

# Uneven Regional Development and Structural Heterogeneity: Different trajectories of Latin American and European countries

Humberto Martins

Professor at Federal University of Uberlandia, Brazil (Institute of Economics)

[hmartins@ufu.br](mailto:hmartins@ufu.br)

Visiting Scholar at University of Cambridge, UK (Department of Land Economy)

[hm564@cam.ac.uk](mailto:hm564@cam.ac.uk)

(Área 2: Distribuição de renda e crescimento econômico)

## Abstract:

The paper deals with regional development, focusing on economic inequalities between and within the countries. The objective is to analyse and compare the trajectory of selected Latin American and European countries, regarding regional economic inequalities. The methodology is based on literature review and secondary data. Firstly, we discuss regional development in theoretical perspective, underlining the approaches which state that economic growth has a spatially uneven character, which is self-reinforcing over time. Among the several approaches, we highlight the conception of “structural heterogeneity”, originally developed by the Economic Commission for Latin America and Caribbean (ECLAC) in the late 20<sup>th</sup> Century, which has been recovered and adapted for new theoretical developments and policies. Then, the analysis goes to the evolution and growth rates of economic indicators, such as GDP, GDP per capita and labour productivity at national and subnational level, comparing selected Latin American and European countries in the period of late 20<sup>th</sup> Century and early 21<sup>st</sup> Century. The data is analysed both in quantitative and qualitative perspectives, searching to relate the trajectory of the indicators to the evolution of national economic growth. Along the study, we try to explore the links between regional economic inequalities, economic growth and income inequalities.

Keywords: Regional Development; Regional Inequalities; Structural Heterogeneity; Latin America; Europe.

JEL codes: R11, R12, R47, O1, O4

## Resumo:

O trabalho trata do desenvolvimento regional, focalizando as desigualdades econômicas entre países e regiões. O objetivo é analisar e comparar a trajetória de países selecionados na América Latina e Europa quanto aas desigualdades econômicas regionais. A metodologia está baseada em revisão de literatura e dados secundários. Primeiramente, discute-se o desenvolvimento regional em uma perspectiva teórica, sublinhando as abordagens que defendem que o crescimento econômico apresenta um caráter espacialmente desigual, que se auto reforça ao longo do tempo. Dentre as várias abordagens, destaca-se a concepção da “heterogeneidade

estrutural”, desenvolvida originalmente pela Comissão Econômica para América Latina e Caribe (CEPAL) no final do século XX, que vem sendo recuperada e adaptada para novos desenvolvimentos teóricos e políticas públicas. Em seguida, a análise foca a evolução e as taxas de crescimento de alguns indicadores econômicos, como PIB, PIB *per capita* e produtividade do trabalho em nível nacional e subnacional, comparando países selecionados na América Latina e Europa no final do século XX e início do século XXI. Os dados são analisados qualitativa e quantitativamente, buscando relacionar a trajetória dos indicadores com a evolução do crescimento econômico nacional. Ao longo do trabalho), tentamos explorar as relações entre desigualdades econômicas regionais, crescimento econômico e desigualdades de renda.

Palavras-chave: Desenvolvimento Regional; Desigualdades Regionais; Heterogeneidade Estrutural; América Latina; Europa.

Códigos JEL: R11, R12, R47, O1, O4

## 1. Introduction

Regional inequalities and the spatially unbalanced character of economic development have been discussed in various theoretical perspectives and empirical research, at various focus and scales. Interregional economic disparities and their evolution, both within and between countries, are a relevant research topic for regional economists and economic geographers, as well as key issue backing development policies.

The paper deals with regional development, focusing on economic inequalities between and within the countries. The objective is to analyse and compare the trajectory of selected countries of Latin American and European countries, regarding regional economic inequalities. The methodology is based on literature review and secondary data.

Firstly, we discuss regional development in theoretical perspective, underlining the approaches which state that economic growth has a spatially uneven character, which is self-reinforcing over time. Among the several approaches, we highlight the conception of “structural heterogeneity”, originally developed by the Economic Commission for Latin America and Caribbean (ECLAC) in the late 20<sup>th</sup> Century, which has been recovered and adapted for new theoretical developments and policies.

Then, the analysis goes to the evolution and growth rates of economic indicators, such as GDP, GDP per capita and labour productivity at national and subnational level, comparing selected Latin American and European countries in the period of late 20<sup>th</sup> Century and early 21<sup>st</sup> Century. The data is analysed both in quantitative and qualitative perspectives, searching to relate the trajectory of the indicators to the evolution of national economic growth. Along the study, we try to explore the links between regional economic inequalities, economic growth and income inequalities.

## **2. Regional Development in a Theoretical Perspective: the spatially uneven character of economic growth**

Different approaches provide distinguished causes for regional inequalities, their trends over time, and the design of regional policies to tackle them. The relationship between regional inequalities (spatial agglomeration) and national economic growth is still controversial in the relevant literature, either in theoretical or in empirical emphasis.

Based on recent literature, two approaches may be distinguished in a simplified view. On the one hand, there are those who see the economic growth as a process prone to equilibrium, in which initial and inevitable regional inequalities tend to reduce almost automatically over time. In this perspective, there is a “trade-off” between national growth and regional disparities, then the regional policies that reduce inequalities may cause decrease of national economic growth too. On the other hand, there are those to whom the economic growth is a spatially uneven process, and regional inequalities are self-reinforcing over time, following a trajectory of cumulative causation. In this view, economic growth tends to cause spatial agglomeration, which, without intervention, leads to limit efficiency and welfare, and, in the long-run, to hamper the economic growth impulse.

The first group is based on the neoclassical (exogenous) growth theory and new (endogenous) growth theory. The perspectives within these theories include the New Economic Geography and the New Urban Economics models, and trust on free markets organizing the economic activity. The second is influenced by the Keynesian growth theory, with emphasis on the polarization and backwash effects. They assume a redistributive perspective, searching for spatial rebalancing and social equalization, that proposes active public policies conducted by State, including those aiming to reduce regional inequalities (Gardiner et al., 2011; Pike et al., 2012; Garretsen et al., 2013).

Recent researches focusing on regional inequalities within countries in Europe have shown different results depending on the measures, scales and periods of analysis (Gardiner et al., 2011; De Dominics, 2014; Monastiriotis, 2014); however, robust outcomes got closer to the second group’s approach. In this sense, Gardiner et al. (2011), based on data from European countries, found mixed patterns of the relation between agglomeration and growth, which depends on “the measure of the agglomeration adopted and the spatial scale in which the analysis is conducted” (p. 25). So, they did not confirm the “trade-off” between national growth and regional disparities, as predicted by the New Economic Geography perspective. Then, for an important part of the literature (the second group), economic growth and development have a spatial uneven character.

Regional inequalities are also linked to income inequalities. Part of the bibliography argues that income inequalities, welfare and poverty are very different across countries and regions. Then, it is important to consider how measures for reducing regional inequalities and for fiscal decentralisation can play a relevant role in the decrease of income inequalities and poverty.

Arestis et al. (2011) show that income inequalities are significantly different across the world, between countries and between established group of countries. In addition, these differences tend to persist over time. Glasmeier et al. (2008) discuss poverty and income variations within the UK and USA in the last two decades, the 1990’s and early 2000’s. The authors exam the differences between regions and states and conclude that the poverty rates have been in high levels in both countries, and they highlight that “poverty is highly concentrated within particular social groups and particular geographical places” (p. 12). Analysing the Europe Union, Tselios et alii (2012) found that greater fiscal decentralisation is

associated with lower interpersonal income inequality. Nevertheless, this association declines to higher levels of wealth: “as regional income rises, further decentralisation is connected to a lower decrease in inequality”.

The analysis that assume the spatially uneven character of economic growth and development is based on a long tradition. In the period post Second World War the conception of unequal development was established and occupied a remarkable position in economic literature, with large influence on regional studies.

Authors such as Perroux, Myrdal and Hirschman, among others, have developed an interesting and useful approach based on the concept of polarization and the effects of the pole upon the region of its influence. This relationship tends to be self-reinforcing, playing a very important role in the explanation of regional inequalities and their evolution. These conceptions have been constituted a large influence on the public policies, as these unbalances generates a pressure for the national government (Hirschman, 1958).

The approach of Kaldor (1970) argues that this self-reinforcing mechanism is linked to specialization and regional exports. In his approach, the differential of economic growth rates and of the level of productivity (and its growth) are crucial to explain and to determine the evolution of regional inequalities in time.

