

GLOBAL ECONOMIC HISTORY SERIES

# Settler Economies in World History

EDITED BY

CHRISTOPHER LLOYD,  
JACOB METZER & RICHARD SUTCH



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# Global Economic History Series

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*Edited by*

Christopher Lloyd

Jacob Metzger

Richard Sutch



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*Cover illustration:* Tom Roberts, *Allegro con brio: Bourke Street west* c.1885–86, reworked 1890. Oil on canvas on composition board, 51.2 x 76.7 cm. National Gallery of Australia, Canberra and the National Library of Australia, Canberra. Purchased 1918.

This painting is appropriate to the theme of the volume because the subject, Melbourne, was one of the largest cities in the British Empire at the time (the height of the 19th Century immigration and commodities export boom), one of the largest in the southern hemisphere, and probably the world's richest city per capita in the late 1880s when Roberts depicted its bustling main street.

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## CHAPTER SEVENTEEN

### SO SIMILAR, SO DIFFERENT: NEW ZEALAND AND URUGUAY IN THE WORLD ECONOMY

Jorge Álvarez and Luis Bértola

#### INTRODUCTION

Our aim in this chapter is to tell the comparative story of how these two small settler economies, New Zealand and Uruguay, performed economically after the first globalization boom and throughout the 20th century.

We aim to arrive at an understanding of two stylized facts that will be presented in Section 1. First, why both economies had such high per capita incomes on the eve of the period under consideration compared to most countries in the world economy, and why they tended to steadily lose ground in the international arena. Second, why New Zealand always had higher per capita incomes than Uruguay and why the gap between the two grew in absolute and comparative terms, particularly in 1930–1970.

We will examine the answers to these questions in three different periods: the so-called first globalization boom, the 1913–70 period, characterized by de-globalization and State-led growth, and the 1970s and after.

In this chapter we provide a concise interpretation based on a set of research work that has been undertaken in recent years by our team at the Universidad de la República, Uruguay, and by many other academics around the world.

Our first main argument is that both countries shared some common features as regards what used to be labeled resource endowments: a temperate climate, an abundance of land in relation to a relatively small settler population, and a high immigration rate of people of European origin. These factors may help us to explain the first feature common to the two countries: high initial income and subsequent loss of relative position. The central question here concerns how the disposal of highly demanded resources at a time when trade costs were being drastically reduced

allowed these countries to achieve very high exports per capita and enjoy a reasonable income from land thanks to big production cost advantages over European producers. As time went by, these natural comparative advantages tended to lose their capacity to transfer dynamism to the whole economy. New competitive advantages were developed but with less favorable conditions in terms of geography, economies of scale and agglomeration. Successive attempts to change the pattern of development were successful in counteracting but not in reversing the declining trend.

Our second main argument is that the reasons why the two countries performed differently are to be found in a complex set of economic, social and political features of these societies. Put simply, resource endowments framed institutional development and to a large extent determined initial per capita GDP levels, but institutional factors affecting the economy, demography, society and politics are the main explanation for how the available endowments were transformed, increased and shaped. In both these countries these factors set the limits to structural transformation.

## TWO STYLIZED FACTS

### 1.1. *High Point of Departure, Long-Run Falling Behind*

As can be seen in Table 17.1, New Zealand and Uruguay ranked very high among the world nations in 1870 in terms of per capita GDP levels. Both countries maintained relatively high positions until the 1950s, but subsequently went into decline. However, figures for the per capita GDP of both countries compared to the weighted average of the four leading nations during most of our period (France, Germany, the UK and the USA) show a steady decline in our two small settler economies. If we disregard some fluctuations and some differences in relatively short periods of time, the similarity between the two countries is striking, as can be seen in Figure 17.1.

New Zealand (NZL) and Uruguay (UY) share not only this trend but also many underlying features. Both countries have a temperate climate, both had a rather scattered original population and both had available land to produce commodities similar to those produced in the European core. One difference was that New Zealand had considerable mineral reserves while Uruguay did not.

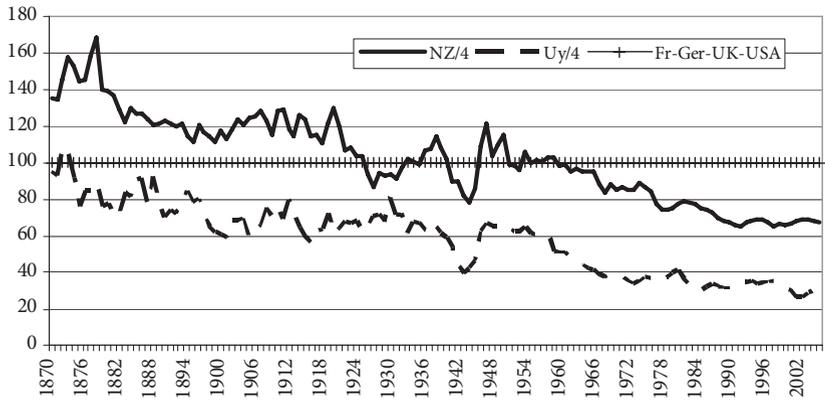


Figure 17.1 Per capita GDP of New Zealand and Uruguay (weighted average of France, Germany, UK and USA=100). Based on Maddison (2009).

1.2. *A Permanent, if not Increasing, Advantage of New Zealand over Uruguay*

UY always had per capita GDP levels lower than NZL. As shown in Figure 17.2, until the 1930s Uruguay's per capita GDP fluctuated around 62% of that of NZL, and after that time the average was 48%. The transition to Uruguay's lower relative level compared to NZL took place in the context of the long-lasting stagnation of the Uruguayan cattle-breeding sector that began in the 1930s followed by the stagnation of the manufacturing sector that began in the mid 1950s, a process that lasted until the early 1970s.

Relative performance showed a clear cyclical pattern, which reflects rather well the Kuznets-like pattern of Uruguayan per capita GDP growth (Bértola & Lorenzo 2003): it seems that when UY went through phases of fast growth it was able to catch up with NZL up to a certain level, i.e. there was some kind of conditional convergence. This happened during the expansion cycles of the 1880s, the 1900s to 1913, the 1920s, the decade following WWII, in the 1970s and in the 1990s. On the other hand, during the downward trends of the Kuznets cycle, UY performed clearly worse than NZL, lagging far behind. In other words, these fluctuations in Uruguayan per capita GDP relative to NZL's is another way to see the fact that UY has shown greater volatility than NZL. This has been studied by Carbajal and de Melo (2007) and Oddone (2008).

Table 17.1 New Zealand and Uruguay in the World Ranking according to per capita GDP level, 1870, 1913, 1950, 2000.

	1870	1913	1850	2000
New Zealand	3	3	6	23
Uruguay	7	14	18	43

Source: Based on Maddison (2003).

