Regional income inequality in Uruguay during a century (1908-2008). Did the productive public policy contribute to an equalizing process?

Julio Martínez-Galarraga*; Adrián Rodríguez-Miranda**; Henry Willebald**

ABSTRACT

In this paper we found some stylized facts about regional income distribution in Uruguay and tested some hypotheses about regional development in historical perspective. A first contribution is to provide a new database on Uruguayan regional per-capita GDPs. Second, we found evidence about that industrialization guided by the ISI policy (or state-led industrialization), between the 1930s and the 1960s, was an equalizer force in the regional income. It means regional inequality seems to be higher at the first decades of the century which would be neutralized or reverted during the ISI, and after this period of active industrial policy would start again and increase trend. This result calls into question that NEG or H-O approaches could explain regional development without taking account the specificities of Latin American countries and the role of public policy. Indeed, the spatial location of production is affected by the degree of state intervention in the economy policy and it is highly probable this type of intervention alters the fundamentals of the regional specialization opening opportunities to locate economic activities where previously were not rentable.

Keywords: *regional income distribution, regional development, industrialization policy, Uruguay.*

· **Introduction**

In the last decade economic historians met again with Economic Geography. Many studies about market integration, location of economic activities and regionalization have been proposed in the recent literature with important methodological, quantitative and interpretative contributions. These studies include analysis referred to UK (Geary & Stark, 2002; Crafts, 2005), Belgium (Buyst, 2011), France (Sanchis et al., 2015), Spain (Rosés et al., 2010; Martínez-Galarraga et al., 2013), Austria-Hungary (Schulze, 2007), Italy (Felice, 2011), Portugal (Badía et al., 2012) and Sweden (Enflo et al., 2010). All of them refer to core economies. What it happens in the world periphery?

Several scholars are proposing initial contributions in this field to answer that question and this paper is part of thesame effort to extend the Economic Geography to Economic History analysis in developing regions. We consider Uruguay as a good illustration of the singular economic performance that a country in the periphery can show compared to the core countries.

The history of Uruguay is very clear showing the importance of defining regions from the colonial times to the 19[th]century. One of the more classical characterizations of Uruguay corresponds to Reyes Abadie (1966) who describes it as the combination of prairies, border and harbour. In other words, Uruguay –named *Banda Oriental* in colonial times– was a region with abundant natural resources suitable for cattle production, with one of the better ports of South America (which was the main "exit door" of commodities from the River Plate to the international markets until the end of the 19[th]century) and was the frontier between the two empires that conquered Latin America: Spain and Portugal. This last feature extended even after the independence with other protagonists –Argentina and Brazil– but with similar consequences: Uruguay constituted a buffer state between two immense countries that moulded productive, institutional and culturally the society inducing differences within the country that persisted until today. Below we explain these tensions and consider some relevant aspects related to the Uruguayan economic performance (section 2). In the long-run, Uruguay exhibits an irregular trajectory that alternates periods of important productive expansion with others of deep depressions and periods of openness with others of constrained international trade. Growth and recessions occur equally in open or closed economy (Bértola&Porcile, 2000).

Traditionally, local historiography (see Bértola 2008; Oddone 2010; Willebald 2006) recognizes

three phases associated with different "development patterns". From the last quarter of the 19[th]century to the 1920s, the economy showed increasing exports and the formation of a domestic market that differentiated from other Latin American countries (Bulmer-Thomas, 2003). This economy, based on a few primary products, could obtain welfare levels close to the core countries of the international economy. The Great Depression meant severe negative effects on the open economy and the meagre performance lasted until the middle of the 1930s (Jacob 1977, 1981). After the Second World War (WWII), the economy presented a second period of steady economic growth characterized by an increasing participation of the state in the economy (Azar et al. 2009), an improving income distribution (Bértola et al. 2000; Bértola 2005) and a (truncated) process of import substitution industrialization (ISI) (Arnábal et al. 2011; Bértola 1991; Finch 2005). However, the positive evolution was mostly exhausted by the end of the 1950s, and the economy entered in a long period of "stagflation" that lasted until the beginning of the 1970s (Astori 2001). During the first half of the 1970s, in a context of deep social and political changes, the economy experienced important adjustments that became a new development pattern (Notaro 1984, 2001). Increasing trade openness, financial liberalization, and new regional trade agreements gave place to a new phase of economic expansion that extended until the end of the 20th century and that some authors identify with a "re-globalization" period (Oddone 2010). The begging of 21[st]century was dominated by one of the deepest crisis of the last one hundred years and, since 2003, the economy recovered strongly with a firm presence in the international markets of commodities and important changes in the organization of primary production (Errea et al. 2011). What type of implications did this long-run performance have in terms of the regional inequality?

On the one hand, the Neoclassical trade theory –the Heckscher–Ohlin (HO) model– argues that regional incomes differ because of differencesin factor endowments and factor prices. The factor-prize-equalization(FPE) theorem, within this framework, is optimistic about the consequences of market integration: the increase in tradeand factor movements leads to factor-price equalization across regions, and hence, per-capita GDP convergence. It should benoted, however, that market integration may also lead to increasing regional specialization because regions differ in factorendowments. In this situation, the standard HO model allows FPE but not income equality (Rassekh and Thompson, 1998;Slaughter, 1997). Conversely, if regional differences in factor endowments tend to decrease and factor prices converge, oneshould observe a reduction in regional income disparities.

On the other hand, the recent new developments in trade theory, the New Economic Geography (NEG), are even less optimisticabout the regional equality impact of integration processes.NEG models are constructed around the idea that theexistence of product differentiation, increasing returns to scale and reduction transport costs may generate pecuniary externalities infirms and workers' location choices. If production factors are mobile or intermediate inputs, those three factors give rise toagglomeration and consequently uneven specialization among regions. Workers tend to concentrate in a given location, so the resulting shiftin local demand increases the incentive for firms to concentrate production in that place. Also, workers may obtain a wagepremium in these places due to the presence of Marshallian externalities and the subsequent higher labor productivity levels.

In sum, NEG argues that market integration could lead to regional divergence.However, integration is not the only factor for regional disparities.Williamson (1965) pointed out that regional inequality could have been growing during the initial phases of moderneconomic growth and declining from certain levels of development. Therefore, in the long run, simultaneously evolution of growth, structural change and economicintegration and industrialization may have followed an inverted-U shape. Precisely, some authors propose the importance of structural change in regional inequalities andrelate the upward trend in regional per-capita GDP inequalityto the unequal distribution of industrial production (see Caselli andColeman, 2001, for US).

Considering the economic characterization of the country and the last theoretical approaches, we propose some hypotheses about regional per-capita GDPs and regional disparities during the period (Section 3).Primary production in Uruguay –agriculture– is highly decentralized with a strong

persistence during the 20th century. The capital of the country –Montevideo– constitutes a big city andpart of the literature identifies it as the "pump suction" of the economy (Martínez Lamas, 1930). This process is clearer in the manufacturing and construction than in services and imply"centripetal forces" en the regional distribution of incomes. However, centrifugal forces also acted. Industry in Uruguay is very much based on primary products than developed countries and, as consequence, location of natural resources is, frequently, a strategic factor. The main market for the typical industries of the economy –leather, wool, beef– is the external market (not the domestic one) and this reduces the relevance of the cities. Finally, spatial location of production is affected by the degree of state intervention in the economy through economic policies, legislation and direct participation as producer. Import substitution industrialization opened business oportunities for regions different than Montevideo and even the agriculture benefited from the government support of several industrial crops (sunflower, sugar cane, flax).

Finally, we explain the methods and sources of the new database on Uruguayan regional per-capita GDPs (Section 4) and show the results and stylized facts on regional income distribution in order to test the main hypothesis (Section 5). At last, final remarks include our main conclusions: (i) regional income inequality decreases during two periods; in the 1930s-1950s, which coincided with an import substitution industrialization process and a closed economy; and in the beginning of the 21st century, with an important dynamism of agricultural production and an open economy; (ii) the presence of an active public policy to support economic activities is the common factor of both periods.

· **Economic performance andregionalization**

In colonial times, during the 16[th]and 17[th]centuries, the River Plate was not an attractive region, being distantly placed in the far south of the Spanish Empire and lacking economically interesting resources to be exploited, such as spices or precious metals. One of the first European settlements in Uruguay (*Banda Oriental* according to its colonial name) was Colonia delSacramento, a Portuguese military fortress founded in 1680, located across from Buenos Aires (in nowadaysArgentina), whose foundation dates from 1580. Montevideo, also a fortress, was founded by the Spaniards in 1724 on the River Plate coast, almost 180 km from Colonia del Sacramento towards the East. Uruguay was on the border between the Spanish and Portuguese empires, a condition which would be decisive for the creation of an independent state in 1828, with an active British participation. Memoirs and historical chronicles agree on the exceptional conditions of Montevideo's harbour (Mullhall&Mullhall, 1892), which constitutes the best natural seaport in thispartofthecontinentand promptly became the end-point of trans-Atlantic routes into the region. Montevideo's port was therefore the support for Spanish navy in the colonial period and for strong international trade interests –British and French ones, specially– in the independent period, besides to promote a thrivingcommercial elite(Bértola, 2008).

From the 18th century different regional divisions were created following economical and political criteria. In colonial times, jurisdictions were set up according to different interests –derived fromtheMisionesOrientales, Buenos Aires and Montevideo– to control and exploit the will cattle (Zubillaga, 1977). With the revolutionary movements (led by J.G. Artigas), the creation of the *Provincia Oriental* (in the 1810s), and the following invasion of the Empire of Brazil (in the 1820s) other divisions were established following, in general, criteria that pay attention to territorial and political factors (Yagüe&Díaz-Puente, 2008).

Conceptually, the Constitution of 1830 –the first Uruguayan constitution– had created a unitary state where the provinces (*departamentos*) were mere administrative jurisdictions tied toa central power and, simultaneously, the elimination of the "*cabildos*" (a typical colonial institution) limited the local autonomous capacity of the society. However, this situation was altered by the social reality because the new and weak state of that time lacked the administrative tools to exert its political power; the government was systematically not recognized and its authority was questioned. This process, accentuated from 1865 onwards, transformed the provinces in real bastions of power not subject to higher hierarchies.This political regionalization was reinforced by an economic

regionalization founded in international trade relations with Argentina –corresponding to the WesternLitoral–, Brazil –corresponding to the North– and the region around Montevideo –the South, a zone related to the port. This division consolidated the differences in terms of population density and supposed a grave geo-politic problem because the huge pressures that Brazil exerted in the border provinces of the North and North-East (Zubillaga, 1977). The first provincial subdivisions happened in this context and responded to two main arguments: the official responsibility of protecting population and properties away from Montevideo; and the continuous transferences of the Northern lands to foreign hands (Yagüe&Díaz-Puente, 2008).

