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A comparative analysis between the relation of income distribution and economic regional integration in East Asia and Latin America

ABSTRACT

This paper analyses the relationship between inequality and de facto regional economic integration during the last two decades in Latin America and East Asia Pacific regions, focusing on intra-regional exports. Globalization has been considered as a driving of inequality, although export-led growth models are associated with high economic growth rates. Export-led growth models have been more dynamic in East Asia than in Latin America, through the development of supply chain networks of intermediate and final goods. Research questions explore the relation between inequality and patterns of de facto intra-regional trade. Empirical analysis uses a fixed effects panel data with Heteroskedasticity and Autocorrelation Consistent (HAC) covariance matrix. Results showed that increments in regional intra-trade are associated with reductions of inequality, more in East Asia Pacific than in Latin America. The contribution of this paper is the introduction of intra-regional trade as a new factor that is negatively associated with inequality.

Key words: Income inequality, de facto economic regional integration, intra-regional exports, Heteroskedasticity and Autocorrelation Consistent, covariance matrix.

Un análisis comparativo entre la relación de distribución de ingreso y la integración económica regional en Asia Oriental y América Latina

RESUMEN

Este trabajo analiza la relación entre la desigualdad y la integración económica regional de facto durante las últimas dos décadas en América Latina y la región de Asia Oriental y el Pacífico, centrándose en las exportaciones intra-regionales. La globalización ha sido considerada como una causa de desigualdad. Sin embargo, los modelos de promoción de exportaciones son asociados con altas tasas de crecimiento económico. Los modelos de promoción de exportaciones han sido más dinámicos en Asia Oriental que en América Latina, a través del desarrollo de redes de suministro de bienes intermedios y finales. Las

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preguntas de investigación exploran la relación entre desigualdad y los patrones del comercio intra-regional de facto. El análisis empírico hace uso de un panel de datos con efectos fijos, con una matriz de covarianza consistente ante heterocedasticidad. Los resultados muestran que los incrementos en comercio intra-regional están asociados con una reducción de la desigualdad, más en la región de Asia Oriental y el Pacífico que en América Latina. La contribución de este trabajo es la introducción del comercio intra-regional como un nuevo factor que es asociado negativamente a la desigualdad.

Palabras clave: Desigualdad de ingresos, integración económica regional de facto, exportaciones intra-regionales, matriz de varianzas y covarianzas, heterocedasticidad.

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INTRODUCTION

Inequality is a controversial issue for both developed and developing countries, due to its negative implications on growth and reduction of poverty (Cornia & Court, 2001). Furthermore, inequality is acquiring importance in the discussion of the international community nowadays, in some way influenced by the efforts towards the achievement of the Millennium Development Goals.

Latin America is the most unequal region in the world. Meanwhile, East Asia has maintained lower levels of inequality than Latin America, as a product of the Asian Miracle after the sixties and posterior reforms until the nineties, although in the last two decades some countries have slightly worse inequality indicators. In Latin America, very high inequality levels seem to be an historical element of the socioeconomic development, before and after the globalization process.

In the case of Latin America, disparities lie in the unequal distribution of means of production —mainly land— that has been concentrated within elite groups, generation through generation, with a reduced social mobility (Cornia & Kiiski, 2001).

In the East Asia region low levels of inequality have coincided additionally with a strengthening of the economic regional integration through the development of supply chain networks of intermediate and final goods. The Latin America region has also tried to follow the patterns of an export-led growth model since the nineties, but it continues focusing on commodities, fuel, ores and metals, and some manufacturing that reaches neither the level of sophistication nor the high technology component of East Asia.

Recent research on inequality has focused on the relation between globalization and inequality. Openness offers countries the possibility to integrate with world trade through the supply of goods and services where they have comparative advantages and demand a wider basket of goods than their internal market, but these dynamics may have effects on inequality.

Intra-regional trade may promote developing of productive infrastructure and influence the development of frontier cities. Neighbor markets can work as an extension of domestic markets in the absence of tariffs, which can benefit small-size business, and it is linked to job generation for lower-income people. Additionally, it may generate virtuous cycles related to cooperation projects, transference and absorption of technology and improvements in life conditions.

Economic regional integration has not been used widely as an explicit channel to promote inequality reduction. This research evaluates the null hypothesis of economic regional integration not being related with inequality. The alternative hypothesis is that economic regional integration is related negatively with inequality.

This paper limits the concept of economic regional integration to de facto trade, excluding the analysis of the economic regional integration de jure. The analysis of de facto trade will be made through intra-regional exports in the empirical analysis.

This research uses a panel data model with a sample of 16 countries, 6 from the East Asia Pacific region and 10 from Latin America and the Caribbean, from 1990 to 2009, and utilizes as control variables export patterns, sectoral composition, labor force reallocation, changes in the role of women in society, growth levels and macroeconomic stability indicators.

The contribution of this paper is the introduction of intra-regional trade as a new factor that affects inequality. This paper studies the trends of inequality and intra-trade, their relation, and finally makes recommendations of public policies to strengthen economic regional integration as a way to promote virtuous cycles, in order to generate pro-poor growth with beneficial distributional impacts.

There is not very much literature that refers to integration de facto as an explicit determinant on inequality, as this paper proposes. Previous research is more focused on analyzing a European integration process and de jure economic regional integration, through which welfare states are reduced, and supra states can create institutions that lighten possible increments of inequality (Beckfield, 2006).

Regional economic integration can increase income inequality due to worsening of labor conditions through higher pressure on wages and job position struggles, as well as weakening of labor unions, due to human capital. Additionally, institutions are more similar within regions, which means exacerbated market competition. Using a random effects model to measure the political and economic integration effects of inequality, and measuring regional integration by intra-regional exports, Beckfield (ibid) infers that there is a curvilinear relation between income inequality and economic integration; through a U-inverted graph he shows if intra-regional exports near 60% inequality increases, but if they are higher than 65%, inequality reduces.

However, conclusions are difficult to generalize because of the limitations regarding data quality in inequality studies and the reduced number of countries in the sample.

The structure of this paper is as follows: The first section reviews literature of determinants of inequality for each region of the analyses. Section 2 introduces trends of inequality, and Section 3, trade patterns. Section 4 offers the theoretical framework of the relation between increments of trade and inequality used in this paper. Section 5 introduces the data and the methodology of the empirical study. Section 6 presents the outcomes achieved from the model and analysis implications of the results. Section 7 presents the concluding remarks.

Section 1: determinants of income distribution by regions

The literature about inequality is very wide, including study cases for countries and regions.

Regarding the Latin America region, Milanovic and Yitzhaki (2002, p. 1) conclude that the high income disparities are explained by differences within-countries. Cornia and Kiiski (op. cit.) conclude that one of the most important determinants through history has been land concentration. Between 1950 and 1960 the Gini index of land concentration in Latin American countries ranged around 80%.

Hausmann and Székel (1999, p. 3) pointed out that the main causes of the high rate of inequality in Latin America are "fertility, female participation and education" when these factors are compared between rich and poor people. López-Calva and Lusting (2010, p. 2) conclude that Latin America inequality roots result in rent seeking by elites, opportunity inequality in the access to goods and services, imperfection in labor and capital markets and discrimination in gender and race.