Therefore, founded in a mature tradition, and incorporating new approaches, the perspective that assumes the spatially uneven character of economic growth and development reveals interesting potentials to analyse regional development and the evolution of inequalities.

### **3. The Concept of Structural Heterogeneity and the ECLAC approach**

If regional inequalities are a relevant topic of research in developed countries, as the European ones, in Latin America it might be of even more importance. Data sources and empirical research usually show that regional inequalities tend to be higher and more persistent within the Latin American countries than the European and OCDE countries. Several recent studies and surveys by the Economic Commission for Latin America and the Caribbean (ECLAC) show strong regional inequalities inside and across the Latin American countries (CEPAL, 2010; 2012; 2015).

These results have been interpreted and linked to the ECLAC’s perspective, namely the Structuralism and New Structuralism. Indeed, Latin American structuralism has recently been recovered by many authors: Rodríguez, O. (2009); Missio, F. and Jaime Jr, F. (2012); Missio, F., et al. (2015); CEPAL (2015). This approach allows to link regional inequalities with the development process: high level of regional inequalities is seen as a structural characteristic of the Latin American countries.

According to Celso Furtado, this question reveals a structural character of underdevelopment: economy and society are divided, heterogeneous, restricted and not able to achieve the social homogeneity that characterizes development, by providing basic goods and services for entire population (Furtado, 1964, 1992).

The structural heterogeneity approach has been recovering and becoming central in the ECLAC studies. This centrality is highlighted by CEPAL (2010). Since this publication, the approach has occupied a crucial position in the ECLAC research and analysis, as well as in the work of several authors

The concept of “structural heterogeneity”, originally created by Aníbal Pinto (2000), suggests that there are higher levels of inequality in income, sectors and areas within Latin

American countries, because productivity and technical progress are strongly different between regions and industrial segments. Thus, benefits of higher productivity and technical change tend to remain limited to the modern pole and sector of the economy.

The main idea stated by the structural heterogeneity approach is that there is a high level of heterogeneity within poor or underdeveloped countries, higher than within rich or developed countries. This heterogeneity occurs between economic sectors (industries), social segments and regions within the countries and is noticed in terms of the main characteristics of these sectors, segments and regions, which show high differences regarding infrastructure, capabilities, technological level, backgrounds, rate of growth and accumulation. Thus, this heterogeneity results in strongly different levels of productivity across the economy.

This heterogeneity is not temporary in these countries, but structural. Therefore, it tends to persist over time. Processes are not temporary neither partial, but systemic and structural (long run focus). Without intervention, left to market forces influence, this structural character tends to remain and even to amplify, bringing severe limits to the development process.

In fact, this heterogeneity is considered, at same time, a cause and a consequence of underdevelopment. On one hand, these differences across the sectors and region limit development by keeping a large share of the economy in a subsistence level, with poor linkages with the dynamic sector, shrinking the economy potential and limiting the development process. On the other hand, this uneven process produces different efforts over the stratus, amplifying the gaps and reinforcing inequalities.

Indeed, the development process may be seen as a movement towards social, economic and spatial homogeneity, by reducing inequalities and at same time, improving the basic conditions (Furtado, 1992).

Among the several authors who has supported the development of the concept, we can highlight the work of Anibal Pinto. In order to develop the concept, the first step of this author was to highlight the differences between his approach and the dualism view.

In the perspective of Anibal Pinto (2000), the modern and the late sectors do not stay in parallel realities, but are in permanent interaction. Additionally, there is some intermediate sectors that occupy a transition position in the picture of economic activity. Thus, his conception proposes that there are three parts (“camadas”) in which are distributed the economic sectors, social segments, and regions:

- i. Modern Pole
- ii. Intermediate Activities
- iii. Primitive (Traditional) Sectors

From an economic point of view, and considering the understanding of development process as a quantitative and qualitative change, these elements can be summarized and expressed quantitatively by the measure of productivity. Thus, the level of differences of productivity across sectors and regions, and its evolution over time, can be seen as a robust indicator of heterogeneity.

The institutional and theoretical context of the development of the concept is linked to the Economic Commission for Latin American and Caribbean (ECLAC). At that time, the environment encouraged the refuse of traditional approaches, as well as stimulated the incorporation of heterodox perspectives. Then the development of the concept is linked to alternatives macroeconomic theories and views. There was a clear intention to development a new thought, built from the point of view of “periphery”, to interpret and analyse the

international economic relations. Additionally, the need of considering Latin American specificities was always stressed.

Historically, the 1970`s were marked for the beginning of economic crisis, after a period of growth and boom (post Second World War). The ECLAC approaches and the structural heterogeneity concept reached a remarkable position in Development Economics and a political importance. The huge crisis in the 1980`s that hit Latin American economies and the raise and the dominance of Neo-liberalism, both in economic thought and policies cause a slow abandonment of these alternative perspectives. Thus, the ongoing try to recovering these approaches may play an important role both in academic and policies environments.

Therefore, the analysis of the structural heterogeneity approach exposed: i) The historical importance that are being recovered; ii) The potential of providing alternative approaches, with compatibility with alternative economic theories (old and new); and iii) The capability in dealing with specificities of underdeveloped countries and Latin American reality.

Regarding the capability of the concept in providing a useful basis for empirical studies, especially with regional focus, we can highlight: i) The use of simple and available indicators (though less at subnational level); ii) Possibility of using productivity indexes and their variation as a key measure and a synthesis of economic characteristics and their change; iii) The linkage with development theories and analysis, bringing a historical and wider sense to quantitative analysis based on indicators and indexes.

#### **4. Structural Heterogeneity and Inequalities: some empirical studies**

In his original work, Anibal Pinto refers a report of European Union which indicates that in Europe, the poorer countries usually show the highest levels of inequalities (Pinto, 2000).

Recent empirical studies have been developed in the perspective of structural heterogeneity, mainly by ECLAC. They are focused on sectoral, social or regional aspects of the heterogeneity. Some studies combine two or three aspects, but those with sectoral focus are more numerous.

Usually, these analysis deal with the difference between sectors, mostly focusing on labour productivity and its growth. They frequently consider also the occupational structure, Gross Value Added (GVA) and GDP per capita. An often used measure is the ratio between sectors or regions with the highest and the lowest value. Studies focused on Latin America normally compare the results with developed countries, habitually European or related to OCDE data basis.

Infante (2011) contrasts the characteristics of Latin American countries at the 1960`s, close to the time when this approach was developed, and the economic reality of more recent years, referring to 2007 and to 9 selected countries. According to the author, the evolution of structural heterogeneity in this period was marked by: 1. Increase of the concentration in the modern sector, amplifying the its share in the GDP, but not on employment; 2. Decrease of the intermediate sector (both in GDP and employment) and 3. Increase of the concentration of the employment in the sectors with low productivity, but not in GDP. As an outcome of these three tendencies that characterized this period of five decades, the differential of productivity between segments have significantly increased, amplifying the productive and income inequalities (Infante, 2011, p. 71-73).

Focusing on the last decades, namely the period from 1990 to 2008, Infante (2011) analysed the relationship between the level of structural heterogeneity, measured by the share of the total employment occupied by people in the low productivity activities and economic indicators regarding 11 selected Latin American countries. These countries (Argentine, Brazil, Chile,

Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Peru, Uruguay and Venezuela) together correspond for 89.2% of GDP and 86.5% of employment of Latin America and Caribbean.

