro-poor as growth in general". Berg and Krueger also add that "since within-country inequality does not systematically increase with trade, we can say that openness also reduces poverty".

2.2   Openness and Inequality

Figures 1a and 1b suggest that if we want to estimate the effects of openness on poverty, we need to study its effects on inequality and its effects on growth.

Recent empirical evidence (Sala-i-Martin (2006)) suggests that within-country inequality has increased over the last 30 years.[2] Trade liberalization has occurred in a more or less generalized fashion all over the world. Hence, some analysts conclude that openness and globalization have triggered an explosion of income inequalities.

Although there may be some truth to this argument, we don't need to forget that trade globalization has not been the only phenomenon occurred in the world during the last 30 years. For example, the computer and information technology revolution is skill-biased. That is, it tends to increase the demand for those workers with higher education and skills, thereby increasing wage inequality.

What has been the impact of trade on the overall levels of inequality? Traditional trade theory (Hecksher-Ohlin and Stolper-Samuelson) suggests that in less developed economies (that tend to have relatively more abundant labor), trade with developed countries will rise the price of the labor intensive goods and allow specialization in the labor intensive sectors, which in turn will increase the wages.[3] In other words, traditional trade theory suggests that trade liberalization should bring lower, not higher, levels of income and wage inequality.

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[2] Global individual inequality, on the other hand, has declined as the incomes of the majority of the world's poor (that is, the citizens of Asia) have grown faster than the incomes of the rich. This process of cross-country individual income convergence has more than offset the increases of within-country inequality so that overall dispersion has declined since 1970.

[3] If the labor supply is horizontal (which will probably be the case if there is a large pool of rural workers ready to migrate and take jobs in newly created industries), then trade will tend to generate employment in the labor-intensive sector. Whether it is through an increase in wages or an expansion of employment opportunities, trade will tend to reduce poverty in the traditional models.

Goldberg and Pavcnik (2004, 2007)) argue that "this increase in the skill premium in many developing countries (and in Latin America in particular) is consistent with the Stolper-Samuelson theorem because unskilled-labor intensive sectors were protected with the highest tariffs prior to trade reform and experienced the largest tariff reductions during trade reform. These protection patterns have been reported for Colombia (Attanasio, Goldberg, Pavcnik (2004)), Mexico (Hanson and Harrison (1999), Robertson (2000, 2004 for pre-NAFTA period), Morocco (Currie and Harrison (1997)), and Brazil (Pavcnik, Blom, Goldberg and Schady (2004))."

Another possibility is that labor market rigidities do not allow for the cross-sectoral labor reallocation needed for the theory to work. A common finding of studies of trade liberalization in developing countries is the lack of such reallocation. For example, Attanasio, Goldberg, and Pavcnik (22004) find that, for Colombia, a regression of industry employment shares on industry tariffs (holding constant other important factors) yields the tariff coefficient that is small in magnitude and statistically insignificant. The same phenomenon has been noted in other developing countries (Revenga (1997), Hanson and Harrison (1999), and Feliciano (2001) for Mexico, Currie and Harrison (1997) for Morocco, Wacziarg and Seddon (2004) in a cross-country study of trade liberalization). All these studies attribute the lack of labor reallocation to "either rigid labor markets (so that the adjustment to trade liberalization occurs through relative wage adjustments (Colombia, Mexico)), or to the existence of imperfect product markets (so that firms respond by lowering of profit margins (Mexico, Morocco) and not through labor reallocation across sectors)" (Goldberg and Pavcnik (2004, 2007)).

A third possibility is that the traditional models are incomplete. For example, Acemoglu (2003) argues that trade liberalization may lead to increased trade in machinery and other technologically-advanced goods that are complementary to skilled labor, thereby increasing the relative demand for educated and trained workers. In this case, trade would lead to more wage dispersion. There is some supporting evidence for this view: Attanasio, Goldberg, and Pavcnik (2004) regress the *change* in the share of skilled workers in each sector on the *change* in tariff protection over the 1984-1998 period. The increase in demand for skilled workers was largest in those sectors that experienced the largest tariff cuts (e.g., textiles and apparel).

A fourth possibility is that trade liberalization may come with capital account liberalization, which introduces a great deal of exchange rate uncertainty. To protect against this uncertainty, firms may have incentives to upgrade the product mix and increase the quality of their domestic plants which may further contribute to the widening of the wage gap (Goldberg and Pavcnik (2007)).

Similarly Aghion, Burgess, Redding and Zilibotti (2003) construct a model in which different companies are at varying distances from the "technological frontier". In response to trade liberalization, firms that are closer to the technological frontier survive while those that are technologically backward tend to disappear due to increased competition. The average effect of trade liberalization, then, depends on the fraction of firms that are close to the frontier. These authors look at the Indian evidence post 1991-liberalization and find that productivity and profits increased in those sectors that were close to the technological frontier.

The overall impact of trade liberalization is very hard to isolate at the economy-wide, industry-wide and firm level. Goldberg and Pavcnik (2007) survey the empirical literature and find little evidence of the impact of trade on overall inequality. They find some impact of trade on increased industry-level wage inequality, but the effects tend to be small relative to the observed movements: "Given the magnitude of the trade reforms, the effects uncovered by empirical work are small, and can explain only a small fraction of the general increase in wage inequality."

2.3   Openness and Growth

If trade does not really cause increases in inequality, then its impact (positive or negative) on poverty must come from its effect on growth. Here, again, traditional trade models (of the Hecksher-Ohlin type) are incomplete in the sense that they do not really try to describe the effects of trade on growth. Among other things, they do not account for economies of scale, differences in technology and capital mobility, and they assume that institutions and policies remain unchanged as economies integrate. Modern economic analysis includes these dynamic factors and concludes that economic integration will tend to have an impact on the rate of economic growth. Economists believe that the main reason why openness is good for the economy has little to do with the traditional static gains from trade. The main channel through which openness

increases welfare is the increased aggregate growth rate. Lawrence Summers (1991) puts it forcefully: "to the chagrin of economists, the real gains from trade policies of any kind cannot, with the possible exception of agriculture, lie in the triangles and welfare measures we are so good at calculating. Instead, they can be found in the salutary effects of competition and openness on domestic policy more generally,… including the political and symbolic benefits that it can bring in promoting domestic reform, solidifying ties between neighbors, and more fully harmonizing other aspects of national policies".

The channels through which integration can affect the overall growth rate of the economy are numerous:

(1) **Increased specialization** according to comparative advantage. This is the channel emphasized by Adam Smith and the classics of the XVIII and XIX century.

