

THE EVOLUTION OF INEQUALITY IN  
AUSTRALASIA AND THE RIVER PLATE, 1870 – 1914

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# THE EVOLUTION OF INEQUALITY IN AUSTRALASIA AND THE RIVER PLATE, 1870 – 1914<sup>1</sup>

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## SUMMARY

In the last ten years, economic historians have become increasingly interested in the effects of the first globalisation (1870 – 1914) on income distribution. It is thought that in regions of European settlement, with abundant land and a scarcity of workers, inequality increased over the period. However, countries like Argentina, Australia, New Zealand and Uruguay not only received immigrants from Europe but also expanded their national frontiers. These countries underwent changing endowments of these factors (population and land) during the first globalization, and this calls for an analysis of the evolution of inequality considering the specific impacts of these contradictory trends.

The aim of this article is to present evidence about the evolution of the wage/rental ratio in four provinces in Argentina (Buenos Aires, Córdoba, Entre Ríos and Santa Fé) and four states in Australia (Victoria, New South Wales, Queensland and South Australia) during the first globalisation of capitalism. We compare these trends with those in two small countries, New Zealand and Uruguay. We also analyse the processes of frontier expansion in each case with a focus on the institutions that regulated the distribution of land ownership rights.

The evidence from this approach, which is centred on frontier expansion and domestic institutions, indicates that increasing inequality was the dominant trend in some cases but not all. We also found that, in the context of the first globalisation, domestic institutions contributed to the formation of income distribution patterns that were different in Australasia to those in the River Plate countries.

**KEYWORDS:** prices of the factors, income distribution, settler economies, River Plate, Australasia, first globalization.

**JEL:** N26, N27, N36, N37

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## 1. Introduction

One of the main characteristics of the first globalisation of capitalism (1870 – 1914) was the integration of the world market and the price convergence this entailed. In the last ten years economic historians have become increasingly interested in the effects of globalisation on income distribution. It is asserted that in European settler regions that had abundant land but where labour was scarce inequality increased over the period. However, at the same time that countries like Argentina, Australia, New Zealand and Uruguay were receiving immigrants from Europe they were also expanding their land frontiers. The changing endowments of factors (population and land) that took place in these countries during the first globalisation calls for an analysis of the evolution of inequality that considers the specific impacts of these trends.

Our aim in this article is to present evidence about the evolution of the wage/rental ratio during the first globalization in four provinces in Argentina (Buenos Aires, Cordoba, Entre Rios and Santa Fe), in four colonies in Australia (Victoria, New South Wales, Queensland and South Australia), in New Zealand and in Uruguay. This analysis of the evolution of inequality in selected regions will enrich the analysis of the evolution of inequality at the national level, particularly in large countries where there are big differences between the regions. In this article we discuss the advantages and drawbacks of using the wage/rental ratio as a proxy for the evolution of inequality. We also focus on the limitations of traditional approaches to international trade when it comes to interpreting the effects of globalization on income distribution in the historical cases analysed. We assume that the impact of globalisation on income distribution in these settler economies depended on the kind of domestic institutions that came into being in each country, and in particular on the domestic institutions that regulated land ownership rights. We therefore emphasise the concept of the frontier (Harley, 2007) and compare frontier expansion processes in each country bearing in mind the institutions that regulated the distribution of land ownership rights.

This article is organized into six sections. Section 1 is the introduction. In section 2 we discuss the conventional approaches that analyse the main trends in income distribution on the international level during the first globalization, and present the analytic approach we will adopt.

In section 3 we describe land frontier expansion processes and population growth in colonies in Australia, in the pampas region in Argentina, in New Zealand and in Uruguay.

In section 4 we compare the evolution of factor prices (wage and land rents) and the wage/rental ratio in the four countries with a regional focus, and we interpret the main trends.

In section 5 we analyse the main characteristics of land ownership rights distribution processes considering the influence of colonial heritage and State activity in frontier expansion processes during the first globalisation. We also compare the land ownership systems and agriculture structures that came into being in each country.

In section 6 we present our main conclusions.

## **2. The first globalisation and income distribution in settler economies**

Changes that took place in the second stage of the Industrial Revolution such as the development of transport and communications, the expansion of trade on a world scale, the increasing integration of factor markets and the convergence of commodity prices had a big impact on income distribution all over the world in the period from 1870 to the First World War. Williamson (1999, 2000, 2002), O'Rourke & Williamson (1999) and Lindert & Williamson (2001) report that in economies in Europe and Asia with a relative abundance of labour and scarcity of natural resources like land, inequality decreased during the first globalisation. They also show that in the settler economies<sup>2</sup> in the Americas and Australasia, where there was a relative abundance of natural resources and scarcity of labour, inequality tended to increase. In these studies, income distribution trends are analysed considering factor price ratios: wage-rental ratios based on Heckscher & Ohlin's conventional international trade theory and on the Stolper & Samuelson model.

In Argentina, Australia, New Zealand and Uruguay land prices went up during the first globalisation as a result of the export boom prime materials and foodstuffs. At the same time, commodity prices were rising relative to the prices of manufactured goods. This translated into increased income for landowners relative to wage-earners. However, the extent of the rise in inequality depended on the domestic institutions that

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<sup>2</sup> Settler economies (typically Argentina, Australia, Canada, New Zealand, U.S.A., Uruguay, but also Chile and South Africa) constitute a category of historical analysis that has been studied in economic historiography (Nurkse, 1961; Fogarty – Gallo – Diéguez, 1979; Fogarty, 1977; Denoon, 1983; Platt – Di Tella, 1985; Schedvin, 1990; Lloyd; 1998; Bértola – Porcile, 2002, Lloyd and Metzger, 2006; Gerchunoff and Fajgelbaum, 2006, etc.). The aim has been to examine exactly what each country's particular development pattern was. Lloyd and Metzger (2006) point out that these economies have a number of characteristics in common, and this makes them interesting subjects for comparative study. Starting in the second half of the 19th century, these countries had a similar pattern of development as a result of the dynamic interconnections between a series of factors, namely that they all received several waves of immigration from Europe, their original populations were marginalised and reduced demographically if not virtually exterminated, and their particular endowment of factors (abundant land and a relative scarcity of labour and capital) contributed to the emergence of social institutions designed to develop the economy rather than to oversee and regulate activities that were purely extractive. During the first globalisation of capitalism, they actively participated in the construction of the world market as producers and exporters of primary goods and as recipients of European people and capital. They benefited not only from innovations that flowed from the Industrial Revolution (reduced overland and trans-oceanic transport costs, and the incorporation of refrigeration into their systems), but also from their endowment of factors (temperate climate, abundant land and fertile soils suitable for agrarian production), and from increasing demand in the industrialised countries for prime materials and foodstuffs. The construction of the world economy and the convergence of prices made rapid economic growth possible in the European settler economies.

determined the distribution of land ownership rights in each country. This aspect was taken account of by Williamson (1999) when he observed, “Of course, in those places where the family farm dominated and where land was distributed more equally, a fall in w/r would not have translated into such a sharp rise in inequality.” (Williamson, 1999: 14). This has also been highlighted by Greasley & Oxley (2004, 2005), Bértola & Porcile (2002), Álvarez (2007, 2008), Álvarez et al (2011) and Alvarez & Willebald (2009, 2011) in comparisons between New Zealand and Australia on the one hand and Argentina and Uruguay on the other.

Williamson’s conclusions in his studies with O’Rourke and Lindert were based on the analysis of a reduced number of cases. Other research in recent years (see Greasley, Inwood and Singleton, 2007) that used the same analytic approach presented new evidence for a bigger group of countries. In some cases their evidence confirmed Williamson’s main conclusions but in others the results were contrary to what was expected, which is a rising trend in the wage/rental ratio in economies that exported primary goods and had abundant land and scarce labour. This applies in particular to the evidence Shanahan & Wilson (2007) present about wage/rental ratios in the Australian colonies and to the very interesting study by Rodríguez Weber (2009) about income distribution in Chile during the first globalisation.

The fact that the evidence from some case studies conflicts with the results expected in research inspired in neo-classical international trade theory indicates we should approach the evolution of inequality in peripheral settler economies with a focus that combines the effects of changing factor endowments (labour and land) in the first globalisation with the historical processes whereby the institutions that regulate the distribution of land ownership rights were first constituted. To do this it is essential for research into globalisation and its effects on inequality to explicitly incorporate the concept of the frontier (Harley, 2007). This was led by Western Europe and it involved progressive economic expansion into new regions of the world, especially in the new peripheral settler economies. Such a perspective makes it possible to introduce and contribute to structuring the historical dimension in the analysis of the connection between income distribution and economic growth.