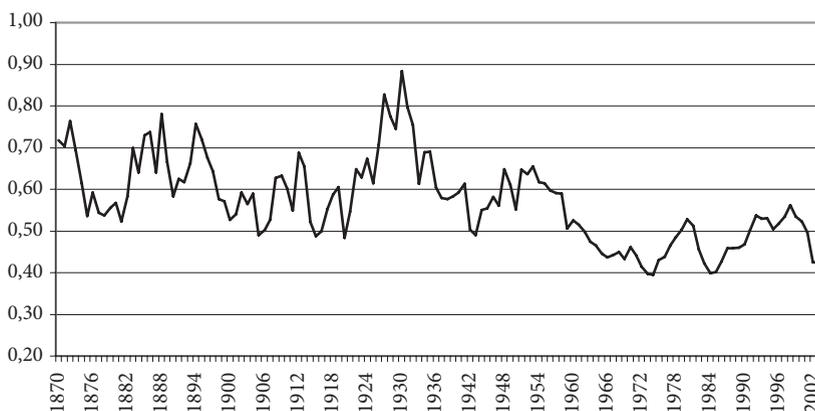


Figure 17.2 per Capita GDP of Uruguay relative to New Zealand. Based on Maddison (2003).

#### EXPLAINING THE TWO COUNTRIES' HIGH POINTS OF DEPARTURE AND LONG-RUN TREND OF FALLING BEHIND WORLD LEADERS

Both countries are in the Southern Hemisphere, NZL between the 34th and 47th parallel and UY between the 30th and 35th. While NZL (270,000 km<sup>2</sup>) is larger than Uruguay (188,000 km<sup>2</sup>) both have around 16 million productive hectares. NZL is surrounded by the Pacific Ocean and the Tasmanian Sea and has some mountains, and it has more stable rainfall than Uruguay, although annual levels in the two countries are similar (992 mm in NZL, 1,005 mm. in UY, see Table 17.2).<sup>1</sup>

Both countries had a small native population. In 1828, the Uruguayan native peoples, the Charrúa and Guaraní, amounted to less than 30,000.

<sup>1</sup> North Island has between 140 and 180 rainy days a year, South Island between 120 and 160, and Uruguay 75.

Table 17.2 A comparison of climate indicators for areas of intensive pastoral activity: San José de Mayo (Uruguay) and Palmerston North (New Zealand).

	New Zealand	Uruguay
Latitude of southern-northern extremities	35–47°	30–35°
Annual average temperature (Celsius)	12, 8	17
January mean temperature (Celsius)	18	24, 5
July mean temperature (Celsius)	8	10, 9
Annual frost day	15	21
Average annual rainfall (mm)	992	1005
Lowest monthly rainfall (mm)	61 March	65, 6 July

Source: Kirby (1975).

In 1800, the Maori population of NZL amounted to between 100,000 and 150,000, but by 1857–58, according to a population census at that time, this population had been reduced to 57,000 (Hawke, 1985). In both cases, colonization had a strong negative impact on the native population.

In the early 19th century both countries were far removed from the main world markets. They were clearly marginal regions in the sense that, in economic terms, they were out of reach for the European countries. Transport costs were so high that except for some products that were very valuable in relation to their weight, and extracted or produced at very low cost, production was not competitive in the dynamic European markets.

Two different processes took place during the 19th Century. (1) The transport revolution brought about a sharp and permanent fall in freight costs, which had a more pronounced impact on trade in heavy goods in relation to their value. The world became much smaller, economic distances were drastically reduced. (2) In Europe, industrialization and urbanization made for an increasing demand for foodstuffs and raw materials that domestic supply could not meet. The expansion of the frontier all over the world was stimulated by this increasing demand and by easier access.

These two trends laid bare the gap between production costs in Europe and those overseas, giving peripheral countries the opportunity to make significant rents from land. The amount of this rent was restricted by many mechanisms, among which the many different distribution and commercial networks, transatlantic and domestic. However, and at the same time, productivity in peripheral regions was raised thanks to a number of factors such as the development of infrastructure (harbors, railways, canals, etc), institutional and political improvements, improved

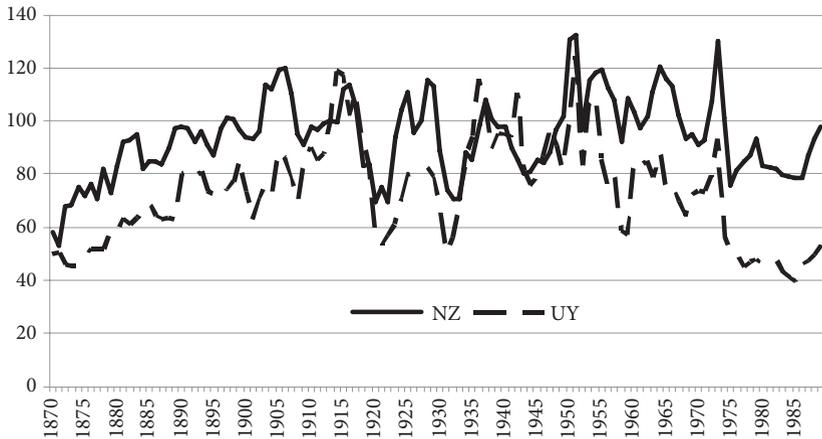


Figure 17.3 Terms of trade of New Zealand and Uruguay, 1870-1989 (1913=100).  
Sources: NZ, versión 4, Uruguay: Bértola (2005).

agricultural techniques, etc. These all pushed towards widening the gap. As a result, the ranking of land in accordance with its marginal productivity in different regions changed dramatically: lands that had been peripheral became core lands and vice versa.

Thanks to the reduction in freight costs and big productivity growth in manufacturing, both countries' terms of trade improved significantly in the years up to WWI. The trend changed around the first decade of the 20th century to a stable but highly fluctuating level which continued until a reversal of the trend came about after the 1950s. This was more pronounced in UY than in NZL (Figure 17.3).

The impact of the first globalization boom on land prices and on the rental/wage ratio describes what went on very well (Figure 17.4). In both countries this ratio dramatically increased until around the time of WWI, and after this there was a downward trend in both until the 1950s.

Up to the 1870s NZL's economy was based on the extraction of wood and minerals (gold and coal). These activities had some natural limits and could not sustain growth. Their decline (gold exports accounted for over 50% of NZL's exports in 1870) explains why NZL's relative position fell sharply in the 1870s (Table 17.3). Cattle-breeding became the most dynamic activity, both domestically and for export. During the 1870s, the NZL government developed an intensive program of public investment, building railroads and roads that connected the different regions of the country, and this made the expansion of agriculture possible (Briggs 2003, Prichard 1970).