As recent phenomenon, most of the Latin American countries opened their economies in the nineties. According to Perry and Olarreaga (2006) trade liberalization in Latin America generates an increment of the gap between the skilled and unskilled labor. Several academics highlight that the technological change introduced generated increments in skill premium. For instance, the Colombia case was explored by Birchenall (2001), who added that reforms in the nineties generated technological change in favor of skilled workers –which increased the wage gap– affecting the more equal remuneration level reached in the seventies.

In reference to Asia, this is the most heterogeneous region in terms of inequality among countries (Milanovic & Yitzhaki, op. cit.). According to Cornia and Kiiski (p. 12), low levels of inequality in East Asia is the result of assets redistributions, post war reforms, including land, and progressive wealth taxes. In the same line, Milanovic (2005, p. 76) argues that the main reasons for low levels of inequality in Asia is land reforms and universalization of primary education.

The causes of the low levels of inequality in the East Asia region are related to the factors that made possible the Asian Miracle. The World Bank (1993, p. 5) pointed out that the fundamental policies of this miracle underly: the macroeconomic stability that stimulates investment; a strong financial system that integrates more users and stimulates higher savings; active education policies focusing on spreading primary and secondary education to improve labor force skills; and increments of productivity in agriculture encouraged by tax policies. Paradoxically, these fundamental policies are highly related with the typical determinants of inequality.

Section 2: trends of inequality

Milanovic (op. cit.) analyses international inequality trends between 1980 and 2000 from three different concepts, and concludes that inequality among countries has increased. If inequality is weighted by the population of each country, international inequality had decreased mainly as a result of improvements in income distribution in China. If the individual income of all the people in the world is analyzed, disregarding the country of origin, inequality had increased. Dollar and Kraay (2001) argue that developing countries have grown faster than rich countries after globalization and the improvements in income distribution of these countries has reduced global inequality. Instead, Bourguignon and Morrison (2002) concluded that there are not large differences after the Second World War and the nineties, because the decreasing of disparities in life expectancy after the fifties has begun to diverge again in the last two decades.

In terms of measurement, the Gini coefficient is the most used measure of inequality. It ranges between 0 and 1. Low values indicate a more egalitarian income distribution[1] (International Monetary Fund, IMF, 2007).

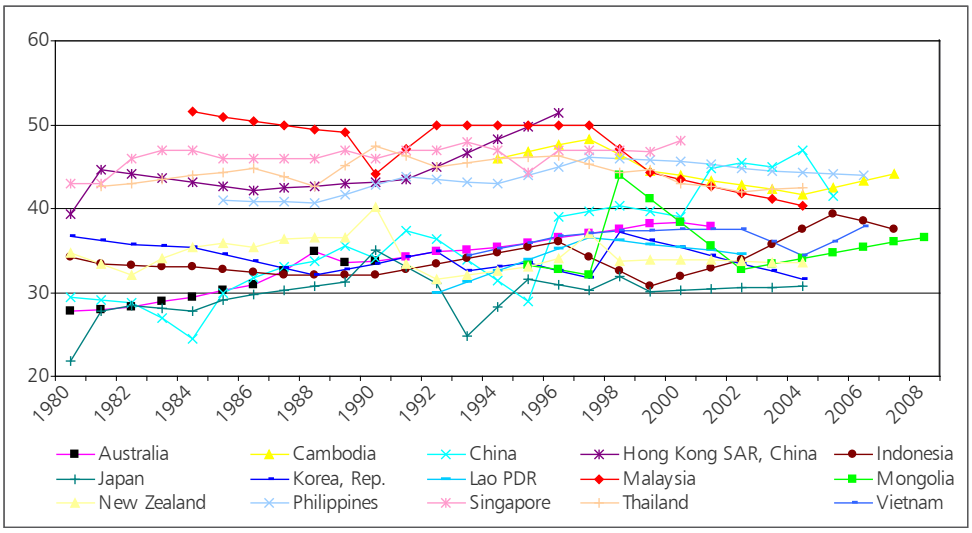
An analysis of Gini Index trends by regions in East Asia Pacific normally ranges between 30% and 50%. In general, the region has low levels of inequality, but there are some gaps indicating that some countries are very equal, and others have higher inequality levels. The countries with a better income distribution are Japan, Republic of Korea, Laos, Australia and New Zealand. The countries with the highest Gini Index are Thailand and Philippines (See Figure 1).

In order to analyze changes in inequality by country per decade, the average Gini Index per decade was calculated and compared with the average of the following decade. Countries that increased inequality in the nineties in comparison to the eighties were Australia, China, Hong Kong, Indonesia, Japan, Philippines, Singapore, and Thailand. Countries that reduced inequality in the same period were Republic of Korea, Malaysia and New Zealand. Regarding changes between the two-thousands and the nineties, countries that increased inequality were Australia, China, Indonesia, Laos, Mongolia, Philippines, Singapore

1 See Section 4. Theoretical Framework to explanation in detail

Figure 1.

Gini Index in East Asia and Pacific (%), 1980-2009, selected countries



Source: United Nations University (2008) and ADB (2010b, p. 143)

and Vietnam. Reductions were experienced by Cambodia, Japan, Republic of Korea, Malaysia, New Zealand and Thailand.

On the other hand, Latin America is the most unequal region in the world. In general terms, from sixties to eighties inequality decreased, but in the eighties inequality increased (Milanovic, op. cit.). Later, inequality remained almost unaltered in the nineties (Londoño and Szekely, 2000, p. 125). Regardless of the particularities of the countries, in the last decade inequality decreased, until the financial crises of 2008 (ECALC, 2010). Despite the above, the high rates of inequality of Latin America have influenced the deterioration of global inequality. Milanovic (p. 44) argues that the reason for the deterioration of international inequality in the last 20 years was the reduction and stagnation of GDP per capita in Latin America and Eastern Europe.

After the Second World War, Latin America grew based on an Import Substitution Industrialization (ISI) in order to change its patterns of insertion in the international system, shifting from commodities exports and imports of capital goods, to a model where industrial goods were also produced. This model was pushed by governments through subsidies and protectionism, but infant industries did not have incentives to increase productivity because the same laws protected the domestic market from foreign competition. However, the model faced several obstacles to develop due to the limited capacity for the generation of foreign currency to import capital goods in the initial stages of industrialization, and it generated an excessive external financing that pushed strong inflationary pressures and fiscal deficits (Misas, 2002).

The ISI model became unviable during the eighties, when Latin America was immersed in a deep debt crisis denominated "The lost decade", which generated harmful macroeconomic adjustments and setbacks in welfare. Openness started at the end of the eighties, in part as a mechanism to recover from the crisis. Although the nineties was a period of recovery, structural adjustments forced companies to compete in the international arena,but a large share was not competitive enough and went bankrupt (Misas, ibid).

At the same time, globalization in some way has made economies more vulnerable to external shocks. To mention some examples, Tequila crisis or the Argentinean crisis, show evidence of the fra-

gility of the countries to defend their own stability and the lack of effectiveness of the international system to stop the transition of global breakdowns. Swinging economic cycles have had regressive distributional effects, questioning the viability of the openness in the last years.

Gini Index normally ranges in this region between 40% and 60%. In general terms, it calls the attention the relative homogeneity of the Gini for the entire region. Traditionally, the countries with a better income distribution have been Uruguay and Costa Rica. The countries with traditionally-worst distribution have been Bolivia, Colombia, Brazil and Haïti (See Figure 2).