### 2.1. Globalisation, domestic institutions and income distribution

In recent years institutionalism and North American neo-institutionalism have become increasingly influential in research into the factors underlying the historical trajectories of economies in the world. Neo-institutionalism incorporates into economic analysis a theory of change that emphasises the dependence of historical trajectories on economic processes (North, 1984, 1995). By questioning the supposition that agents are basically rational (the neo-classical *homo economicus*), and by considering that agents confront situations of uncertainty, institutionalism stresses that it is important to

reconstruct concrete historical contexts and economic institutions made up of historical actors (Hogdson, 2006; Grafe, 2006). This approach helps us to understand how economies function and the results they achieve by analysing the specific institutions that make up each society, institutions that have evolved from the interaction between geographic, economic, political, cultural and ideological factors.

In this approach it is emphasised that income distribution is determined by the structure of ownership rights, and this in turn is structured by the mechanisms established to resolve the conflicts of interest inherent in any society. Acemoglu et al (2004) underline this relation when they state that the ways institutions that promote economic growth are constituted combine ownership rights and markets that function efficiently with a degree of equity in the population's access to economic resources. In this way markets are structured endogenously and are determined by the presence or absence of incentive structures that prompt agents to invest in physical and human capital, in technological innovation, or in developing rent-seeking behaviour.

Engerman & Sokoloff (2002) adopt a different emphasis and establish that the factor endowments (climate, land and demographic density) in an economy constitute the foundations of its institutions. That is to say, an economy's resource endowments determine its productive specialisation and set the wealth distribution pattern. A society's institutions emerge from these relations and tend to reinforce and perpetuate the distribution pattern.

Our approach in this study includes the idea that globalisation and the income evolution trends that predominated in the peripheral economies should not be understood just as the outcome of price convergence which resulted from incorporation into the world market. On the contrary, it should be seen as a process in which frontier expansion in the periphery and its effects on distribution and economic growth were influenced or mediated by domestic economic institutions, particularly those that governed new land distribution in the frontier expansion process. These institutions were conditioned by legislation and customs that came into being in the first half of the 19<sup>th</sup> century on the first land that was occupied in the colonisation period. There were other influences as well, like the natural characteristics of the new lands (quality), relative labour endowments and transport costs. The fact that the frontier was thinly populated tended to weaken some institutions, including the power of the State. For this reason we consider that the distribution of land ownership rights was the outcome of complex processes involving interaction between the physical and geographical characteristics of the resources available, institutions that were constituted in the past, policies designed by governments (legal rules that regulated land distribution), the kind of State that each society set up, and factor endowments. Furthermore, the land ownership structure that emerged from ownership rights distribution processes was also

the outcome of the technology available, relative factor costs, and of the specific ways in which these variables combined in each of the countries in question.

### **3. The evolution of factor endowments: frontier expansion and population growth in Australia, Argentina, New Zealand and Uruguay**

#### 3.1. Land frontier expansion

During the period, Argentina, Australia and New Zealand expanded their frontiers and increased the amount of land devoted to agrarian production. Uruguay reached its national frontier early, in the 1870s, and its stock of land remained unchanged in the first globalisation when the primary production sector expanded strongly and there was a big population increase. This gave Uruguay specific characteristics that differed from the situation in New Zealand, and pampas region in Argentina, and Australia. Frontier expansion and its effects on income distribution gradually acquired specific characteristics in each country, and this was associated with the institutions that regulated ownership rights and the ownership structure in the new lands (see section 5).

In the 1870 to 1914 period the amount of occupied land in Australia increased more than tenfold, from 32 million to 380 million hectares, but the situation varied considerably from region to region. In Victoria 14 to 15 million hectares were added, in New South Wales the stock of land (70 million hectares) remained unchanged, in South Australia it jumped from 17 to 47 million hectares, and in Queensland more than 30 million hectares were incorporated between 1883 and 1914, with a rise from 100 to 136 million hectares (Taylor, 1994).

[Insert Chart 1 here]

In the period from approximately 1867 to 1890, the frontier in the pampas region in Argentina (today the provinces of Buenos Aires, Santa Fé, Córdoba, Entre Ríos and La Pampa) expanded and 40 million hectares were added (Cortés Conde, 1975, 1979; Gaignard, 1989). The province of Buenos Aires grew from 11.6 million hectares in 1867 to over 30 million in 1890. In the same period Santa Fé expanded from 5.7 million to 13.2 million hectares, Córdoba from 15 to 17.5 million hectares, and Entre Ríos did not acquire new land but remained at about 7.5 million hectares.

[Insert Chart 2 here]

In New Zealand the productive frontier expanded from 9 million hectares in the 1870s to 16 million in 1911. The incorporation of new land involved extending the productive frontier into North Island and this process meant displacing Maori



communities in the 1860s (King, 2003; Belich, 2001; Denoon; 1983), deforesting large swathes of territory and transforming the landscape by implanting grasslands suitable for livestock grazing. The growth of the population of European origin, along with increased international demand for agricultural goods, made it profitable to incorporate new land in North Island into production in spite of the fact that this process involved high costs.

After the 1870s Uruguay was using all the productive land available (16-17 million hectares) and taking advantage of the good natural condition of its grasslands to raise livestock. It did not acquire new land for production because it reached its productive frontier early. The increase in its agricultural production between 1870 and 1914 was mainly due to improved productivity, which came about as the result of a series of institutional changes (the political consolidation of the State, the establishment of a secure ownership rights structure in rural areas) and technological progress (fencing in fields, genetic improvements in livestock, efficient land use and the spread of railways).

[Insert Chart 3 here]

### 3.2. Population

In economic historiography Argentina, Australia, New Zealand and Uruguay are considered settler economies. They are thinly populated, they have a high land/population ratio and they received large waves of migrants from Europe during the first globalization. This does not mean that previously the land in these four countries had been empty, mere *terra nullius*, as in the legal definition in force in the High Court of Australia<sup>3</sup> right up to the 1990s. The original populations were natives, but they are hardly considered at all in the historiographic tradition of settler societies. The process of colonisation and appropriation of new land by colonists and the new States in Australasia and the River Plate caused the original communities to be reduced demographically, marginalised and in some cases exterminated.

In the period from 1815 to the First World War, more than 40 million Europeans migrated to the new regions in the Americas and Australasia. This was one of the main consequences of the Industrial Revolution and one of the outstanding characteristics of the first globalisation, along with the expansion of world trade and the growth in exports of capital. In the hundred years from 1815 to 1914 Argentina and Australia both received more than 4 million immigrants (Taylor, 1994). The migration of Europeans to Australia began before the migration to Argentina, but between 1870 and 1914 some

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<sup>3</sup> In 1992 the Mabo Judgment challenged this view, overthrowing the fiction of *terra nullius* which had proclaimed that pre-1788 Australia was a legal desert and an un-peopled land (Denoon, 2007: 122).

900,000 went to Australia while 3.2 million went to Argentina (Mitchell, 1998). The migrants that made their homes in New Zealand and Uruguay were part of the same contingents that went to their bigger neighbours. In the period, some 300,000 settled in New Zealand and 147,000 in Uruguay (Briggs, 2003; Álvarez, 2008). The impact of immigration on population growth differed in the four countries. It was greater in Argentina (52% growth) and New Zealand (40%) than in Australia (27%) and Uruguay (20%).

[Insert Chart 4 and Table 1 here]

Starting in the middle of the 19<sup>th</sup> century, the migratory waves that flowed from Europe accelerated population growth in all four countries. In the 1870 to 1914 period the populations of Australia, New Zealand and Uruguay tripled and that of Argentina increased by a factor of 4.5.

The distribution of population in these new countries depended on the degree of saturation in the regions that were first settled and on the expansion of the frontier. In the 1870 to 1914 period in Argentina the provinces with the fastest demographic growth were those that brought the most new land into production. The population of the province of Buenos Aires increased sevenfold between 1869 and 1914 (not considering the city of Buenos Aires itself, where the population increased by a factor of 8.4). The population of the province of Santa Fe underwent a tenfold increase, which made it the second most populous province in 1914 after being the pampas province with the fewest inhabitants in 1869. The populations of the provinces of Córdoba and Entre Ríos tripled in the same period.

In the most densely-populated Australian colonies, those that were colonised first (New South Wales, Victoria and Tasmania), the population doubled, and this also happened in South Australia, which incorporated new land during the period. In the newer colonies, which had fewer inhabitants, demographic growth was fivefold in Queensland, by a factor of 17 in the Northern Territory and by a factor of 11 in Western Australia.

[Insert Tables 2 and 3 here]

In New Zealand the distribution of people on the land changed during the period. Demographic growth among the population of European origin was greater in North Island, where new land was brought into production, than in South Island. In 1870 only 37% of the population was in North Island but in 1914 some 60% lived there (Prichard, 1970)

These migratory processes had a variety of powerful impacts on the societies that received them. They accelerated total population growth rate, they changed population age structures, they increased the proportion of males, they increased the proportion of the population that was economically active and they transformed labour markets.