Two big transformations began the road of economic modernization in the 1870s: the wire fencing of the rural lands and the arriving of immigration flows with progressive rural producers related, fundamentally, with wool production (Barrán& Nahum, 1967, 1971). This new rural class was predominant in the zone of the Litoral of Uruguay River and extended its influence to the South in the region of the River Plate, which coincides with the most productive lands of the territory (Millot&Bertino, 1996). In the rest of the country the rural traditionalismcontinued prevailing on technical and business innovations.It is in the context when the last adequacy of the regional division occurred with the creation of four provinces in 1884-1885.The provincial division of Uruguay closed, with 19 *departamentos* that, as it is showed in Figure 1, configure spaces of very diverse dimensions.

The following two decades were characterized by an ongoing improvement in the state communications and administrative system that, however, had to get along with numerous resistances to the central authority of provincial governments and several internal conflicts. Usually, scholars identify 1904 as the year of the last internal armed uprising and the definitive consolidation of the state as the national authority. In facts, this meant the triumph of the port-city (Montevideo) over the rest of the territory and converted the state into the constructor of the "social order" (Arocena, 1992).

The historical characterization of Uruguay as an agrarian economy since the 19[th]century is essentially based on the type of integration in the international commoditiescmarkets (with exports of primary products such as jerky, leather, wool and beef).However, this type of agrarian trade specialization required the extended presence ofactivities that supported the commercialization of these products such as transport andstorage, logistic, financial and professional services, and public services. In addition,Uruguay experienced a dynamic urbanization process that rapidly brought theadministrative capital of the country, Montevideo, to the head of a macrocephaliccountry. Under these conditions, it is not surprising that the share of services on GDPwas 50 per cent in the years previous to the First War World (WWI). In this evolution, the 1920s are conceived as a transition period from a system based on the gold standard –which had a break in theWWIalthough the definitive abandon occurred in 1931– to the implementation of a monetary system with multiple exchange rates.

Figure 1. Provinces of Uruguay
ARGENTINA
BRAZIL

Source: own elaboration.

From the 1930s, the industrialization process began, initially, in a spontaneous manner and, then, with an active participation of state in different spheres of the economy. The import substitution industrialization (ISI) –or, more properly, the state-led industrialization (Bértola&Ocampo, 2012)–had a strong dynamism in the 1940s but soon faced many limitations that determined its exhaustion in the second half of the 1950s. The 1960s were characterized by economic stagnation and high inflation which extended until the beginning of the 1970s when a *coup d'état* and the institutionalization of a military government promoteda renewed modality of development (Astori, 2001). Bilateral trade agreements with Argentina and Brazil and the liberalization of the financial market (exchange rates and capitals) were characterizing a new growth strategy (Notaro, 2001) identified with a re-globalization or non-traditional export led growth (Oddone, 2010). The progressive openness of the economy, the promotion of international integration programmes (Mercosur) and the financial liberalization continued, as general pattern, in the 1990s (after the democratic restoration in 1985) until the first decade of the 21[th]century.

From the 2000s onwards, the policy instruments to support competitiveness have multiplied. Capacity in entrepreneurial management and sector instruments added to the traditional export, innovation and investment promotion creating a denser policy structure to encourage advanced industries (as biotechnology and pharmaceutical) (Bértola et al., 2014).

· **Some hypotheses about location of economic activity**

According to the description in section 2, what would we expect about the location of economic activity in Uruguay along the 20th century?

Our first hypothesis is that the primary production in Uruguay is highly decentralized with a strong persistence along the 20th century.Natural resources in Uruguay are suitable for agrarian production. More than 95 percent of total territory corresponds to grassland, steppe and open shrubland(Willebald&Juambeltz, 2015) and, in fact, (almost) all the territory is apt for rearing livestock and crops. Only in the second half of the century is feasible to expect some regions with an increasing specialization in dairy industry (Bertino&Tajam, 2000) and cereal growing regions (Bertino&Bucheli, 2000).

Note that this hypothesis is related to the Heckscher-Ohlin-Samuelson (HOS) argument which stated the spatial distribution of economic activity is determined by comparative advantages of factor endowments. Within restrictive assumptions scheme –as the inexistence of transportation costs, constant production returns, perfect competence– the model predicts that the distribution of economic activity depends on the relative strength of factors endowments between regional economies.

The second hypothesis refers to the high density of population, working forceand transportation

infrastructures in Montevideo (and also in the Southern and Western coasts but in a low degree) which drives expecting high concentration of manufacturing and construction activities in this region. In fact, some contemporary authors pointed out the constitution of Montevideo as the "pump suction" of the country (Martínez Lamas, 1930) and the extreme imbalance that this meant for the economic development.This hypothesis is related to the argument of the New Economic Geography (NEG) that explains the spatial distribution of production as a result of the interaction between transport costs, increasing returns to scale and market size, assuming theoretical structures that support monopolistic competition (Krugman, 1991, 1995). This model predicts the formation of large urban and industrial agglomerations in a process which is self-enforcing to over time.

As a third hypothesis, we expect a high concentration of services in Montevideo and also in main cities in the rest of the country, with few changes along the century. Indeed, the urban structure of the country did not change significantly over the century. This hypothesis also refers to NEG arguments and especially to urban agglomeration economies.

Does the combination of these hypotheses allow arguing anything about regional income inequality? At this point, the "canonical" hypothesis of an inverted-U shape (Williamson, 1965) does not seemto bean expected result. The primary activity based on endowment factors would represent (in the case of Uruguay) a decentralized force but the development of industry and serviceswould be a such strong concentrator force that drives to high inequality favouring Montevideo and provinces around it in a persistent way.

However, we have a fourth hypothesis which assumes that there are two reasons that lead to counteract the centrality effects of economic activity in the south of the country, especially in Montevideo. We explain these reasons before to state the hypothesis.

First, the industry in Uruguay is very much based on primary products, so the location of natural resources is,frequently, a strategic factor more important that the existence of markets for skill-labor. Moreover, the final market of the production is largely for export, and what really is relevant is a good access to a river or road that allows getting to exit points for the products (including the port of Montevideo). So, it is not always relevant to be located in a city which represents itself the consumption market. These characteristics are very different from those analysed in European regions in some other studies (Rosés et al, 2010;Martínez-Galarraga et al., 2013; Badia-Miróet al., 2012) that show how in the 19th century production was concentrated around urban agglomerations as final markets themselves and developed industries that were not so based on agricultural raw materials.

Second, the spatial location of production is affected by the degree of state intervention in the economy through economic policies, legislation and direct participation as producer. Following previous works –as Tirado et al. (2013)– it is highly probable this type of intervention alters the fundamentals of the regional specialization opening opportunities to locate economic activities where previously was not rentable. Therefore, a policy that alters the relative prices favouring a specific industrial activity and the existence of local entrepreneurs willing to carry out these activities could explain why industries exist located far away from the main urban agglomeration (e.g.the development in the 1940s and 1950s oftextile, leather and beer industries in Paysandú, sugar refinery in Artigas, textile and dairy industries in Colonia and San José). Indeed, Uruguay evidenced high degree of state intervention in the economy from the 1930s to the 1950s, the so called import substitution (ISI) policy period, promoting manufacturing with special tariff regimes, exchange controls, subsides and the production of state enterprises (many times in monopoly conditions).

So, the fourth hypothesis is that the industrialization guided by the ISI policy (or state-led industrialization), between the 1930s and the 1960s, could mean an equalizer force in the regional income, in a similar way it was for personal income distribution (Bértola, 2005).

If our hypothesis is correct, regional inequality would be expected to be higher at the first decades of the century (predominating NEG argument) which would be neutralized or revertedduring the ISI, and after this period of active industrial policy would start again and increase trend. This evolution configures a (stylized) U-shaped evolution.

· A new database on Uruguayan regional per-capita GDPs: methods and sources

Our estimation of Uruguayan per-capita regional GDP is based on the methodology developed by Geary and Stark(2002)(hereafter G-S), the use of other criteria that distributes the national GDP in some specific sectors and direct estimates for some sectors where data are available. For detailed descriptions of methods and sources see García et al. (2015) (all sectors, 1908-1961); Araujo et al. (2015) (agriculture, 1908-2010); García, Goinheix& Rodríguez Miranda (2015) (all sectors, 1966-1978); Goinheix& Rodríguez Miranda (2015) (all sectors, 1981-2008). The latter working papers discuss about the availability of information and sources; the different methodological options and decisions taken are explained and details of the final estimates are showed. In this paper, we only explain s the methodology and sources usedin general terms.

G-S departs from the basic notion that the per-capita GDP is equal to the (weighted) sum of all regions' per-capitaGDPs. Algebraically, the total GDP of the Uruguayan economy is the sum of all regional GDPs:

$$Y_{Uy} = \sum_i Y_i$$

(1)

Given that provincial GDP (Yi) is not available, this will be approximatedaccording to the following equation:

$$Y_i = \sum_j y_{ij} L_{ij}$$

(2)

y_{ij} being the output, or the average added value, per worker (or other measure of factor productivity) in each region i, in sector j, and $L_{ij}$the number of workers in eachregion and sector (or the number of the corresponding factors). As we have no data for y_{ij}, this value is proxied by taking the sector output per worker of the whole economy (y_j) (or other factor),assuming that regional productivity in each sector is reflected by its remuneration relative to the national average (w_{ij}/w_j) (or a similar representation of this gap).

In consequence, we can assume that the regional GDP will be given by:

$$Y_i = \sum_j \left[y_j \beta_j \left(\frac{w_{ij}}{w_j} \right) \right] L_{ij}$$

(3)

where$\beta_j$is a scalar that preserves the relative region differences but scales the absolute values so that the regional total for eachsector adds up to the Uruguayan totals.

So, in the absence of output figures, G-Sset a model of indirect estimationbased on wage income, which allows for an estimation of GDP by region at factor cost, in current prices. The basicdata involved in this estimation procedure are domestic output per worker by sector, and nominal wages and active population,by sector and region. However, in several industries (see below), we propose a modified version of G-S (using production in physical volume or other types of incomes) or directestimates of regional output. Geary and Stark (2002) and followers distributed regional GDPs in threedifferent groups or types of industries that we identify with primary (agriculture and mining), secondary (manufacturing and construction) and tertiary (public utilities, public administration and other services) sectors.

We consider estimations for eight benchmarks that combining our calculations–corresponding to 1908, 1936, 1955, 1966 and 1978– with the available estimatesfor 1961, 1993 and 2008. The lattercorrespond to estimations made by state organisms (BROU, UTE-Universidad and OPP-INE-BCU, respectively) but only that referred to 2008 is considered official and recognized by the

institute that elaborate the National Accounts.

It is true that the choice of our benchmarks is subject to the information availability (mainly census data) but they had important conceptual contents. The first estimate is for 1908 that represents a period of strong dynamism related to the First Globalization, a stage that can be considered ended for Uruguay in the 1920s (Bertino et al., 2005). Estimates corresponding to 1936 and 1955 represent, respectively, the beginning and the end of the ISI, following the stagflation period corresponding to the 1960s and represented by 1961 and 1966. After that, 1978 and 1993 represent a period of openness, financial liberalization and regional integration that was conformed during the military government and extended until the 1990s. Uruguay evidenced the deepest economic crisis in the last one hundred years in 2001-2002 and emerged in a new international context in the 21th century whose effects should be evidenced by data corresponding to 2008. Besides, this last stage presented important political changes with the first government led by a left-wing party.