To analyze changes in inequality by countries per decade, the average Gini Index per decade was calculated and compared with the average of the following decade. Countries that increased inequality in the nineties in comparison to the eighties were Argentina, Bolivia, Brazil, Chile, Colombia, Dominican Republic, Ecuador, México, Panamá, Uruguay and Venezuela. Countries that reduced inequality were The Bahamas, Costa Rica, Guatemala, Honduras, Jamaica, and Perú.

Regarding changes between the two-thousands and the nineties, countries that increased inequality were Argentina, The Bahamas, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haïti, Honduras, Jamaica, México, Nicaragua, Panamá, Paraguay, Perú, and Uruguay. Meanwhile, reductions of inequality were experienced by The Bahamas, Brazil, Chile, Ecuador, El Salvador, México, Nicaragua, Panamá, Paraguay, Perú, and Venezuela.

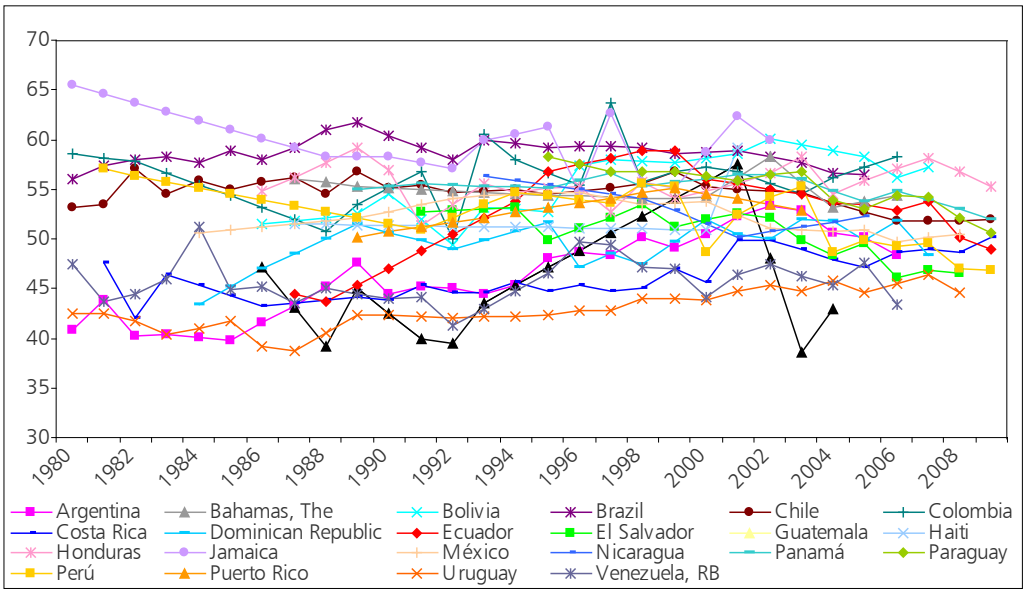
In sum, East Asia and Pacific has lower inequality levels than Latin America, but experiences a wider dispersion.

Section 3. Trade patterns

The openness process of the last thirty years is not the first attempt of integration of worldwide trade. To mention some examples only, the search for a new route to connect Europe with India culminated in the Discovering of America, or the Silk Route connected vast territories of Asia with Europe. The fact

Figure 2.

Gini index in Latin America and the Caribbean (%), 1980-2009, selected countries



Source: UNU - WIDER (2008) and CEDLAS and the World Bank (2010)

that makes "current globalization" a novelty is that levels of trade and the number of participants in the market have reached unprecedented levels.

International trade as a percentage of Gross Domestic Product (GDP) has increased mainly in the last 20 years as the result of the globalization trends, the new trade agreements that have promoted tariff and non tariff measure reductions, and diverse agreements reached in the framework of the World Trade Organization (WTO). The world applied tariffs weighted mean for all products has passed from 8.71% in 1990 to 2.76% in 2008 (World Bank, 2010). The financial crisis in 2008 has been the deepest world setback since then.

Regarding East Asia and the Pacific, in 2009 Agriculture raw materials had the lower participation with 1.27%. Ores and Metal had very small participation with less that 4%, Food has lost participation, from more than 20% in the sixties to less than 5% in 2009. Fuel has fluctuated smoothly over time and in 2009 represented around 7%. Manufacturing is the most dynamic component representing more than 70% in the eighties and more than 80% during the nineties and two thousands. Summarizing, this region is biased toward manufacturing.

Intra-regional trade has also increased in the last decade. Openness has influenced economic regional integration due to tariff reduction and increments of FDI among neighbor countries. Another important reason was the reduction in transport costs (Kimura, Takahashi & Hayakawa, 2007). According to Krugman and Venables (1995, p. 5), because wages are higher in industrialized than industrializing countries and considering that the labor force is immobile, constant reductions of transport costs will stimulate reindustrialization of low-wage countries in the region. A higher labor demand in the lower cost region will increase real wages and reduce industries in the industrialized region.

The highest rates of intra-trade by a trade bloc are shown by the European Union-27, which reported in 2008 intra-trade of 89.4%, and the North American Free Trade Agreement (NAFTA), integrated by Canada, México and United States, that reached 86.1% in the same year (United Nations Conference on Trade and Development, UNCTAD, 2009). Regarding intra-regional exports, in 2009 in North America, it was 48%, which represented 6.3% of the world merchandise exports. For Europe, intra-exports represented 72.2%, which equals 29.7% of the world merchandise exports (World Trade Organization, WTO, 2010).

Regarding the regions of study in this paper, their own regions are the main exports markets. Intra-regional trade for Asia represents 51.6%, which is 15.2% of the world exports. For South and Central America, intra-trade reaches 26.1%, which is equivalent to around 1% of the world exports. It calls attention that in the case of Asia the second most important destination of exports is Europe, with 17.9%, and the third is North America with 17.5%. For South and Central America, the second most important exports market is North America with 25% of participation and the third one is Europe with 19.6% (WTO, ibid).

Regarding the composition of intra-trade, goods with a higher added value have had continuous increments in participation since the nineties. The top five products of intra regional exports are *passenger motor cars* with a 31%, *lorries and trucks* with 27%, other parts for *motor vehicles other than for motorcycles* with 22%, *petroleum products* with 18%, and *othertelecommunications equipment* with 16%. Although metal and ores have a low participation, *crude petroleum* and *petroleum products* still has a large participation. (See Table 1)

Urata (2008, p. 1) mentions that the integration process in East Asia has been driven by markets, and institutions have been a more a recent phenomenon. Several trade agreements between a reduced number of economies have been established instead of a regional free trade area. The most active trade bloc is the Association of Southeast Asian Nations, ASEAN[2] created in 1967 and integrated by 10 countries: Brunei, Darussalam,

2 Taken from http://www.aseansec.org/about_ASEAN.html and http://www.aseansec.org/74.htm.

Table 1.