In his interesting comparative study of migration to Argentina and Australia, Taylor (1994) shows that although there were similarities, the composition of these migratory currents reveal big differences between the two labour markets. The British migrants who went to Australia and New Zealand were leaving a labour market that paid higher wages than those in the Latin countries from which emigrants (Spanish and Italians) set sail for Argentina and Uruguay. These differences in the homelands of migrants and in pay levels in their countries of origin indicate that the international labour market was segmented at that time.

Another significant difference in migration to the two regions was defined by the contrasting public policies that were implemented to foster immigration. In Australia and New Zealand there were policies to systematically support and subsidise immigrants. Argentina and Uruguay also had various stimulus measures and an open liberal policy, but public assistance for immigrants was very limited, less systematic, and operated for shorter periods.

Between 1861 and 1900 nearly 400,000 immigrants out of a net flow of 767,000 were assisted by the governments of the Australian colonies (Taylor, 1994). After 1901, when the Australian Commonwealth came into being, assistance was continued but with a very restrictive policy (White Australia) that stimulated immigration from Britain and set limits on the entry of people from lower-income countries. In New Zealand, regional governments assisted more than half the people who came to settle after 1870 (Martin; 1996: 384; Prichard, 1970: 142; Bloomfield, 1984). This support was interrupted only in years of economic crisis.

Immigration into Argentina was generally spontaneous apart from some attempts under the Avellaneda government (1874 – 1880) to organize it systematically, and a system of subsidies that operated in the second half of the 1880s. The Uruguayan government did not try to promote immigration either, except for establishing some agricultural colonies in the 1870s and some frustrated initiatives in the 1880s (Oddone, 1966).

These examples show that the Australasian countries were very different from the River Plate countries as regards implementing public policies to attract and finance immigration. Taylor (1994) points out that these differences also show how segmented the international labour market was at that time. As this author shows with reference to Argentina and Australia, and as Bértola et al (2000) shows with reference to Uruguay, the wage differentials between the countries of Southern Europe and those of the River

Plate were much greater than the pay differentials between Northern Europe and the countries of Australasia. This is one of main reasons why millions of immigrants came to the River Plate without the incentive of any kind of subsidy.

#### **4. The evolution of factor prices and income distribution: a regional focus**

As noted in section 2 above, the studies based on the paradigm developed by Heckscher–Ohlin and Stolper–Samuelson that analyse the evolution of income distribution on the world level have focused on Australia and Argentina (Williamson, 1999), and also on New Zealand and Uruguay, as classic examples of settler economies in which the wage/rental ratio fell, that is to say inequality increased, during the first globalisation. Williamson, (1999) shows that the 1914 wage/rental ratio in Australia had fallen to a quarter of the 1870 figure, and in Argentina it was less than a fifth of the ratio in 1880. However, in both Australia and Argentina these results only consider regional data that were taken to be representative for the whole country. In the case of Australia O’Rourke & Williamson (1999) considered land prices in Victoria, and for Argentina Williamson (1999) considered wages and land prices in the province of Buenos Aires.

[Insert Chart 5 here]

In this section we compare the evolution of wage/rental ratios in four colonies in Australia (that have been federal states since 1901) namely New South Wales, South Australia, Queensland and Victoria, and in four provinces in the pampas region of Argentina, namely Buenos Aires, Santa Fé, Entre Ríos and Córdoba. We also compare these trends with the corresponding evolution in New Zealand and Uruguay. This regional analysis makes it possible to observe relative changes in factor prices in regions that, while conserving their specific characteristics, underwent a changing endowment of factors over the period. In particular, the stock of land devoted to agriculture increased, land frontiers expanded and populations grew because of international migratory currents.

We should note that one of the main limitations on historical comparisons of factor prices in the 19th century is that the data is very fragile and scarce. In recent years there have been serious efforts to improve the available international historical data for various indicators (product, population, factor prices, costs of living, etc.) but there are still big information gaps and this complicates matters when it comes to making comparisons to analyse trends at the regional level. This is one of the main limitations hampering our research in this area.

Statistical information from English-speaking settler countries like Australia and New Zealand is more complete and systematised than that available for the River Plate countries. This is one of the most serious problems we faced when seeking information

on the evolution of wages and land prices in provinces in Argentina. We took our factor price data in New Zealand and Uruguay from previous studies (Álvarez, 2007, 2008; Álvarez et al 2011) and made no specific research efforts at this time. In spite of these restrictions we have been able to identify clear trends in the evolution of the ratio between factor prices as a proxy for income distribution at the regional and national levels.

#### 4.1. Australia

Australia has been considered a typical settler economy where inequality increased during the first globalisation in line with the predictions generated by the Heckscher–Ohlin and Stolper–Samuelson approaches. However, these approaches did not consider that in the 19<sup>th</sup> century Australia was made up of autonomous colonies that each pursued its own specific trajectory as regards (a) land frontier expansion, (b) population settlement, (c) public policies implemented by autonomous regional governments, and (d) the type of productive specialisation (mining, agriculture and livestock) that developed as a result of natural resource endowments. Denoon (1983, 2007), Meredith & Dyster (1999) and Shanahan & Wilson (2007) point out that each colony had its own legislation and there was a degree of competition and rivalry between them that was expressed in the specific policies each government implemented to attract trade, population and capital.

Before 1901 Australia was not seen as a national unit and was not organised as a single market. For example, the railways were based on public ownership and management, and starting in the 1880s they expanded greatly, but this was not a national effort. The railway networks only connected the main colonial cities with their hinterlands. In 1881 there were no fewer than fourteen railway systems in New South Wales and Queensland alone, and they were not linked up (Denoon, 1983). Railway expansion accompanied the spread of agriculture and livestock rearing and the expansion of the frontier. But Denoon (1983) warns against exaggerating the fragmentation of Australian society before 1901. The six colonies were very similar as regards social composition and economic development. Although there was a degree of regional specialisation and significant demographic mobility among the economies, they were integrated to a considerable extent.

Shanahan & Wilson (2007) tackle the question of regional diversity and examine the trend to inequality in the Australian colonies through the evolution of the wage/rental ratio in each colony. They base their research on information about the price of land and wages taken from Withers et al, (1985), Taylor (1992), Vampley (1987) and official statistics from the colonies. In general, the evolution of the wage/rental ratio in New South Wales, South Australia, Queensland and Victoria shows increasing inequality in these four colonies (a fall in the wage/rental ratio) from the

second half of the 1880s until the early years of the 20<sup>th</sup> century. We should bear in mind that for New South Wales and Queensland information about factor prices is only available after the 1880s. After the closing years of the 1890s, the horizontal evolution of the wage/rental ratio does not show a clear trend of rising or falling inequality, in particular in New South Wales, Queensland and South Australia.

[Insert Chart 6 here]

A point to note is that Victoria and South Australia show contradictory trends in their wage/rental ratios from the 1860s to the 1880s. The evidence indicates that inequality fell in South Australia and increased in Victoria. The evolution of the wage/rental ratio in South Australia stands out because in the period this colony steadily increased its grain exports to the other colonies and to the international market. This evolution contradicts the predictions generated by the Stolper – Samuelson theorem. Chart 7 suggests that the main cause of wage/rental ratio decrease in South Australia in approximately 1869-1883 was a fall in the price of land.

[Insert Chart 7 here]

According to Shanahan & Wilson (2007), there are two possible reasons why land prices in South Australia fell in a context of increasing agricultural exports: one has to do with institutions and the other is that various technological innovations made it easier than before to bring new land into agricultural production. The first reason revolves around public land distribution policies based on legislation in the 1860s (the Scrub Act, 1866, and the Waste Lands Amendment Act, 1869). These laws allowed farmers to rent public land for long periods (21 years) at very low prices (Scrub Act, 1866), and small rural producers to acquire ownership with credits granted by the government on condition the plots would be deforested and cultivated (Waste Lands Amendment Act, 1869). The second reason is that new techniques to clear land of dense bushes (mullenizing) were developed, and a special kind of plough (the stump-jump) was introduced, which made it possible to work the land even when there were roots and tree stumps on it. These innovations enabled farmers to bring new land into production. Between 1867 and 1885 the land in use increased from 15 million hectares to 60 million hectares, and this tended to depress average land prices in South Australia (see Charts 1 and 7).

In Victoria the price of land tended to rise after 1860 (although there were some fluctuations in the 1880s and 1890s), the frontier remained stable at around 15 to 20 million hectares and the population doubled in the same period.

## 4.2. Argentina

Argentina is also considered a typical settler economy, and inequality increased steadily during the first globalisation (Williamson, 1999).