(2) **Greater exploitation of increasing returns**. Firms can increase their productivity when their markets are larger because they can better exploit economies of scale. Related to this we have the existence of agglomeration effects from location choice. Krugman and Venables (1990) study the effects of integration on the location choice, by analyzing how integration gives industries strong incentives to move to central regions (Krugman(1991), Venables (1996), Fujita, Krugman and Venables (1999), Baldwin, Martin, Ottaviano, Robert-Nicaud (2003).) RTAs may increase the incentives for industry to locate in member countries rather than going to non-member countries. This also tends to have beneficial effects on related industries through supply chains (Schiff and Winters, 2003).

Venables and Winters (2004) estimate the European integration that took place in 1992 led to a large intraindustry reorganization, which led to larger firms. This larger size led to more efficient production. Venables and Winters believe that similar gains could occur in Latin America if it finally decides to integrate, although these gains will only occur if, as it was the case in Europe, the differences in regulations are also eliminated. Otherwise, markets will continue to be segmented and the gains from increasing returns will not be realized.

(3) **Importing ideas**, knowledge and technological capacities including benefits from the acceleration of learning and larger variety of technological inputs. All this tends to increase factor productivity and, as a result economic

growth. Using comparative data for 93 countries Edwards (1998) shows that openness brings faster productivity growth. This result is robust to changes in openness indicator, estimation technique, time period and functional forms. Coe, Helpman and Hoffmaister (1997) find that "total productivity in a panel of 71 developing countries is significantly related to the stock of research and development carried out by trading partners". See also Coe and Helpman (1995). Keller (2002) and Romalis (2007) reports new evidence based on instrumental variable techniques.

(4) Positive effects of **increased competition** on productivity. This is what Harvey Leibenstein (1966) called "x-efficiency": the increased efficiency that arises when firms face competition. That is, larger competition from foreign firms pressures local producers to increase their efficiency and upgrade the productivity of their resource use instead of "goofing off". There is a vast literature highlighting the positive effect of opening on productivity through reallocation across firms within industries (see, for example, Pavcnik (2001).)

(5) **Larger availability of capital** through foreign direct investment. It is widely believed that trade partners tend to affect the amount of foreign direct investment. At a theoretical level, the direction is not clear: horizontal FDI (setting up a replica plant in the foreign country) may decrease trade because trade is a good substitute for local production in the foreign country. Vertical FDI (sending part of the company to produce components to be traded back to the headquarters), on the other hand, may increase as corporations attempt to produce each of the components in the country in which the costs are smallest and then take advantage of the low trading costs of the FTA to send the various inputs back and forth. Which of the two effects dominates in practice? Yeyati, Stein and Daude (2004) attempt to disentangle the two effects empirically. They find that, indeed, horizontal FDI declines when countries sign a FTA and vertical FDI increases. The increase in vertical FDI tends to more than offset the decline of horizontal FDI so that the overall effect of a FTA on FDI is positive and large. Being part of a FTA leads to an overall increase in FDI of about 27%. See Blomstrom and Kokko (1997).

(6) **Technological Progress.** Of course one of the benefits of increased FDI is a larger availability of capital. Another, perhaps more important effect is the larger availability of technology, as firms that move across borders tend to transfer their technology to the target country. In particular, one kind of

technology that matters for trade is the transaction technology. Transaction costs are usually ignored from theory but they tend to be very large in practice: shipping costs, refrigeration technologies and inventory management are just some examples. This kind of technological progress in trade may lead to a "virtuous trade circle" through which opening up for trade increases the efficiency of trade, which in turn leads to even more trade. See Hummels and Skiba (2004) for a further development of this argument.

(7) The element to which economists pay the least attention but perhaps the element of openness that has the greatest economic impact is the positive effect that openness has on **institutions, policies and the political process** itself. For example, economic integration leads to coordination of banking regulations, transportation and energy networks. By seeing how their neighbors operate, locals can improve their social attitudes towards the economy and towards work in ways that enhance their overall economic performance. Integration also helps lock-in domestic reforms. Other advantages relate to feasibility and reciprocity.

Venables and Winters (2004) argue that the direct gains from trade for European Union members pale in comparison with the political and institutional gains obtained from the EU. In fact, they even argue that the EU was founded not on the calculations of costs and benefits of freer trade or more flexible capital and labor mobility but on the political and institutional gains that were to occur in a war-torn continent.

The institutional environment that is best for each particular country is different. Throughout history we have witnessed failure after failure when foreign forces (from colonial powers, to international financial institutions, to superpowers) have attempted to "impose" the "right" institutions on less developed countries. Countries need to find the right institutional framework in the context of the history and culture of the country through trial and error. The "trial" part of the equation, however, can be improved when countries are open to the ideas experimented by neighboring countries that are similar in nature. By adapting what has worked elsewhere (especially if elsewhere is a region with similar historical and cultural background) to their own reality, countries may find interesting ways to improve their own institutional environment and, as a result, find their way to faster growth and development paths.

Southern European countries that joined the EU late have witnessed dramatic institutional transformation by way of intelligent adaptation of what had worked in more advanced countries of the EU. This allowed the newcomers to converge more rapidly than would otherwise have been possible.

Finally, if leading rich countries do not open up to less developed countries, there is a risk that the citizens of the poor economy feel "left out" of the globalization process. When this happens, they are likely to vote for protectionist, populist and narrow-minded nationalist political leaders who end up implementing policies that reduce the growth prospects of the country.

In sum, there are many theoretical arguments that suggest that openness tends to generate economic growth. True, theory does not predict a simple relationship between exposure to trade and economic growth, but there is a strong presumption in favor of the proposition that international trade and open trade policies are major contributing factors for growth. This presumption partly comes from theory but it becomes a lot stronger when we evaluate the empirical evidence.

Before we turn to the empirical evidence, however, let us briefly mention the debate on how to go about opening up the economy: unilateralism, multilateralism, and RTAs.

2.4   A Note on Unilateralism, MFN and RTAs

The leading theoretical free-trader in modern times, Jagdish Bhagwati, argues that the best way to open up the economy is through multilateral non-discriminatory trade liberalization under the most-favored nation (MFN) clause. In the absence of multilateral agreements, unilateral policies to open up the economy are the second most desirable. As Joan Robinson put it "Even if your neighbor wants to throw rocks in his harbor it is not a good idea for you to do the same thing". That is, lower tariffs are good for you (because they allow your citizens to purchase goods at lower prices) even if your neighbors have them. This is especially true for developing countries because they tend to purchase capital goods abroad. Hence, tariffs will tend to make investment more expensive and, as a result, reduce the aggregate growth rate of the economy.