**Table 1: Structural Heterogeneity and Indicators of Economic Development: association between the percentage of occupied in low productivity activities and selected measures (9 selected Latin American Countries)**

<b>Indicator</b>	<b>Measure</b>	<b>Association</b>
<b>1. GDP per person occupied</b>	GDP per person occupied	Strongly Negative
<b>2. GDP per capita</b>	GDP per capita	Strongly Negative
<b>3. Poverty</b>	% Population	Strongly Positive
<b>4. Income inequalities</b>	Ratio Quintil 5/Quintil 1	Positive
<b>5. International Insertion</b>	Exports (Total, Manufacturing and non-Traditional)	Negative
<b>6. Economic Growth</b>	Annual GDP Growth Rate	Positive
<b>7. Volatility of Growth</b>	Coefficient of Variation of GDP Growth	Positive
<b>8. Productivity Growth</b>	Annual Growth Rate	Negative

Source: Infante (2011)

In other study, Infante (2013) proposed to classify selected Latin American countries (18) according with their degree of structural heterogeneity. This classification, based on several indicators, predominantly related to GDP, population, employment and income, established three groups: Moderate, Intermediate and Severe:

**Table 2: Classification of Selected Latin American Countries according with the degree of structural heterogeneity**

<b>Indicator (in relation to LA Average)</b>	<b>Moderate</b>	<b>Intermediate</b>	<b>Severe</b>
<b>Economic Structure</b>	More balanced	More unbalanced	More unbalanced
<b>Internal Differential of Productivity</b>	Lower	Higher	Higher
<b>Share Employment in Low Productivity Activities</b>	Lower	Higher	Higher
<b>Income Per Capita Productivity</b>	Higher	Close	Lower
<b>Income inequality</b>	Lower	Higher	Higher
<b>Poverty</b>	Lower	Lower	Higher
<b>Countries</b>	Argentina Chile Costa Rica Mexico Uruguay	Brazil Colombia Panamá Venezuela	Bolivia Ecuador El Salvador Guatemala Honduras Nicaragua Paraguay Peru R. Dominicana

Source: Infante (2013)

In a summarized view, Infante (2013) points out that:

1. The first group, those with moderate degree of structural heterogeneity are characterized by an economic structure more homogeneity than the Latin America average. The differential of productivity and the proportion of labour force in the laggard sectors are smaller than the Latin American average. Then, these countries tend to show indicators of performance (such as income per capita, productivity, employment, income inequalities and poverty) that are better than the majority of the countries.
2. On the other hand, the group of countries classified as showing severe degree of structural heterogeneity show an economic structure more unbalanced than the Latin America average. This reflects on high differentials of productivity and large proportions of labour force in the laggard sectors. Therefore, these countries are characterized by the worst indicators of income per capita, productivity, employment, income inequalities and poverty, which means highly precarious and problematic economic situation.
3. In a middle position, the group of countries with an intermediate degree of structural heterogeneity are formed by economic structure more unbalanced than those of first group, with also higher differential of productivity and larger proportion of occupied in the laggard sector. The level of income per capita and productivity are closer to Latin America average. Therefore, the income distribution is worse than the second group, but the level of poverty is lower.

Besides the studies that utilize the structural heterogeneity approach, some other investigations focusing on Latin American countries have been deal with related issues and aspects of development. They normally underline the marked inequalities that characterizes Latin America. Although they are not based on structural heterogeneity approach, their analysis shares many points in common with this approach as well as they use similar indicators and indexes.

Angeriza, Arestis and Chakravarty (2011) developed an index that combines GDP per capita growth with income distribution. They analysed several Latin American countries from 1990`s to early 2000`s, using this measure of growth that is sensitive to income inequalities. The analysis allows to conclude that in most of the cases the GDP growth is not accompanied by improves in income distribution. The long crisis of the 1980`s and the austerity measures implemented in the 1990`s have turn the trajectory of those countries into a maintenance or even the worsening of the high level of social inequalities.

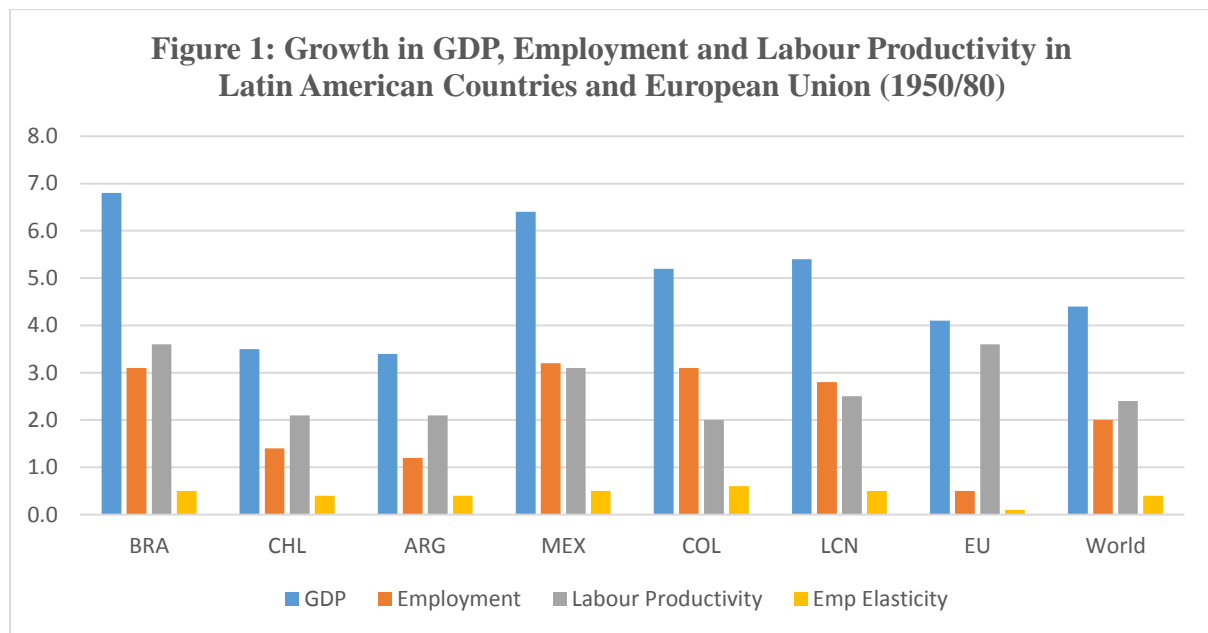
Palma (2011a) points out that the relationship between inequality and income per capita has changed in recent decades in the sense of establishing “Homogeneous Middles vs. Heterogeneous Tails”. His analysis shows Latin American countries as the highest inequalities in the world (together with Southern Africa): Data around 2005 indicates Latin America with a median Gini of 53.7, “almost a half higher than the overall median for the rest of the sample (116 countries), and over one-third higher than that for the ‘developing-non-Latin-American’ group (70 countries)” (Palma, 2011a). In Latin American countries, the so called “centrifugal forces” are considered extreme, leading to increase the inequalities, especially by growing the gap between the top 10 per cent and the bottom 40 per cent of the population.

The several studies in Bértola and Williamson (Ed., 2017) bring the focus to a long-run perspective on inequalities in Latin American countries, but also emphasising and evaluating the meaning of the changes that took place in recent decades. Astorga (2017) analysed L. A. (6 countries, 3 occupational categories 1900-2011): reclined ‘S’ shape, “consistent with the



Kuznets-Lewis thesis”. De la Torre, Messina and Silva (2017) argue that “rising inequality of labour market earnings in the 1990s and falling inequality in the 2000s cannot be explained solely by supply-side factors”, defending further investigation on demand-side factors;

Analysing economic growth, Palma (2011b) shows that the turning point of the 1980`s, when the neo-liberal reforms begun to be implemented, have affected the Latin American economies in a high proportion: comparison between the periods of 1950-80 and 1980-2008 reveals that whilst the average annual growth rate of the world economy fell from 4.5% (1950-1980) to 3.5% (1980-2008), in LA`s the growth-rate fell from 5.4% to 2.7% (Palma, 2011b).



Source: Palma, 2011, based on WDI (2010, data in constant 2000-US\$). “The series were brought back to 1950 using GGDC (2009) 3-year moving averages [...] Emp “Elast” = gross employment elasticities (...ratio between employment growth and GDP growth)” Palma (2011b);

In contrast, the period of 1980/2008:



Source: Palma, 2011, based on WDI (2010, data in constant 2000-US\$). “The series were brought back to 1950 using GGDC (2009). 3-year moving averages [...] Emp “Elast” = gross employment elasticities (...ratio between employment growth and GDP growth)” Palma (2011b).

Palma (2011b) stressed the fact that productivity growth rate has declined in Latin American countries in this second period. His study argues that the huge decrease of the GDP growth rate that marked Latin American countries from 1980`s has been absorbed by the productivity, as the employment growth remained almost the same.