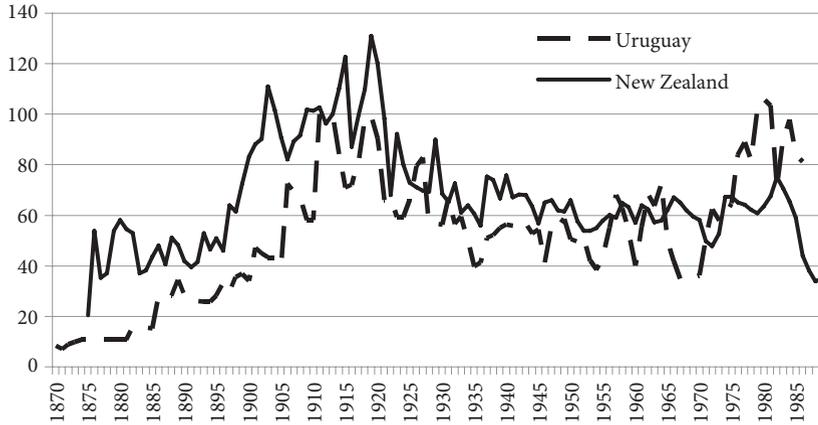


Figure 17.4 Graph 4: Rental/wage ratio, 1870–1989.  
Bértola, L. (2005), Graph 1.

During the 19th century, the Uruguayan economy was already based on the agrarian sector. Until the 1860s cattle-breeding was the most important activity, and leather and jerked beef were the main export goods (Table 17.3). Trade also played an important role as the port of Montevideo was the main link between Europe and the hinterland of the Rio de la Plata. An important step towards the diversification of agrarian production was taken in the 1860s with the introduction of sheep-breeding, mainly oriented to wool exports. In addition, mutton and lamb became a big component of the diet of the agrarian population. The 1870s brought important institutional changes that strengthened the power of the State to enforce the property rights of the landed elites. British investments were very important for infrastructure, transport, services, public debt and even in the manufacturing industry of frozen, chilled and canned beef (Finch 1981). The State was able to expand thanks to the positive interaction between increasing demand and prices for exports, the positive balance of trade, increased fiscal revenues due to import taxes and the availability of foreign loans. A reform movement took shape in the first decade of the 20th century, and this led to the diversification of State functions and the development social and labor legislation that was advanced for its time, such as the 8 hour working day, which was introduced in 1915.

Both countries enjoyed relatively high and similar per capita GDP growth rates in 1870–1912, as is shown in Table 17.4. This good performance is enhanced by the great increase in population that took place in that

Table 17.3 Structure of merchandise exports, New Zealand and Uruguay, 1870–2000 (%).

NEW ZEALAND								
	Wool	Meat	Dairy	Gold	Fishing	Forestry	Other	Total
1870–1890	49	3	1	22	0	5	21	100
1891–1910	38	16	8	12	0	6	20	100
1911–1930	29	20	28	3	0	2	17	100
1931–1950	23	23	36	2	0	0	16	100
1951–1970	32	25	26	0	1	2	15	100
1971–2000	11	21	15	0	3	8	41	100

URUGUAY						
	Wool	Meat	Leather	Crops	Other	Total
1870–1890	24	19	34		19	96
1891–1910	32	19	29	5	15	100
1911–1930	35	32	17	5	11	100
1931–1950	42	27	13	11	9	100
1951–1970	53	22	9	13	3	100
1971–2000	13	15	7	9	56	100

Source: Based on Briggs (2003), Finch (2005).

period. Both countries attracted large numbers of immigrants in the late 19th and early 20th century and doubled their populations between 1870 and 1910 (Figure 17.5). However, in spite of what could be seen as a good performance, both countries lost ground when compared to the industrialized countries. There was a marked downward trend in NZL during the 1870s and a similar trend in UY in the 1890s, but the situation of both seemed to stabilize in the years before WWI.

1913 seems to have been an important breakpoint for both. As is shown in Table 17.4, in 1913–1929 growth rates decreased significantly in both and were even negative in the case of NZL. 1913–1950 was a period of drastic fluctuations. The leading countries grew much less than before and after this period. In NZL and UY the trends were similar, but had different timing. NZL's underwent a serious crisis in the 1920s due to the rigidities imposed by the gold standard and the poor performance of the British economy. NZL fared better during the 1930s, thanks in part to the British recovery and trade agreements that secured the British market for products from the Commonwealth. UY performed better in the 1920s than in the 1930s. In both countries, by 1950, and in spite of the immediate post-WWII commodity price boom, there was a decline compared to pre-WWI levels.

Table 17.4 Annual growth rates of GDP per capita New Zealand and Uruguay (1870–1929).

Nueva Zelanda		Uruguay	
1870–1911	1,4	1870–1912	1,1
1911–1929	-0,2	1912–1929	0,6

Sources: based on Bértola (1998) and Briggs (2003).

Table 17.5 Population in New Zealand and Uruguay.

	New Zealand	Uruguay
1870	291.000	420.000
1910	1.050.410	1.169.000
1940	1.633.645	1.988.000
1975	3.143.700	2.829.000
2005	4.071.000	3.418.639

Sources: New Zealand: Briggs (2003); Uruguay 1855–1955 Programa de Población, Unidad. Multidisciplinaria FCS, 1955–2001, CELADE.

Faced with a serious crisis in international markets, both countries had some kind of State-led growth aimed at diversify the domestic productive structure and reducing dependence on international commodity markets. In both cases, productive diversification went hand in hand with significant improvements in education, health and social legislation.

The Golden Age of capitalism had serious adverse consequences for both countries in relative terms, and their decline continued even during the so-called second globalization boom. Worsening terms of trade, which particularly affected products from temperate climate areas, and a significant fall in wool prices on world markets, partly due to competition from synthetic fibers, affected both countries (Figure 17.3). Both were also affected by the United Kingdom joining the EEC in 1973 and by the introduction of import quotas for beef and dairy products, which particularly hit NZL. The energy crisis of the 1970s also had a huge negative impact on their trade balances.

NZL attempted to diversify its export markets by means of the *New Zealand – Australia Free Trade Agreement*, for example, and also its export products by moving towards more capital-intensive ones. The late 1970s

and early 1980s saw stagnation and by the late 1980s NZL was facing a fiscal deficit of 9.5% of its GDP, high unemployment and a foreign debt of 80% of its GDP.

In UY stagnation started in the mid-1950s, when the terms of trade deteriorated, import-substitution became exhausted and the domestic market set narrow limits to the expansion of domestic production. An attempt to liberalize the economy and bet on the traditional cattle-breeding sector was halted by the oil crisis and by a new wave of protectionism in the European beef markets. A military dictatorship significantly reduced labor costs, promoted the export of natural-resource based manufactures to new markets and, like in the case of NZL, signed trade agreements with neighboring countries, Argentina and Brazil. Uruguay's balance of trade continued in deficit and inflation went out of control, and the late 1970s saw the well-known attempt to stabilize prices through the pre-announcement of the exchange rate, a policy which could be maintained for some years as long as foreign capital flew in. This experiment ended in the well-know debt crisis and the lost decade of the 1980s. The 1990s saw the creation of MERCOSUR (the Market Union of the Southern Cone) in a context of open integration and attempts to privatize public enterprises and to attract foreign investment. Like all the Mercosur countries, Uruguay ran into serious balance of trade deficits and relied on the inflow of foreign capital to balance the books. There was another severe crisis in 2002, confirming the long-run growth path characterized by some kind of Kuznets cycle.