Evolution of the main intra-regional exports ratio by commodity, SITC Rev. 1

Code	Commodity	1990	1995	2000	2005	2009
7321	Passenger motor cars (other than buses or special vehicles)	0,09	0,18	0,13	0,26	0,32
7323	Lorries and trucks (including ambulances, etc.)	0,29	0,33	0,20	0,25	0,27
73289	Other parts for motor vehicles other than for motorcycles	0,24	0,26	0,14	0,14	0,22
332	Petroleum products	0,30	0,47	0,34	0,21	0,18
72499	Other telecommunications equipment	0,13	0,01	0,08	0,21	0,16
7231	Insulated wire and cable	0,18	0,04	0,04	0,06	0,11
33101	Crude petroleum	0,11	0,18	0,20	0,15	0,10
72491	Electrical line telephone and telegraph equipment	0,56	0,07	0,04	0,02	0,10
813	Oil seed cake and meal and other vegetable oil residues	0,03	0,05	0,09	0,09	0,09
7222	Electrical apparatus for making and breaking or for protecting electrical circuits (switchgear, etc.)	0,32	0,06	0,03	0,05	0,08
68212	Refined copper (including remelted)	0,03	0,08	0,011	0,08	0,08
2214	Soybeans (excluding flour and meal)	0,05	0,10	0,12	0,08	0,06
7241	Television broadcast receivers, whether or not combined with gramophone or radio	0,96	0,02	0,03	0,08	0,06
28311	Ores and concentrates of copper	0,23	0,18	0,10	0,06	0,05
7143	Statistical machines, e.g., calculating from punched cards or tape	0,12	0,16	0,06	0,06	0,05
2813	Iron ore and concentrates (except roasted iron pyrites)	0,05	0,07	0,08	0,08	0,02

Source: United Nations Statistics Division (2010). Own Calculations

Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. In 2009 ASEAN reports a 24.6% of intra-trade (ASEAN, 2010).

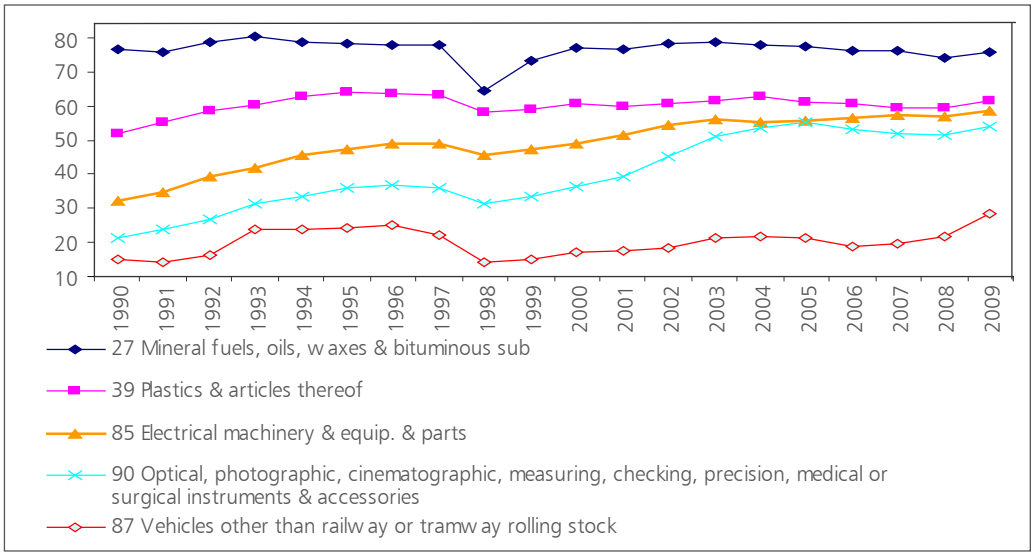
Summarizing, both the Latin America and the Caribbean and the East Asia and Pacific regions have an important component of intra-regional exports, although it is stronger in the case of East Asia and Pacific. Next, the patterns of this intra-regional trade are introduced.

According to the World Bank (1993), this increment of exports in East Asia was inspired by the successful exports-lead growth model that allowed Japan to became an economically powerful country after being devastated during the Second World War and having only labor as a resource. This model was followed initially by the Four Tigers: Hong Kong, Republic of Korea, Singapore and Taiwan, poor societies that were transformed into urban, educated and rich ones. Later, the newly industrialized economies (NIEs): Indonesia, Malaysia and Thailand, societies with an abundant and cheap labor force followed the model. Recently low-wage countries such as China and Vietnam have joined in, too. This model, biased towards industrial production on a big scale, reached high productivity thanks to allocation of resources to more profitable investments and technological absorption.

On the other hand, most of the countries of the East Asia region do not compete directly among themselves, with exception of some NIEs that compete in exports markets. The pattern is that Asian countries compete with third economies with substitute offers (Barrell & Choy, 2003, p. 3). However, from the perspective of this study, the current trend includes competition with other countries of the East Asia region in outside markets; a concrete example is the case of Korea,which has become specialized in almost the same industries as Japan. It has forced Japan to compete in order to conserve the demand of its products in mature markets through commercial diplomacy or de jure measures, as the signature of Economic Partnership Agreements (EPA's). However, Korea's strategy has been able to reduce Japanese participation in those other markets.

Figure 3.

East Asia and Pacific's intra regional exports by commodity groups, 1990-2009
Harmonized System (HS), 2-digit classification, Rev. 3.



Source: United Nations Statistics Division (2010). Own Calculations.

It seems that economic regional integration has reinforced the causes of the Asian Miracle: high human capital investment, technological transference and efficient resource allocation. Industries became high-technology goods producers.

Asia has developed a sophisticated network of supply chains characterized by vertical specialization. Since the late nineties the region has increased intra-trade of auto parts, communications and electronic sectors. Developing economies have become assemblers or suppliers of intermediate goods, especially China (ADB, 2010a, p. 52). On the other hand, Urata (op. cit., p. 7) highlighted that the elevated intra-trade rate of electrical appliances in this region is related to the high transportation cost.

In 2008, the intra-regional exports of parts and components from East Asia and Southeast Asia[3] was 55%, while the demand of final goods reached only 43% (op. cit., p. 52). With regards to parts and finished products in office and telecommunication, electric appliances, and textile/apparel, Urata (op. cit., pp. 8-9) evidences a pattern of triangulate trade because parts produced in high technology countries of the region are exported to low cost labor countries to be assembled as finished products and afterwards are exported to Western countries. However, by contrast, he explains that automobile assembly industry in the developing economies of East Asia focus on the production of parts instead of final goods due to a lack of competitiveness.

In 2009, according to computations of the researcher, based on United Nations Statistics Division data, the top three commodity groups of intra regional exports of East Asia and Pacific were *mineral fuels, mineral oils & products of their distillation; bitumin substances; mineral wax* (Harmonized System, HS 27) with 76%; followed by *plastics and articles there of* (HS 39) with 61%, and finally *electric machinery, equipment and parts; sound equipment; television equipment*

3 China, Hong Kong, Japan, Republic of Korea, Mongolia, Taipei, Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.

(HS 85) with 59%. In the forth position is *optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments & accessories* (HS 90) with 54%. It is important to highlight that this last commodity has been one of the most dynamic in the last 20 years; in 1990 it represented only 21%, as compared with the current 54%. The sector *vehicles other than railway or tramway rolling stock* (HS 87) was in the 10th position with 28% (Figure 3).

In Latin America the process is different. The exports offered by some countries is quite similar and the target markets are the same, mainly the United States and Europe. It makes Latin American countries compete among themselves for gaining better preferences in third markets. This competition was reflected in the case of the negotiation of an Free Trade Agreement between the European Union and the CAN, Andean Community of Nations, which was not negotiated as a bloc. However, the Economic Commission for Latin America and the Caribbean, ECLAC (2010, p. 51) has pointed out that in the region, intra-trade has reinforced supply chains in intermediate goods and it is not only competing for final goods trade.

Section 4. Teoretical framework

This Section describes the theoretical concepts assumed of inequality and its determinants to do the empirical analysis.