· Primary sector: agriculture and mining
· *Agriculture*

In agriculture we applied a modified version of G-S method for the years 1908, 1936, 1955, 1966 and 1978. We were able to compute direct production in physical volume for six activities within livestock and ten within crop production and the corresponding amount of land destined for each productive activity from Agricultural Census. Therefore, we have land productivity indicators to apply G-S considering the agricultural value-added(VA) from Bonino et al. (2012).

Data for 1961, 1993 and 2008 come from available estimatesby state organisms.

· *Mining*

In mining we applied the standard version of G-S method for the years 1908, 1936, 1955 and 1961. We count with data of economically active population in 1908 and 1963 and obtain the intermediate years by (log) interpolation. In 1908 we count with information about wages and, in the other years, we applied the same wage-gap that evidenced in the manufacturing industry.

In 1978 we distribute the totalmining GDP with data of volume of production and value per ton for each province from official statistics ofMinisterio de Industria y Energía (Ministry of Industry and Energy). In 1966 we applied G-S estimation, using mining economically active population (EAP) estimated for that year and an approach to productivity differentials between provinces (from 1978 estimates).

· Secondary sector: manufacturing and construction

To carry out the estimation of regional industrial value added in 1908, we use the G-S method in the standard version.

Industrial EAP comes from Population Census of 1908 considering those people classified as "industry of transformation" (*industria de transformación*) and the category *jornaleros* (daily wage earners) which is determined according to the share of urban population in each province (as Klaczko, 1981, proposes).

Wages are obtained from the Industrial and Commercial Census of 1908. This Census informs about total wages and workers by industrial branches and province and we obtain the annual wage dividing both items. Census branches involve heterogeneous activities corresponding to manufacturing and retail trade and we select those activities more representative of the secondary activity: logging, metallurgy and textile industry (basically composed by factories and workshops).

The Industrial Census of 1936 informs about industrial VAby province and we consider this structure to distribute the total value-added from Bonino et al. (2012).

The Dirección de IndustriasdelMinisterio de Industria y Trabajo(DI-MIT) reports the industrial gross output(GO) by province for 1954-1960. We adjust these values to obtain an estimation of value-added according to the relation between both concepts in 1960.The average structure obtained for 1954-1956 is applied to the corresponding industrial VA and we get an estimate for 1955.

To estimate the provincial manufacturing VA for 1966, a G-S methodology is applied using ratios of labor productivity observed for 1961 (GDP per worker in each province related to national average) and the estimated EAP for 1966. In 1978 G-S equation is also applied using wage

differentials between provinces obtained from the industrial census of 1978 and the estimated industrial EAP for that year.

The estimates of provincial construction VA for 1966 is calculated according to G-S using the EAP in that sector estimated by province and the productivity differential between province using the relation to the national average calculated for 1961 (BROU, 1965).In 1978 we also applied G-S methodology with the estimated EAP but, in this case, taking a wage differential between provinces that is estimated with data per province of 1981 from the household survey (ECH) of InstitutoNacional de Estadística (INE) (data not available for previous years).

We consider data of 1961, 1993 and 2008 according to available information from state organism sources.

- Tertiary sector: public utilities, public administration and other services
  - *Public utilities*

Taking into account the absence of specific studies or census for the major part of the service activities during the 20th century, this item constitutes one of our weakest estimates.

As public utilities we consider electricity, gas, water, and sewage. Active population by provincecorresponding to 1908 comes from the Industrial and Commercial Census considering all enterprises of the sector and those corresponding to 1963 come from Population Census. We estimate the province structure of 1937 and 1955 by interpolation and consider the sector EAP according to Industrial Census and DI-MIT reports, respectively. We assume the same income gap among provinces that we obtain for Industry, considering wages for 1937 and VA for 1955.

For the years 1966 and 1978 estimates were made as follows. The gas represents only 0.02 per cent of the total sector and is assigned to Montevideo. The water represents between 23 and 26 per cent of the sector and its distribution among provinces was made according to the distribution of total EAP estimated for 1966 and 1978. Electricity, over 75% of public utilities GDP, was distributed per province according to data on electricity generated by type of source and location of the plant –according to INE data and the state administration of electricity plants and transmission (UTE).

We consider data of 1961, 1993 and 2008 according to available information from state organism sources.

- *Public administration*

Government budgets inform about the amount of civil servants in*departamentos* and we get the provincial structure, by benchmark, from this source. However, the total of civil servants is obtained from Azar et al. (2009) which ensures the homogeneity of the series (only for 1908 we work with Census data).

Government budget of 1908-1909 (Uruguay, 1908) informs about total civil servants and total paid wages so we obtain a wage rate (annual) which we consider homogenous among provinces. Government budget of 1936 (Uruguay, 1936) offers information about civil servants and total wages of the Central Government and the 19 provincial (or municipal) governments that we use for 1937. Central Government has a disparate distribution of organisms Montevideo–Interior according to the nature of official dependences (ministries, tribunals, courts). We distribute incomes according to this feature and the shares derived from municipal government structure. Government budget of 1955 (Uruguay, 1955) does not informs about municipal governments and we use the wage relation between both levels of administration in 1937 to assign wages. In 1961 it was not edited a Government budget and we assume the same structure than 1955.

In 1966 y 1978 public administration is estimated along with other services.

- *Other services*

We proceed to estimate the provincial structure of the EAP of these other services interpolating the figures corresponding to 1908 and 1963 (similar to public services). Absolute values of active population of services is obtained deducting from total EAP (Fleitas&Román, 2010) the previous estimates.

Numerous historical studies have suffered from the absence of information on wages in service industry. An extended strategy (Geary & Stark, 2002; Roses et al., 2010) has been to calculate the

service sector wages as a weighted average of the agriculture and industry series in each province. However, this strategy does not seem suitable for Uruguay.

Service industry in a society with a long tradition related with financial and commercial sectors – connected with harbour and export activities–, where liberal professions were associated with medium and high social classes and where the state had an important role and civil servants received high salaries, to assume wage in the average of the economy is, at least, daring. The comparison between service and industrial wages in 1908 showed a gap of 10 per cent in favour of the former. The same comparison between the minimum wages per occupation assignment by the tripartite Wages Councils that acted in Uruguay in the 1940s and 1950s showed a gap of 7 per cent. Therefore, we use this last rate to determine the wages of the other services over the industrial wages.

In 1966 we proceed to apply the G-S method in a different way, using the tertiary GDP per worker differential between provinces (relative to the national average) observed in 1961 (available estimates) and the estimated EAP for the tertiary sector in 1966.

In 1978 we applied the G-S equation in a similar way to that for previous estimates to 1966. It uses the tertiary EAP estimated by province in 1978 and a estimation of the services wage differential between provinces. Wage data is obtained from the household survey of INE in 1981 and the industrial census of 1978. The ratio between services and manufacturing wages in Montevideo is taken from household survey (1981). On average, service wages are 11 per cent above manufacturing wages.

The average industry wage in Montevideo is taken from the Census of 1978 and to obtain the average services wage the ratio obtained between services and manufacturing in 1981is applied. Once the services wage in Montevideo is obtained, we proceed to estimate the wages of services for the rest of the provinces in 1978. It is realized by using the services wage ratio of each province related to Montevideo taken from the ECH for 1981.

· Results and stylized facts on regional income distribution in Uruguay
· Territorial distribution of income

In this section we look at the evolution of regional per capita income trends during the century. Table 1 ranks provinces according to their 1908, 1936, 1955, 1961, 1966, 1978, 1993 and 2008 per capita relative incomes. Four relevant stylized facts stand out from Table 1.

Table 1.Per capita GDP ranking of Uruguayan provinces, 1908-2008.

	1908		1936		1955		1961
Montevideo	156.1	Montevideo	141.3	Montevideo	120.0	Montevideo	122.1
Flores	115.2	Río Negro	121.3	Soriano	109.1	Maldonado	104.4
Paysandú	100.8	Flores	104.3	Paysandú	107.8	Florida	97.4
Colonia	100.3	Artigas	99.3	Maldonado	101.2	Colonia	96.9
Soriano	93.1	Colonia	96.5	Tacuarembó	99.7	Flores	92.4
Salto	90.2	Paysandú	90.2	San José	99.2	Paysandú	90.5
Artigas	89.7	Soriano	83.2	Colonia	98.1	Lavalleja	89.7
Durazno	84.1	Durazno	80.2	Rocha	93.4	Río Negro	87.1
Río Negro	87.2	Lavalleja	76.5	Lavalleja	90.5	Soriano	85.7
Canelones	77.0	Florida	76.7	Río Negro	87.6	Durazno	82.1
Lavalleja	70.0	San José	72.2	Salto	81.5	San José	81.2
San José	67.7	Rivera	71.4	Florida	80.2	Rocha	80.9
Rivera	63.5	Rocha	71.1	Flores	78.0	Treinta y Tres	77.8
Cerro Largo	64.8	Canelones	68.2	Canelones	77.3	Tacuarembó	74.7
Rocha	63.9	Cerro Largo	67.6	Treinta y Tres	73.2	Artigas	73.9
Treinta y Tres	64.1	Treinta y Tres	55.5	Cerro Largo	65.0	Canelones	72.9
Florida	63.0	Maldonado	53.8	Durazno	61.9	Cerro Largo	71.3
Tacuarembó	50.1	Salto	52.3	Artigas	55.1	Salto	70.4

Maldonado	48.1	Tacuarembó	48.9	Rivera	48.6	Rivera	55.1
1966		**1978**		**1993**		**2008**	
Montevideo	116.8	Montevideo	123.9	Montevideo	140.2	Río Negro	182.7
Florida	109.4	Maldonado	113.2	Maldonado	118.0	Maldonado	142.4
Río Negro	104.2	Colonia	99.1	Colonia	92.0	Colonia	140.1
Colonia	103.2	Río Negro	91.6	Paysandú	80.5	Montevideo	115.3
Maldonado	102.7	Salto	89.7	Rocha	80.3	Flores	100.3
Durazno	102.3	Durazno	88.9	Florida	79.6	Florida	100.2
Paysandú	95.9	Florida	88.9	Río Negro	76.2	Rocha	96.0
Soriano	93.9	Paysandú	83.5	Salto	75.9	Treinta y Tres	95.0
San José	93.4	Lavalleja	83.4	Soriano	74.7	San José	94.2
Lavalleja	91.5	Rocha	82.0	Flores	73.2	Soriano	92.0
Flores	89.8	Soriano	80.5	Durazno	71.0	Lavalleja	87.5
Rocha	78.6	Canelones	80.2	Tacuarembó	68.6	Paysandú	85.8
Treinta y Tres	78.2	Artigas	76.2	San José	65.8	Tacuarembó	75.9
Tacuarembó	77.3	San José	72.9	Treinta y Tres	65.7	Rivera	74.4
Salto	77.2	Tacuarembó	70.3	Lavalleja	63.7	Cerro Largo	73.4
Artigas	77.1	Flores	69.2	Cerro Largo	61.8	Salto	70.0
Canelones	75.7	Treinta y Tres	64.1	Artigas	53.0	Durazno	69.1
Cerro Largo	69.0	Cerro Largo	60.2	Canelones	51.2	Canelones	68.7
Rivera	56.9	Rivera	50.9	Rivera	45.4	Artigas	66.4

Source: García et al. (2015), Araujo et al. (2015), García, Goinheix& Rodríguez Miranda (2015), Goinheix& Rodríguez Miranda (2015).