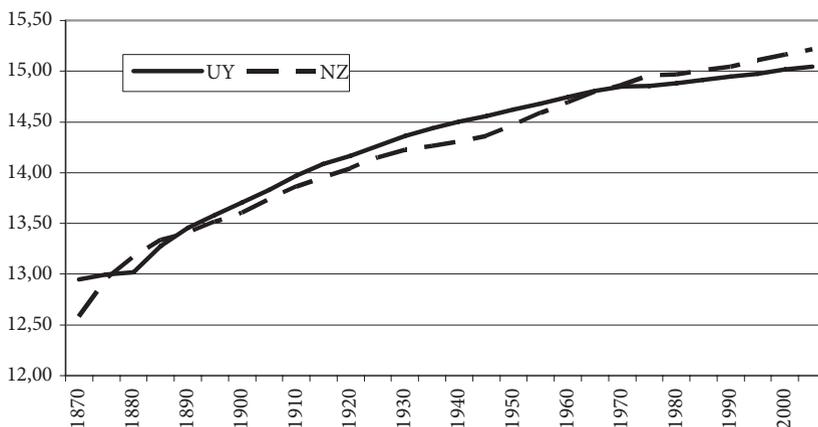


Figure 17.5 Population in New Zealand and Uruguay, 1870 – 2005 (log)

Sources: New Zealand: Briggs (2003); Uruguay 1855–1955 Programa de Población, Unidad Multidisciplinaria FCS, 1955–2001, CELADE.

In both countries the liberal reforms tightened the links to the world economy, and the role of the State was significantly changed and weakened. In both cases similar results were obtained: the welfare state became less significant and income inequality increased considerably, as can be seen in Figure 17.7.

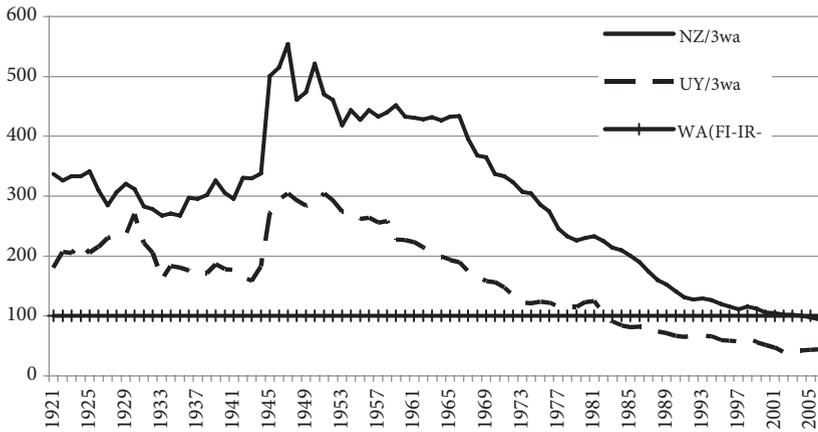


Figure 17.6 Per capita GDP of New Zealand and Uruguay (weighted average of Finland, Ireland and South Korea=100). Based on Maddison (2009).

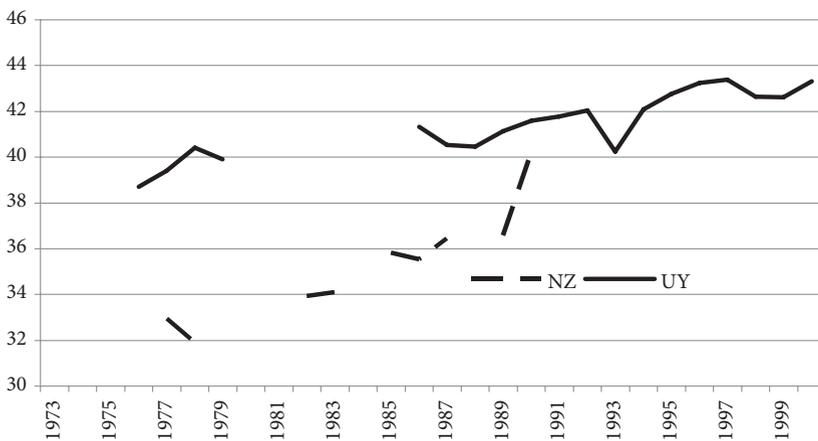


Figure 17.7 Gini-coefficients New Zealand and Uruguay, 1973-2000. Source: Bértola (2005), Graph 4.

In 1990, NZL's per capita GDP was 67% of the average of the four leading countries, while it had been 116% in 1950 and 84% in 1976 and the country fell behind Australia in terms of per capita GDP and as regards productivity. The figures for Uruguay were 27% in 2002, compared to 40% in 1970 and 64% in 1950. In comparison to other countries, that experienced fast growth in the last half of the 20th century, our two countries underwent a dramatic decline, as can be seen in Figure 17.6.

In this context of strong expansion followed by relative regression, the two countries also had similar long-run population trends. Growth rates tended to decrease due to the demographic transition and to the decreasing flow of immigrants after the first globalization boom (Figure 17.5, and Table 17.5). The forces that primarily attracted immigrants, the existence of relatively idle natural resources, disappeared. While UY became an emigration country, NZL balanced between the emigration of relatively high skilled people and the immigration of relatively low skilled people (Table 17.6).

In short, our basic idea is that both countries benefited from a particular endowment of natural resources on the basis of which they were incorporated into the world economy. The high land rents that were appropriated by both countries allowed them to achieve high levels of per capita income. When demand and price trends changed after WWI, both countries mobilized their domestic economy, went through far-reaching structural transformations, and allowed the State to play a leading role in this process of structural change and the development of what we can call the welfare state. Nevertheless, the negative impacts of the terms of trade shift after the 1950s and the oil crisis made it extremely difficult for either country to maintain and deepen this process of structural change, as in neither case could structural transformation make it possible to radically change the structure of exports by transcending the limits imposed by their original natural resource endowments. Even if the two countries performed differently and exploited their natural resource bases in different ways, and were able to develop differently in other respects, as we shall see below, their long-run trend has been to fall further and further behind the world leaders.

The big question is whether this process of falling behind was inevitable, a process of adjustment following an extraordinary international situation combined with idle resources, or if something could have been done to change this pattern of losing ground.

Table 17.6 Population and migration in New Zealand and Uruguay, 1870–2005.