Inequality concept and measurement

The inequality concept is used to "describe how an indicator of well-being is distributed over a particular population" (ADB, 2007, p. 16). Income inequality refers to how equal or unequal is the distribution of the income that a society generates among its members.

There are several measures of inequality; although inequality is measured through Gini Index or Gini Coefficient in this research, the most used measure and it works as a dependent variable. Gini was defined by Corrado Gini in 1912 as follows (IMF, 2007, p. 40):

$$Gini = \frac{1}{2n^2\mu}\sum_{i=1}^{n}\sum_{j=1}^{n}|\, y_i - y_j \,|$$

Where,

n = Sample size
μ = Average of income

y_i, y_j = Individually observed incomes

Gini ranges from 0 to 1, where 0 means an equal distribution of income among all the individuals and 1 refers to only one person receiving all the income.

According to Litchfield (1999, p. 2-3), Gini Index fulfills four axioms of inequality indexes. The first is the "Pigou-Dalton Transfer Principle", which means that transferences from rich to poor people must reduce the indicator. The second is "Income Scale Independence",which implies that lineal variations in income must not affect the indicator. The third is the "Principle of Population" which signifies that results are independent of the population size. The forth is "Anonymity", which implies that the only thing that differentiates individuals in the society is the distribution of income and not particular characteristics. On the other hand, Gini coefficient fails in the "Decomposability" principle which implies that changes within groups must be reflected in the indicator. However, this is not inconvenient according to the purposes of the research.

Lack of information to calculate Gini Indexes and quality of the data have been issues to deal with for all the researchers in inequality. Inequality has been studied more widely in Latin America that in Asia because of the dimensions of the problem. In Asia, inequality studies focus on gender and rural gaps, for instance. Additionally, level of income of the country is determinant for the recollection and the quality of the statistical analysis of the indicators of inequality.

Gini values were collected mainly from the UNU-WIDER World Inequality Database (WIID), Version 2.0c, May 2008. This database collects information from the most important databases and studies in inequality including Deiningerand Squire, Luxembourg Income Study and Transmonee, as well as information from national statistics agencies. It used the Gini calculated based on the methodology of WIID. Due to several sources of information for the same years in some cases, it favored the high quality of the data and long series from the same source. It used Gini calculations based on the disposable income for household, for countries that calculate inequality based on income or consumption, when that is the base for the countries[4]. Regarding covering area, it used all which include rural and urban areas, when it was possible, and included all the economy activities. In some cases, due to the high percentage of the population that live in urban areas, urban Gini indexes were used such as in the case of Argentina.

Data from WIID for Latin America and the Caribbean was updated and complemented using the Socio-Economic Database for Latin America and the Caribbean (Sedlac) from CEDLAS and The World Bank (2010), update October 2010.

Gini Index database was finally complemented with information from the Asian Development Bank (2010b, p. 143) for East Asia and Pacific region.

From the full set of Gini Index, extreme values out of the general trend that followed the indicator were eliminated mainly because of changes of the source of information.

Considering that Gini has persistence and due to the lack of data and the need of having a large quantity of data for the panel data analysis, Gini Index was finally interpolated with Stata.

4 Distribution calculations are made based on household surveys of income or expenditure. Western countries, Eastern Europe and Latin America use income based surveys, meanwhile Asia, with some exception such as Korea, Japan or China, and Africa use expenditure based surveys (Milanovic, 2005, p. 103)

Economic regional integration concepts and measurement

Economic regional integration is a "dynamic process that entails a country's willingness to share or unify into a larger whole" (Soomer, 2003). This process can be lead by institutions (Economic regional integration de jure) or markets (Economic regional integration de facto) (Nicolas, 2008). Following Beckfield (2006), economic regional integration is measured through intra-regional exports.

$$\text{Intra - regional exports} = \frac{\text{Exports to the region}}{\text{Total exports}}$$

Where,

Exports to the region = Exports of goods by the reporting economy to its respective region, either East Asia and Pacific or Latin America and the Caribbean

Total exports = Total exports of goods by the reporting economy

On the other hand, this paper proposes to analyze the relation between intra-trade exports and levels of inequality. The channels analyzed are related to increments and composition of the exports, sectoral transition and reallocation of labor force, foreign direct investment, gender gaps in labor and education, economic growth level and inflation.

Selected inequality determinants

Increments and composition of the exports

It is assumed that increments of exports are linked to reductions in inequality following IMF (2007). Manufacturing exports will increase inequality through wage gaps increasing according to Feenstra (1998), because of the intensive use of unskilled labor. Following IMF (2007) arguments that technical progress is the factor that influenced increase of inequality, high technology exports will be used as

a proxy. Exchange rate, linked to exported amount, is expected to reduce inequality according to Cornia and Kiiski (2001).

Sectoral transition and reallocation of labor force

Following Lewis (1954), it is assumed that countries that move to enlargement share of the industrial sector in GDP do so at the expense of the agriculture sector during the development process, and incentive migration takes place to urban areas by a higher income according to Harris and Todaro (1970).

Foreign Direct Investment

Following TeVelde (2003), this study assumes it is expected that wage gap between skilled and unskilled workers increases due to Foreign Direct Investment inflows.

Gender gaps in labor and education

Following Hausmann and Székel (1999), it is expected that that increments in labor force participation and in ratios of women-men enrollment in secondary education reduce inequality.

Economic growth levels

Following Ravallion and Chen (1997), it is assumed that economic growth reduces inequality. The level of GPD per capita will be used to test if higher levels of income are related with inequality reductions in the later stages of development as suggested for Kuznets (1955).

Inflation

Following Cornia and Kiiski (2001), it is assumed that a high inflation rate increases inequality.

Section 5. Econometric study

Hypothesis

The hypotheses in test in the current study are:

H0: There is no relation between intra regional exports and inequality changes.

H1: Intra-regional exports are related negatively with inequality.

Data and Model

The empirical analysis of the relation of inequality and de facto economic regional integration uses a panel data from 1990 to 2009. The following model was estimated using Gretl[5] Version 1.9.3:

$$Gini = \beta 0 + \beta 1 EXP + \beta 2 INTRA\_EXP + \beta 3\, MANUF\_EXP + \beta 4\, HTECH\_EXP + \beta 5\, EX\_RAT + \beta 6\, IND\_GDP + \beta 7\, URB\_POP + \beta 8 FDI + \beta 9\, F/M\_SEC + \beta 10\, FEM\_LABFOR + \beta 11\, GDP\_LOG + \beta 12 GDP\_GR + \beta 13 GDP\_DEF$$

Where,

EXP = Exports of goods and services (% of GDP)

INTRA_EXP = Intra-Regional Exports (% exports)

MANUF_EXP = Manufactures exports (% of merchandise exports)

HTECH_EXP = High-technology exports (% of manufactured exports)

EX_RAT = Real effective exchange rate index (2005 = 100)

IND_GDP = Industry, value added (% of GDP)

URB_POP = Urban population (% of total population)

FDI = Foreign direct investment, net inflows (% of GDP)

F/M_SEC = Ratio of female to male secondary enrollment (%)

FEM_LABFOR = Female labor force (% total participation)

5 http://gretl.sourceforge.net/index.html

GDP_LOG = GDP per capita (constant 2000 US$) (Log)

GDP_GR = GDP per capita growth (annual %)

GDP_DEF = GDP deflator (base year varies by country)

The selection of control variables aimed at measuring, controlling for factors such as increments and patterns of exports, sectoral transition, labor force reallocation, changes in the role of women in society, growth levels and macroeconomic stability variables.