If multilateral and unilateral trade agreements are amply viewed as good, there is lesser consensus on the desirability of Regional trade agreements. In fact, free traders like Jagdish Bhagwati say that not only may RTAs be not beneficial, but they can even be detrimental.[4] The main reason is what Jacob Viner (1950) called "trade diversion"[5]: when a country applies the same tariff to all nations, it will always import from the most efficient producer who supplies the goods at a lowest price. When establishing a free trade agreement with a nation that is not the most efficient producer, we may end up buying from this new partner at the expense of the low-cost producer, who does not benefit from the tariff reduction. That "trade diversion" would be harmful for the economy.

Although this is a theoretical possibility the question is whether in practice trade diversion occurs and, if it does, whether it more than offsets the beneficial consequences of integration described in previous section. Empirical analysis conducted by the World Bank (2005) suggests that RTAs have, indeed diverted trade, but that they seem to have created more trade than they have diverted. The trade diversion argument seems to be especially strong for RTAs among rich countries (like the European Union) or among poor countries (Mercosur). RTAs that involve rich and poor (or north and south) nations tend be trade-creating (see Venables 2001).

Former US Treasury Secretary, Lawrence Summers (2001) is convinced that trade diversion, although theoretically possible, is not a serious issue in practice: "economists should maintain a strong, but rebuttable, presumption in favor of all lateral reductions in trade barriers, whether they be multi, uni, bi, tri, plurilateral. Global liberalization may be best, but regional liberalization is very likely to be good". Given the existing structure of trade, Summers says,

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[4] The World Bank (2005) estimates that a global trade reform with which all distortions where eliminated (full liberalization of agriculture included) could increase world income by $263 billion in 2015 ($109 billion would go to poor countries). Instead, if developing countries all had bilateral agreements with European Union, the United States, Canada and Japan, global income would rise by only $112 billion, and the rich would reap as much as $133 billion.
[5] On top of trade diversion, Bhagwati puts forth additional arguments against RTAs that have to do with the political economy of multilateral agreements: the "stumbling blocks" argument suggests that countries that already belong to an RTA have fewer incentives to go all the way to the multilateral agreements. He also argues that a vast constellation of RTAs resembles a "spaghetti bowl" of rules and regulations that unnecessarily complicate trade and international relations.

"plausible regional arrangements are likely to have trade creating effects that exceed their trade diverting effects and that there is a very good chance that even trade diverting regional arrangements will increase welfare".

Venables (2003) agrees with this position. He says that, while there is little evidence that RTA's between two developed countries stimulate growth, there is ample evidence that RTAs between a developed and a developing country is good for the latter, especially because it stimulates growth. The poor partner tends to benefit from the knowledge spillovers and policy credibility of the rich: Increased interregional trade improves access to technology and RTAs usually induce institutional reforms (sound macroeconomic policies, well defined property rights, efficient banking sector, and so on) and make them more credible to investor's eyes. An additional channel is that the poorer partners will benefit from attracting more industry as firms from member and non-member countries would prefer to establish in the poor country and sell into the Northern market. Venables concludes that "although, as a general rule, the conclusions depend on the exact partners and the depth of integration, regionalism can be a valuable part of a development strategy as agreements that remove not only tariffs but other barriers to economic interaction".

Estevadeordal and Robertson (2004) go even further and question whether, in a world with myriad of bilateral trade agreements, additional free trade agreements do increase trade (diversion or otherwise). They find that a tariff reduction among potential members of a FTAA would increase trade substantially. They also find that "the tariff-reducing effect of trade is larger in the Americas than in our full sample"

2.5   Empirical Evidence (1) Cross-country Growth Regressions

Two methodologies are often used by economists to test the hypothesis that openness has a positive impact on economic growth: cross-country regressions and case studies.

The cross-country regression methodology follows the work of Barro (1991) and it essentially consists of estimating the partial correlation between the openness of an economy and its aggregate growth rate over a period of time.[6]

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[6] The variables that need to be added to each regression is subject to controversy. Most researchers follow the specifications of Barro and Sala-i-

A central question is how to measure openness. One line of research measures it by actual volume (usually, the sum of imports plus exports as a fraction of GDP). Levine and Renelt (1992) find that openness is one of the robust determinants of economic growth. This empirical work has been criticized for failing to account for the endogeneity of trade flows and for the fact that exports are part of gross domestic product. The endogeneity of the trade measure produces a simultaneity bias in the estimated impact, while exports being part of GDP produces an inherently positive correlation between them. Frankel and Romer (1999) proposed a methodology for overcoming these shortcomings. They estimated a gravity equation of bilateral trade flows, in which various geographic characteristics and bilateral distances affect trade. They then used the trade flows predicted by the geographic characteristics and the distances between countries as instruments for trade, in order to estimate the effect of imports plus exports as a fraction of GDP on income per capita. Frankel and Romer found a strong effect of openness on income per capita: a 1% higher trade share raises income per capita by 2%.

Using Frankel and Romer's instrumental variables methodology, Alesina, Spolaore and Wacziarg (2005) also found a positive effect of openness on growth. Moreover, they found that the same degree of openness has a larger effect in smaller economies. That is, being open is less important if your domestic market is already large.

Irwin and Treviö (2000) and Rodrik (2000) challenge the robustness of all these studies: they claim that when more variables are included, the effects of openness on income become insignificant in some samples.

The main problem with this line of research is that it is difficult to separate the effects of institutions from openness. Dollar and Kraay (2001b) overcomes these measurement problems by looking at how differences in openness over time determine changes in growth rates thereby eliminating institutional and geographic effects on growth (which are assumed to be more or less constant over time). The results suggest that a 20% increase in trade share increases growth by between 0.5 and 1 percentage point a year. Dollar and Kraay (2001a, 2004) break the world into three samples: Those countries

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Martin (1992) and Mankiw, Romer and Weil (1992). Recent research on the robustness of estimates follows Sala-i-Martin (1997) and Sala-i-Martin, Doppelhofer and Miller (2004) and check the robustness of additional regressors using Bayesian methods.

whose trade as a share of GDP rose the most (they called this the sample of "globalizers"), those whose trade shares rose the least (the "non-globalizers") and those in the middle. They drop the countries in the middle and compare the average performance of the two groups in the 90s relative to the 80s: the growth rate of the globalizers was 5.3% while the growth rate of the non-globalisers was only 0.8%.

Trade volumes depend on technologies, endowments, preferences and a whole array of other factors. As a result, some countries would have low trade volumes even if their governments allow for free trade. Hence, studies that capture openness by trade volumes do not provide satisfactory evidence of the effects of trade policies on growth. Thus, a second line of research prefers to analyze the relation between growth and openness policies rather than openness outcomes.