	(A) Thousands					
	URUGUAY			NEW ZEALAND		
	Natural Growth	Net migration	Total	Natural Growth	Net migration	Total
1870–1910	605	133	738	503	269	772
1911–1940	688	131	819	483	124	608
1940–1975	809	2	811	1219	335	1555
1975–2005	740	-250	489	929	101	1031

	(B) %					
	URUGUAY			NEW ZEALAND		
	Natural Growth	Net migration	Total	Natural Growth	Net migration	Total
1870–1910	81,9	18,1	100	65,1	34,9	100
1911–1940	84,1	15,9	100	79,6	20,4	100
1941–1975	99,8	0,2	100	78,5	21,5	100
1975–2005	151	-51	100	90,2	9,8	100

	(C) Net migration	
	URUGUAY	NEW ZEALAND
1870–1940	264.013	393.311
1941–2005	-248.007	435.567
1870–2005	16.006	828.878

Sources: Uruguay: Banco de Datos del Programa de Población – UM – FCS – Udelar – Dirección General de Estadística y Censos; Cabella and Pellegrino (2005) Tables 1 y 2. New Zealand: Prichard (1970) – Hawkes (1985) – Phil Briggs NZIER (2007).

#### EXPLAINING DIFFERENCES BETWEEN NEW ZEALAND AND URUGUAY

After reading the previous section it may be difficult to believe that today NZL is a paradigm or a source of inspiration for any other country. The fact is that since the 1960s NZL's agrarian system has been a model to be imitated for UY, and many other aspects of NZL society, such as the reform of the state, are in fashion among members of Uruguay's leftist government.

The reasons for this are probably to be found in a superficial understanding of the long-run trends in NZL's economy, or in the belief that

this kind of loss of ground is an inevitable destiny. However, no matter how conditioned these countries have been by the size of their domestic population, their distance from foreign markets, or limits set by the availability of natural resources, the fact is that NZL has always done better, performed better and achieved higher standards of living than UY. Then, accepting our natural restrictions, let us try to learn from NZL and come closer to our potential. This seems to be the dominant approach, and this explains why Uruguayans are very interested in comparing themselves with NZL, but not vice versa.

Let us try to explain why NZL has always had higher per capita GDP levels and why the relative gap between the two increased in the period 1930–1970, as is shown in Figure 17.2.

#### NATURAL ENDOWMENTS, MINING AND FRONTIER EXPANSION

We have already mentioned two differences concerning natural endowments. One is the existence of a mining sector in NZL, which explains the extraordinarily high income levels there in the mid 19th century. This mining sector has two important externalities: it contributed to the creation of a wealthy sector which later invested in many other commercial and productive activities, and it created the opportunity to develop forward- and backward-linkages that strengthened the productive network of the country. As is clearly shown in Figure 17.1, NZL suffered a very severe shock when the mining economy collapsed in the 1870s. After this, the agricultural sector took over the leading role. Thus, the mining sector can be considered as a contributor to the original differences between the two countries, but it hardly explains why they have continued to be so different.

Uruguay did not have this advantage. But, as mentioned above, Uruguay did have its port, Montevideo, the best natural harbor of the region. This contributed to the creation of a strong commercial elite that controlled a large share of the trade with the hinterland of the Rio de la Plata (Southern Brazil, Paraguay and Argentina). This commercial elite was considerably weakened once the harbor of Buenos Aires took the lead at the start of the 20th century, thanks to heavy investment to make it suitable for large ocean-going ships. Thus, UY originally had a natural comparative advantage in trade that eroded as technological change and the greater size of the Buenos Aires market did their work.

UY and NZL have a similar productive area (about 16 million hectares). However, the story of how their frontiers expanded is quite different.

90% of UY's territory is suitable for agrarian production, with good natural grasslands for cattle-breeding. Cattle were introduced by Europeans in the 17th century and reproduced in the wild, and at first the only commercial good was leather. By 1870 all the territory was occupied, even if this was in a quite extensive way, i.e. In NZL, on the other hand, only 50% of the land is suitable for agricultural production, and this 50% was not naturally available but was the result of a process of intense transformation of the natural environment involving deforestation, the draining of wetlands, and the creation of artificial grasslands. A thousand years ago, before the first colonizers arrived at these islands, natural forests covered 85% of the surface area. By the mid 19th century, 8 million hectares were under agricultural exploitation, this increased to 12 million in the 1890s and by the first decades of the 20th century it had come close to the limit of 16 million hectares (Taylor and Smith, 1997). It would be going too far to say that NZL's natural resources are more the result of human ingenuity and value added than is the case in UY, where cattle-breeding expanded on the natural land without major transformations. Let us take a closer look at innovation.

#### INNOVATION IN AGRICULTURE, VALUE ADDED AND DIVERSIFICATION

NZL's agriculture benefited from some kind of innovation system earlier than this process came about in Uruguay. In 1893 the NZL Department of Agriculture was set up to promote agrarian development, scientific research and the diffusion of knowledge and technology. By 1902 there were eight branches in the Department: veterinary, dairy, biology, horticulture, chemistry, poultry, experimental stations, and stock inspectorate and agriculture statistics. The animal research division was set up in 1939.

In the 1910s important research was conducted by the Department of Agriculture in Palmerston North in cooperation with Lincoln University. As a result, new varieties of grass, able to survive through the different seasons and with good capacity to raise the nitrogen content of the soil, were developed. Once selected, the new seeds were intensively diffused among cattle-breeders through many experimental stations.

In 1926 the Department of Scientific and Industrial Research (DSIR) was set up to carry out basic research and coordinate the activities of different laboratories and experimental stations. In the 1930s the DSIR turned out to be a leading center even for agricultural research, and it received half of the total budget allocated to this field (Galbreath 1998).

The different experimental stations depended on the government, but had close links with various universities and in many cases they shared their infrastructure. This was the case with the Lincoln College founded in 1880 in Canterbury, and even more so with Massey College, which grew out of two experimental stations dependent on the Extension Division of the Department of Agriculture: the Grassland Division and the Seed Testing Station. Thus, one special feature of agrarian activity in NZL was that there was an integrated and systemic link between research and production practices. From the early days, grass and cattle were conceived and handled as indivisible parts of the ecosystem (Galbreath 1998).

Something similar can be said with respect to animal health. The work performed by Animal Industry Division to control animal diseases meant that NZL was not threatened by animal diseases as much as UY was. One more natural advantage of NZ is that it is an island, which UY is not. Uruguay is geographically more connected with its neighbors.

From the early days, cattle-breeding in NZL was deeply rooted in a close social network with a variety of organizations to support not only production and research but even marketing and commercialization. Family farming was dominant, but also the stock and station agents played an important role as links between the farmers and the international market, providing financial, technical and marketing services. These agents not only contributed to improving competitiveness but also represented the voice of the farmers at the political level. After WWII, these agents became less important because the State played a greater role, and because of the expansion of agro-industrial corporations and the diminishing role of agriculture.