First, the persistent leadership of Montevideo is evident (always the first in the ranking with the only exception of 2008). In average, Montevideo exceeded the mean of the country in 30 per cent, showing the highest ratio in 1908 (156) and the lowest in 2008 (115).

Second, similar persistence along the period within the top-ranking positions was presented by Colonia and Paysandú. Also Rio Negro is at the top-4 in various years and is the first in the 2008´s ranking, due to the allocation of pulp industry in 2006 in that province. Some studies characterize the local development of Uruguay during the 1990s identifying a L-shape zone of high income and welfare indicators (Rodríguez Miranda, 2006) that covers the South (close to the River Plate) and the Litoral (close to the Río Uruguay) and the new evidence shows that this constitutes a structural feature of the economy.

Third, those more traditional regions, located in the North (close the border with Brazil) and specialized in primary production (see below) constituted theperiphery along the period which includes Artigas, Rivera, Cerro Largo, Treinta y Tres and Tacuarembó with the lowest records of income per capita. However, a member of this "poor club" is Canelones; this is a result that, initially, can be surprising because it constitutes the metropolitan region around the capital of the country.

Canelones was traditionally a poor region, populated by immigrants dedicated to small farms and very low scale production. Progressively, Canelones was receiving those production activities non-strategic for Montevideo and the population increased significantly, resulting in a persistent depressed income per capita.In the last decades of the 20[th]century (and stronger in the first decade of the new century) Canelones benefited from the relocation of industries and logistics services who left Montevideo for reasons of urban regulation, land cost and physical space.It has taken advantage of the metropolitan condition which allows access to strategic services and skilled workforce in Montevideo. However, in those decades Canelones was also the province that received the greatest internal migration, population largely emigrated from Montevideo looking for better quality of life and lower housing costs althoughit continued working in the capital. The result is simple; much of the population living in Canelones generates GDP in Montevideo, so the GDP per capita of the province systematically shows low values (this was already identified in UNDP, 2001, 2008, and

Rodríguez Miranda, 2006).

Finally, we found two cases with trajectories that showed convergent evolutions. The clearest case is Maldonado that started the century being the poorest province of the country and maintained in the top-two ranking from the 1970s onwards. The other case is Florida that followed a similar process until the 1960s and losing some positions in the last decades of the period (keeping the 6[th]or 7[th]place). The economic structure of both regions was significantly different. Maldonado based its success on the specialization in tertiary activities (fundamentally services) and big pushes of the construction (in the 1970s)linked to tourism and financial sectors. On the other hand, Florida enjoyed high levels of intensive agriculture (mainly dairy industries and industrial crops) which maintained the GDP per capita in relatively high levels.

Table 2 displays information on the evolution of different measures of per-capita GDP inequality (the Gini coefficient, the Theil index, and percentile ratios). Regional inequality decreased substantially in the period of economic growth, industrialization and increasing state intervention during the 1940s and 1950s. After this, inequality increased significantly to achieve in the 1990s levels close to the beginning of the century. This trajectory is consistent with our main hypothesis about a U-shape evolution of the regional income distribution in Uruguay in the long run. However, the evolution during the 21th century was a non-expected result. Itcould be evidence about important changes experienced by the economy after the deep economic crisis of 2001-2002. The recovery of the economy would have brought with it transformations in the economic process with relevantconsequences in terms of the regional distribution of the production. This long-run evolution confirms other evidence of similar nature.
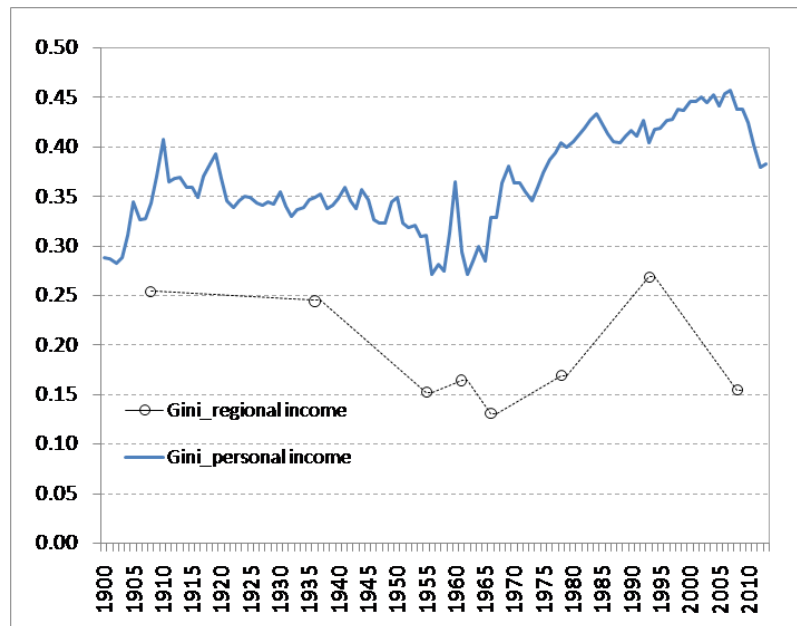
Table 2
Regional per-capita GDP inequality in Uruguay. 1908-2008.

	1908	1936	1955	1961
Gini coefficient	0.25	0.24	0.15	0.16
Theil index	0.07	0.06	0.03	0.03
p90/p10	2.48	2.63	1.85	1.68
p90/p50	1.74	1.57	1.11	1.25
	1966	1978	1993	2008
Gini coefficient	0.13	0.17	0.27	0.15
Theil index	0.02	0.03	0.07	0.03
p90/p10	1.54	1.76	2.74	1.68
p90/p50	1.12	1.25	1.52	1.15

Notes: The number of observations is 19 in all indexes. All inequality indexes are population weighted.
Source: see Table 1.

Figure 2
**Regional and personal income distribution in Uruguay. 1908-2008**

Figure 1 presents our Gini coefficient and that corresponding to the personal income distribution –INE website for 2001-2010, Bértola (2005) for 1913-2000, Lezama&Willebald (2015) for 1900-1912– and similar trends are confirmed. In other words, the U-shaped evolution with a reversion in the 2000s in the regional income distribution coincides, in a stylized manner, with that obtained for personal distribution with other methodology and different objectives. This evidence points out that the equalizer effect of ISI policy that reduces inequality in national personal income is enhanced by a better regional distribution of income. Other inequality indicators add elements to this evidence.

Figure 3 presents the Kuznets' ratio (percentile ratios) for identifying movements within the distributions. The p90/p10 ratio is the ratio of income at the 90th percentile (i.e. the income level dividing the bottom 90 per cent of the population from the top 10 per cent) to that at the 10th percentile. This represents the gap between "the richest" and "the poorest" provinces. Analogously, p90/p50 represents the gap between "the richest" and the median income and p50/p10 the gap between the last and "the poorest".

Figure 3
Percentiles ratios in Uruguay. 1908-2008
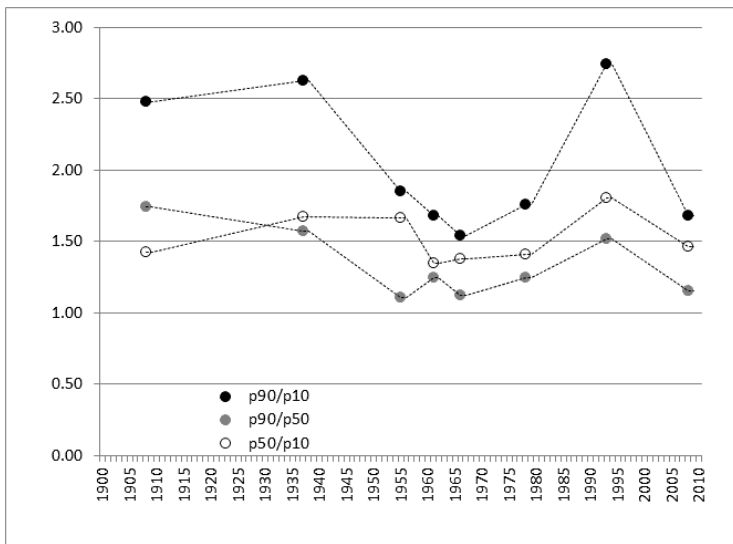
The decreasing of inequality in the beginning of the 21th century coincided with the declining in the three indicators. However, this is not true for the inequality reduction of the 1940s and 1950s when the p50/p10 maintained stable and just decreased in 1961. In other words, one of the differences between both periods of improvements in the regional income distribution is that during the ISI the gap between the median and the lowest incomes did not reduce.

· Regional production structure

How did the economic structure of Uruguayan regions respond to this process of initial declining and posterior increasing regional income distribution? To answer this question, we calculate the Herfindahl-Hirschman index which is an indicator of concentration by type of economic activity (we consider primary, secondary and tertiary sectors).

$$IHH_j = \sum_{i=1}^{n} s_{ji}^2 IHH_j = \sum_{i=1}^{n} s_{ji}^2$$

(4)

Where s represents the share of each province (*i*) in the sector (*j*)(with *j=*primary*, secondary and tertiary). The IHH varies between 1/n (0.05 in our database) and 1 (the maximum concentration).

From Figure 4 we obtain two main highlights, one of them referred to the levels of the indicators and, the second, refereed to the evolutions.

Figure 4
Herfindahl-Hirschman index by sector in Uruguay, 1908-2008.
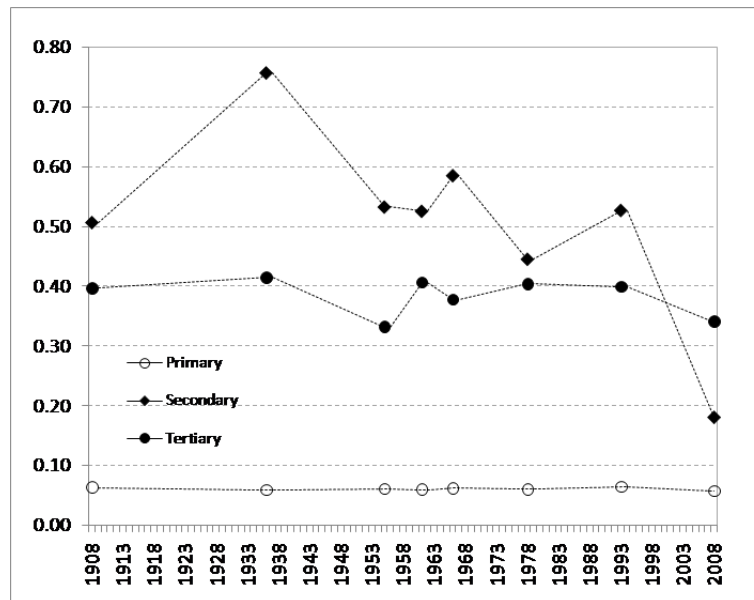
Source: see Table 1.