Sachs and Warner (1995) construct a binary index that assigns the value of 1 when an economy is deemed open and 0 when it is deemed to be closed. Economies were labeled as closed if (a) tariffs lay above 40%, (b) non-tariff barriers covered more than 40% of its imports, (c) they had a socialist economic system, (d) their exports were controlled by a state monopoly or (e) their black market premium exceeded 20%. They showed that this qualitative measure of open policy was positively correlated with growth. Sala-i-Martin (1997) and Sala-i-Martin, Doppelhofer and Miller (2004) show that the Sachs-Warner index is one of the variables used in the literature that are robustly correlated with growth.[7]

These findings have been subject to criticism, most influentially by Rodriguez and Rodrik (1999), who show that the Sachs-Warner index is dominated by the criteria applied to state economy, socialist regime and the black market premium (c and e). Hence, this index does not properly isolate the effects of openness on growth. Wacziarg (2001) confirms this hypothesis and studies the effects of the various components in the Sachs-Warner index. He finds that a one standard deviation increase in the restrictiveness of trade policies reduces the growth rate by 0.26% annually, which is an important and significant impact.

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[7] Hall and Jones (1999) show that the Sachs-Warner index is correlated with the level (not the growth rate) of productivity of nations. However, they also show that institutions are very correlated with openness and so cannot disentangle which one of the two variables has a greater effect on output per worker.

Finally, some studies analyze the effect of openness not on the per capita growth rate of the economy but on employment or the wages of the poor. Along these lines, Krueger (1981) showed that "employment tends to grow faster in outward oriented economies" and that "the removal of both factor market distortions and trade distortions benefits, in the long run, the employment creation process in most developing countries". Krueger (1983) finds that trade has positive effects on wages and employment in developing countries. The natural presumption of this line of work would be that open policies should help reduce poverty in poor countries with comparative advantage in labor-intensive goods. This is because the poor are unskilled workers and are endowed with labor but no capital.

Using the Dollar and Kraay (2001b) sample of countries, Sala-i-Martin (2002) shows that the $1/day poverty rates for the group of "globalizers"[8] fell from 19.3% in 1980 to 3.6% in 1999 while the poverty rates for the "non-globalizers"[9] rose from 10% to 17.8%. In terms of poverty headcounts, while the total number of poor people *declined* by 500 million in the countries that globalized, the total number of poor citizens *rose* by 80 million in the countries that remained closed.

In sum, most of the evidence on the relation between openness and growth points in the direction that more open economies tend to enjoy faster growth rates of standard of living and faster rates of poverty eradication. An unbiased reading of the evidence suggests that, although the robustness of some of this evidence has been challenged, the overall balance is that openness leads to growth. More importantly, nobody has presented evidence that protectionism is good for growth. As Helpman (2004), puts it: "My view is that despite the many difficulties that exist in the literature, it is fair to conclude that the evidence favors a negative effect of *protection* on rates of growth in the post-World War II period. Importantly, there is no real evidence of a positive link for this era."

2.6   Empirical Evidence (2): Case Studies

The second empirical methodology used by economists to uncover the effects of openness on welfare is case studies. Case studies allow researchers to

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[8] Recall that the "globalizers" are the third of countries that opened the most over the last two decades according to Dollar and Kraay (2001b).
[9] That is, the countries that opened up the least since 1980.

identify more specific policies and institutional reforms for every country, but have the disadvantage that we cannot control for factors that are common across countries. We now discuss some case studies that support the view that openness tends to favor improved economic outcomes.

2.6.1 Asia

China is perhaps the best example of the positive connection between openness and economic growth. China undertook a unilateral trade liberalization during the reform period, prior to its accession to the World Trade Organization in December 2001. During this period, the average statutory tariff, which stood at the relatively high level of 56 percent in 1982, was reduced to 15 percent by 2001. China's share of global trade stands now at 4.3%, more than three times its share in 1982. China's fastest growing exports have been labor-intensive manufacturers—textiles, apparel, footwear, and toys (Lardy (2003).) This sizeable increase in the degree of openness has introduced substantial new competition into its domestic market and made Chinese firms more efficient and competitive. The average growth rate during the post-reform period (1978-2005) has been close to 10%, compared with 3% for the period 1950-77.

The reforms have brought benefits to all provinces in China. However, the coastal provinces have experienced larger economic growth than the inner regions. The reason is that inner provinces have been less open to trade (Chen and Feng (2000).) This uneven performance has led to the well-documented increase in income inequalities within China (Dollar and Kraay (2001b).) However, this has not prevented a substantial decline in poverty: Sala-i-Martin (2006) estimates that Chinese 1$/day poverty rates stood at 31% in 1975 and they stand now at less than 3% (a decline by a factor of 10!). The total number of poor has been cut by more than 250 million citizens, a reduction like no other in the history of the world.

The success of China in eradicating poverty through growth and trade is the most spectacular in the world but it is not, by any means, an exception. Other Asian economies have shared this economic success: from the early dragons (Taiwan, Singapore, Hong Kong, and South Korea) to the East Asian tigers (Malaysia, Thailand, and India) to the latest success story of Vietnam, Asian economies have experienced substantial increases in average growth rates and substantial reductions in poverty rates and head counts. Sala-i-Martin (2006) estimates that poverty rates in East Asia declined from 32.7% in 1970 to

2.4% in 2000 (which amounts to 300 million less poor people) while the poverty rates in South Asia went from 30.3% in 1970 to 2.5% in 2000 (an additional 200 million citizens abandoned the state of poverty).

In most of these countries, outward oriented industrialization was the central policy (although not the only one: heavy investments in education and institutional reforms were also prominent policies that explain Asian success).

2.6.2 Mexico

An example of economic integration that is closer to Colombia is the case of Mexico. Mexico undertook a process of liberalization during the 1980s, a process that culminated with the signing of the North American Free Trade Agreement (NAFTA) with the United States and Canada in August 1992. NAFTA was implemented in 1994, which unluckily coincided with the devaluation of the peso and the subsequent financial crises of 1994 that led to a decline of Mexican GDP by 6% in 1995. After this unfortunate start, things improved substantially: between 1995 and 2000, the annual growth rate of the Mexican economy averaged 5.4%. The growth rate decelerated to 0.6% between 2001 and 2003, but picked up to 3.9% from 2004 to 2006. Exports as a fraction of GDP grew from 19% before NAFTA to 30.4% today. Investment averaged 18.3% of GDP between 1989 and 1994 and 20.1% in the post NAFTA period. Nicita (2004) estimates that NAFTA may have lifted up to 3 million Mexicans out of poverty.

The main impact of NAFTA on the Mexican economy is probably on employment: more than 6 million jobs were created in Mexico between 1994 and 2005. The unemployment rate remains very low at about 3%, which means that Mexico has been able to absorb a substantial increase in labor supply during the post NAFTA period. More importantly, the relative importance of agriculture has declined while the weight of industry and services experienced a substantial increase.