The Uruguayan agrarian sector was not stagnant during the first globalization boom. On the contrary, many innovations took place. One of them, to which we will refer below in more detail, had to do with property rights and the empowerment of the State to enforce property in the otherwise violent and conflictive countryside. This allowed landowners to make investment decisions in wire-fencing and cross-breeding. Besides this, the introduction of sheep-breeding in the 1860s developed into a combination of sheep and cattle breeding which made more intensive use of the different kinds of natural grasses. Between 1870 and 1913, the Uruguayan State took a few measures in support the cattle-breeding sector, such as exemption from tariffs for imports of wire and other inputs, the creation in 1875 of the *Dirección de Agronomía*, the Department of Agriculture and Cattle-Breeding in 1895, an agrarian school in 1902, and the creation of a genealogic register, innovation processes such as cross-breeding took

place spontaneously without any systemic planning. Thus, the Uruguayan agrarian sector never made any progress in handling pasture land. Unlike in NZL, all innovations took place without considering that the land was something that might be improved. Hence it seems that this feature was dependent on the existence, from the very beginning, of natural land suitable for cattle breeding. The above-mentioned differences in the distribution of rainfall through the year may help to explain this,<sup>2</sup> but it seems that this is not a sufficient explanation for such inertia.

In the early decades of 20th century an important change took place. A reform government led by José Batlle y Ordóñez held profoundly critical views of the large cattle-breeding landowners. In 1903 the Veterinary Faculty was set up and in 1906 the Faculty of Agronomy followed. In 1911 three agronomy stations were set up in the northern part of the country and in 1914 the *Instituto Fitotécnico y Semillero Nacional*, was established. Between 1906 and 1913 at least 55 foreign researchers were hired. Research was mainly directed towards the development of agricultural knowledge as opposed to cattle-breeding. The goal was to diversify the productive structure in the direction of using more labor and to promote farmers as opposed to large absentee landowners. Improving the feeding capacity of pastoral units was not on the agenda (Finch 1992: 45). This reform period was relatively short and in the 1920s the role of the State remained rather weak. In the 1930s, people became more aware of the structural limits to cattle-breeding production and some ineffective measures were taken, such as the creation of the *Comisión Nacional de Estudios del Problema Forrajero*, a commission to study how to increase the capacity to feed animals. By the 1950s the strategy was changed, following recommendations from the FAO and the World Bank, to the incorporation of technology from New Zealand, but this yielded results that were poor or simply bad (Astori, 1979).

We know that one should not take technical efficiency for economic productivity, but given the lack of other data we consider that some technical ratios are good proxies to shed light on how NZL was able to improve the capacity of its soil to feed and reproduce animals better than Uruguay did. Figure 17.8 shows that Uruguay had a fairly stable animal load per pastoral land throughout the period and with minor fluctuations. In contrast, NZL enjoyed a steady increase until the 1990s. It is possible to argue

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<sup>2</sup> There is a common saying among Uruguayan country people: “We have a wonderful climate but shit weather”.

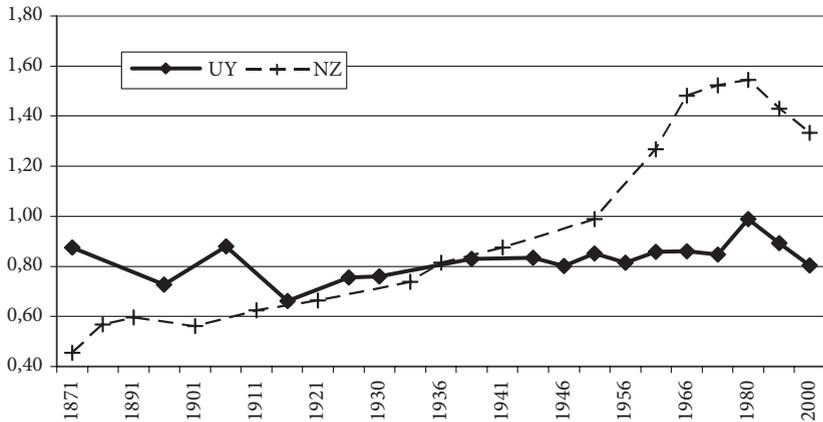


Figure 17.8 Cattle load per pastoral hectare, New Zealand and Uruguay, 1870-2000.  
Source: Álvarez and Bortagaray (2007).

that during the 19th century NZL was expanding its frontier so the increase was nothing more than the occupation of new land, but between the 1940s and the 1990s, NZL almost doubled its cattle load on pastoral lands. We consider this to be the result of a long-run pattern of the relationship between man, cattle and grass, with deep roots in the pattern of colonization.

These different paths were also an expression on the capacity to diversify exports and to develop backward and forward linkages. While NZL was already exporting frozen meat in 1882, the first slaughterhouse in UY was only established in 1905. In these two decades UY continued to export jerked beef to the low-income populations of Brazil and Cuba. While NZL was exporting dairy products by 1880s, UY had to wait until the 1930s for the establishment of more modern dairy industries.

#### STATE, PROPERTY, SOCIAL FORCES AND DISTRIBUTION

These two settler societies had significantly different processes as regards the occupation and appropriation of land, and the State played a significantly different role in the two cases.

In NZL, after the Waitangi treaties of 1840, the Maoris recognized the exclusive right of the crown to acquire their land and thus, during the 19th century, the British Crown became the main landowner. Land

distribution was in line with British common law and the laws passed by the Parliament of NZL. During the 19th Century, the colonial governments guaranteed secure and efficient property rights. The State transferred land to private persons through colonizer companies or through direct purchase. However, the Crown kept a large share of the land (about 40%) in its own hands, and this was rented on a long-run basis to private persons who used it mainly as pastoral land. The process of land distribution was connected with the mass arrival of British immigrants. The Crown demanded that the land should not remain idle, that virgin regions should be put into production, that practices compatible with the preservation of the soil should be implemented and that eroded land had to be recovered (Prichard, 1970, Hawkes, 1985, 1999).

In the 1870s, the *Torrens* system for registration of land property and use was introduced, and in the 1890s measures were taken to democratize land access. Between 1890 and 1892 the frontier was extended from 12 to 16 million hectares, and the subdivision of large estates was promoted (*The Land & Income Tax Act*, 1891; *The Lands for Settlement Acts*, 1892 and 1894). This redistribution of land went hand in hand with the introduction of technical change and the appearance of new products and forms of commercialization, such as the frozen meat industry.

What about UY? The Spanish Crown was the main landowner by right of conquest, and in the second half of the 18th century the Crown conceded property rights for large estates to only a few private persons. In 1828, after independence, the lands owned by the Spanish Crown were appropriated by the young Uruguayan State. By 1830, about 80% of the land in the country was in that situation and it was distributed in accordance with the laws of the new Republic. Land was transferred to private persons without any condition and often as a donation, reward or prize for political support. The young state was financially and politically weak for most of the 19th century, which made it impossible to distribute land in any rational or systemic manner. At the same time, property rights were extremely weak and landowners were always threatened by political backlash and expropriation. In any case, in 1840 only 60 % of the land was still was on the hands of the State, and by the 1870s almost all the land was already in private hands. The Uruguayan State implemented conservative modernization in the 1870s and this consolidated the highly concentrated land ownership structure of the cattle-breeders. There were political attempts to introduce fiscal reforms to promote the subdivision of land ownership but, as noted above, these were frustrated, which contrasts with what happened in NZL.