Until the 1890s Argentina had an open land frontier. This was expanded in a series of military campaigns against the indigenous inhabitants and these gains were consolidated by the joint advance of the railways and agricultural production. This made the supply of land in the period elastic. Before the 1880s the land market was limited and land prices were fixed by the government based on criteria unconnected with the market. Starting in the 1880s the land market became consolidated as the result of a series of institutional changes (military control of the new territories and the consolidation of ownership rights). This made it possible for massive areas of public land to be transferred to private persons and for a transport network to develop so new land could be profitably exploited.

Land prices rose considerably in the 1880s but they fell in the first half of the 1890s because of the crisis. Cortés Conde (1979) showed that the decrease in land prices in the 1890s coincided with high prices for cereals and this stimulated agricultural activity to expand. In the second half of the 1890s the price of land rose slightly, and after 1900 it increased enormously, a trend which continued until the First World War. In that period land prices rose at a faster rate than the prices for agriculture and livestock exports (Cortés Conde, 1979: 183)

[Insert Chart 8 here]

This big increase in the price of land in the early years of the 20th century can mainly be explained by the exhaustion of frontier expansion, although rising prices for agricultural goods and improved productivity in the sector also played their part.

Wages increased throughout the period even though the total population and the working population grew rapidly. Another factor is that large numbers of workers moved from one sector of activity to another and there were seasonal movements of immigrants from Europe (the migration of the swallows). In the periods when economic activity and the demand for labour fell, workers were displaced from the urban sector to agriculture and migratory flows slowed down, which meant the labour offer was very elastic.

Beyond these general trends, the information available about the evolution of wages in the provinces of Santa Fé, Córdoba and Entre Ríos is precarious. Before 1907 there were no official statistics for wages. The most consistent wages series we have are those produced by Cortés Conde (1975) for the province of Buenos Aires, starting in the 1880s. We do not have wage series for the other provinces except the evolution by

provinces assigned by Cortés Conde (1975 b) for 1898 to 1912. In that period wages were highest in Córdoba, Santa Fé and La Pampa, where they increased at a faster rate than in Buenos Aires or Entre Ríos. These trends partly respond to the fact that more distant lands were expected to yield greater profits and this stimulated higher wages than in more densely populated regions.

Based on this scant information, we have produced series of the relative evolution of wages and land rents for the four Argentine provinces.

[Insert Chart 9 here]

Bearing in mind that wages tended to rise throughout the period, changes in the wage/rental ratio were mainly determined by the evolution of the price of land. In the 1880s inequality increased considerably (a fall in the wage/rental ratio) because land prices rose in those years. In the first half of the 1890s the trend in the wage/rental ratio in the four provinces moved in favour of wages and it continued to fluctuate until 1900. In Buenos Aires, Córdoba and Entre Ríos it fluctuated around the same levels as in the second half of the 1890s. In Santa Fé there was a rising trend in the wage/rental ratio from 1897 to 1904: this can be traced to the fact that fewer immigrants came into the province in the 1890s (Chart 4), which reduced labour offer growth, and to a big expansion in the amount of land under cultivation, which is more labour-intensive than livestock rearing. There was a fall in the wage/rental ratio in the four provinces between 1904 and the First World War. This was due to rising land prices (in a period when agriculture and exports expanded greatly), the closing of the land frontier in the pampas region and a big increase in the number of immigrants, which tended to put a brake on pay rises.

#### 4.3. New Zealand and Uruguay

The evolution of the wage/rental ratio in New Zealand and Uruguay indicates that inequality increased in both countries during the first globalisation.

In New Zealand, in the period around 1875 to 1880, wages rose by 25%, and they increased more slowly from the beginning of the 1880s until 1900. From the start of the 20<sup>th</sup> century until the First World War wages held constant or fluctuated around the same levels. On the other hand, the price of land increased steadily over the period, with decreases in times of crisis, and in real terms it rose by 80% between 1875 and 1914.

Real wages in Uruguay decreased slightly between 1875 and 1884, rose until the early 1890s, fell in the period from the crisis to the start of the 20<sup>th</sup> century and slowly recovered up to 1913. The evolution of land prices was similar to the pattern in the



Argentine province of Buenos Aires. There was moderate growth until the mid 1880s, a steady increase from that time until 1900 and then a sharp increase until 1911 – 1912.

[Insert Chart 10 here]

It might be thought that the ratio between the price of land and wages should have increased more rapidly in Uruguay than in New Zealand because Uruguay did not expand its productive frontier in the period whereas New Zealand did so (see Chart 3). However, in New Zealand this trend was counterbalanced by the intensity of migratory flows; over the period it received twice as many immigrants as Uruguay (Table 1). These were the trends that established the wage/rental ratios in the two countries.

[Insert Chart 11 here]

As has been pointed out in other studies (Álvarez, 2007 and 2008), the evolution of the wage/rental ratio, which indicates a similar trend towards inequality in New Zealand and Uruguay, conceals the fact that land ownership distribution patterns were different in the two countries.

During the first globalisation, land prices increased in both countries. This was an expression of rising prices for agricultural products on the world market, of the favourable evolution of the terms of trade and of the rising productivity of land, but these trends benefited a greater proportion of the population in New Zealand than in Uruguay. There were more rural producers in New Zealand<sup>4</sup> during the first globalisation and more producers owned land (40,000 in New Zealand against 22,000 in Uruguay), which meant that the income derived from the favourable terms of trade was captured by a greater number of rural producers in New Zealand than in Uruguay. These were mostly small and middle sized landowners. The rural producers who exploited large holdings in New Zealand practiced extensive livestock rearing on land leased from the State (pastoral lease), mostly in South Island. In Uruguay, the increased income derived from the rise in land prices was more to the benefit of the big livestock landowners and to the rentist proprietors of middle sized and small holdings.

## **5. Frontier expansion and the distribution of land ownership rights**

In our four economies the distribution of land ownership rights in the frontier expansion process was conditioned by a variety of factors. Among these we shall focus on (a) the influence of the different ways in which the metropolis (Great Britain or Spain) assumed the incorporation of new spaces in the colonies during the colonial period, (b) the action of independent States (in the River Plate countries) and of

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<sup>4</sup> In the first decade of the 20th century New Zealand had 74,000 rural holdings and Uruguay had 43,000.

autonomous governments (in the colonies in Australia and New Zealand) and their relation to local social and economic actors, (c) the specific dynamics involved in the configuration of land markets in each country, (d) the technology that was available, factor endowments and international demand, which combined with the above-mentioned processes to shape ownership structures and landholding systems in these regions.

Spain and Great Britain assumed that these lands in the new continents belonged to them by right of conquest in accordance with international jurisprudence, which developed in Europe based on Divine Providence and natural rights. This is how the original populations were despoiled of their lands. In some cases indigenous communities' rights to the occupied land were recognized. This happened in New Zealand, where the 1840 Treaty of Waitangi established mechanisms to transfer land ownership rights from Maori communities to the British Crown. In the other countries however, the land was considered royal property,<sup>5</sup> and with no other official procedures the distribution of land to private persons, by concession or by sale, was exclusively in the power of the Crown. We can therefore consider that there were no significant differences between the ways the British and Spanish Crowns handled the matter of new territory.

Beyond the intentions of the Spanish Crown to make an ordered and rational distribution of land in the River Plate, in particular after the Bourbon reforms and the physiocratic spirit that inspired them, the big livestock estates determined a concentrated land ownership structure that, *grosso modo*, came to consolidate land policies in the new nations of Argentina and Uruguay, the technical conditions of livestock production in the 19th century and international demand during the first globalisation.

The British Crown sought to distribute land in its colonies in such a way as to stimulate colonisation and production in these new territories. However, in spite of the military, political, legal and economic control it managed to impose in its colonies, which was far stricter than the levels of control the Spanish Crown exercised in the River Plate, the colonisation process in Australasia was not without conflicts. The most outstanding example was colonisation by the big livestock producers in New South Wales and conflicts between squatters and the colonial authorities (Denoon et al 2007, Denoon, 1983).

Up to the last quarter of the 19<sup>th</sup> century, extensive livestock rearing in Australia and New Zealand was developed on big estates. The trend in Australia (at least in New South Wales and Victoria) in the first half of the 19th century was for inequality, measured in terms of the distribution of rural ownership, to increase. This was an effect

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<sup>5</sup> "In Australia *terra nullis* allowed the crown to become the first owner of the land, as its (European) sovereign" (Denoon et al, 2007: 122).

of the settlement and land distribution policies and of the dynamics the land market came to impose. The evidence would seem to indicate that in the second half of the 19<sup>th</sup> century inequality did not lessen (Thomas, 1991). In New Zealand, extensive sheep rearing dominated until the 1890s. Livestock production was carried on mainly on big rural holdings in South Island. Subsequently the expansion of the livestock frontier to North Island (1882- 1912), policies against large rural estates implemented by Liberal Party governments (1892 - 1912), the introduction of refrigeration and the expansion of dairy production contributed to consolidating a less unequal rural ownership pattern (Hawke, 1985; Sinclair, 1991; Greasley and Oxley, 2005, Condlife, 1959; MacAllon, 2009).