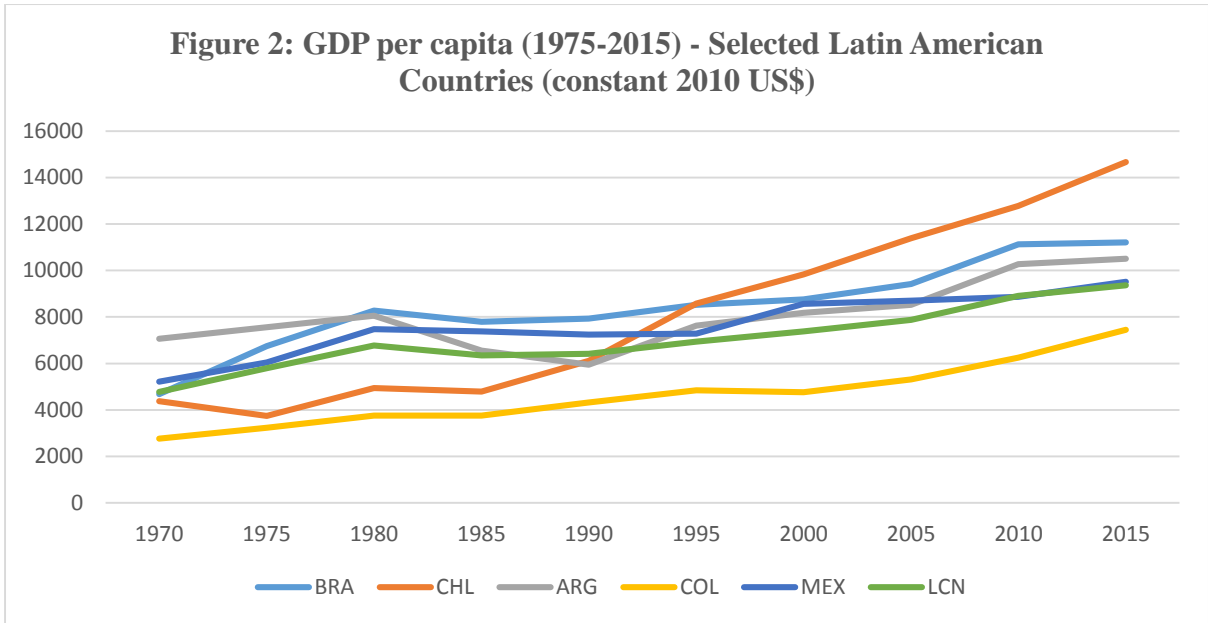
Thus, the analysis' that assume the spatially and socially unbalanced character of economic growth have joining different theoretical perspectives, recovering and developing approaches on growth and inequalities. On the other hand, empirical studies have supporting these approaches and improving the understanding of specific problems of peripheral or poor countries, being very useful to analyse Latin American countries.

## **5. Inequalities at national level: Trajectories of selected Latin American and European countries**

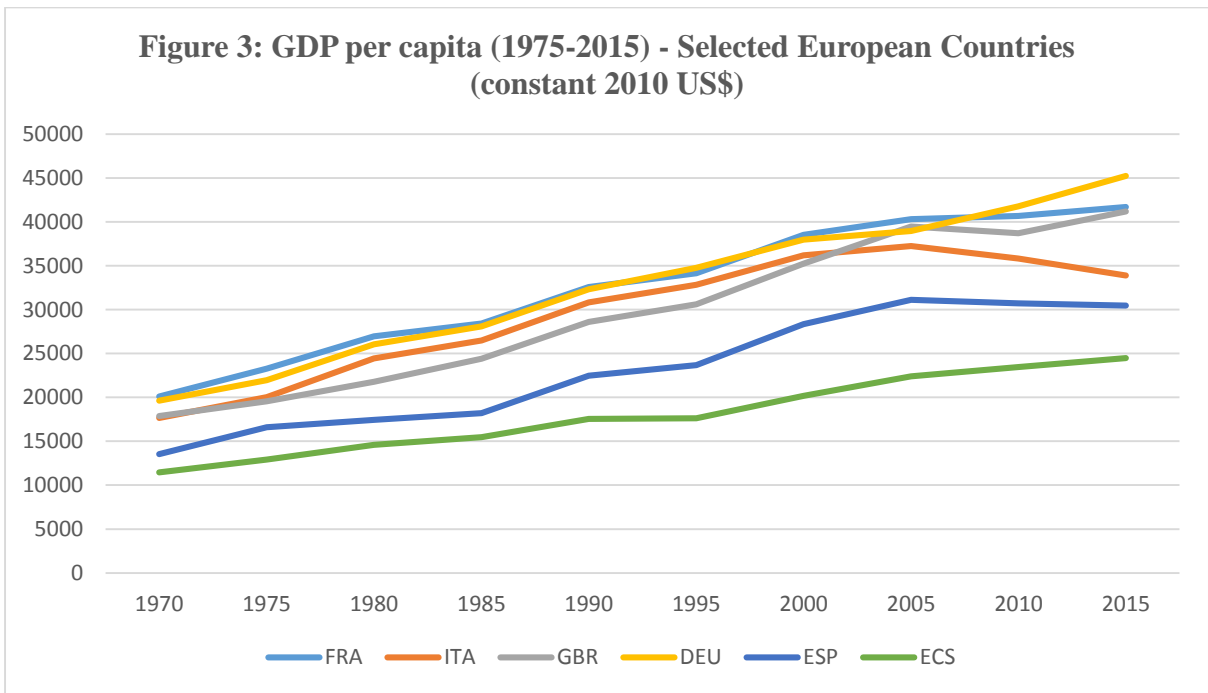
Data from 1970 of selected countries in Latin American and Europe indicates these tendencies. The comparison with European or other OECD countries allows to evaluate the differences trajectories of Latin American countries.

Regarding the evolution of GDP per capita 1970-2015, we can observe:

- i. The differences between the two groups of countries are significant and does not show tendencies of reducing over time (there is no catch-up in progress);
- ii. The group of Latin American countries are more heterogeneous, considering both the level and the growth on nationals GDP per capita;
- iii. The trajectory of Chile is distinguished among Latin American countries, approaching to the European average;
- iv. The decrease of the growth post 2008 crisis affected more the European countries and in a more diverse impact.