Due to the inclusion of de facto economic regional integration as a new variable that explains inequality, there are no complete example models, although, some controls of trade globalization that IMF introduces (2007, p. 48) in an econometric model to measure the relation between globalization and inequality were used. In Table 2, the selected control variables will be explained in detail.

Panel data specification

This research used a panel data to measure the relation between de facto economic regional integration and inequality. Three models were built. The first denominated "General" included all countries of the sample. In order to do an analysis by region afterward, the model was divided into 2 regions that used the same control variables.

Initially, there was a test for autocorrelation and heteroskedasticity. Hausman test rejected the assumption of random effects. A fixed effects estimator was used as control for country specific characteristics. Fixed effects make the assumption that each cross sectional (country) has different intercepts (Wooldridge, 2009, p. 493). It supposed an advantage towards the cross-country analysis (Wei and Wu, 2002, p. 3). A robust HAC (Heteroskedasticity Autocorrelation Consistent) covariance matrix was used to control the presence of heteroskedasticity. Due to the use of fixed effects, it was not possible to include a dummy variable by the variable region.

Each country becomes the unit of observation. The study considers 20 periods of study from 1990 to 2009 and 16 countries: 6 countries from East Asia and Pacific (Australia, China, Japan, Malaysia, New Zealand, and Philippines), and 10 countries from Latin America and the Caribbean (Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Nicaragua, Paraguay, Uruguay, and Venezuela).

Initially, according to the number of Gini coefficients, 36 countries had been selected: 15 countries from East Asia and Pacific and 21 countries from Latin America and the Caribbean, but the sample was reduced with the introduction of control variables to 16 countries.

Regional definition

Regions are defined according to World Bank classification of economies as of July 1, 2009. This is the concept utilized in this paper unless otherwise specified.

East Asia and Pacific Economies integrated 36 economies: American Samoa, Australia, Brunei Darussalam, Cambodia, China, Fiji, French Polynesia, Guam, Hong Kong, Indonesia, Japan, Kiribati, Democratic People's Republic of Korea, Republic of Korea, Laos, Macao, Malaysia, Marshall Islands, Micronesia, Mongolia, Myanmar, New Caledonia, New Zealand, Northern Mariana Islands, Palau, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu and Vietnam.

Latin America is composed by 39 economies: Antigua and Barbuda, Argentina, Aruba, The Bahamas, Barbados, Belize, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haïti, Honduras, Jamaica, México, Netherlands Antilles, Nicaragua, Panamá, Paraguay, Perú, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, Venezuela and Virgin Islands (U.S.).

Table 2.

Description of independent variables of the model

Name of the variable	Variable description (Given by the source of data)	Source	Modifications by the author
Exports of goods and services (% of GDP)	"Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Intra-Regional Exports (% exports)	Ratio of intra regional exports of goods classified in the nomenclature 0-9 of the SITC Revision 2. East Asia and Pacific and Latin America and the Caribbean are defined according to World Bank classification of economies as of July 1, 2009. Exports are in terms of U.S. dollars. Calculations are the ratio of exports from the reporting economy to the region. Data are expressed as a percentage.	United Nations Statistics Division, COMTRADE, SITC Revision 2. Online database 2010.	Own calculations
Manufactures exports (% of merchandise exports)	"Manufactures comprise commodities in SITC sections 5 (chemicals), 6 (basic manufactures), 7 (machinery and transport equipment), and 8 (miscellaneous manufactured goods), excluding division 68 (non-ferrous metals)."	World Bank, World Development Indicators Online (WDI) database 2010.	None
High-technology exports (% of manufactured exports)	"High-technology exports are products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Real effective exchange rate index (2005 = 100)	"Real effective exchange rate is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Industry, value added (% of GDP)	"Industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Urban population (% of total population)	"Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Foreign direct investment, net inflows (% of GDP)	"Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Ratio of female to male secondary enrollment (%)	"Ratio of female to male secondary enrollment is the percentage of girls to boys enrolled at secondary level in public and private schools."	World Bank, World Development Indicators Online (WDI) database 2010.	None
Female labor force (% total participation)	"Female labor force as a percentage of the total show the extent to which women are active in the labor force. Labor force comprises people ages 15 and older who meet the International Labour Organization's definition of the economically active population."	World Bank, World Development Indicators Online (WDI) database 2010.	None
GDP per capita (constant 2000 US$) (Log)	Natural Logarithm of GDP per capita. It is "gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant U.S. dollars."	World Bank, World Development Indicators Online (WDI) database 2010.	Natural Logarithm
GDP per capita growth (annual %)	"Annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources."	World Bank, World Development Indicators Online (WDI) database 2010.	None
GDP deflator (base year varies by country)	"The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency. The base year varies by country."	World Bank, World Development Indicators Online (WDI) database 2010.	None

Source: World Bank (2010), United Nations Statistic Division (2010)

Section 6. Result and discussions

Empirical analysis used Intra-regional exports as the explanatory variable to test the hypothesis of this research and 12 more control variables as specified in Section 5. A general model used all the countries of the sample and to measure regional heterogeneity I utilized a regional model for East Asia and Pacific, and for Latin America and Caribbean that used the 'General' in each region. It is necessary to highlight that the results of these models are limited to the countries used. The largest limitation to include more countries was data availability.

General Model

The results of the general model show that Intra-Regional Exports are negatively associated with inequality and statistically significant at 1%.

Exports of goods and services are associated negatively with inequality, but it is not statistically

Table 4.

Determinants of Gini coefficient, general and regional models (Dependent variable: Gini)

	General	East Asia and Pacific	Latin America and the Caribbean
const	38.487 (1.755)*	-14.194 (-0.768)	109.116 (8.154)***
Exports of goods and services (% of GDP)	-0.020 (-0.571)	-0.103 (-4.062)***	0.077 (2.293)**
Intra-Regional Exports (% exports)	-11.064 (-2.988)***	-11.583 (-3.828)***	-5.602 (-1.955)*
Manufactures exports (% of merchandise exports)	0.129 (3.923)***	0.285 (5.152)***	0.147 (9.792)***
High-technology exports (% of manufactured exports)	-0.095 (-2.595)**	-0.123 (-2.136)**	-0.110 (-4.859)***
Real effective exchange rate index (2005 = 100)	0.016 (1.492)	-0.019 (-1.052)	0.024 (2.583)**
Industry, value added (% of GDP)	-0.171 (-1.818)*	-0.129 (-1.162)	-0.107 (-1.040)
Urban population (% of total population)	-0.356 (-2.336)**	-0.822 (-5.339)***	-0.419 (-3.436)***
Foreign direct investment, net inflows (% of GDP)	-0.011 (-0.117)	-0.052 (-0.300)	0.116 (1.371)
Ratio of female to male secondary enrollment (%)	0.080 (1.080)	-0.065 (-1.235)	-0.076 (-1.048)
Female labor force (% total participation)	-0.007 (-0.033)	-0.859 (-3.515)***	0.097 (0.580)
GDP per capita (constant 2000 US$) (Log)	3.406 (1.115)	16.862 (5.846)***	-3.388 (-3.915)***
GDP per capita growth (annual %)	-0.050 (-1.261)	-0.019 (-0.187)	-0.038 (-1.298)
GDP deflator (base year varies by country)	0.011 (2.772)***	0.016 (3.452)***	0.007 (4.003)***
Observations *Adjusted R-squared*	163 0.973	65 0.963	98 0.943
Durbin-Watson	1.103	1.136	1.316

Note: t-statistics are in parenthesis, * indicates significance at the 10 percent level, ** indicates significance at the 5 percent level, and *** indicates significance at the 1 percent level.

significant. This suggests that results of the IMF (2007), finding a negative association between trade and inequality may be mainly explained by increments in intra-trade.