As we expected, the highest territorial concentration corresponded to industrial activity (manufacturing and construction including in the secondary sector) and the lowest to primary sector. The different nature of both types of activity –of transformation the former and extractive the second one– explains different reactions faced to location and geographical factors. In Uruguay, the primary sector is fundamentally agriculture and, within this activity in most of the period, cattle and wool were the main products.

This result confirms our first hypothesis on the primary activity as a decentralizing force. As it was said, practically the whole territory is apt for this production and the low regional concentration of the primary sector is evidence of this. On the contrary, as it was established in our second hypothesis, industry is the most concentrated sector in Uruguay which is related to the main urban centres and the action of the typical NEG factors as scale economies, transport costs and market size (with Montevideo as the core). However, the evolutions report additional information.

The territorial concentration of industry was high and increasing until the 1930s, but after that, it declined with two periods particularly intense. During the 1940s and 1950s and in the 2000s the concentration reduces coinciding with the improvements in decreasing regional inequality reported in Table 2 and Figure 1. In other words, the industrial de-concentration would be associated with improvement in regional distribution of income. To confirm this evidence we propose additional indicators.

We assemble Krugman indices of regional specialization (Krugman, 1991) that were computed using 19 provinces and three sectors (primary, secondary and tertiary). This index (KSI) is defined asfollows:

$$KSI_{ik} = \sum_{j=1}^{n} \left(\left| \frac{VA_{ji}}{VA_i} - \frac{VA_{jk}}{VA_k} \right| \right) KSI_{ik} = \sum_{j=1}^{n} \left(\left| \frac{VA_{ji}}{VA_i} - \frac{VA_{jk}}{VA_k} \right| \right)$$

(5)

where VA_{ji} is the level of value-added in sector j for region i, and VA_i is the total value-added for region i, and similarlyfora province k taken as reference. This index ranges between zero and two, where an index value of zero indicates that region i has an identicalindustrial structure to region k, and a value of two indicates that region $i's$ industrial structure has nothing in common withthat of region k.

Indexes of regional specialization were calculated for each of the 171 bi-regional comparisons (of the nineteen provinces). These indexes were averaged to produce a measure of each region's specialization (or differentiation respect to the other regions). In this case, when the index is close to zero means that the province has a quite similar productive structure respect the rest of provinces (in

average). If the index is close to 2 then the province has, in average, a very different structure respect of the rest of provinces. Finally, we generate an average of all the provinces indexes as an overall measure of Uruguayan regional specialization. In this case lower indexes correspond to more similar productive structures between provinces and higher values show more different structures, which suppose evidence of a different productive specialization by regions.

Figure 5 shows that regional specialization in Uruguay did not follow a clear trend in the long-run. So, it is difficult to explain regional income inequality evolution as a direct result of more or less regional specialization related to H-O or NEG factors. It means that there are other factors also determining the long-run evolution.

Regional differentiation declined with the industrialization of the 1940s and 1950s. It means that productive structures of provinces follow a path of convergence and at the same time the regional inequality was decreasing. This result is different from what could be expected in a process of industrialization driven for NEG forces. During 1960s regional inequality remains low but specialization increase (in average productive structures of provinces show a trend of divergence). From the late 1970s until at least the early 1990s differentiation decreased (in average province´s productive structures became more similar) and regional inequality increase. Finally, regional specialization increased in the 2000s (in average province´s productive structures became more different) and regional inequality decrease as in the ISI period. In other words, we find evidence of declining regional income inequality with opposite evolutions of production differentiation which is evidence of the actions of different factors.

Table 3 shows the KSI indexes calculated by province.

Figure 5
Krugman's indices of regional specialization in Uruguay (average of the country and average excluding Montevideo), 1908-2008.

Source: see Table 1.

Table 3
Krugman's indices of regional specialization in Uruguay by province, 1908-2008.

	1908	1936	1954	1961	1966	1978	1993	2008
Artigas	0.27	0.37	0.44	0.23	0.30	0.33	0.25	0.29
Canelones	0.25	0.49	0.32	0.35	0.43	0.46	0.26	0.45

Cerro Largo	0.28	0.29	0.27	0.23	0.30	0.35	0.22	0.27
Colonia	0.23	0.31	0.33	0.37	0.52	0.39	0.31	0.39
Durazno	0.23	0.30	0.42	0.22	0.29	0.34	0.20	0.28
Flores	0.24	0.29	0.39	0.27	0.48	0.47	0.24	0.32
Florida	0.35	0.41	0.33	0.26	0.32	0.30	0.22	0.31
Lavalleja	0.23	0.28	0.26	0.25	0.32	0.29	0.22	0.29
Maldonado	0.33	0.30	0.43	0.50	0.52	0.49	0.43	0.65
Montevideo	0.94	0.91	0.64	0.70	0.76	0.61	0.45	0.64
Paysandú	0.37	0.33	0.28	0.25	0.39	0.60	0.21	0.26
Río Negro	0.31	0.35	0.45	0.33	0.34	0.27	0.32	0.71
Rivera	0.43	0.53	0.27	0.33	0.45	0.41	0.25	0.29
Rocha	0.25	0.27	0.26	0.21	0.29	0.29	0.22	0.30
Salto	0.37	0.31	0.25	0.24	0.29	0.35	0.30	0.27
San José	0.31	0.27	0.24	0.26	0.38	0.27	0.37	0.37
Soriano	0.26	0.36	0.24	0.21	0.29	0.26	0.21	0.27
Tacuarembó	0.35	0.47	0.28	0.23	0.31	0.27	0.23	0.27
Treinta y Tres	0.29	0.36	0.25	0.22	0.29	0.34	0.23	0.37
Uruguay	**0.33**	**0.38**	**0.33**	**0.30**	**0.38**	**0.37**	**0.27**	**0.37**

Source: see Table 1.

Montevideo is the provincewith the most different production structure during the period –where industrial and services are concentrated– but other regions present ratios over the national mean also. This is the case of Canelones –in a metropolitan logic–, Colonia –with a long industrial tradition and Río Negro in some years –due to the allocation of some big factories as meat industry at the beginning of the 20[th]century and pulp industry in the 2000s. Also Maldonado and Rivera showed higher differentiation ratios where tertiary sector played a prominent role. This process was related to tourism and services activities in Maldonado promoted for local and Argentinean entrepreneurs and it was related to commerce in cross border citiesin Rivera.

The ranking positions of these provinces differed significantly in the period. Colonia and Río Negro were rich regions in terms of income per capita, but Canelones and Rivera always occupied the low-ranking, whereas Maldonado began the period in the worst position and converged towards the top ranks in the end of the century. Therefore, the relationship between differentiated production structure and high income per capita is far to be clear.

The sectoral specialization between regions can be addressed by estimating location quotients (*LQs*) for primary, industrial and tertiary sectors. More specifically, we estimated the following equations:

$$LQ_{ji} = \frac{\frac{VA_{ji}}{VA_i}}{\frac{VA_{jUy}}{VA_{Uy}}} \quad LQ_{ji} = \frac{\frac{VA_{ji}}{VA_i}}{\frac{VA_{jUy}}{VA_{Uy}}}$$

(6)

Basically, these ratios measure the relation between the share of each sector *j* in the province i and the equivalent indicator for the whole economy.

Table 4
Location quotients for Uruguayan primary sector, 1908-2008.

	1908	1936	1954	1961	1966	1978	1993	2008
Artigas	1.81	2.00	3.70	2.89	2.64	3.23	3.38	3.22
Canelones	1.88	1.45	1.33	1.45	1.39	1.18	1.93	0.68
Cerro Largo	1.60	2.35	2.64	2.85	2.40	2.88	3.19	2.93
Colonia	1.93	2.16	1.66	1.68	1.61	2.00	1.66	1.22
Durazno	1.82	2.95	3.63	2.80	2.34	2.50	2.76	3.04
Flores	1.98	2.87	3.48	3.11	3.46	4.06	2.81	3.30

Florida	2.28	3.30	3.14	3.03	2.79	3.07	3.65	3.39
Lavalleja	1.94	2.30	1.71	2.10	2.07	2.63	3.37	2.16
Maldonado	2.12	2.18	0.84	0.85	0.86	0.93	0.54	0.26
Montevideo	0.07	0.05	0.05	0.05	0.06	0.08	0.06	0.07
Paysandú	1.32	2.02	2.27	2.21	2.23	2.41	2.83	2.37
Río Negro	2.18	2.47	3.56	3.36	2.94	2.88	3.69	2.05
Rivera	1.23	1.39	2.05	2.16	1.73	2.10	2.85	1.92
Rocha	2.02	2.68	1.81	2.55	2.11	2.13	2.59	2.58
Salto	1.33	2.59	1.93	2.11	2.03	1.79	2.07	2.04
San José	1.47	2.66	2.10	2.75	2.86	2.66	4.11	2.23
Soriano	1.79	3.19	2.20	2.62	2.51	2.53	2.65	2.88
Tacuarembó	2.25	3.42	1.73	2.79	2.20	2.46	2.89	2.76
Treinta y Tres	2.12	3.16	2.34	2.76	2.47	3.33	3.67	3.73
Uruguay	**1.74**	**2.38**	**2.22**	**2.32**	**2.14**	**2.36**	**2.67**	**2.25**

Source: see Table 1.

As the primary location of the production is outside Montevideo, Table 4 shows a very low weight of primary sector in Montevideo production structure. Canelones and Maldonado also show low primary specialization at the end of the period despite of being agrarian provinces at the beginning.

The "club of primary-provinces" is composed by Artigas, Flores, Florida, Río Negro and Treinta y Tres which are historically characterized by the agriculture specialization. However we cannot associate primary production with lower levels of income per capita. On the contrary, Flores, Florida and Río Negro occupied middle and high income rankings along the period. Other provinces with primary specialization are Cerro Largo and Durazno, and with some fluctuations in the period San José, Soriano and Tacuarembó.

Table 5
Location quotients for Uruguayan secondary sector, 1908-2008.