All in all, in comparative terms, the ownership structure that developed in Australasia was less concentrated than that in the River Plate. This difference can be explained by many factors (technological, institutional, political, etc.) the analysis of which falls outside the scope of this study. However, we feel an important factor was the land distribution policies governments implemented and the regulations that shaped how land markets functioned.

In Australia and New Zealand, Crown lands were distributed among producers through a variety of procedures and the State was a key actor that, starting in the 19<sup>th</sup> century, regulated land markets. The land legislation that governed the distribution of holdings among the population was gradually adapted to the demands of the frontier expansion processes. In general, land ownership was transferred from the Crown to producers by direct sale or by public auction, and it was possible to pay off the amount over very long periods. There was also a complex scheme whereby producers could lease public land. These systems opened access to land to a wide sector of the population and secured investment by producers who enjoyed very long term contracts (8 years, 21 years, or in some cases in perpetuity).<sup>6</sup>

In the 19<sup>th</sup> century in Argentina and Uruguay there was a massive transfer of public land to private individuals, most of which took place after these countries became independent (see Álvarez & Willebald, 2009, 2011). In Uruguay in 1830 some 80% of the land was State-owned, and in that decade the first governments initiated a rapid process of land privatisation after first eliminating the long lease (emphyteusis) system that was in place. By the 1870s the Uruguayan State retained only 25% of the land it did not directly control. This mostly consisted of remnant public land that in fact had been annexed by large livestock estates when they were fencing off boundaries. It can be said that the process of land privatisation in Uruguay came to an end in the last quarter of the 19<sup>th</sup> century.

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<sup>6</sup> In Álvarez & Willebald, (2009, 2011) there is a detailed account of the legal frameworks that regulated land distribution in Australia, New Zealand, Argentina and Uruguay in the 19<sup>th</sup> century.

In Argentina the privatisation process gathered momentum with the agrarian expansion that took place in the second half of the 19th century. Gagnard (1989) reports that between 1872 and 1878 the government of the province of Buenos Aires sold 5.2 million hectares. The “Desert Campaign” of 1879 and subsequent military expeditions between 1879 and 1884 made it possible to bring large swathes of land into production. It has been estimated that this movement of the frontier enabled Argentina to incorporate 30 million hectares (Cortés Conde, 1979; Tur, 1984; Di Tella, 1989). According to Gagnard (1989), by 1884 all the pampas lands were owned by somebody. The occupation of new land usually consolidated the concentrated structure of rural land ownership in spite of the projects, rules and laws designed to limit this effect. Cortés Conde (1979) reported that up to 1880 frontier expansion stemmed from the expansion of the livestock frontier and was not the result of pressure from a growing population demanding land. This meant that extensive livestock exploitation was established on the frontier. The large estates that emerged were not the consequence of institutions that regulated land distribution but of the prevailing economic conditions. Large holdings made it possible for land to be effectively occupied, and this happened before the vigorous demographic growth resulting from immigration got under way. As we have seen, population growth accelerated after the frontier had been established. In a recent study by Miguez (2007) we learn that the institutions that regulated land ownership rights in the pampas were the outcome of a complex historical process involving the combination of a range of factors including the physical conditions of the available resources, the institutions already in place in society, leaders’ projects, the actors’ mentality and the offer of factors. Although the agrarian structure that resulted from all these forces involved land ownership concentration, it efficiently set in operation a productive system that made for strong export performance and good economic growth in the period. However, we believe this process had marked negative consequences in terms of wealth distribution.

Quite apart from disagreements as to the origin of the agrarian structure that emerged, whether it was legal mechanisms and informal institutions in the sense that North (1984) maintains, or whether it was a response to factor endowments and the state of the available technology, we can agree that the frontier expansion processes in Argentina, Australia and New Zealand, and in Uruguay too, consolidated various agrarian structures and landholding systems that were very different from each other.

A factor that made frontier expansion and land distribution so different in the two regions was the respective role placed by the State. In Australia and New Zealand the State retained ownership of large areas of land devoted to agrarian production by employing a range of leasing systems. This meant that in both these countries the State maintained a certain degree of control over land, and this was an important source of fiscal resources and enabled the State to implement distribution policies. In the first

decade of the 20<sup>th</sup> century around 40% of the occupied land in New Zealand, most of it in South Island, was owned by the State. At that time in Australia around 40% of Commonwealth land was publicly-owned and exploited by private individuals under one leasing system or another (Tables 4 and 5).

[Insert Tables 4 and 5 here]

These processes show that the landholding and distribution patterns in Australasia differed from those in the River Plate region and led to the configuration of different rural ownership structures and different income distribution patterns. The functional income distribution in the agrarian sector in the four countries (see Álvarez, 2007; Álvarez and Willebald, 2009, 2011; Willebald, 2011) indicates that the income derived from land ownership (rents) accounted for a greater proportion of the agrarian product in Argentina and Uruguay than in Australia and New Zealand.

## 6. Conclusions

The traditional approach to the evolution of inequality during the first globalisation is in line with the Heckscher & Ohlin – Stolper & Samuelson paradigm whereby rising inequality in the settler economies was linked to the relative abundance of natural resources and the relative scarcity of labour. This approach, which hinges on the international convergence of prices for goods and factors, has its advantages but also not a few drawbacks.

The main advantage of using the wage/rental ratio to measure the evolution of inequality in historical periods before there were national records or household surveys is that it is a simple indicator and it facilitates comparisons. Today we have historical series for wages and land prices for a wide range of countries. This uncomplicated indicator enables us to observe the relative movement of factor prices as a proxy for income distribution, in function of the economy's degree of openness, its relative endowment of factors and the nature of its productive and trade specialisation.

One problem is that neither the approach nor the indicator can capture a series of historical movements that may be a factor in inequality levels and trends. The wage/rental ratio is an income distribution indicator that usually becomes less representative as the productive structure of an economy changes and the agricultural sector's share in GDP tends to shrink. As we have seen, in the Southern hemisphere settler economies using the wage/rental ratio to analyse income distribution means considering not only the impact of relative international prices on factor prices but also considering the changes in factor endowments (land and population) these economies underwent in the first globalisation. This is why in this study we have adopted a regional focus that explicitly considers the movement of the land frontier and

population growth in four Argentine provinces, four Australian colonies and two small countries, New Zealand and Uruguay.

When we consider these economies together, the evidence shows a trend for inequality to increase over the period. However, when we analyse the wage/rental ratio at the regional level we find trends that contradict what was expected. These trends respond to domestic factors, in particular to the technological and institutional changes that made intensive movements of land frontiers possible. Examples of this are the increase in the wage/rental ratio that occurred in South Australia from 1862 to 1883 and in the four Argentine provinces from 1888 to 1894, and a rather less clear trend with fluctuations in the province of Santa Fé from 1897 to 1904.

Lastly, the historical evidence shows that income distribution in the settler economies also depended on the process of the distribution of land ownership rights and on the behaviour of key actors like the State. Thus in spite of having been exposed to the same “globalisation forces”, the countries of Australasia consolidated wealth distribution and income patterns less unequal than those that evolved in the River Plate countries.