Interestingly, the process of commercial liberalization did not bring specialization in labor intensive products (as predicted by traditional trade theory). Instead, the readjustment in production structure increased demand for skilled labor. The explanation is the role of FDI, which has brought new capital as well as better technologies that are complement with skilled labor. Venables (2001) shows that "FDI flows into Mexico more than doubled in the years following the launch of NAFTA". This increase was explained by the investment of firms of non-NAFTA countries taking advantage of preferential access to the

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larger United States market. For example, Japan redirected part of its FDI from the US and Canada towards Mexico, and many projects (such as the one in the automobile industry) are intended for the NAFTA continental market. Although this increase in FDI to Mexico did not seem to lead to spillovers to domestic non-tradable sector productivity, it did generate larger productivity gains in the sectors that opened the most (López-Cordova and Moreira (2004).)

The deceleration of the first three years of the new millennium may reflect the loss of competitiveness that results from increasing wages: because the unemployment rate in Mexico is so low, an increase in demand results in wage increases and increasing costs.[10] In this sense, the competition of China and other low wage Asian economies has had a worldwide impact, including Mexico (see Feenstra and Kee (2007). Of course the slow down of the 2000-02 period may also reflect a temporary downturn. The higher growth rates experienced by Mexico during the period 2003-2006 support this more optimistic view.

The regional impact of NAFTA has been uneven. Most of the gains in employment and income have occurred in the northern regions close to the US border (see Esquivel et al (2002).) The poorer regions of the south did not necessarily benefit. The reason, however, is that these regions are not economically integrated to take full advantage of the opportunities NAFTA brings: infrastructures and communications are poor, education levels and skills are low and institutional and public sector problems abound. To benefit from economic integration with the United States, these regions should open up to the rest of Mexico.

Overall, López-Cordova and Moreira (2004) evaluate the overall impact of NAFTA on productivity and growth positively: "On the strategy of regional integration, Mexico's more aggressive stance with NAFTA seems to have paid off, at least as productivity is concerned. Tariff reductions undertaken during the agreement appear to have a sizable positive impact on productivity growth, which added to the already substantial gains reaped during the period of nonpreferential liberalization."

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[10] It is important to remember this point when one thinks of the likely impact of an RTA for Colombia since the unemployment rate in Colombia is substantially higher. Hence, the effects of an agreement for Colombia are likely to have much larger effects on employment than in Mexico.

2.7.   Summary of Empirical Evidence

The best and shortest summary of the vast empirical literature on the relation between openness, growth and poverty is given by Berg and Krueger (2003): "when we add the cross-sectional analyses to the substantial quantity of case studies, industry and firm-level research documentation, the evidence is convincing: openness contributes to productivity and ultimately income growth".

3.   COLOMBIA AND THE FTA WITH THE UNITED STATES

3.1   The Likely Effects

Colombia and the United States are currently considering a free trade agreement (FTA). Many studies have been conducted to estimate the likely effects of this FTA on the levels of income, employment, salaries and poverty in Colombia. These estimates are done using computer simulations of general equilibrium models. Of course, the impact of economic integration depends on a variety of elements, including the degree in which US non-tariff barriers are reduced, especially in the agricultural sector (see Martin and Ramirez 2004). This section discusses some of the results of this research. The main summary is that the likely effect of an FTA will be a substantial positive impact on the Colombian economy.

Giordano et al. (2007) have developed and calibrated a CGE model to examine the sectoral, regional, and distributional effects of the agreement (microsimulations based on household survey data). They observe that the FTA would result in a moderate decline of poverty and extreme poverty.

Volpe Martincus and Gómez (2007) show that lower tariffs under Andean Trade Promotion and Drug Eradication Act (ATPDEA) have favored exports of new products from Colombia to the United States. Further, based on the evidence from Mexico and Chile, and simulations on estimates for Colombia, they conclude that an FTA with the United States would be associated with increased export diversification in Colombia. Nevertheless, to maximize the gains from the improved market access and even for the aforementioned effect to be sustainable over time, reforms in other key areas such as infrastructure, education, and institutions should be put in place.

Fedesarrollo (2004) estimates that an FTA would increase bilateral trade by an additional 40.5 percent. Using the point estimates of Frankel and Romer

(1999) and Dollar and Kraay (2001) discussed in Section 2, an increase in trade of this magnitude would be associated with an increase in per capita income of between 8% and 33%. Fedesarrollo also estimates that if no bilateral agreements are put in place when the current ATPDEA expires in 2007, overall trade between Colombia and the US would fall by 56.6%. This would imply a fall in Colombian per capita income of 12% to 47%! Not signing an FTA once the ATPDEA expires, therefore, could have potentially devastating effects on the incomes of the Colombia citizens.

It is very hard to say whether the increase in trade would come from diversion or from creation. However, because the US is Colombia's main trading partner and because the US is already a rich and efficient economy it is very likely that the FTA between Colombia and the US, not only does not divert trade but it actually "undoes" some of the diversion that previous regional agreements among Southern partners (like the "Andean Community", the G3 agreement with Mexico and the partial PTA with Chile) may have caused.

Other than the impact on trade, the FTA would also have an impact on the Colombian labor market. Botero (2004) estimates that a total of 270,000 jobs would be created, that the demand for skilled labor would increase by 1.4%, and that the demand of unskilled labor would grow by 5.5%. Skilled wages would grow at 4.5% while the effect on unskilled wages ranges from zero to 1.58%, depending on the study. The explanation behind the small change in unskilled wages is that unemployment rates are high. Hence, increases in the demand for unskilled labor would be met by job creation rather than by increases in the salaries of the employed.[11]

Since the poor in Colombia tend to be unemployed, the creation of jobs alone will have a substantial impact on the reduction of poverty. This conclusion is consistent with the findings of Bussolo and Lay (2003) who combined a computational CGE macro model with a microeconomic model of income distribution to study the role of openness on poverty in Colombia. This combination of micro and macro data allows them to identify the income distribution effects of macro policies and the movements in and out of poverty for a variety of groups both in urban and rural areas. The paper shows that the

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[11] This is different from what happened in Mexico as a result of NAFTA because unemployment rates in Mexico were substantially lower.

tariff reduction experienced by Colombia at the beginning of the nineties induced a substantial reduction in poverty rates.

Aggregate GDP is predicted to increase by more than 5%. Moreover, the growth is likely to occur in the industrial (expected growth of 6.8%) and services sectors (5.3%). Both imports and exports are expected to increase by 10%. And most importantly, investment is predicted to increase by more than 30%.