	1908	1936	1954	1961	1966	1978	1993	2008
Artigas	0.26	0.06	0.33	0.22	0.20	0.65	0.83	0.83
Canelones	0.34	0.18	0.71	1.00	1.05	1.34	1.01	1.27
Cerro Largo	0.45	0.09	0.33	0.20	0.16	0.23	0.45	0.80
Colonia	0.51	0.74	1.01	1.18	1.30	1.19	1.14	1.61
Durazno	0.42	0.13	0.29	0.30	0.19	0.29	0.53	0.76
Flores	0.42	0.22	0.36	0.22	0.19	0.38	0.93	0.65
Florida	0.43	0.17	0.38	0.38	0.34	0.47	0.51	0.84
Lavalleja	0.44	0.32	0.61	0.76	0.74	0.79	0.68	1.32
Maldonado	0.64	0.64	0.81	1.42	0.95	0.64	0.56	0.68
Montevideo	1.53	1.82	1.38	1.27	1.33	1.11	1.19	0.81
Paysandú	0.78	0.31	0.74	0.78	0.94	1.52	0.83	1.10
Río Negro	0.47	0.98	0.57	0.28	0.22	0.61	0.15	2.30
Rivera	0.49	0.11	0.29	0.18	0.11	0.24	0.35	1.32
Rocha	0.49	0.17	0.46	0.38	0.29	0.56	0.49	0.72
Salto	1.10	0.68	0.43	0.56	0.45	1.07	0.43	1.13
San José	0.70	0.31	0.61	0.63	0.51	0.71	0.88	1.55
Soriano	0.79	0.11	0.49	0.47	0.41	0.60	0.82	0.79
Tacuarembó	0.43	0.22	0.41	0.21	0.18	0.53	0.42	1.03
Treinta y Tres	0.47	0.21	0.38	0.28	0.19	0.33	0.57	0.85
Uruguay	**0.59**	**0.39**	**0.56**	**0.56**	**0.51**	**0.70**	**0.67**	**1.07**

Source: see Table 1.

Historically, industry was located in Montevideo (Table 5). The indicator shows a value over the unity during the whole period with the exception of 2008, when the ratio was 0.8. A few provinces could get into the "industrial club" in these one hundred years. Canelones entered into the club from

the 1960s as an extension of the manufacturing industry in Montevideo and the population increasing (assorted with construction). Colonia entered from the ISI onwards with manufacturing associated to textiles and dairy industry. Paysandú presented, from the 1940s, an increasing industrial profile based on the transformation on animal raw material (leather, wool), sugar refinery and cereals (beer). Finally, the newest province to enter into the club is San José in the last decades of the period, receiving industries reallocated from Montevideo and new investments attracted by localization advantages and local government supports.

Río Negro is quite special because it shows an industrial profile in the first decades of the 20[th]century related to the existence of a big meat processing factory that would disappears later and again shows an industrial profile in 2000s a big pulp industry was located there in 2006. It calls to be careful when analyzing provinces with small economies in which the establishment or loss of a large industry can change their production profile.

Table 6
Location quotients for Uruguayan tertiary sector, 1908-2008.

	1908	1936	1954	1961	1966	1978	1993	2008
Artigas	0.80	1.09	0.65	0.86	0.89	0.71	0.81	0.70
Canelones	0.74	1.26	1.03	0.89	0.85	0.79	0.90	0.95
Cerro Largo	0.86	0.95	0.89	0.87	0.99	0.99	0.97	0.76
Colonia	0.64	0.84	0.85	0.77	0.66	0.70	0.88	0.74
Durazno	0.74	0.72	0.68	0.85	0.99	1.04	0.99	0.76
Flores	0.65	0.72	0.69	0.81	0.65	0.67	0.84	0.76
Florida	0.47	0.58	0.76	0.76	0.77	0.84	0.90	0.67
Lavalleja	0.66	0.91	0.99	0.83	0.80	0.76	0.87	0.69
Maldonado	0.48	0.87	1.10	0.87	1.07	1.19	1.21	1.24
Montevideo	1.34	1.34	1.07	1.12	1.12	1.13	1.03	1.22
Paysandú	0.89	1.01	0.81	0.80	0.65	0.45	0.87	0.74
Río Negro	0.51	0.67	0.60	0.72	0.79	0.81	1.03	0.34
Rivera	1.05	1.30	1.03	1.05	1.23	1.15	1.04	0.73
Rocha	0.60	0.81	1.02	0.88	1.02	0.98	1.02	0.85
Salto	0.77	0.70	1.00	0.91	0.96	0.80	1.09	0.78
San José	0.84	0.78	0.90	0.73	0.67	0.80	0.72	0.60
Soriano	0.62	0.63	0.92	0.82	0.83	0.88	0.89	0.77
Tacuarembó	0.49	0.51	1.05	0.88	1.04	0.93	1.01	0.70
Treinta y Tres	0.54	0.62	0.93	0.86	0.95	0.85	0.88	0.61
Uruguay	**0.72**	**0.86**	**0.89**	**0.86**	**0.89**	**0.87**	**0.94**	**0.77**

Source: see Table 1.

Table 6 shows regional specialization on services. The long tradition of Montevideo as urban and commercial centre with a high concentration of state powers did expecting an intensive location of services (a process that seems to be spread over Canelones). Rivera is the other province that presented a high and persistent location of services. Probably, the explanation of this result is based on the characterization as cross border-province, with strong links with Brazil that, economically, have been expressed with an active commercial movement. Finally, Maldonado evidenced a high presence of tertiary activities from the 1960s onwards in a trajectory based on tourism services (lodging, restaurants, and commerce) and the development of Punta del Este as a world reference in the international beach tourism.

The result of other provinces that shows in some times specialization in tertiary sector seems to be related to the development of services for other productive activities, like in Paysandú during the ISI period. It could be the case of Colonia also, adding to that the development of tourism in the latter decades. In others provinces, that have also an agrarian specialization, the public sector has operated as a source of employment to counteract the lack in dynamic private activities (as was pointed out in UTE-UDELAR, 1995).

· Determinants of regional inequality

In Figure 6 we show the sector long-run evolution of labour productivity in relation to the total productivity. Services (identified with tertiary activities) show a decreasing and persistent trend from the high levels of the beginning of the 20th century and, in the 1970s, industry achieved the leadership in productivity terms. Industry (identified with seconday activities) presented an irregular trajectory with strong improvements during the ISI and from the 1970s onwards. Also agriculture presented an irregular trajectory but with contrary trends respect to industry (at least until the end of the century).

Figure 6

Labour productivity by economic sector (sector GDP per worker in relation to total productivity), 1908-2008.
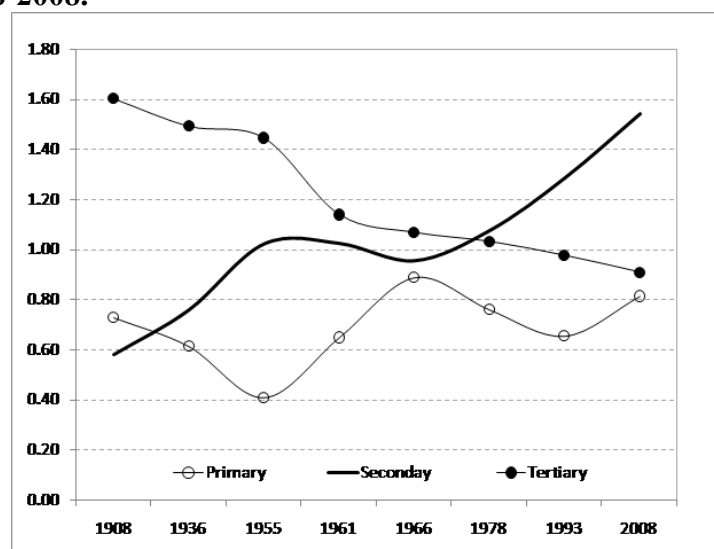
As we noted in the Introduction, differences in regional income, from the trade theory perspective, rely on differences inrelative factor prices and industrial structure of the regions. We go in depth in this question by utilizing a simple modification of the procedure developed by Hanna (1951) and also employed by Kim (1998) to separate income differences into industry-mix and productivity components. The procedure involves constructing two hypothetical regionalper-worker GDPs and comparing them with actual per-worker GDPs. The first assumes that all regions have identical industrymixesand identical industry per worker VAs, with the industry-mix and per worker VA set equal to the overall national average.The second hypothetical per-worker GDP assumes that regions have different industry-mixes but identical per workerVAs, which are set equal to the national average.

The difference between the two hypothetical incomes, which are basedon industry-mix income and the overall national VA, provides a measure of the GDP per worker disparities caused by thedivergence in regional industrial structures (industry-mix effect). The difference between the actual GDP and the hypotheticalindustry-mix income is a measure of the regional GDP per worker variations due to divergence in per worker VA (productivity effect).

Table 7

Differences in regional incomes attributable to industry mix (per cent), 1908-2008

	1908	1936	1954	1961	1966	1978	1993	2008
Artigas	-2.9	-9.1	-33.5	-9.8	-2.0	-6.1	-9.0	-4.5
Canelones	-41.5	-63.4	-181.2	-63.2	-18.3	-16.5	15.7	25.0
Cerro Largo	-6.1	-21.3	-69.1	-20.7	-4.4	-11.5	-10.2	-2.9
Colonia	-16.7	-33.7	-73.8	-21.9	-5.9	-4.8	-5.0	1.7

Durazno	-4.9	-15.1	-36.1	-11.0	-2.2	-5.0	-8.0	-4.5
Flores	-1.9	-7.5	-19.0	-6.2	-1.3	-2.9	-3.1	-8.7
Florida	-13.2	-29.1	-66.6	-19.1	-4.2	-7.8	-8.5	-2.8
Lavalleja	-10.5	-24.0	-66.3	-20.5	-4.8	-7.7	-7.5	-2.5
Maldonado	-7.9	-20.0	-35.3	-6.5	-1.2	-1.5	5.9	5.7
Montevideo	153.8	357.1	1010.2	311.4	74.1	121.5	136.2	25.1
Paysandú	-1.8	-6.1	-43.0	-13.8	-3.4	-4.7	-13.8	-1.8
Río Negro	-3.4	-10.7	-39.3	-14.2	-3.8	-5.0	-8.9	-4.9
Rivera	-6.0	-13.6	-50.8	-9.9	-1.3	-7.6	-11.8	-0.6
Rocha	-7.8	-18.3	-48.6	-12.4	-2.7	-5.4	-7.6	-4.2
Salto	0.8	-7.8	-25.4	-10.9	-2.4	-5.5	-20.1	-5.7
San José	-15.6	-31.3	-101.4	-30.8	-7.5	-10.5	-10.4	-1.7
Soriano	-4.1	-8.5	-40.0	-13.6	-2.9	-5.7	-13.1	-3.6
Tacuarembó	-5.7	-20.9	-47.9	-16.7	-3.7	-8.3	-13.5	-4.8
Treinta y Tres	-4.6	-16.7	-32.7	-10.0	-2.1	-5.1	-7.4	-4.3

On the one hand, Montevideo is the province with the most favorable industry-mix which reflects an economic structure founded on services and manufacturing (Table 7). Montevideo maintained positive rates in the whole period but with a decreasing trend.Other provinces showed a progressive change of the industry-mix until achieve positive variations rates in the end of the period: Canelones –as an extension of the dynamics of Montevideo–, Colonia –with important manufacturing firms– and Maldonado –encouraged by the increasing in the activities related to services. Therefore, the dispersion among rates was decreasing from 1955 to 2008 which would reflect a more homogenous economy.

We sum the variations of those three provinces and compare it with the other "interior" provinces (we exclude Montevideo from this exercise). We find long-run differences between both groups and different evolutions (Figure 6). Both groups obtained increasing negative rates during the industrialization and recovered in the 1960s. However, as Canelones, Colonia and Maldonado continued improvement their industry-mix the other provinces worsening the economic structure and only in the end of the period the group insinuated a change in the trend.