For most of the 19th century NZL had a stable political system and it progressively expanded the political rights of its population. Universal suffrage for the male population was introduced in 1891 and for women in 1893, and a modern system of political parties was functioning well.

The creation of the young Uruguayan State, in contrast, was highly conflictive. The country was continually threatened by political revolt in which foreign countries were also involved, as in the Great War of 1839–1851. Political parties were not very institutionalized and they followed the leadership of military *caudillos*, who often kept control of different parts of the country. Political power was in the hands of the elite, and this power was reinforced after the military dictatorship of the 1870s. Universal voting right for men were first introduced in 1916 and for women in 1938.

These many differences led Donald Denoon to be ironic with dependency school thinking, in the sense that political dependence had been good for NZL (Denoon 1983). In any case, the process of land distribution in the two countries took place in significantly different political contexts.

These two different patterns of colonization left an important mark on the distribution of the population and on demographic trends. In the early 20th century NZL had 73,876 farms or estates while UY only had 43,589 in a similar area. NZL's rural population was always more numerous than that of UY, which underwent a kind of precocious urbanization and depopulation of the countryside. As shown in Figure 17.9, in the first decades of the 20th century, NZL naturally was able to give employment to half its population in rural areas while UY only could retain 20% of the population there. Even today NZL has twice as many people in the countryside as UY, in relative terms.

Table 17.7 Functional income distribution in the agrarian sector of New Zealand and Uruguay, ca 1890–1940 (%).

	New Zealand			Uruguay			
	Wage	Rent	Profit	Wage	Rent	Profit	
1891	28%	34%	37%	1891	24%	56%	21%
1911	29%	44%	28%	1911	22%	70%	8%
1921	28%	35%	37%	1921	25%	41%	33%
1936	34%	26%	40%	1936	28%	42%	30%
Average	30%	35%	35%	Average	25%	52%	23%

Source: Álvarez (2008), Álvarez and Willebald (2009).

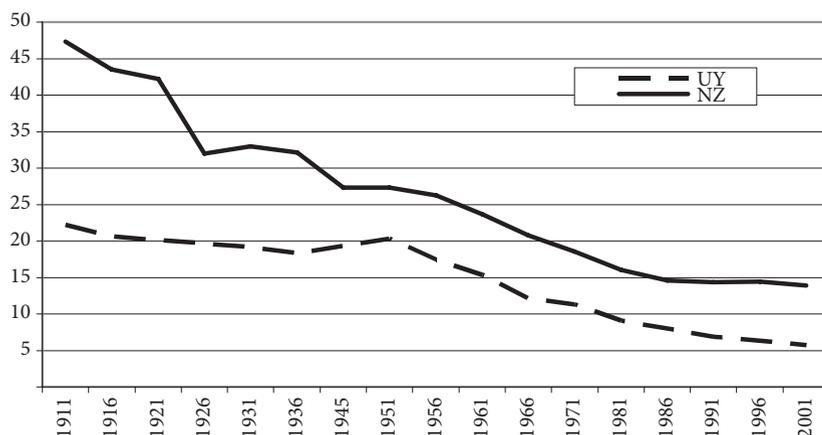


Figure 17.9 Rural to total population, NZL and Uruguay, 1911-2005

Source: Uruguay: Estudio económico y social de la agricultura en el Uruguay. Plan Nacional de Desarrollo Económico y Social. Oficina de Programación y Política Agropecuaria del MGA. CIDE, Sector Agropecuario. 1967. Nueva Zelanda: Prichard (1970) – Hawkes (1985)–Phil Briggs NZLIER (2003).

All these different features of the two societies can probably help us to understand why the functional distribution of income in the agrarian sector was so different in these countries. As can be seen in Table 17.7, labor and capital appropriated an average of almost two thirds of total income in NZL, while in Uruguay this was less than 50%. However, at the peak of the export boom and before the trend changed, rents accounted for 70% of total agrarian income in UY. Even if rents also increased their share in NZL during the first globalization boom, the underlying social and productive structure reduced the appropriation of income in the form of rents. As might have been expected, this pattern of income distribution enhanced the pre-existing *rentier* behavior of the Uruguayan landowning classes and blocked the attempts to develop other forms of international competitiveness.

As can be seen in Table 17.5, other differences are important and are probably connected to the above-mentioned phenomena. Even though UY was a country that in the Latin American context was advanced and underwent an early demographic transition, NZL was well ahead. Similarly, the economy of NZL was able to absorb a larger number of immigrants than UY during the first globalization boom, and the contribution of immigration to total population growth was much greater. Official policy played an important role in NZL immigration while in UY

Table 17.8 Combined educational enrolment index of New Zealand, Uruguay and 4 world leaders, 1901–1980.

	NZ	UY	4WL
1901	45	20	40
1911	53	20	50
1921	58	20	50
1936	57	30	50
1945	63	36	
1950	65	43	65
1960	73	52	73
1970	86	62	85
1980	84	68	92

Combined gross enrolment rates in primary, secondary and tertiary education. '4WL: France, Germany, UK and USA. Source: Bértola & Bertoni 1998, Álvarez 2009, Bértola, Camou, Melgar, Maubrigades 2009, and own estimates.

the process was almost completely spontaneous. When we look at the whole 1870–2005 period we see that UY turned out to be a net emigration country and had total net migration close to zero, while NZL had a surplus close to one million people.

As a natural outcome of this pattern of colonization and income distribution, the levels of education of the two populations differed significantly. Our Combined Educational Enrolment Index shown in Table 17.8 allows us to capture the huge gap in educational attainment between the two countries. While NZL seemed to be more conscious of the importance of skills and capabilities for development, Uruguay seemed to rely more on the forces of nature.

#### DE-GLOBALIZATION AND STATE-LED GROWTH

Due to lack of space we cannot cover the post 1930-period in more detail. Our basic idea, as noted above, is that both countries tried to meet the challenges posed by the world economy from that time on and in broad terms there were many similarities. However, the basic features of the two societies that we have described were to shape the particular way in which these reactions were put into practice, and the aggregate result of these economies tended to reproduce the original pattern and differences.

It can be seen in Figure 17.2 that UY was close to catching up with NZ in the late 1920s, after a decade of slow but continued Uruguayan growth and

when NZL was undergoing a severe crisis and stagnation (Table 17.4). From that time to the early 1970s, Uruguay fell further behind New Zealand. As we discussed in relation to the first stylized fact, the two countries tried to meet the world crisis with similar tools: exchange rate controls, the monitoring of foreign trade, stimulating domestic manufacturing industry, the expansion of domestic demand, the expansion of State expenditure, etc. However, the results were somewhat different in the two countries and path dependence was in place.