We have argued repeatedly throughout this essay that the main benefits of openness are likely to be dynamic. That is, are likely to come from both the transmission of knowledge due to transnational capital flows and the improvement of the institutional environment. These most important elements are not captured by the computer models used to estimate the likely impact on the Colombian economy. Lawrence Summers believes that the institutional channel will probably be the most important channel through which openness affects the wellbeing of citizens. This is true in general, but is especially true for Colombia. As US ambassador to Colombia put it in a speech (Portman (2006)): "An agreement with Colombia will be useful to combat narco-trafficking, build democratic institutions, and promote economic development. In addition to eliminating tariffs, Colombia will remove barriers to trade in services, provide a secure, predictable legal framework for U.S. investors operating in Colombia, provide for effective enforcement of labor and environmental laws, protect intellectual property, and provide an effective system to settle disputes."

3.2. Additional Comments and Warnings

Let us finish this discussion with four policy warnings. First, although economic integration will bring greater wellbeing for the average citizen, it will not bring greater good to all Colombians. This, of course, is true for virtually ALL policy decisions, institutional reforms or even technological innovations: every change will have its winners and losers. After every modification, there will be citizens, companies, sectors or regions that will lose. Having said that, this is an inadequate reason not to undertake these reforms, to stop the process of progressive opening up or to prevent technological progress from taking place. After all, the gains of the winners will be larger than the losses of the losers, and eventually in the longer run everyone may end up benefiting. Authorities should always keep this in mind and thus should put in place the necessary

safety nets to protect those that will lose from the process. The safety nets should be designed intelligently to assist the losers to adapt to the new environment and should not create an underclass of people who permanently live from public welfare. However, the protection policies should focus on protecting individuals rather than their jobs. That is, the safety-net policies should help workers who will likely lose their job retrain and find other employment opportunities. In this sense, most of the literature states that investment in education (versus other publicly sponsored policies) is the most effective weapon.

Second, an important part of the gains arising from greater integration with the United States (especially for poor Colombian citizens) will come from foreign investment. Colombian authorities should be ready to welcome and nurture foreign investment and should stand ready to reform its institutions for the greater good of its citizens.

Third, economic integration will be more general from a regional point of view if all the regions in Colombia are themselves integrated. The case of Mexico shows that regions that remain isolated do not reap the benefits of openness. In this sense, efforts should be made to keep all regions connected and prepared to compete. The slower growth of the inner regions of China is also an example of regional inequalities that are created when regions are not appropriately connected to the rest of the world. The Chinese government is now trying to connect the inner regions both physically (infrastructure, water supplies, electricity, air transportation, railways and highways), in terms of communications (internet, telephone and broadband access) and the rest of the elements that guarantee the foundations of sound economic growth. Governments should not be tempted to introduce large scale welfare programs in these poorer regions. This approach may be dangerous because it would increase incentives of poor citizens of other parts of the country to migrate to these regions, converting the disadvantaged regions in large pockets of poverty. A better alternative is to make every effort to integrate both the poorest and the most isolated regions of the country with the rest of the economy so that their citizens can also reap benefits from Colombia's international integration.

Which leads us to the last point: openness and economic integration with countries that are the economic, technological and financial leaders of the world is an important determinant of future economic prospects for Colombia and

Latin America. But openness is not the magic bullet that will solve all the economy's problems. The overall competitiveness of Colombia depends also on a constellation of other factors. Sala-i-Martin and Artadi (2004) designed an index for the World Economic Forum that measures the key determinants of competitiveness of nations. To capture the complexity of the process of economic development, the index is based on 12 pillars. This means that countries need to work on each and every one of these aspects if they want to fully take advantage of better market access conditions reached through negotiations and thereby see balanced and sustained growth. The pillars are:

(1) **The institutional environment**: protection of property rights, reduction of excessive bureaucracy and red tape, corruption, public dishonesty and lack of transparency, trustworthiness, and political dependence of the judiciary and law enforcement sectors.

(2) **Physical Infrastructure**: railways, ports, airports, roads, telephone, electricity, and access to new technologies.

(3) **Macroeconomic stability**: countries with excessive public deficits, inflation or unstable exchange rates cannot be competitive.

(4) **Security**: a country that cannot guarantee the safety of managers, administrators, employees, or even customers because of military conflicts, terrorism, organized crime, or political and economic kidnappings is a country that cannot be competitive.

(5) **Human capital**: education at all levels (from efficient primary schools to productive universities) is important. Health is also a key determinant of the productivity of the labor force.

(6) **Efficiency of the goods sector**: competition is the greatest source of competitiveness and, therefore, the government must protect it and stand up against monopolies. The government should avoid participating in the game with public enterprises whenever that is possible. It should be the referee of the game, not the main player.

(7) **Efficiency of the labor market**: inefficiencies in the labor market tend to generate unemployment. Inefficiencies take a variety of forms. Some of them are legal, while others are mental. Citizens should be encouraged to move across regions, sectors, firms and jobs. Mobility is necessary in a world that changes constantly. Salaries should reflect merit rather than political or family

relations. Governments should also encourage the efficient use of female talent: a country that wastes half of its talent cannot be competitive.

(8) **Financial efficiency**: the financial sector should ensure that financial resources end up in the most productive uses. To make sure that risky entrepreneurs get the necessary financial resources, companies of capital risk should be encouraged.

(9) **Technological readiness**: a competitive country must have access to state of the art technologies. This does not mean that they have to invent these technologies, but they must be ready to implement them as soon as they are invented elsewhere.

(10)   **Openness**: as discussed throughout this paper, open economies tend to be more competitive than closed ones.

(11)   **Business sophistication**: as countries develop they should encourage the production of goods with high value added. They should promote the creation of clusters that guarantee easy access to inputs and complementary outputs, and that encourage the connections among producers. A good model to follow and to learn from is that of the Basque Country in Spain.

(12)   **Innovation**: the final stage in the long process of economic growth is innovation. When you cannot compete doing things cheaper than others or differently from others you must do different and new things. That is, you need to innovate. Although innovation is crucial for rich and developed countries, it is also important at all levels of development. Innovation can and must occur in agriculture, textiles, food processing, light industrial sectors, heavy industry, services, the financial sector and so on. Ideas can be invented everywhere and, most importantly, ideas can be implemented everywhere. The government should create an environment in which private citizens find it easy to implement their ideas in whatever sector they happen to work. Sala-i-Martin and Artadi (2004) point out that the different pillars have different degrees of importance at different levels of economic development but that they all matter for all countries.

Sala-i-Martin and Blanque (2007) use the World Economic Forum Executive Surveys to estimate the level of competitiveness for 125 countries. Because these surveys are filled out by businessmen, the results can be interpreted as how the business community sees the economic prospects of the

economies in which they operate. Of course the business community is not the only view that matters, but if we were to choose one community whose view matters the most, it would be the business community. After all, they are the ones that will make investment, employment, production and location decisions in the near future.