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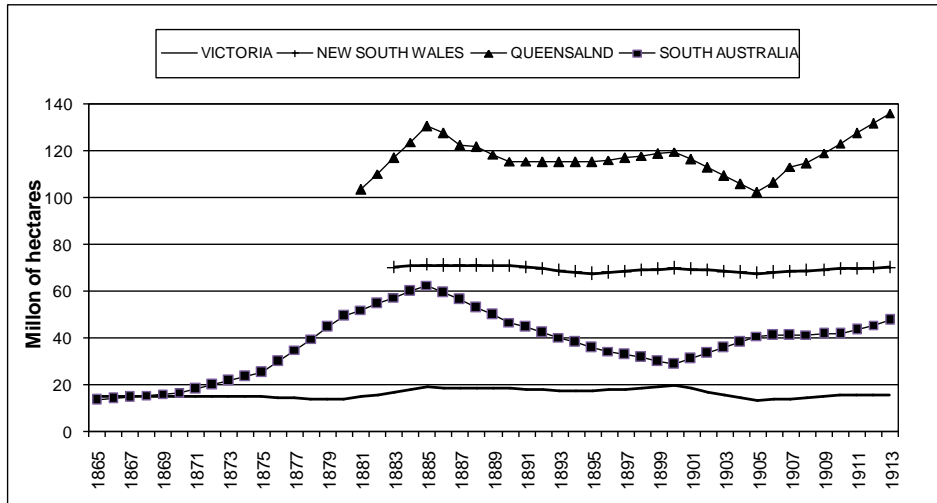


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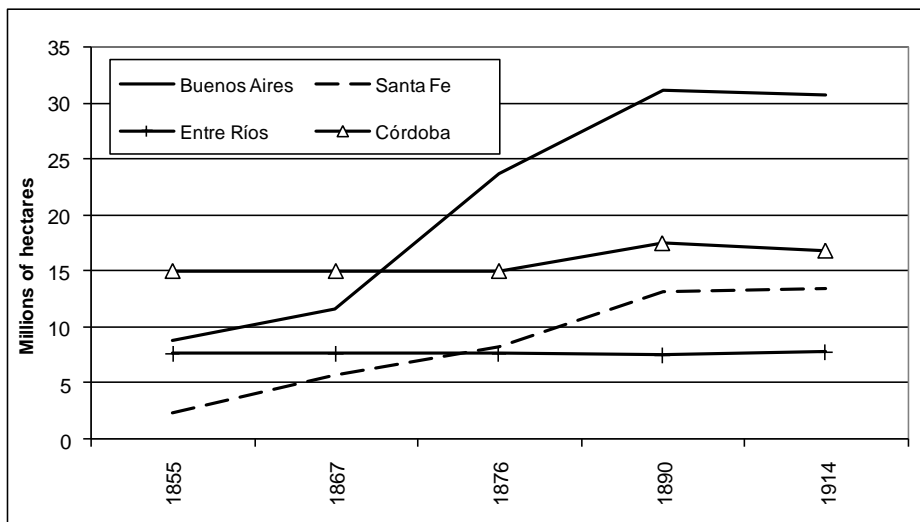
8. Charts and Tables

Chart 1  
AUSTRALIA  
Land in use



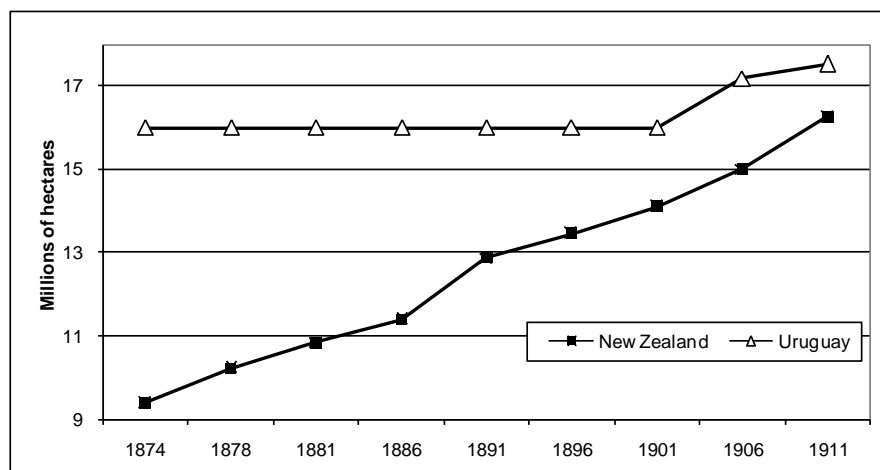
Sources: Taylor (1992: 16 – 21, Table 6-10), Álvarez & Willebald (2009)

Chart 2  
ARGENTINA  
Land in use



Source: Cortés Conde (1979: 56) Table 2.1

Chart 3  
NEW ZEALAND AND URUGUAY  
Land in use



Sources:  
Bloomfield (1984: 167-168) Table 6, Álvarez (2008)

Table 1  
Population and net migration

	Argentina	Australia	New Zealand	Uruguay
Population (thousands)				
1870	1.737	1.648	291	420
1914	7.882	4.941	1.050	1.169
Net migration (thousands)				
1870 – 1914	3.215	879	305	147
Share of population increase because of immigration (%)				
1870 – 1914	52	27	40	20

Sources:  
Australia, Mitchell (1998)  
Argentina, Vazquez-Preedo, Vicente (1971) Estadísticas históricas argentinas 1875 - 1914  
Rappoport (2000) Table 1.11, p. 41-42  
New Zealand, Prichard (1970) - Hawkes (1985) and Phil Briggs NZIER (2003)  
Uruguay, Banco de Datos del Programa de Población – UM – FCS – Udelar

Table 2  
AUSTRALIA  
Population (thousands)

Years	New South Wales	Northern Territory	Queensland	South Australia	Tasmania	Victoria	Western Australia	Total
1861	351		30	127	90	539	16	1.153
1871	503	0.2	120	186	100	730	26	1.665
1881	750	3.5	214	276	116	862	30	2.252
1891	1.124	4.9	394	316	147	1.140	50	3.176
1901	1.355	4.8	498	358	172	1.201	184	3.773
1911	1.647	3.3	606	409	191	1.316	282	4.454
Population growth (1911 - 1871)								
	3	17	5	2	2	2	11	3

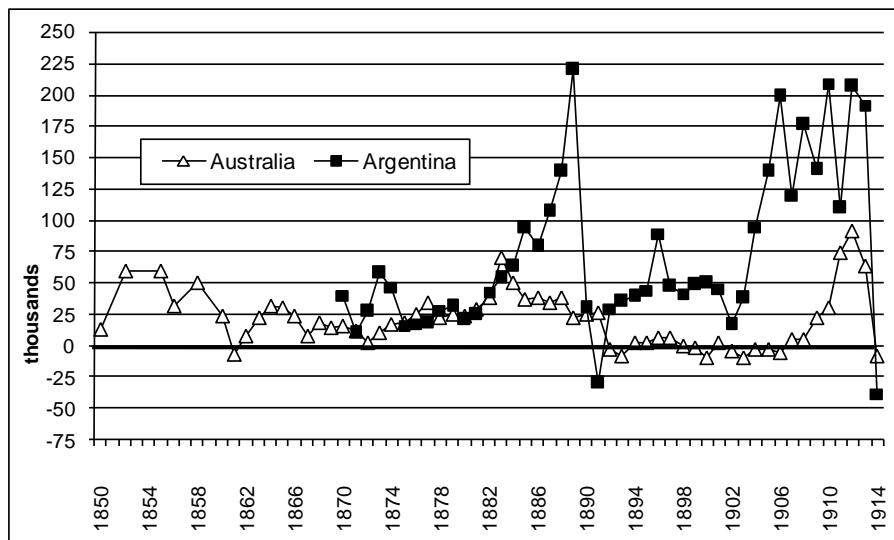
Source: Mitchell (1998)

Table 3  
ARGENTINA  
Population of Pampas Region (thousands)

Years	Buenos Aires	Buenos Aires (city)	Córdoba	Santa Fe	Entre Ríos	La Pampa	Total Pampas Region
1869	308	187	210	89	134		928
1895	921	664	351	397	292	26	2651
1914	2100	1576	735	900	425	101	5837
Population Growth (1914 - 1869)							
	6,8	8,4	3,5	10	3,2		6,3

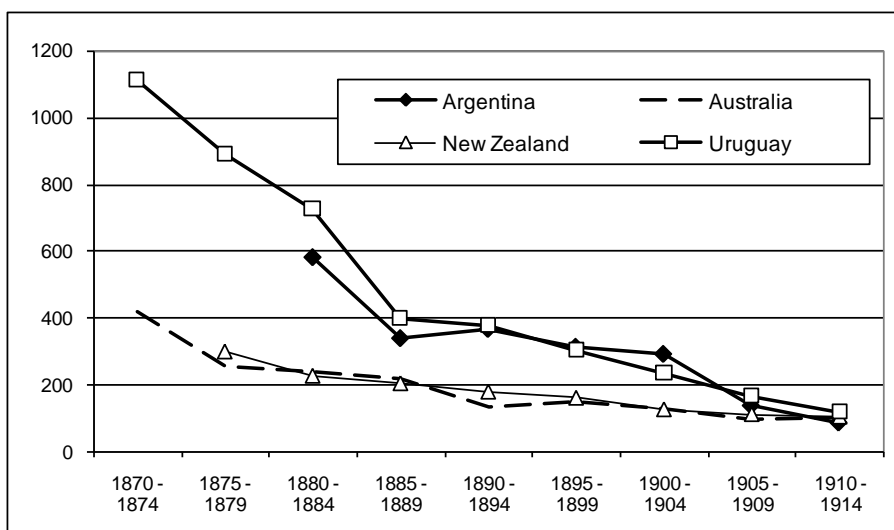
Sources: Gallo (1984) Table 18, p. 270; Gaignard (1989) Table 32, p. 310; Indec - Censos Nacionales.