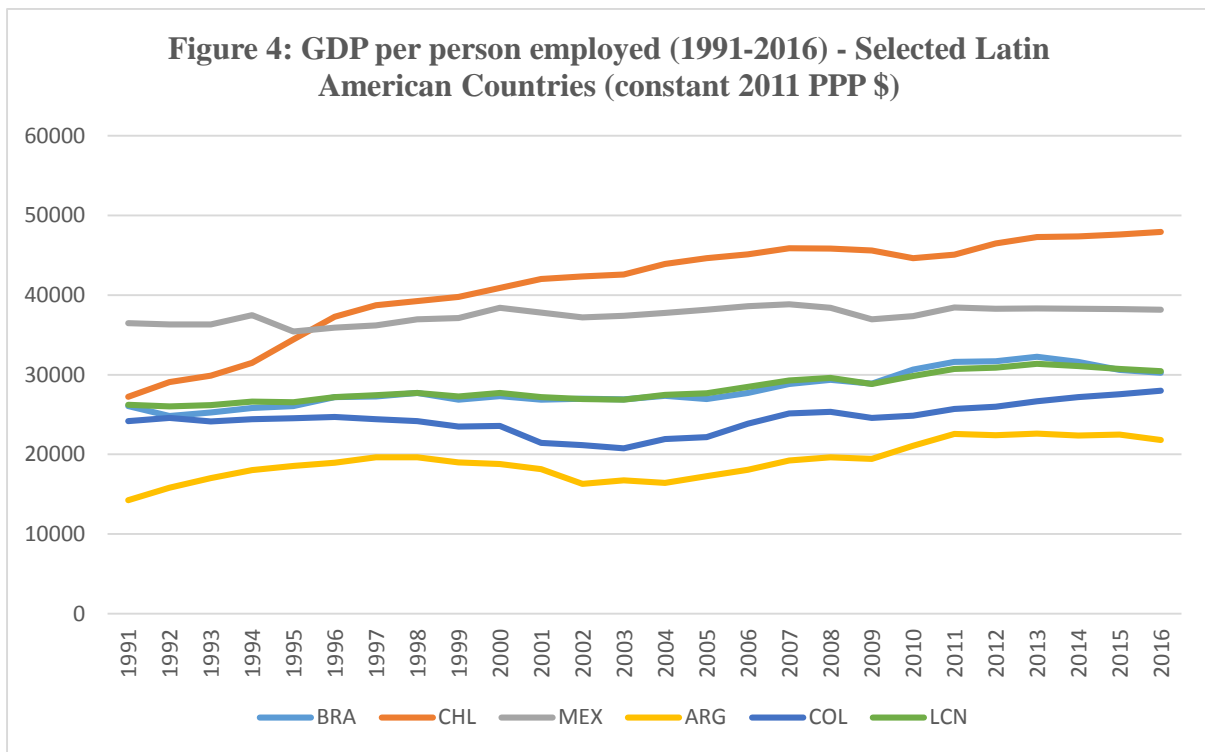


Source: World Development Indicators

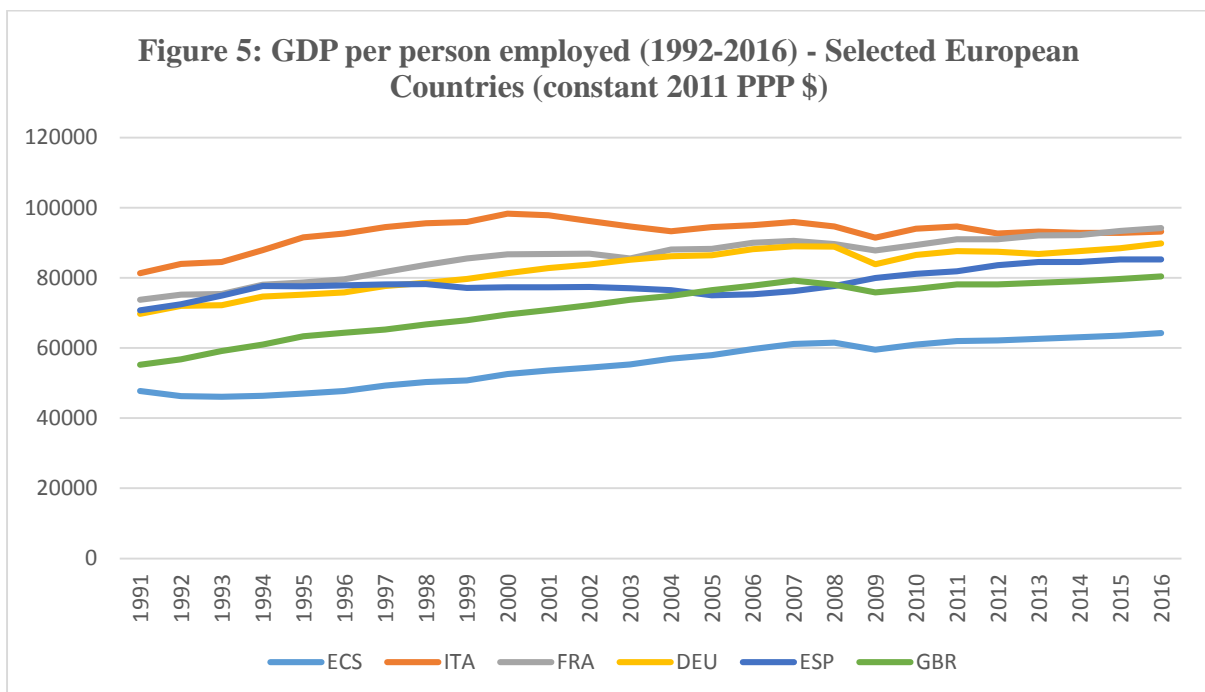


Source: World Development Indicators

Indicators of GDP per person employed, in a more recent period (1999-2015) shows a different picture:



Source: World Development Indicators

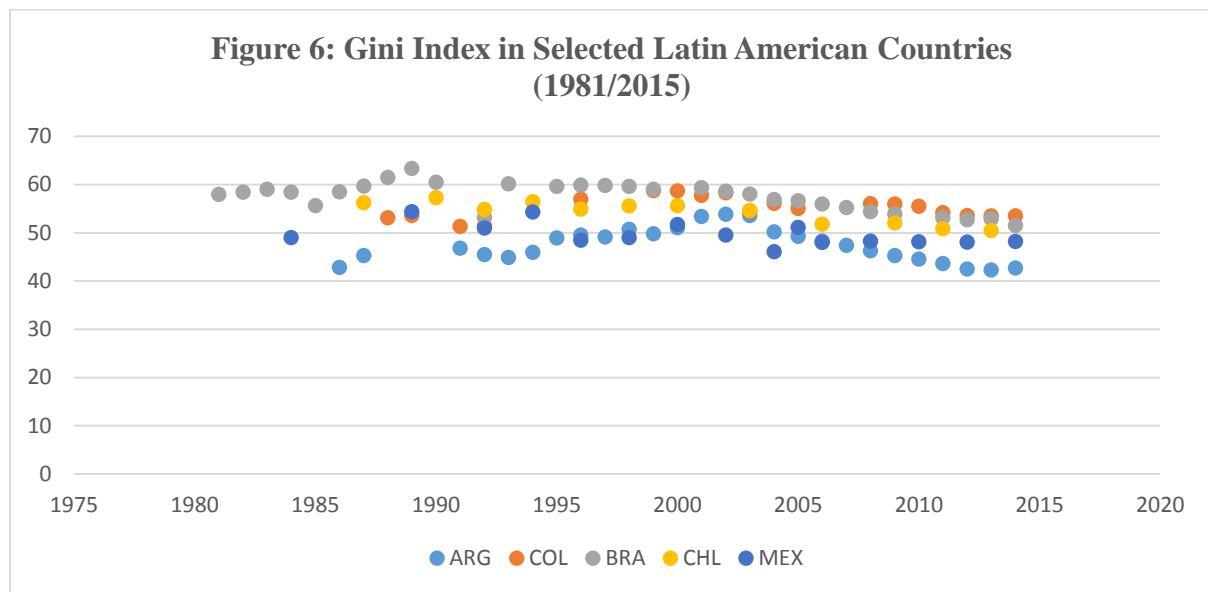


Source: World Development Indicators

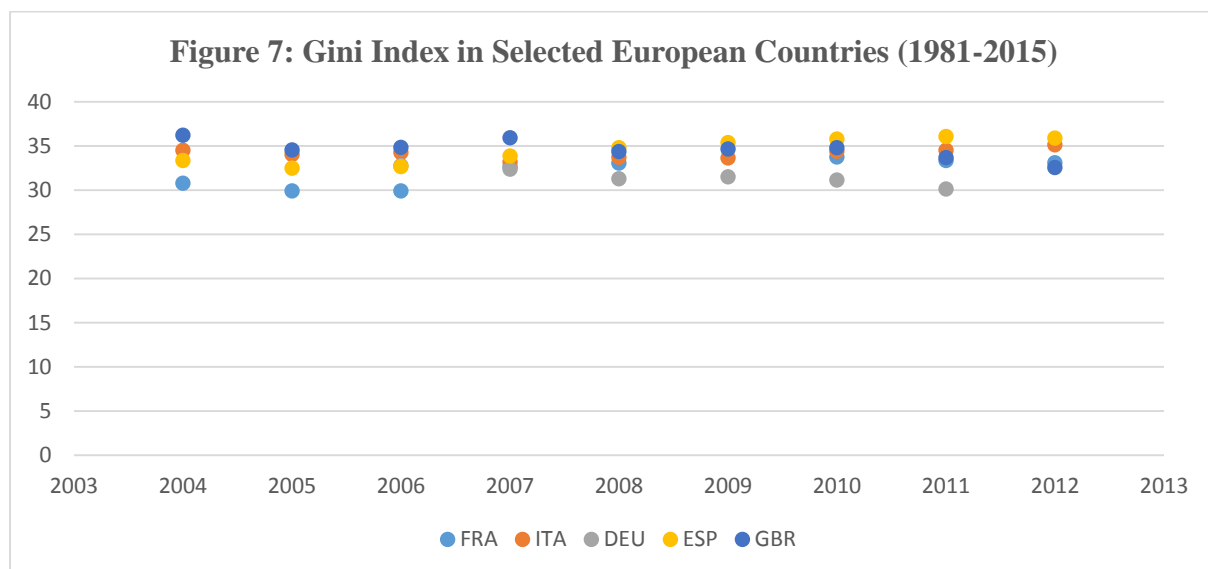
Although many points in common with the first indicator, we can observe some differences. In a summarized view, we can note:

- i. The high gap between the two groups of countries has amplified over the period;
- ii. The group of Latin American countries is again more diverse, considering both the level and the growth on national's GDP per capita, becoming more heterogeneous along the period in contrast with the European, which reduced the heterogeneity;
- iii. Again the trajectory of Chile is distinguished among Latin American countries, but this time not enough to approach to the European average.