Manufacturing exports are associated, and are significant at 1%, in line with Feenstra (2008). High-technology exports are associated negatively and are significant at 5%. High-technology exports show a relation different than expected. It can be explained because the sample includes countries with a large share of high technology exports which have very low levels of inequality, and countries with reduced share of high technology exports have high levels of inequality. A possible explanation resides in Kuznets theory of countries in initial stages of industrialization (associated with manufacturing) showing higher levels of inequality, while later stages (associated with high-technology exports) are associated with lower levels of inequality. Similarly, Industry value added was also significant and negatively associated at 10%, as at later stages of industrialization the value added by the industry is higher than other sectors.

Urban population is associated negatively and is significant at 5%. This agrees with the theory of "urban bias" proposed by Cornia and Court (2001), in which rural population migrates to urban areas to work in more productive industry jobs. Also, lower rural population and industrialization of agricultural practices lead to increases in productivity in the rural sector, and therefore decreases inequality.

GDP deflator is associated positively and is significant at 1%. It agrees with research by Cornia and Kiiski (2001), who argue that increments in inflation affect low income people in a higher rate.

Results show that *real effective exchange rate, foreign direct investment, ratio of female to male-secondary enrollment, female labor force, GDP per capita, and GDP per capita growth* are not statically significant. The model uses 163 observations, an Adjusted R-square of 0,973 and a Durbin-Watson of 1.103.

Regional heterogeneity

In order to analyze regional heterogeneity, the model was performed for each of the regions independently.

Intra-regional exports are related negatively in both regions, following the pattern of the *general model*, at 1% of significance in East Asia and Pacific and in Latin America and the Caribbean at 10%.

Exports of goods and services are associated negatively with inequality and are statistically significant at 1% in East Asia Pacific Region following the general pattern. In the case of Latin America and the Caribbean, exports of goods and services are associated positively with inequality and are statistically significant at 1%. It may be explained by the high participation of Ores and Metal exports linked to rents accumulation and *fuels exports* that are highly capital-intensive.

Manufacturing exports and High Technologyexports are associated negatively under the same arguments of the general model. Manufacturing exports are significant at 1% for both regions. High Technology exports are significant at 5% in East Asia and Pacific, and at 1% for Latin America and the Caribbean.

Real effective exchange rate in Latin America and the Caribbean is associated positively at 5%, following the argument of Cornia and Kiiski (2001). In East Asia and Pacific there is a negative, not significant association, which may be explained by the exchange rate regime adopted for governments to promote export-led growth models.

In East Asia and Pacific, *female labor force* is negatively associated and significant at 1%. In Latin America, it is associated positively but it is not significant. It may be explained for the share of women employed in the nonagricultural sector that is higher in East Asia than in Latin America in the countries sample.

Urban population is associated negatively at 1% for both regions, following the same arguments of the general model.

GDP per capita is not significant in the general model, although it is significant at 1% for both

regions. In the case of East Asia and Pacific it is associated positively. It may be because of the specificities of the countries of the sample. Countries with better statistics were included and three of the six countries included are developed countries with high GDP per capita levels. The sample includes Japan, New Zealand and Australia, where inequality was worse in more recent years. According to OECD (2008), New Zealand has reported significant increases of inequality and Japan has showed a small increase between mid eighties and mid two thousands. The sample also includes China, with a rapid increment of GDP per capita levels as well as of inequality. In the case of Latin America and the Caribbean, GDP per capita is associated negatively with inequality. It may be explained for the relation of GDP per capita and social expenditure per capita. ECLAC (2010, p. 40) has called attention that those countries with higher GDP per capita such as Chile, Costa Rica and Uruguay have a higher social expenditure per capita. In Latin America, transferences play an important role reducing household Gini coefficient, thus higher social expenditure, derived from a higher GDP per capita, is associated with reduction in inequality.

GDP deflator is associated positively at 1% for both regions, following the same arguments of the general model.

In conclusion, *valued added in the industry*, *foreign direct investment*, the ratio of *female to male secondary enrollment* and *GDP per capita growth* are not statically significant for both regions. *Real effective exchange* rate is not significant for East Asia and Pacific and *labor force participation* is not significant for Latin America and the Caribbean.

The model for East Asia and Pacific uses 65 observations, an Adjusted R-square of 0,963 and a Durbin-Watson of 1.136. For Latin America and the Caribbean, the model uses 98 observations, an Adjusted R-square 0,943 and a Durbin-Watson of 1.316.

Section 7. Conclusion

Concluding remarks

Empirical analysis showed that increments in regional intra-trade are associated with reductions of inequality, more in East Asia Pacific than in Latin America. Regarding trade patterns, the East Asia and the Pacific region has developed large supply chain networks of industrial goods, mainly in auto parts and electronics. Latin America is reducing —in some degree— its high dependency of fuels and metals, and is shifting to industries with high added value, with expansion of some industries such as automotive.

Dependence on basic manufacturing in a first stage of development seems to worsen inequality, through widening of the salary gap between unskilled and skilled labor, although the raise of high technology exports seems to be associated with lower levels of inequality.

Transition from an agriculture sector to an industrial sector is associated with inequality reductions. However, development of industry also develops domestic markets. Migration to urban areas seems to reduce inequalities through higher opportunities in labor markets and improving of conditions of life.

Instability in macroeconomic conditions affects low-income sectors in a higher degree. Sustained economic growth and low inflation levels seem to be related with reductions in inequality. Transition to higher levels of income per capita seems to be a factor in the reduction of inequality in Latin America due to the impact of social transferences. Meanwhile in East Asia, where some countries have high income per capita and traditionally very low levels of inequality, income distribution has worsened recently.

Closing genders gaps is acquiring more importance in education and labor environments. It seems that in East Asia shifts in women's role have impacted the reduction of inequality more than in Latin America, through gains from labor participation rather than from schooling.

Public policy remarks

De facto trade economic integration has generated virtuous cycles for reducing inequality issues. However, regional trade links are not the only channel whereby inequality can be affected. Regionalization is a win-win mechanism because it has several positive externalities through the sharing of experiences, resources and technologies, which lead to improved quality of life of the population. A higher integration of the economies generates sectoral transitions and relocation of the labor force, which creates losers and winners in the process. In order to reduce deterioration of inequality, governments must focus on reducing negative impact on losers through gradualism and countermeasures for sensitive sectors.

Having cooperation mechanisms that complement de facto trade relations is necessary to guarantee a sustainable economic regional integration. To reduce the impact of openness on inequality, regional cooperation mechanisms can support economies in transition periods through reconvention programs aimed at the absorption of displaced resources to sectors with higher productivity. Strong regional cooperation mechanisms are important to strengthen position of vulnerable economics to external shocks.

Latin America can take East Asia as a model in the implementation of supply chains production. However, Latin America has still to overcome important challenges to make regional integration stronger. From the perspective drawn from this study, logistic capacity is very limited, transportation costs are very high and -in some cases- frontier zones are isolated from the developing model of the country, in part due to the location of the frontier in protected zones such as the Amazonas´ case. It is necessary to develop sustainable development models that generate infrastructure productivity and capital investment, but minimize environmental consequences.