Chart 4  
AUSTRALIA AND ARGENTINA  
Net migration



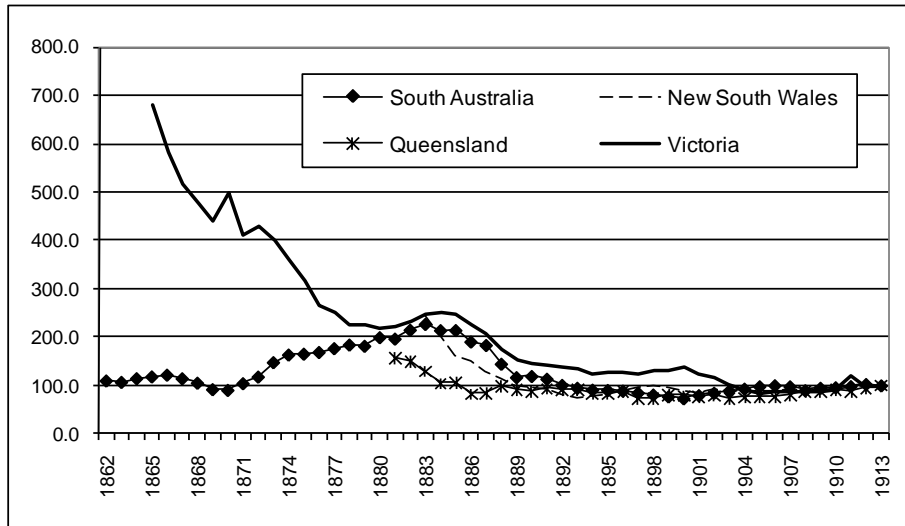
Sources: Australia Mitchell, (1998); Argentina: Cortés Conde (1993) Table 2, p. 56

Chart 5  
Wage-rental ratio (index) 1911 = 100



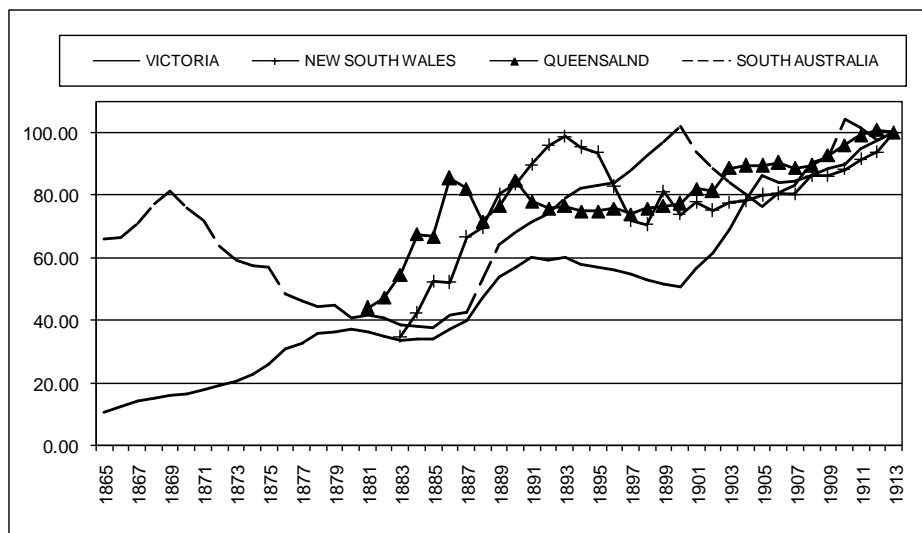
Sources: Williamson (1999) and Greasley and Oxley (2004) p. 27- 28

Chart 6  
 AUSTRALIA  
 Wage - rental ratio (1913 = 100)



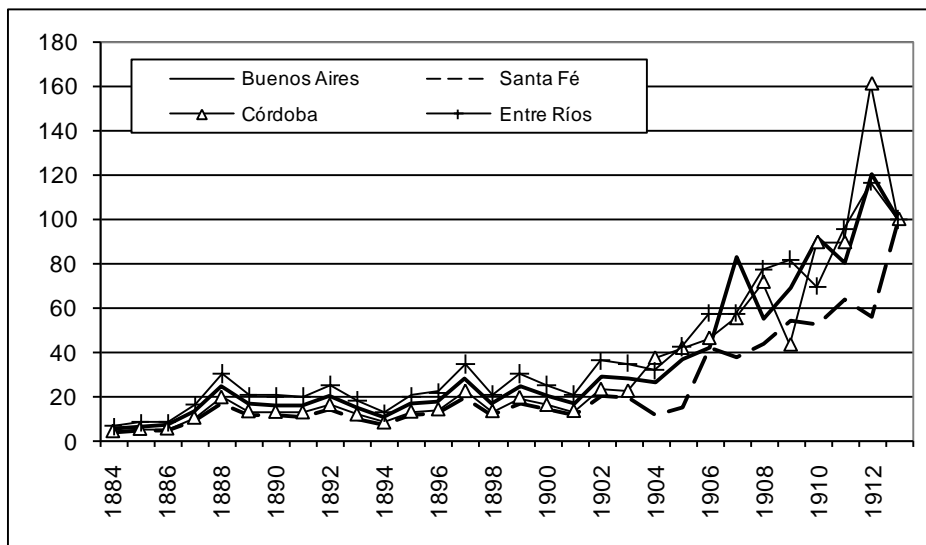
Sources: Shanahan & Wilson (2007) Appendix, p. 20-21

Chart 7  
 AUSTRALIA  
 Evolution of the price of land (1913 = 100)



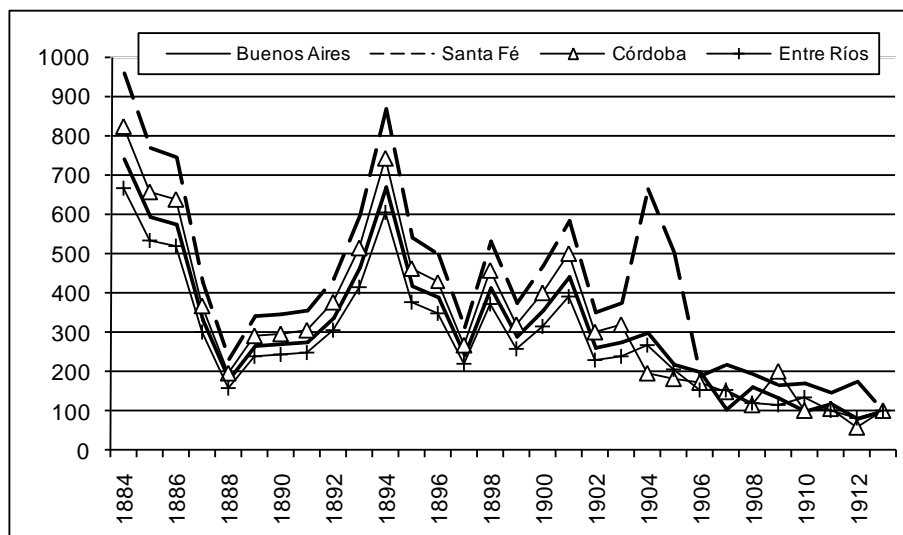
Sources: Taylor (1992) Tables 6-10, p. 16 – 21 and Álvarez & Willebald (2009)

Chart 8  
ARGENTINA  
Evolution of the prices of land (1913 =100)



Sources: Cortés Conde (1979) Table 3.8, p. 164; Table 3.10, p. 166; Table 3.11 p. 168. Díaz Alejandro (1970) Table 1.24, p. 46. Álvarez & Willebald (2009).

Chart 9  
ARGENTINA  
Wage - rental ratio



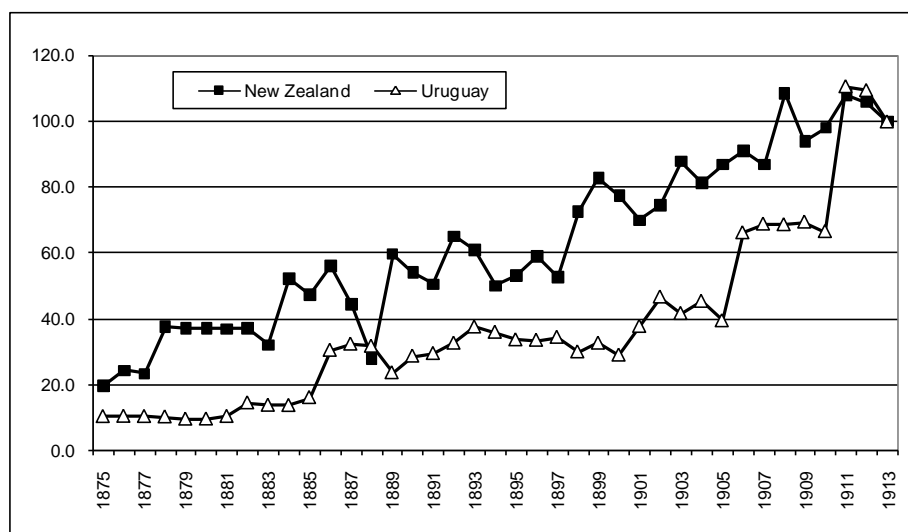
Sources:

Rents: Cortés Conde (1979) Table 3.8, p. 164; Table 3.10, p. 166; Table 3.11, p. 168. Díaz Alejandro (1970) Table 1.24, p. 46. Álvarez & Willebald (2009).