Regarding the income inequalities, the Gini Index confirm the contrasts and the singularity of Latin American societies:



Source: World Development Indicators



Source: World Development Indicators

The income inequalities may constitute the most accentuated gap between Latin American and European countries. As the Gini Index shows, despite some little fluctuations, the differences between the two groups of countries remained large in the 2000`s.

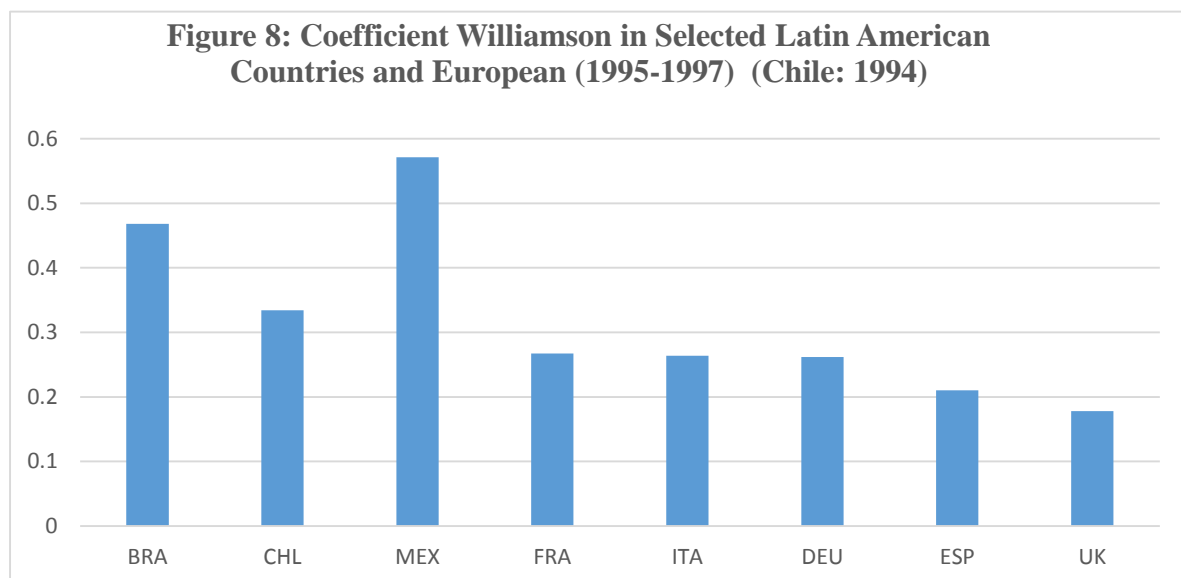
There is a small decrease in the index of Brazil and Argentine in the last decade. On the other hand, there is an increase of Italy and Spain in the index, certainly linked to stronger effects of 2008 crisis in the so-called European “peripheral countries”. Anyway, even these movements are not sufficient to approach the values.

## 6. Inequalities at subnational level: Trajectories of selected Latin American countries

Focusing on regional inequalities, especially at subnational level some analysis have been developing. Mattar and Riffo (2013), searching for a long-term perspective, concentrate the attention on the trajectory of selected countries at subnational level. Their analysis considers some economic indicators and also the regional policies implemented to address the regional inequalities. Data on the evolution of GDP, population and GDP per capita from 1970`s shows that, although important changes in the development process and in the policies, these countries remain with high levels of regional economic inequalities.

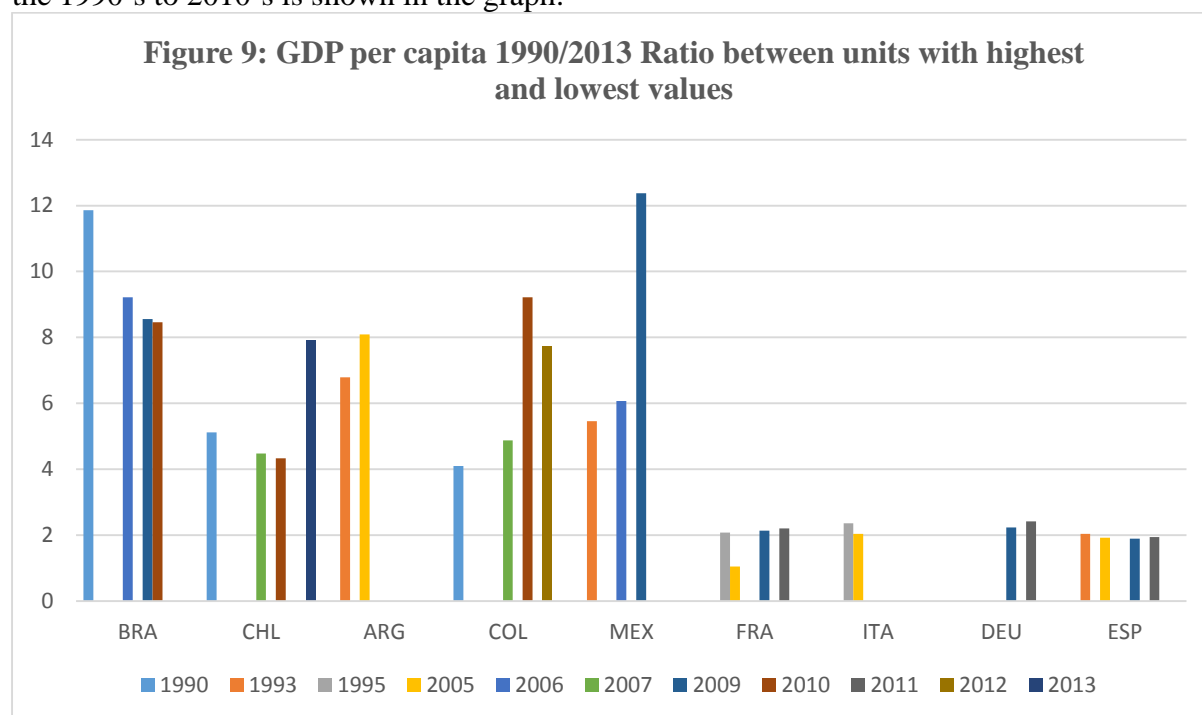
Atienza, M., and Aroca, P. (2013) and Aroca and Atienza (2016) explore the links between economic growth and spatial concentration. Their analysis search to evaluate the regional inequalities related the urban system, especially to examine the question of urban primacy, which historically marked the Latin American countries as high levels.

Searching to consider the regional heterogeneity at subnational level within these countries, we collected some data, despite its scarcity, and we analysed some indexes. The well-known Coefficient of Williamson, which evaluates the deviation of administrative units from national GDP per capita, reveals significant differences across Latin American and European countries.



Source: Shankar, R.; Shah, A. (2003)

The data on the ratio between the units with highest and lowest GDP per capita from the 1990's to 2010's is shown in the graph:



Source: CEPAL, 2015

**Table 3: Percentage of population considered poor (units with highest and lowest values)**

	<b>BRA</b>	<b>CHL</b>	<b>MEX</b>	<b>COL</b>
<b>60-80</b>			CH	CH
<b>40-60</b>	PI			
<b>20-40</b>			NL	
<b>0-20</b>	SC	MA, BI		BO

