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## SOURCES OF COMPETITIVE ADVANTAGE IN THE URUGUAYAN AND NEW ZEALAND BEEF INDUSTRIES

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### ABSTRACT

The Uruguayan and New Zealand beef industries have developed under similar climatic conditions that favour pastoral farming. Both industries are export focused. However, the development paths taken by the two industries have been different. Porter's diamond is used as a framework for analysing the competitive strengths and weaknesses of each industry. It is concluded that the lower prices received by producers in the Uruguayan industry, linked historically to Uruguay's foot and mouth disease (FMD) status but now caused primarily by tariff issues in the North American market, have been a fundamental problem. This has led to different input-output ratios than have been experienced in New Zealand, and made investment based on intensification less attractive. The New Zealand industry has also benefited from deregulation, such that investors have been more willing to invest in the knowledge that their competitive position will be determined by market forces rather than by government behaviour. The key to the future prospects of the Uruguayan industry is by addressing the market access problems and the provision of a deregulated agribusiness environment. The challenge for the New Zealand industry is how to maintain and enhance its current position as other countries seek to copy and surpass its performance.

**Key words:** Competitive advantage, Porter's Diamond, beef industry, Uruguay, New Zealand

### INTRODUCTION

The fundamental similarities between the pastoral resource endowments of Uruguay and New Zealand have long been recognised. As a consequence, there have long been many visitors from Uruguay to study New Zealand's agriculture, and there have also been many attempts to transfer pastoral technology from New Zealand back to Uruguay. Nevertheless, the performance of the agricultural industries in these two countries has been very different. In comparative terms, New Zealand is generally regarded as being much more successful.

In this paper we compare the performance of the beef industries in the two countries, and address the question as to why the New Zealand beef industry has apparently been more successful. We explore whether the differences in performance are an inevitable outcome of differences in the agribusiness environment of the two countries. As an aid in this endeavour we use Michael Porter's framework known as Porter's Diamond (Porter 1990) to assess the inherent competitive advantage that the beef industry has in each country.

The information that we draw on was mainly collected during in-country interviews of stakeholders and key informants in both New Zealand and Uruguay. The interviews were carried out in November-December 2002 in Uruguay and January-February 2003 in New Zealand. This was undertaken as part of a research masters degree undertaken at Lincoln University (Serra 2004). Some of the product price information has been updated through to 2005.

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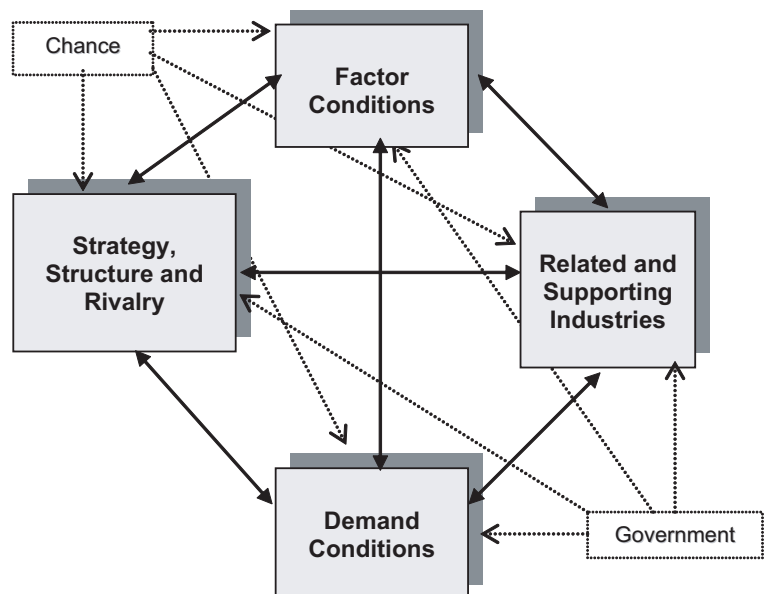
### The Diamond Framework

Michael Porter (1990) has argued that the key determinants of whether an industry has competitive advantage can be captured within four interacting components. These are:

1. Factor conditions
2. Demand conditions
3. Firm structure, strategy and rivalry
4. Related and supporting industries

The final competitive outcome is also influenced by two external factors, these being chance and government (Figure 1).

Figure 1: Generalized Porter's Diamond Framework



Source: Adapted from Porter, (1990)

The factor conditions are the physical, human, and financial resources, together with knowledge and infrastructure that the industry can draw on. Factor conditions can be endowed (such as climate) or basic (such as low skilled labour) or advanced (requiring high levels of physical and human capital investment). Porter has argued that the most significant and sustainable competitive advantage results when a nation has relevant factors that are both advanced and specialised.

The demand conditions relate to both internal and export markets. However, Porter viewed a sophisticated home market as being particularly important, as it is in this market that companies can most easily test innovative products and measure consumer response.