Wages: Cortés Conde (1979) Table 4.10, p. 226; Table 4.12, p. 228. Note: (1898 - 1913) own elaboration with data from Cortés Conde (1975b) Table 10, p. 154. Estadísticas Agrícolas, Buenos Aires, 1912.



Chart10  
NEW ZEALAND AND URUGUAY  
Evolution of the prices of land (1913 = 100)

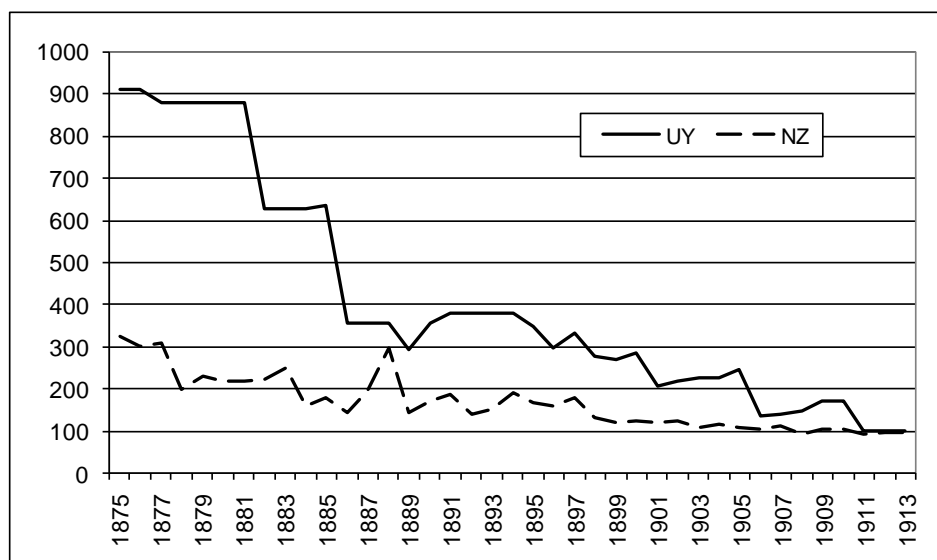


Sources:

New Zealand: prices of land, Greasley and Oxley (2004) p. 27, 28

Uruguay – real price of land: own estimation with data from nominal index of the price of land, Data Base, Economic History and Social Programme, Social Science Faculty, UdelaR, and consumer prices index, Bértola, Calicchio, Camou, Porcile (1996).

Chart 11  
NEW ZEALAND AND URUGUAY  
Wage - rental ratio (1913 = 100)



Sources:

New Zealand, – real wages and price of land Greasley and Oxley (2004) p. 27, 28;

Uruguay – real price of land: own estimation with data from nominal index of the price of land, Data Base, Economic History and Social Programme, Social Science Faculty, UdelaR, and consumer prices index, Bértola, Calicchio, Camou, Porcile (1996). Real wage, Bértola, Calicchio, Camou, Porcile (1998).

Table 4  
NEW ZEALAND  
Occupation of Land: Tenure (1881 – 1914)

Year	Total Area of Holdings.	Freehold.	Leased from Private Individuals or Public Bodies.	Leased from Natives.	Held from Crown under Different Tenures.	Held under Pastoral Lease
	Acres	Acres	Acres	Acres	Acres	Acres
1881	15,206,897	10,309,170	4,897,727			
1886	17,077,074	11,728,236	5,348,838			
1891	19,397,529	12,410,242	6,987,287			
1900	34,422,658	15,652,686	3,429,068	1,748,495	4,781,800	8.815.604
1901	34,911,573	15,740,205	3,770,879	1,793,880	5,677,522	7.929.087
1905	36,511,154	16,392,221	3,574,038	1,667,676	14,877,219	
1910	38,204,349	16,824,195	3,528,254	1,906,968	15,944,932	
1914	40,238,126	16,551,697	3,998,886	2,147,428	17,540,115	
	%	%	%	%	%	%
1881	100	68	32			
1886	100	69	31			
1891	100	64	36			
1900	100	45	10	5	14	26
1901	100	45	11	5	16	23
1905	100	45	10	5	41	
1910	100	44	9	5	42	
1914	100	41	10	5	44	

Note: 1881, 1886, 1891 excluding Crown pastoral lease.

Sources:

1881, 1886, 1891, The New Zealand Official Year Book, 1892. By authority: George Didsbury, Government Printer, Wellington, New Zealand (pag. 94).

1900 - The New Zealand Year-Book, 1900. By authority: George Didsbury, Government Printer, Wellington, New Zealand (pag. 338).

1901, 1905, 1910, 1914, The New Zealand Official Year Book. Digital yearbook collection (<http://www.stats.govt.nz/yearbooks>).

Table 5  
AUSTRALIA

Total area alienated, in process of alienation, held under lease or license and unoccupied

year	Alienated	In Process of Alienation	Held under Lease or license	Occupied by the Crown or Unoccupied	The Commonwealth area
	Acres	Acres	Acres	Acres	Acres
1897	74,809,020	30,992,319	748,324,621	1,049,605,880	1,903,731,840
1898	72,633,591	31,606,353	688,298,300	1,111,193,596	1,903,731,840
1899	73,838,579	31,722,503	782,588,627	1,015,582,131	1,903,731,840
1900	75,106,568	31,575,975	784,307,763	1,012,741,530	1,903,731,840
1901	76,443,507	34,792,666	721,413,669	1,071,141,998	1,903,731,840
1902	78,543,084	34,433,202	755,288,202	1,035,467,352	1,903,731,840
1903	80,624,435	34,422,381	747,776,534	1,040,908,490	1,903,731,840
1904	83,101,070	34,690,573	712,328,991	1,073,611,206	1,903,731,840
1905	85,286,835	35,000,464	726,573,333	1,056,871,208	1,903,731,840
1906	87,247,790	35,356,995	746,501,092	1,034,625,963	1,903,731,840
1907	89,351,059	37,018,591	774,467,084	1,002,895,096	1,903,731,840
1908	91,693,782	38,699,384	787,211,488	986,127,186	1,903,731,840
1909	93,566,533	41,028,797	795,877,094	973,259,416	1,903,731,840
1910	96,151,855	44,749,058	815,938,237	946,892,690	1,903,731,840
1911	100,713,498	46,479,854	822,440,546	934,097,942	1,903,731,840
1912	102,746,699	51,977,451	858,932,085	890,075,605	1,903,731,840
1913	104,474,882	52,717,936	858,148,026	889,390,996	1,903,731,840
1914	104,612,364	54,842,786	878,981,142	865,295,548	1,903,731,840
	%	%	%	%	%
1897	3.93	1.63	39.31	55.13	100
1898	3.82	1.66	36.16	58.37	100
1899	3.88	1.67	41.11	53.35	100
1900	3.95	1.66	41.20	53.20	100
1901	4.02	1.83	37.89	56.27	100
1902	4.13	1.81	39.67	54.39	100
1903	4.24	1.81	39.28	54.68	100
1904	4.37	1.82	37.42	56.40	100
1905	4.48	1.84	38.17	55.52	100
1906	4.58	1.86	39.21	54.35	100
1907	4.69	1.94	40.68	52.68	100
1908	4.82	2.03	41.35	51.80	100
1909	4.91	2.16	41.81	51.12	100
1910	5.05	2.35	42.86	49.74	100
1911	5.29	2.44	43.20	49.07	100
1912	5.40	2.73	45.12	46.75	100
1913	5.49	2.77	45.08	46.72	100
1914	5.50	2.88	46.17	45.45	100

Sources:

1897 - 1906, Official Year Book of the Commonwealth of Australia – 1908, Section VI, Land Tenure and Settlement, p. 276.

1907 - 1908, Official Year Book of the Commonwealth of Australia – 1914, Section VI, Land Tenure and Settlement, p. 273.

1910 - 1914, Official Year Book of the Commonwealth of Australia – 1916, Section VI, Land Tenure and Settlement, p. 278.