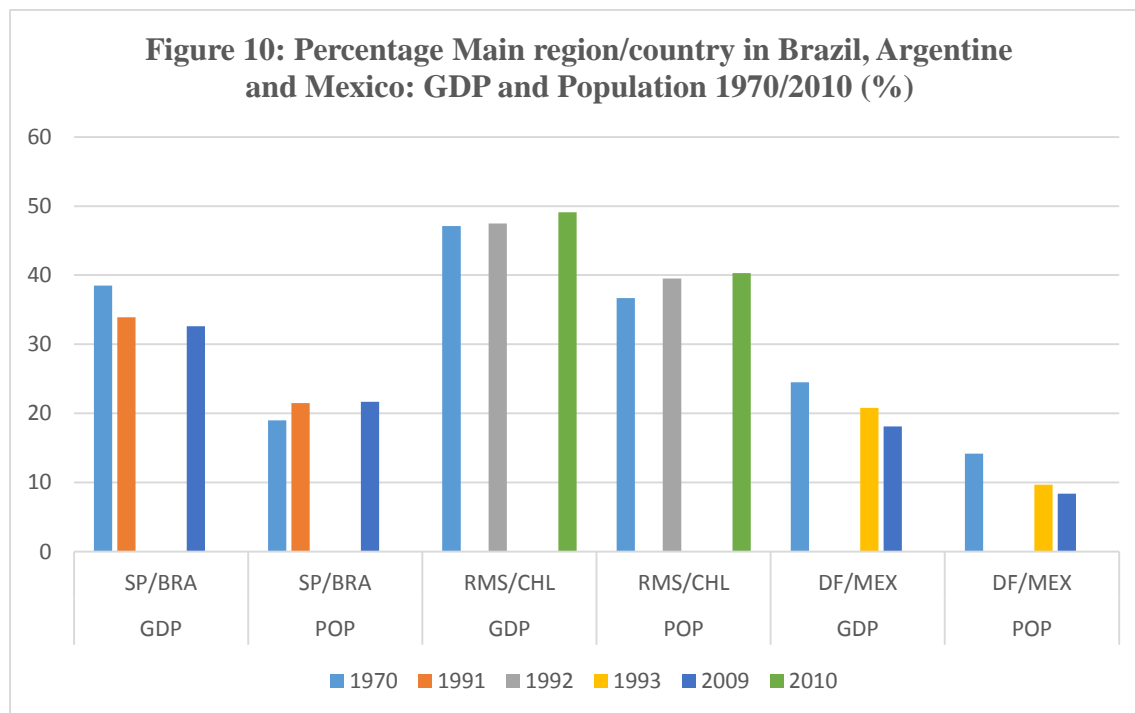
Source: CEPAL (2016) based on national household surveys (encuestas de hogares).

Considering the data and indexes, we can observe that:

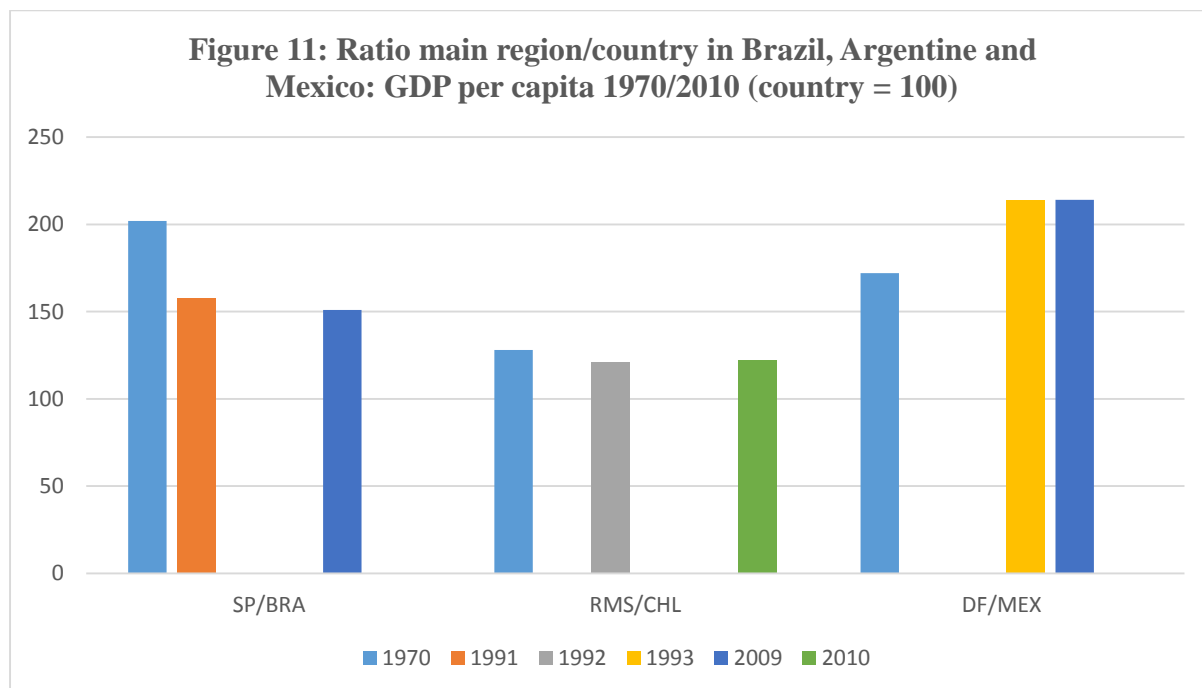
- i. Significant differences between Latin American and European countries.
- ii. This gap is not decreasing, but growing in most of the cases;
- iii. Across Latin American countries differences between the countries and the instability are higher;
- iv. The ratios are reducing more in Brazil and Colombia, classified as intermediate heterogeneity, than in Chile, Argentine and Mexico, classified as moderate heterogeneity.

Besides the studies development by ECLAC, several authors have been development research on regional inequalities in Latin American countries at subnational level.

The next graphs show the importance of the main region in three selected countries (Brazil, Argentine and Mexico) in terms of GDP and population, as well as the gap of the GDP per capita in these regions in relation to the national GDP per capita:



Source: Mattar, J. and Riffo. L, 2013



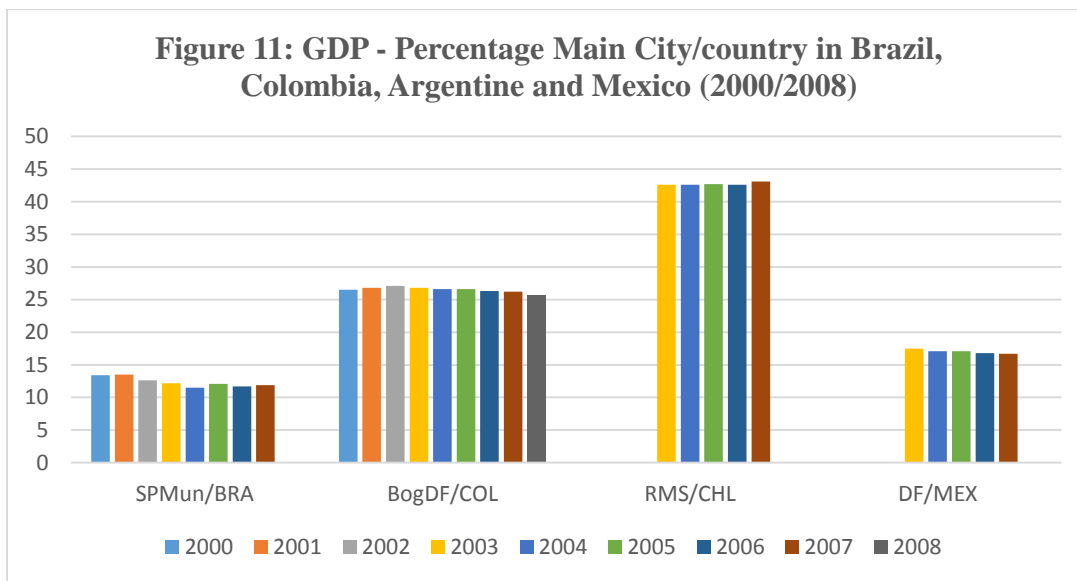
Source: Mattar, J. and Riffo. L, 2013



By analysing the data of these four decades, we can observe:

- i. The dimension of the main region is very large in these countries and have not decrease along the period, revealing a tendency of maintenance;
- ii. Looking through this index, Brazil, classified as intermediate heterogeneity, are performing better in terms of reducing regional inequalities than Chile and Mexico, classified as moderate heterogeneity.

Data from CEPALSTAT, despite limited, shows a picture of early 2000`s.



Source: CEPALSTAT, 2017.

These high percentages confirm the historical level of spatial concentration in Latin American countries. The urban system certainly plays an important role in the remaining of regional inequalities.

## 7. Final Remarks

Based on the analysis of relevant authors, we can state that the approaches that assume the uneven character of economic growth and development provide better frameworks to improve the understanding regional development. This understanding is very important to support the design of policies with aiming to reduce the regional inequalities.

The structural heterogeneity approach shows an interesting capability to deal with development issues, especially in Latin American countries. The structural heterogeneity approach can constitute a basis for empirical analysis and public policies, adding the productivity and its growth as a key question for these analysis`.

Recent empirical studies have been developed in this perspective and some related approaches, exploring the linkages between growth, inequalities and development. The results usually show the hard path of Latin American countries in the recent decades, especially in terms of economic and productivity growth, which has hampered the sustainable process of development these countries and limited the small and late social improvements that have been taken place.