Figure 6
Differences in regional incomes attributable to industry mix (per cent). Canelones, Colonia and Maldonado and Other (interior) provinces, 1908-2008.
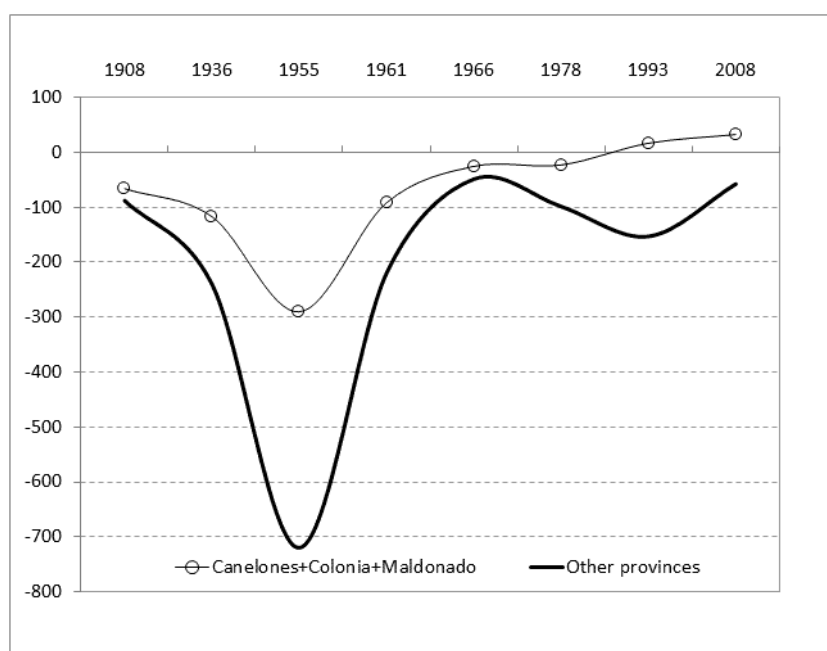
On the other hand, Montevideo, Colonia and Maldonado showed a good performance in terms of the productivity effect (Table 8) but not Canelones. Therefore, the combination of both effects explains why those provinces are in the club of the leaders in terms of regional income per capita. They show a promising economic structure supported by positive productivity effects. Also Río Negro showed sustained positive rates growth but the traditional character of its economic structure –founded on agriculture– impeded achieving high positions in the ranking until the end of the period when industry-mix increased significantly (associated to high manufacturing investments). Paysandú showed important productivity improvements during the first decades of the 20[th]century until the end of the ISI; from the 1960s onwards this province did not get positive rates.

Table 8
Differences in regional incomes attributable to productivity (per cent), 1908-2008

	1908	1936	1954	1961	1966	1978	1993	2008
Artigas	-3.7	31.9	-30.3	-7.9	-3.3	-13.5	-42.4	-23.4
Canelones	-5.3	-0.6	4.0	-30.4	-27.6	-13.2	-98.3	-26.3
Cerro Largo	-38.5	-0.3	-12.0	-22.7	-33.6	-45.3	-31.2	-17.7
Colonia	5.4	12.0	9.1	-0.4	4.6	1.4	-4.6	30.1
Durazno	-1.6	4.0	-27.2	-10.7	10.3	-1.7	-16.0	-24.8
Flores	17.9	16.0	-10.7	-2.1	-4.7	3.8	-19.0	-74.3
Florida	-25.0	-14.3	-4.5	3.5	13.5	-24.9	-8.1	-8.4
Lavalleja	-23.4	0.5	10.0	-13.8	-8.2	-11.1	-58.3	-8.3
Maldonado	-59.2	-49.5	18.1	10.4	2.5	12.1	5.1	25.3
Montevideo	15.6	0.0	-6.9	9.9	7.6	11.9	20.3	4.1
Paysandú	10.4	23.3	21.1	-3.2	0.1	-15.8	-19.9	-5.3
Río Negro	0.0	26.9	2.6	-6.5	5.8	-4.5	-3.2	47.9
Rivera	-27.4	5.8	-43.7	-44.9	-42.3	-78.3	-78.5	-8.2
Rocha	-26.2	-19.6	8.8	-17.5	-18.6	-15.6	-9.0	0.5
Salto	-17.2	-30.0	16.9	-17.5	-11.5	-3.7	-0.8	-23.8
San José	-19.7	-0.9	19.4	-16.8	-2.6	-19.3	-41.8	-9.9
Soriano	-0.9	2.0	25.4	-4.2	1.7	-24.1	-8.8	-7.8
Tacuarembó	-63.3	-31.6	31.9	-15.1	-16.4	-24.5	-13.2	-17.9
Treinta y Tres	-26.8	-36.1	0.5	-12.5	-16.7	-36.7	-24.4	5.9

The procedure of Hanna (1951) offers information about the causes of regional per-capita GDP differences, but not in an aggregated manner. We will approach the overall causes of labor productivity differences across Uruguayan regionswith the Theil index (Theil, 1967) to solve thisconstraint.This index allows us to measure regional inequality in labor productivity using GDP atthe industry level and employment figures according to the following equation:

(7)
Where,

Y is per capita GDP, E is employment, j=industries (1,2,3) and i=regions (1,2, …19).

The additive decomposability of the Theilindex makes possible its decomposition into two components: the within-sector inequality component (TW) and the between-sector inequality component (TB). Then equation (7) is decomposed into:

(8)

$T_W$represents the weighted average of regional inequalities in labor productivity within each sector, while $T_B$representsinequality in labor productivity between sectors (agriculture, industry and services). Figure 6 shows the share of each type of inequality on the overall inequality for the different benchmarks. The two periods of decreasing inequality –in the ISI and in the beginning of the 21st century– show a noticeable difference in terms of the inequality components. As in the first period the improvement in the regional income distribution coincided with large shares of between-sector inequality, in the second period, the predominant component was the within-sector inequality.

Figure 7
Theil index decomposition, within and between inequality
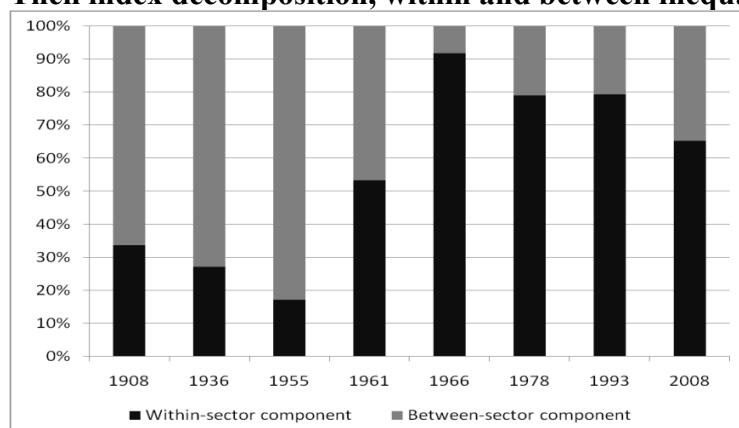
In the first period, reduction in the inequality happened because the economy experienced clear signals of structural change (Bonino et al., 2012). As the economy transited from primary to secondary activities and this sector showed increasing labour productivity (Figure 4), the consequence was that middle income departments improved their relative positions (see Figure 2). The public policy contributed with this process because the industrial support promoted by de government made possible the expansion in several departments, reducing inequality. In the 21st century the dynamics was different. As the main component of inequality refers to within sector, the declining in the inequality required reducing the differences inside each type of activity between departments and then it was not necessary a structural change. Then it was possible widening the distance between regional incomes per capita. As before, the public police contributed with this process because it taken features of transversality, in an environment characterized by instruments and norms that benefited economic activities corresponding to several sectors. In other words, during this period the inequality reduction was possible without transform the economic structure (at least in the high level of aggregation that we work).

· **Conclusions and agenda**
In this paper we found some stylized facts about regional income distribution in Uruguay and

tested some hypotheses about regional development in historical perspective.

First, our contribution is to provide a new database on Uruguayan regional per-capita GDPs from what is possible to reflect on evolutions and fundamentals in regional income.

Second, we found evidence about that the industrialization guided by the ISI policy (or state-led industrialization), between the 1930s and the 1960s, was an equalizer force in the regional income. This process was consistent with the evolution of personal income distribution (Bértola, 2005) which would confirm that the economy evidenced improvement in the levels of inequality in several dimensions. Regional inequality seems to be higher at the first decades of the century which would be neutralized or reverted during the ISI, and after this period of active industrial policy would start again and increase trend. This evolution configures a (stylized) U-shaped evolution.

Third, this result calls into question that NEG or H-O approaches could explain regional development without taking account the specificities of Latin American countries and the role of public policy. Indeed, the spatial location of production was affected by the degree of state intervention in the economy. It is highly probable this type of intervention alters the fundamentals of the regional specialization opening opportunities to locate economic activities where previously was not rentable.

In the case of Uruguay we exposed that primary activities and natural endowments are decentralizing forces, so H-O arguments seem to be weakened and NEG theory could have a good chance to satisfactorily explain regional development. But we found the industrialization process guided by ISI policy was a period of decreasing regional income inequality. It does not mean to refuse that NEG forces were present and Montevideo was the centre of industrialization process. However, the concentrating forces from NEG arguments had some counteracting factors that explain the improvement in regional per-capita GDPs distribution, allowing to appear industrial profiles in provinces far away from Montevideo.

Specifically in Uruguay, where most of the industry is based on agricultural raw materials, a policy that alters the relative prices favouring some industrial branches –in combination with the existence of local entrepreneurs or foreign investors willing to carry out these activities– could explain why are located far away from the main urban agglomeration in the country. It could explain the development of an industrial pole in the 1940s and 1950s in Paysandú or the development of textile and dairy industries in Colonia from the ISI onwards.

Finally, we found evidence about reversion of regional income inequality in the 2000safter the deepest economic crisis of Uruguay in 2002. It means that the inverted U-shaped evolution that ends with high regional inequality in the 1990s, could led to a new process of regional income convergence. At this moment we do not have enough data about the 1990s and the 2000s regional GDPs evolutions to conclude but some conjectures are possible.

In the 2000s the Uruguayan economy maintained a sustained growth trajectory. In this period, a wave of new public-private institutions created or reformedto promote agro-industrial sectors and policy actions that affected transversally different sectors. As Bértola et al. (2014) state, the policy instruments to support competitiveness have multiplied in this period. Capacity in entrepreneurial management and sector instruments added to the traditional export, innovation and investment promotion creating a denser policy structure to encourage advanced industries (as biotechnology and pharmaceutical).

These considerations conform our an agenda and future steps. It would be interesting to analyse in deep the period of 1980 to 2010 and study the relation between policies, regional inequality and agro-industrial growing.We will work to improve the database of regional GDP estimating more years to better understand the evolution over the period and reinforce (o review) the results founded at this point. At the same time, it would be interesting to search for relations between the regional per-capita income and some fundamentals of development to be calculated.