To some extent NZL was lucky. It was a former British colony and a member of the Commonwealth, and the Ottawa Agreement gave it access to the British market on much more favorable terms than UY could obtain. Besides, while by 1935 NZL had already moved to a labor government, UY had a civil State coup and the resulting government followed a conservative policy with increased State involvement in the economy.

The striking difference in the period is the stagnation of the Uruguayan cattle-breeding sector in contrast to the expansion of NZL's agrarian sector, as is shown in Figure 17.8. The basic problem that Uruguay faced was that in order to meet its domestic demand for raw materials for the manufacturing industry and foodstuffs for the urban population, a large share of pasture land was diverted to growing crops and to breeding dairy cattle. Even the traditional livestock products like meat and wool were increasingly consumed domestically. There was very slow growth in productivity (about 0.5% a year) and the exportable surplus was significantly reduced. Trade could be balanced so long as the terms of trade were moving in Uruguay's favor, but when this trend changed the entire system collapsed. The whole system of subsidies based on the manipulation of exchange rates became unsustainable and manufacturing industry joined the agrarian sector (Bértola 1990): the economy stagnated for more than ten years.

While both countries were small and had narrow domestic markets, NZL had succeeded in developing a more diversified manufacturing sector than UY. As can be seen in Table 17.9, in NZL the structure of manufacturing value added has greater weight of more dynamic sectors than less traditional branches, while in Uruguay the industrial sector is completely dominated by traditional sectors, with the exception of the State-owned oil refinery. Not only was NZL able to increase its exportable agrarian surplus due to an annual increase in agrarian productivity of about 2%, but its manufacturing sector continued to grow throughout the 1960s.

Table 17.9 Structure of manufacturing value added: New Zealand and Uruguay, ca 1936–1961 (%).

	1938	1936	1961	1955
	New Zealand	Uruguay	New Zealand	Uruguay
Food, drink, tobacco	23,6	46,1	23,6	39,6
Textiles	13,4	7,9	5,2	13,5
Clothing, footwear, and made-up textiles	7,8	7,1	7,6	4,5
Wood, furnitures	4,7	3,8	9,6	3,4
Paper	1,8	1,4	6	1,6
Printing and publishing	3,2	4,1	6,5	2,9
Leather, rubber	2,7	5,4	3,1	1,1
Chemicals, petroleum, coal	11,8	5,5	4,9	15,2
Non-metalic minerals	4,6	4,9	5,5	3,8
Basic metals	3,6	6,6	0,6	8,9
Metal products, engineering and transport equipment	20,7	4,9	25,2	3,8
Other	2,1	2,3	2,2	1,7
Total	100	100	100	100

Sources: New Zealand: Ranking (1992) Tables 1 to 10 and Hawke (1985) Table 13.1 (A) and Table 13.1 (B). Uruguay: Bértola (1991), Table VI.4 (181) and Table A.1 (287).

## CONCLUSIONS

In this chapter we have identified two stylized facts and tried to give some explanations for them. New Zealand has always had higher per capita GDP than Uruguay and the gap between them has not narrowed in the long-run, quite the contrary, it has widened, especially between 1930 and 1970. This was the result of a complex set of interconnected processes with origins in the patterns of colonization. While the two countries shared many similarities in terms of natural endowments, the way in which NZL organized its society turned out to be more efficient than the Uruguayan way.

In NZL productive land had to be built while in UY the natural grasslands did not demand any great effort to be made usable. The role of the State was crucial in the way land was distributed among the population. In a context of political stability NZL developed a coherent land policy, while in UY political instability and the weakness of the State made the process of land distribution rather spontaneous and erratic, dominated as it was by private interests and political cronyism.

In NZ the State remained an important actor in the land market while in Uruguay almost all land was privatized by the end of the 19th century.

An agricultural innovation system emerged fairly early in NZL as the country strove to improve the capacity of the land to feed animals, but innovations in UY did not extend to raising the productivity of the soil itself.

NZL was able to diversify early and improve the technological content of its agrarian exports, while in UY that process was clearly delayed. In NZL factorial incomes in the agrarian sector were more evenly distributed between rents, profits and wages, while in UY rents accounted for more than 50% and up to 70% at the peak of the first globalization boom. This fact was also reflected in the capacity of NZL to attract immigrants and to settle people in the countryside, whereas in UY there was early urbanization which left the countryside rather empty and devoted to extensive cattle-breeding. A clear outcome of these trends is that educational enrolment in NZL was more than double that of UY up to the 1920s, and this wide gap persisted over time.

The per capita GDP gap widened between 1930 and 1970. NZL was much luckier than UY in the sense that its close political links to the British market gave it a much more comfortable context than that of the less powerful UY. Apart from that problem, and the impact of European and American agrarian protectionism during the post-WWII period, there were also significant domestic problems in UY that contributed to the stagnation of its cattle-breeding sector. The country was unable to increase the feeding capacity of its soil, and when the need arose to diversify production to meet the demand for raw materials and foodstuffs for the domestic market, growth could be maintained only as long as the terms of trade boom lasted. The change in the terms of trade trend also led to the stagnation of manufacturing. In the meanwhile NZL was increasing its agrarian productivity significantly and the manufacturing sector continued to grow and diversify throughout the 1960s.

Thus there are good reasons for Uruguayans to look at NZL and try to learn how to better make use of its own resources. Nevertheless, we have also noticed a second stylized fact that may point to the fact that Uruguayans are looking at the wrong side of the question. Regardless of the differences between our two small settler economies, both are clearly falling behind the world leaders in the long run and have performed much worse than the new successful economies of the latter part of the 20th century. The extraordinary point of departure of both economies, having at their disposal large areas of highly productive natural resources, put them in a privileged position in the world ranking. However, the trend as time went by was for this natural resource base to be increasing unable to

guarantee high per capita GDP growth, and growth is more and more dependent on ingenuity, innovative capabilities and the ability and capacity to exploit economies of scale, agglomeration, etc. Competitiveness is highly restricted in many respects in small economies that are located at huge distances from the main world markets. At the same time, modern technologies make it easier to find new niches and ways to compete in world markets.

The coming decades will pose unexpected challenges for development. While natural resources will be increasingly demanded, new technical change, such as the development of nanotechnologies, may bring about drastic changes in the distribution of resources around the world. Whatever the outcome, success will depend more and more on human ingenuity, particularly in forms of social organization, rather than on the caprice of nature.

From this point of view, NZL still has better points of departure than UY. However, there are many indications that even NZL will continue to fall behind. If future competitiveness can be attained by R&D investment today, we see that while success stories like that of Finland require an investment in R&D above 3% of GDP, and that leading economies like the USA are investing well over 2%, the figure for NZL is a very modest 1% and UY is starving 0.3%.

A huge amount of talent, ingenuity and willingness is needed to reverse this trend. The question is whether these requirements are enough, or whether these regions have been condemned by the reversal of fortune as they are no longer settler economies.

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