Regarding gender gap, governments must prompt a greater access of women to education, though labor conditions generate gaps that can increase inequality. Governments should be more active in the legislation and enforcement of the protection of equal labor conditions.

Increments in exports have strengthened production and spread the development to several areas inside countries, although the development by regions has been unequal. There must be a concern of the governments to promote local industries in lagging regions and run programs to increase their competitiveness through the development a productive infrastructure, connecting them with the main markets and supports small and medium size enterprises. It becomes necessary in order to reduce physical distance, stimulate a more homogeneous development and incent an agglomeration effect.

REFERENCES

Andean Community of Nations (ACN). (2010). Estadísticas. Sector Externo. retrievedfrom http://www.comunidadandina.org/estadisticas/documentos_indicadores.htm

Asian Development Bank, ABD. (2010a). Outlook 2010 Update: The future growth in Asia. Manila: Asian Development Bank.

Asian Development Bank, ABD. (2010b). The Key Indicators for Asia and the Pacific 2010. Manila: Asian Development Bank.

Association of Southeast Asian Nations, ASEAN. (2010). External Trade Statistics, Table 18, Intra- and extra-ASEAN trade. Retrieved from http://www.aseansec.org/18137.htm

Barrell R. and Choy A. (2003). Economic integration and openness in Europe and East Asia. Mimeo, NIESR.

Beckfield, J. (2006, December). European Integration and Income Inequality. American Sociological Association, 71(6), 964-985.

Birchenall, J. A., (2001, October). Income distribution, human capital and economic growth in Colombia.Journal of Development Economics, 66(1), 271-287.

Bourguignon, F. and Morrison, C. (2002, September). Inequality among World Citizens: 1820-1992. American Economic Review, 92(4), 727-744.

CEDLAS and The World Bank (2010). Data retrieved October 2010 from Socio-Economic Database for Latin America and the Caribbean (Sedlac).

Cornia, G. A. & Court, J. (2001). Inequality, Growth and Poverty in the Era of Liberalization and Globalization.(Policy Brief No. 4). Helsinki: The United Nations University, World Institute for Developing Economic Research, WIDER.

Cornia, G. A. & Kiiski, S. (2001). Trends of Income Distribution in the Post-World War II Period. (Discussion Paper No. 2001/89). Helsinki: The United Nations University, World Institute for Developing Economic Research, WIDER.

Deininger, K. and Squire, L. (1998). New ways of looking at old issues: inequality and growth. Journal of Development Economics, 57, 259–287.

Dollar, D. and Kraay, A. (2001). Trade, Growth, and Poverty. (Policy Research Working Paper No. 2615). Washington: World Bank.

Economic Commission for Latin America and the Caribbean, ECLAC. (2010). Síntesis: La Hora de la Igualdad: brechas por cerrar, caminos por abrir. Brasilia: CEPAL. Retrieved from http://www.eclac.org/publicaciones/xml/4/39714/2010-225-SES.33-SINTESIS_La_hora_de_la_igualdad-PRESS.pdf

Feenstra, R. (1998). Integration of trade and disintegration of production in the global economy. Journal of Economic Perspectives, 12, 31-50.

Harris, J. R. & Todaro, M.P. (1970). Migration, Unemployment and Development: A Two-Sector Analysis. The American Economic Review, 60(1), 126-142.

Hausmann, R. & Székel, M. (1999). Inequality and the Family in Latin America. (Working Paper # 393). Washington: Inter- American Development Bank, IDB.

International Monetary Fund, IMF. (2007).Globalization and Inequality. In World Economic Outlook. (Chapter 4). Washington, D.C.: International Monetary Fund Publication Services.

Kimura, F., Takahashi, Y. and Hayakawa, K. (2007). Fragmentation and parts and components trade: Comparison between East Asia and Europe. The North American Journal of Economics and Finance.18, 23-40.

Krugman, P. and Venables, A. (2005). Globalization and the inequality of nations. (Working paper No. 5098.). National Bureau of Economic Research.

Kuznets, S. (1955). Economic Growth and Income Inequality. The American Economic Review,45(1), 128.

Lewis, A. (1954). Economic Development with Unlimited Supplies of Labor. (, Vol. XXII, pp. 139-191)UK: The Manchester School.

Litchfield, J. A. (1999). Inequality, Methods and Tools. World Bank. Retrieved from http://siteresources.worldbank.org/INTPGI/Resources/Inequality/litchfie.pdf

Londoño, J. L. &Székely, M. (2000). Persistent poverty and excess inequality: Latin America, 1970-1995. Journal of Applied Economics, 3(1), 93-134.

López-Calva, L. F. and Lusting, N. (2010). Declining inequality in Latin America: a decade of progress?. (pp. 1-24). New York: United Nations Development Program.

Milanovic, B. &Yitzhaki, S. (2002, June). Discomposing World Income Distribution: Does the world have a middle class?.Review of Income and Wealth, 48(2).

Milanovic, B. (2005). Worlds Apart: Measuring International and Global Inequality. United States of America: Princeton University Press.

Misas, G. (2002). La ruptura de los 90 del gradualismo al colapso. Bogotá: Universidad Nacional de Colombia.

Nicolas, F. (2008). The political economy of regional integration in East Asia.Economic Change and Restructuring, 41(4), 345-367.

Organisation for Economic Co-operation and Development (OECD). (2008). Growing Unequal? Income Distribution and Poverty in OECD Countries..Paris: OECD Publications

Perry, G. and Olearreaga (2006, January). Trade Liberalization, Inequality and Poverty Reduction in Latin America. (Paper presented at ABCDE). Saint Petersburg.

Ravallion, M. & Chen, S. (1997, May). What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?.World Bank Economic Review, 11(2),, 357-82.

Soomer, J. (2003). Why Regional Integration Benefits. Retrievedfrom http://www.eccb-centralbank.org/PDF/newspaper3.pdf.

TeVelde, D. (2003). Foreign Direct Investment and Income Inequality in Latin America. London: Overseas Department Institute.

United Nations Conference on Trade and Development, UNCTAD. (2009). Handbook of Statistics 2009. 48-49.

United Nations University & World Institute for Development Economics Research (UNU-WIDER)

(2008, May). Data retrieved November 2010, from World Income Inequality Database (WIID), Version 2.0c.

Urata, S. (2008). Institutionalization of Regional Economic Integration in East Asia. (Working Paper, Waseda University Global CEO Program, GIARI). Tokyo: International Academic Printing Co.Ltd.

Wei, S. & Wu, J. (2002). Globalization and Inequality Without Differences in Data Definition, Legal System and Other Institutions. Retrieved from http://team.univ-paris1.fr/teamperso/DEA/Cursus/M2R/DocM2Rowerturecroissance/wei%20and%20wu%20globalization%20inequality%20china.pdf

Wooldridge, J. M. (2009). Introductory Econometrics: A Modern Approach. (Fourth Edition). Mason (OH): South-Western Cengage Learning

World Bank. (1993). The East Asian Miracle: Economic Growth and Public Policy. New York: Oxford University Press.

World Bank. (2010). Data retrieved November 2010, from World Development Indicators Online (WDI) database.

World Trade Organization, WTO. (2010). World trade developments in 2009. (Table I.4. Intra- and inter-regional merchandise trade, 2009. p. 3.). Retrieved from http://www.wto.org/english/res_e/statis_e/its2010_e/its10_world_trade_dev_e.pdf