Thus, the bibliography that discusses development process in Latin American countries, based on original approaches and extensive data, has shown that these countries are facing huge problems and challenges. Following the industrialization process that took place in several countries in the early 20<sup>th</sup> century, there is a period of high economic growth that, despite some progresses, was not able to improve social and distributional conditions. The crisis and the instability that hit these countries from the 1980`s have been bringing even more difficulties for the development process. In this period, not only the obstacle to reduce inequalities are larger: the economic conditions have contributed to amplify inequalities and heterogeneities historically established.

Data on regional inequalities at subnational level, although scarcity, reveals the maintenance of the historical high level, although the policies addressed to tackle them. This fact may consist in both a cause and an effect of the difficulties of economic sustainable growth and the limits of reducing social inequalities.

The measures used in this study, although limited, shown that countries classified with intermediate degree of structural heterogeneity are performing better in terms of reducing regional inequalities than those classified as moderate degree. This fact needs further analysis to be confirmed and, if it is the case, to search for explanations: may this be due the differences of national policies, or may be indicating an initial reversal of the higher degrees of inequalities, while the moderate cases are finishing the advances in this field?

## 8. References

- Angeriza, A.; Arestis, P. and Chakravarty S. (2011) Inequality adjusted growth rates in Latin America *Cambridge Journal of Regions, Economy and Society*, 4: 3–11;
- Amarante, V. and Prado, A. (2017) Inequality in Latin America: ECLAC's Perspective In: L. Bértola, J. Williamson (eds.) *Has Latin American Inequality Changed Direction?*, Springer;
- Arestis, P.; Martin, R. L.; and Tyler, P. (2011) The Persistence of Inequality? *Cambridge Journal of Regions, Economy and Society*, 4: 3–11;
- Aroca and Atienza (2016) Spatial concentration in Latin America and the role of institution. *Investigaciones Regionales Journal of Regional Research*, 36., p. 233-253;
- Atienza, M., and Aroca, P. (2013): Concentration and Growth in Latin American Countries. In: Cuadrado-Roura, J. R., and Aroca, P. (2013), *Regional Problems and Policies in Latin America*, London, Springer, 113-133;
- Bielschowsky, R. (Org.). *Cinquenta anos de pensamento da Cepal*. Rio de Janeiro: Record;
- CEPAL (2010) *A Hora da Igualdade: brechas por fechar, caminhos por abrir*. Trigésimo terceiro período de sessões da CEPAL. LC/G.2432(SES.33/3) Santiago de Chile, Comisión Económica para América Latina y el Caribe (CEPAL), 2010.
- CEPAL (2012) *Panorama del Desarrollo Territorial en América Latina y e Caribe* (LC/W.543) Santiago de Chile, Instituto de Latinoamericano y del Caribe de Planificación Económica y Social (ILPES); Comisión Económica para América Latina y el Caribe (CEPAL), 2012
- CEPAL (2015) *Neoestructuralismo y corrientes heterodoxas en América Latina y el Caribe a inicios del siglo XXI*, Libros de la CEPAL, N° 132 (LC/G.2633-P/Rev.1), Santiago de Chile, Comisión Económica para América Latina y el Caribe (CEPAL), 2015.
- CEPAL (2015b) *Panorama del Desarrollo Territorial en América Latina y Caribe* (LC/W.671). Santiago de Chile, Instituto de Latinoamericano y del Caribe de Planificación Económica y Social (ILPES); Comisión Económica para América Latina y el Caribe (CEPAL), 2015;
- CEPAL (2016) *La Matriz de la Desigualdad Social en América Latina*. Santiago de Chile, Comisión Económica para América Latina y el Caribe (CEPAL), 2016.
- De Dominics, L. (2014) Inequality and Growth in European Regions: Towards a Place-based Approach. *Spatial Economic Analysis*, Vol. 9, N. 2, June 2014, p. 120-141;
- Furtado, C. *Desenvolvimento e subdesenvolvimento*. Rio de Janeiro, Fundo de Cultura, 1961;
- Furtado, C. *Development and Underdevelopment* (1964) University of California Press, Cambridge University Press; 1964;
- Furtado, C. *Brasil: a construção interrompida*. Rio de Janeiro: Paz e Terra, 1992;
- Galbraith, James K. (2011) Inequality and economic and political change: a comparative perspective *Cambridge Journal of Regions, Economy and Society*, 4: 3–11;
- Gardiner, B.; Martin, R. L., and Tyler, P. (2011) Does Spatial Agglomeration Increase National Growth? Evidence from the European Union, *Journal of Economic Geography*, 11: 979–1006;
- Gardiner, B. Martin, R. L., Sunley, P. and Tyler, P. (2013) Spatially Unbalanced Growth in the British Economy, *Journal of Economic Geography*, 13: 1–40;

- Hirschman, A. *The Strategy of Economic Development*. New Haven: Yale University Press, 1958;
- Infante, R. Tendencias del grado de heterogeneidad estructural en America Latina, 1960-2008, In: Infante (Ed.) *El desarrollo inclusivo en America Latina y el Caribe: ensayos sobre politicas de convergencia productiva para la igualdad* (CEPAL, 2011), Cap. II,
- Infante, R. Brasil en el “Umbral del Desarrollo”. Un ejercicio de convergencia productiva Brasília, DF: CEPAL. Escritório no Brasil/IPEA, 2013 (*Textos para Discussão CEPAL-IPEA*, 53);
- Kaldor, N. (1970) The case for regional policies. *Scottish Journal of Political Economy*, 18: 337–348;
- Matteo, M. Heterogeneidade regional. Brasília, DF: CEPAL. Escritório no Brasil/IPEA, 2013. (*Textos para Discussão CEPAL-IPEA*, 56) 30p.;
- Mattar, J. and Riffo, L. Territorial Development in Latin America: A Long Term Perspective In: Cuadrado-Roura, J. R., and Aroca, P. (2013), *Regional Problems and Policies in Latin America*, London, Springer, 43-68;
- Missio, F.; Jaime Jr, F. (2012). Estruturalismo e neoestruturalismo: Velhas questões, novos desafios. *Análise Econômica (UFRGS)*, v. 30, 205-230;
- Missio, F.; Jaime Jr. F.; Oreiro (2015). The structuralist tradition in economics: methodological and macroeconomics aspects. *Brazilian Journal of Political Economy* 35 (2), 2015, p. 247-266;
- Monastiriotis, V. Regional Growth and National Development: Transition in Central and Eastern Europe and the Regional Kuznets Curve in the East and the West. *Spatial Economic Analysis*, Vol. 9, N. 2, June 2014, p. 142-161;
- OECD (2012), *Promoting Growth in all Regions*, OECD Publishing, Paris, 2012;
- OECD (2014) Regional Outlook, 2014. *Regions and Cities: Where Policies and People Meet*. OECD, 2014;
- Palma, J. G. (2011a), Homogeneous middles vs. heterogeneous tails, and the end of the ‘Inverted-U’: the share of the rich is what it’s all about, *Development and Change* 42(1);
- Palma, J. G. (2011b) Why has productivity growth stagnated in most Latin American countries since the neo-liberal reforms? *Cambridge Working Papers in Economics* (CWPE) 1030;
- Pike, A.; Rodríguez-Pose, A.; Tomaney, J. (2014); Local and regional development in the Global North and South. *Progress in Development Studies* 14, 1 (2014) pp. 21–30;
- Pinto, A. Natureza e implicações da “heterogeneidade estrutural” da América Latina. In: BIELSCHOWSKY, R. (Org.). *Cinquenta anos de pensamento da Cepal*. Rio de Janeiro: Record, 2000;
- Rodríguez, O. (2009). *O estruturalismo latino-americano*. Rio de Janeiro: Civilização Brasileira, 2009;
- Shankar, Raja; Shah, Anwar. Bridging the economic divide within nations: a scorecard on the performance of regional development policies in reducing regional income disparities. *World Development* Vol. 31, No. 8, pp. 1421–1441, 2003;
- Silva, G; Martins, H.; Neder, H. Investimentos em infraestrutura de transportes e desigualdades regionais no Brasil: uma análise dos impactos do Programa de Aceleração do Crescimento (PAC) *Brazilian Journal of Political Economy* 36 (4), 2016, p. 840-863.