It is not easy at all, but is possible to estimate some more years before 1980. On the other hand there is a working paper in progress that estimates annual regional GDPs for the period of 1981 a 2010 (Rodríguez Miranda &Goinheix, 2015).

Also, there are interesting study cases to be analysed. For instance, the evolution and structural

transformations of Maldonado along the period. It could be a case in which local and Argentinean entrepreneurs would be important factors to explain the great performance in terms of relative development.

Other agenda to develop is to put this results in the regional context, with the evolution in the neighbouring regions of Brazil and Argentina and even in a more wide Latin American context.

References

Araujo, M., Castro, P. and Willebald, H. (2015) "Localización geográfica del valor agregado agropecuario en Uruguay en el largo plazo (1900-2010). Cuantificación y hechos estilizados". *Serie Documentos de Trabajo, Instituto de Economía*, Facultad de Ciencias Económicas y Administración, Universidad de la República, Uruguay.

Arocena, J. (1992) "El Estado, la descentralización y la iniciativa local en Uruguay". En CIEPLAN, *Políticas Sociales, Mujeres y Gobierno Local*. Santiago de Chile, Ed. DagmarRaczynsky y Claudia Serrano.

Astori, D. (2001) "Estancamiento, desequilibrios y ruptura, 1955-1972" In Instituto de Economía, *El Uruguay del Siglo XX. La Economía*, Editorial Banda Oriental-Instituto de Economía, Montevideo.

Azar P., Bertino, M., Bertoni, R., Fleitas, S., García Repetto, U., Sanguinetti, C., Sienra, M. y Torrelli, M. (2009) ¿De quiénes, para quiénes y para qué? Las finanzas públicas en el Uruguay del siglo XX. Instituto de Economía, Editorial Fin de Siglo, Montevideo.

Badía et al., 2012

Baldwin, R., Forslid, R., Martin, P., Ottaviano, G., Robert-Nicoud, F. (2003)*EconomicGeography and PublicPolicy*. Princeton UniversityPress, Princeton (NJ).

Barrán, J. y Nahum, B. (1971) Historia Rural del Uruguay Moderno. Tomo II: 1886-1894, Ed. EBO, Montevideo.

Barrán, J. y Nahum, B. (1967) Historia Rural del Uruguay Moderno, 1851-1885. Ed. EBO, Montevideo.

Bertino, M., Bertoni, R., Tajam, H. y Yaffé, J. (2005) *La economía del primer battlismo y los años veinte*. Historia Económica del Uruguay, Tomo III, Facultad de Ciencias Económicas y de Administración, Instituto de Economía, Ed. Fin de Siglo.

Bertino, M. and Bucheli, G. (2000) "La agricultura en el Uruguay 1911-1930".*SerieDocumentos de Trabajo* 8/00 Instituto de Economía. Montevideo. Cuadro 11, p. 18.

Bertino, M. and Tajam, H. (2000) "La agroindustria láctea en el Uruguay 1911-1943". *Serie Documentos de Trabajo DT 04/00, Instituto de Economía*, Universidad de la República.

Bértola, L., Isabella, L. and Saavedra, C. (2014) "El ciclo económico de Uruguay, 1998-2012". *Documentos de Trabajo N° 33, Programa de Historia Económica y Social*, Unidad Multidisciplinaria, Facultad de Ciencias Sociales, Universidad de la República.

Bértola, L. and Ocampo, A. (2012) The Economic Development of Latin America since Independence. Oxford University Press, UK.

Bértola, L. (2008) "An Overview of the Economic History of Uruguay since the 1870s".EH.Net Encyclopedia, edited by Robert Whaples. March 16, 2008. URL http://eh.net/encyclopedia/article/Bertola.Uruguay.final

Bértola 2008

Bértola, L. (2005) "A 50 años de la Curva de Kuznets: Crecimiento y distribución del ingreso en Uruguay y otras economías de nuevo asentamiento desde 1870". *Investigaciones en Historia Económica*, v. 3/2005, 135-176.

Bértola&Porcile, 2000

Bonino, N., Román, C. y Willebald, H. (2012): "PIB y estructura productiva en Uruguay (1870-2011): Revisión de series históricas y discusión metodológica", *Series Documento de Trabajo, 05/12. Instituto de Economía*, Facultad de Ciencias Económicas y de Administración, Universidad de la República.

Bonino, N., Román, C. y Willebald, H. (2012): "Structural change and long-term patterns. A methodologicalproposalfor Uruguay in theverylongrun", *Paper presentado en el Seminario de Investigación del Programa de Historia Económica y Social* (PHES), Facultad de Ciencias Sociales, Universidad de la República (6[th]September).

Bulmer-Thomas, V. (2003): *The Economic History of Latin America since Independence*, (Second Edition). Cambridge Latin American Studies, Cambridge UniversityPress.

Buyst, 2011

Caselli andColeman, 2001

Enflo et al., 2010

Felice, 2011

Finch, H. (1980) *Historia económica del Uruguay contemporáneo*. Ed. Banda Oriental, Montevideo, Uruguay.

Fleitas, S. and Román, C. (2010) "Evolución de la población económicamente activa en el siglo XX: una análisis de la estructura por sexo, edad y generaciones*". Boletín de Historia Económica* N° 9, Asociación Uruguaya de Historia Económica, 41-64.

Fujita, M., Krugman, P., Venables, A.J. (1999). *TheSpatialEconomy. Cities, Regions, and International Trade*. MIT Press, Cambridge (MA).

García, M., Martínez-Galarraga, J. and Willebald, H. (2015) "Estructura productiva regional en Uruguay en la primera mitad del siglo XX: propuesta metodológica, evolución y algunos hechos estilizados". *Serie Documentos de Trabajo. Instituto de Economía*, Facultad de Ciencias Económicas y Administración, Universidad de la República, Uruguay.

García, M., Goinheix, S. and Rodríguez Miranda, A. (2015) "Estimación del VAB departamental de Uruguay: 1966 y 1978" *Serie Documentos de Trabajo. Instituto de Economía*, Facultad de Ciencias Económicas y Administración, Universidad de la República, Uruguay.

Geary, f., and Stark, T. (2002): "Examining Ireland's post-famine economic growth performance", *The Economic Journal*, No. 112, 919-935.

Goinheix, S. and Rodríguez Miranda, A. (2015) "VAB departamental y desarrollo regional en Uruguay: 1980-2012". *Serie Documentos de Trabajo. Instituto de Economía*, Facultad de Ciencias Económicas y Administración, Universidad de la República, Uruguay.

Lezama, G. and Willebald, H. (2015) "Inequality in pre-income survey times: a methodological proposal". Nota de Investigación, *Instituto de Economía*, Facultad de Ciencias Económicas y Administración, Universidad de la República, Uruguay (

Klaczko, J., (1981) "El Uruguay de 1908: su contexto urbano-rural, antecedentes y perspectivas". *SerieDocumentos de Trabajo CIESU*, DT 42/81, Montevideo.

Krugman, P. (1991): "Increasing Returns and Economic Geography". *Journal of Political Economy*, vol. 99, N°3.

Krugman, P. (1995): *Development, Geography, and Economic Theory*. MIT Press, Cambridge.

Martínez-Galarraga et al., 2013

Martínez Lamas, J. (1930) *Pobreza y Riqueza del Uruguay*. Palacio del Libro, Montevideo.

Millot, J. and Bertino, M. (1996) *Historia Económica del Uruguay. Tomo II (1860-1910)*. Ed. Fundación de CulturaUniversitaria. Montevideo.

Mulhall, M.G. and Mulhall, E.T. (1892): Handbook of the River Plate. Comprising THE Argentine Republic, Uruguay and Paraguay. M.G. and E.T. Mulhall Standard Court, Buenos Aires, Kegan Paul, Trench & Co, London.

Notaro, J. (2001) "La batalla que ganó la economía. 1972-1984." In Instituto de Economía, *El Uruguay del Siglo XX. La Economía*, Editorial Banda Oriental-Instituto de Economía, Montevideo, 95-121.

Oddone, G. (2010) *El Declive. Una Mirada de la Economía de Uruguay del Siglo XX*, Librería Linardi y Risso, Montevideo.

Pittaluga, L. (coord.) (2013) "Public-Private Collaboration For Productive Development Policies The Case Of Uruguay". IDB RESEARCH PROJECT.

Rassekh, F., and Thompson, H. (1998)"Micro Convergence and Macro Convergence. Factor Price

Equalization and Per CapitaIncome". PacificEconomicReview 3(1), pp, 3–13.

Reyes Abadie, W. (1966) *La Banda Oriental: pradera, frontera, puerto*. Ediciones de la Banda Oriental, Montevideo.

Rodríguez Miranda, A. (2006): "Desarrollo Económico Territorial Endógeno. Teoría y Aplicación al caso uruguayo", *DT 02/06, Instituto de Economía, FCEA-UdelaR*, Montevideo. En línea: www.iecon.ccee.edu.uy

Rosés et al., 2010

Sanchis et al., 2015

Schulze, 2007

Slaughter, 1997

Tirado, D., Pons, J., Paluzie, E. and Martínez-Galarraga, J. (2013) "Trade policy and wage gradients: evidence from a protectionist turn". *Cliometrica, Journal of Historical Economics and Econometric History*, Association Française de Cliométrie (AFC), vol. 7(3), September, 295-318.

Traversoni, A. (1968) "La Independencia y el Estado Oriental". *Enciclopedia Uruguaya* N° 16, Editores Unidos y Editorial Arca del Uruguay, Montevideo.

Willebald 2006

Willebald, H. and Juambeltz, J. (2015) "Land frontier expansion in settler economies (1830-1950): Was it a Ricardian process?". Paper presented in RIDGE Conference, Montevideo, April.

Williamson (1965)

Williamson, J. (1965) "Regional inequality and the process of national development: a description of the patterns". *EconomicDevelopment and Cultural Change* 13 (4), 3-84.

Yagüe, J. y Díaz-puente, J. (2008) "Tres siglos de planificación regional en Uruguay: lecciones de experiencia para afrontar los retos de desarrollo en el siglo XXI". *Estudios Geográficos*, LXIX, 264, enero-junio, 247-280.

Zubillaga, C. (1977) "Algunos antecedentes sobre acondicionamiento territorial en Uruguay (1611-1911)". En CLAEH *Regionalización. Un aporte al estudio de caso uruguayo*. Cuadernos CLAEH, nº 4. Montevideo.

UNDP (2001) Informe de Desarrollo Humano para Uruguay, 2001.

UNDP (2008) Informe de Desarrollo Humano para Uruguay, 2008.

Uruguay (1908): Presupuesto General de Gastos para el Año Económico de 1908-1909. Estados Generales del Ejercicio Económico.

Uruguay (1936): Estados Generales del Ejercicio Económico Presupuesto General del Estado. Ejercicio Económico 1936. Contaduría General de la Nación. Tomo I.

Uruguay (1955): Presupuesto General del Estado, Ejercicio 1955. Contaduría General de la Nación. Tomo I.

UTE-UDELAR (1995): *La economía uruguaya en los noventa*, Convenio entre Facultad de Ciencias Económicas y Administración de la Universidad de la República y UTE.