The results for Latin America are not very encouraging. Figure 3a reports the rankings for all available Latin American countries. We also depict three other economies for comparison: China, India and Spain. The best positioned country in the region is Chile at 27, one rank below Spain. Mexico and Panama are in the 50s and Argentina, Brazil, Colombia, and El Salvador in the 60s.

Figure 3a: WEF Global Competitiveness Rankings
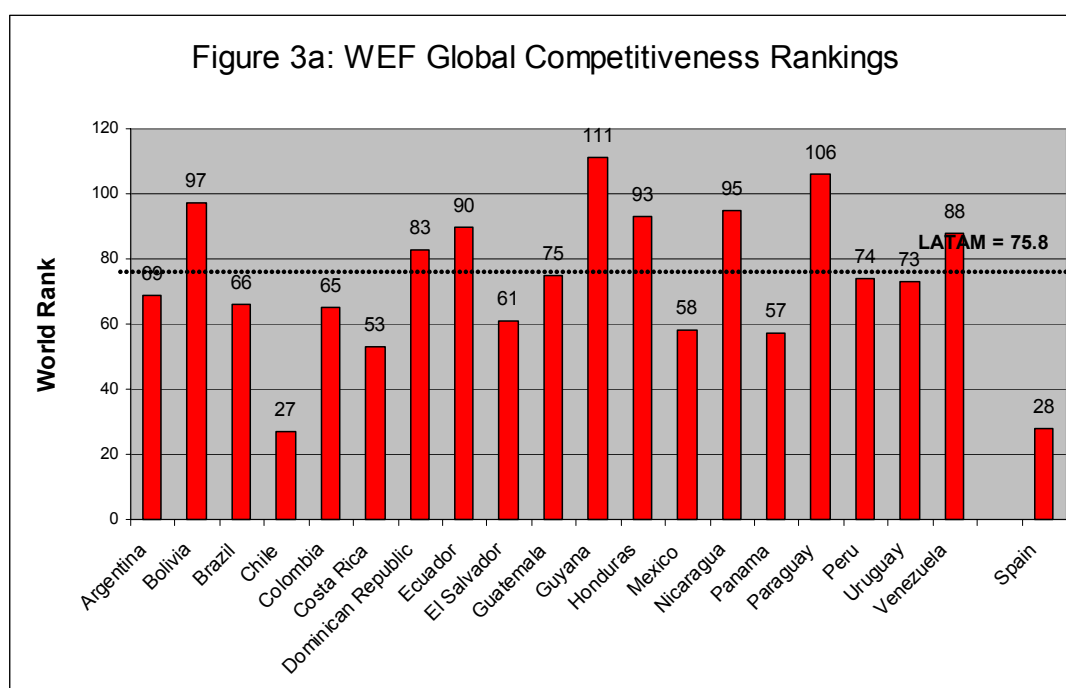
If we average Latin America for each of the pillars, we see that it does not perform too well in any of them (Fig 3b). The best average rank is health and basic education (average position 59.7) while the worst are the institutional environment (rank 87.7) and innovation (position 84.26).
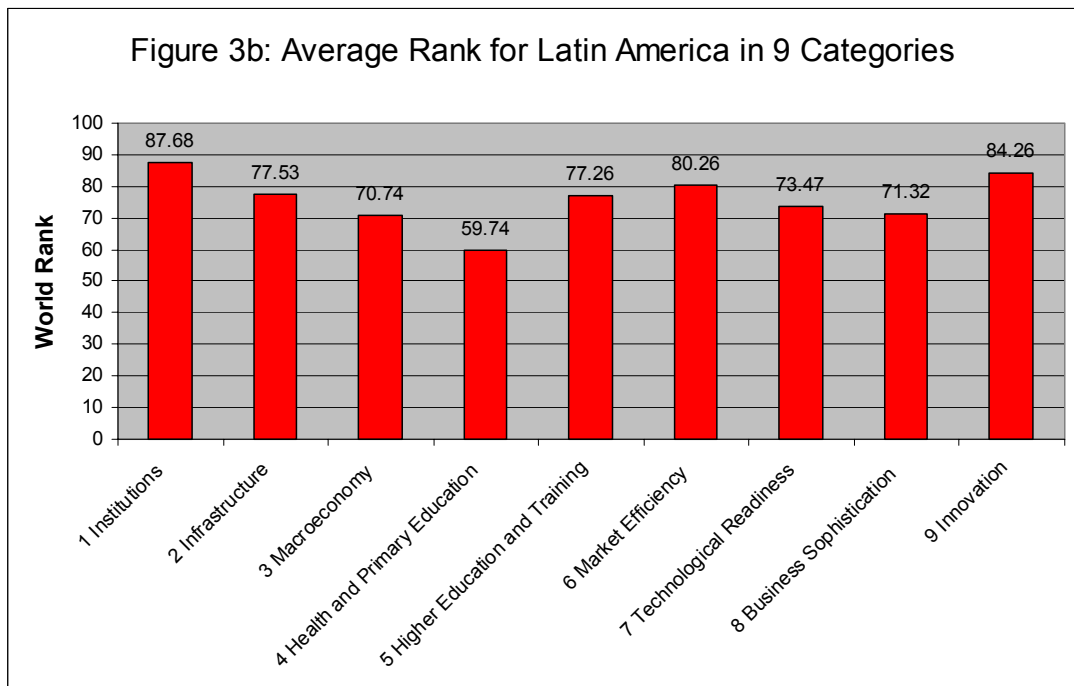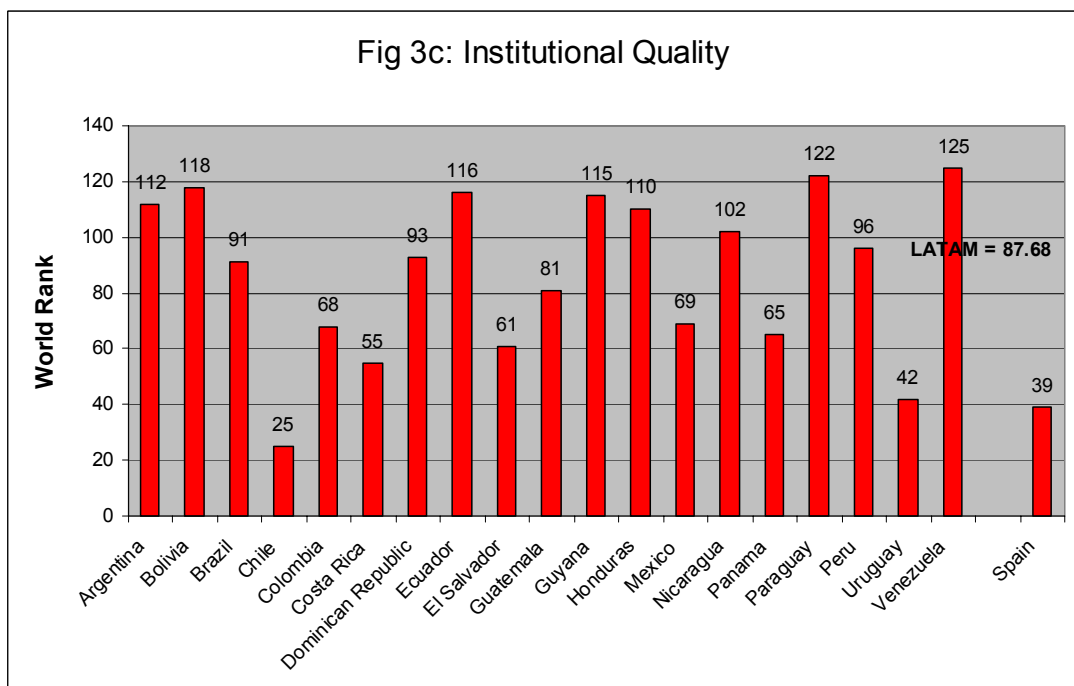
Figure 3b: Average Rank for Latin America in 9 Categories

Figure 3c shows how each the countries score in the institutional environment.

Fig 3c: Institutional Quality

When it comes to institutions, the best countries are Chile (25th) and Uruguay (42nd).

Finally, Figure 3d reports 31 elements of competitiveness (as seen by the business community for Colombia). These elements are ranked from the worst score to best score. Colombia scores fairly well in basic human capital. At a substantial distance, it scores fairly well in trust in the financial sector, macroeconomic stability and legal impediments to FDI.

Figure 3d: Elements of Competitiveness for Colombia
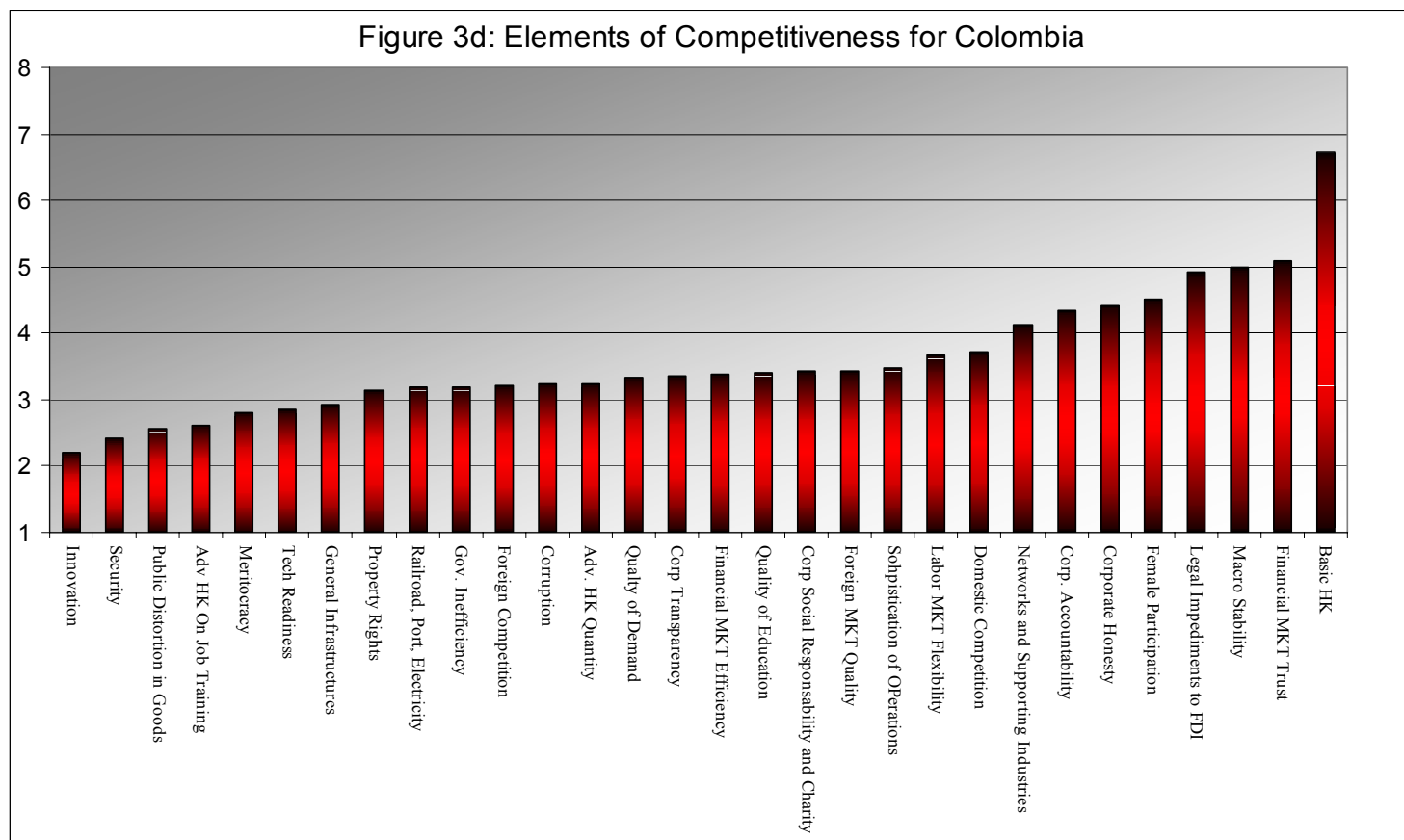
In sum, although trade liberalization and integration is likely to be beneficial for the region, Latin American countries have a lot of homework to do in many other dimensions.

4. CONCLUSIONS:

This paper summarizes the theoretical arguments and empirical evidence on the relationship between openness, poverty and economic development. When cross-country empirical evidence and case studies are put together, the evidence is convincing that economic integration improves standards of living, increases economic growth and contributes to the reduction of poverty. This is true in general and in the case of regional trade agreements. The main channels through which openness is likely to reduce poverty are dynamic channels that are not captured by traditional trade theory. Among these dynamic factors, perhaps the most important is the transmission and coordination of policies and institutions that lead to greater economic efficiency, larger productivity and higher growth rates. These factors are likely to be important in the case of Colombia, if the FTA is finally ratified.

Although the FTA will clearly be good for Colombia, the Colombian government should make sure that additional policies are put in place to guarantee that the potential losers have a safety net, that the disconnected regions of Colombia get connected (so that they can also reap the benefits of more integration), and that the other factors that help promote economic growth and competitiveness are progressively introduced.

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