Firm strategy, structure and rivalry refer to the way that the firms within an industry are structured and the extent of competitive rivalry. Porter's theory says that internal competition within an industry is important to encourage innovation.

The related and supporting industries include those that supply technology, information and

raw materials. The theory says that competitive advantage usually comes through clusters of similar and supporting industries connected through vertical and horizontal relationships.

A range of authors has criticised Porter for some of the judgements that he made as to what was important (Grant 1991, Davies and Ellis 2000). However, the Diamond remains a widely used framework for analysing the resources and constraints that influence industry competitiveness.

### **Factor Conditions**

Uruguay and New Zealand are endowed with a similar resource environment that favours pastoral production. Both countries lie in temperate latitudes that allow animals to graze outside for 12 months of the year. In both countries the rainfall and pastoral growing conditions are generally adequate such that animals require supplementary feeding for only a small proportion of the year, if at all. Summer dry periods can be an issue in both countries. Infrastructure such as roads, telecommunications, and education facilities is generally superior in New Zealand. Consequently many farms in Uruguay have absentee owners who live in cities for reasons of family education and lifestyle. Labour on New Zealand farms is typically better educated than in Uruguay, but the cost of this labour is considerably higher. The cost of capital tends to be lower in New Zealand.

In Uruguay there are approximately 11.5 million cattle on 10.5 million ha of pastures that are largely unimproved (OPYPA 2002). In New Zealand there are 4.1 million beef cattle grazed on 1.8 million ha (MAF 2002). In addition, New Zealand produces considerable amounts of beef as a by-product of the dairy industry. In Uruguay beef is the most important pastoral industry, whereas in New Zealand it is less important than either sheep or dairy. In both countries it is common to run sheep and beef cattle as complementary enterprises on the same farm. In total, New Zealand's beef production in 2002 was 576,000 tonnes of carcass weight (MAF 2002) compared to 416,000 tonnes in Uruguay (OPYPA 2002).

### **Demand Conditions**

There are marked differences in the demand conditions that the two industries face although both are export focused. In Uruguay approximately 60% of the meat is exported. In New Zealand approximately 80% is exported,

Exports from Uruguay are marketed in a range of countries and regions. These include the MERCOSUR countries of Brazil and Argentina to which there is tariff-free access. During the first half of the 1990s decade the European Union (EU) was Uruguay's most important market. However, with free of foot and mouth disease (FMD) status declared in 1996, exports to the USA increased rapidly and by 2000 the USA had become the most important market. These and some other markets were then lost as a consequence of the 2001 foot and mouth outbreak. Since the re-opening of this market in 2003 the USA has become even more important than previously. Approximately 228,000 tonnes of Uruguayan beef were marketed there in 2004, comprising nearly 70% of total exports (INAC 2005).

Most NZ exports are shipped to North America (USA and Canada) with lesser quantities going to Asia. New Zealand beef marketed in North America is predominantly sold for manufacturing purposes, such as in hamburgers, where its lean characteristics complement the higher fat content of the locally produced beef. Essentially, a lot of the New Zealand beef is marketed as a commodity. However, in this 'business to business' trade it has a favoured position on account of quality assurance and reliability of supply.

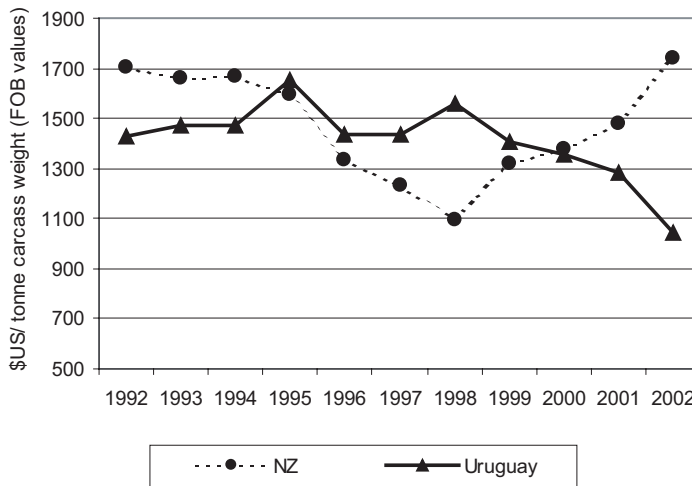
New Zealand has a North American quota of 300,000 tonnes with minimal tariffs whereas



Uruguay can export only 20,000 tonnes with these minimal tariffs. Both countries face a 26.4% tariff for additional product outside of their quotas. Whereas New Zealand's exports do not typically exceed the quota, most of the Uruguayan exports are levied the 26.4% tariff.

The FOB export prices received by the two countries have been markedly different (Figure 2). Prior to the FMD free status being achieved in 1996, New Zealand traditionally received superior FOB prices. Then when Uruguay achieved access to the North American markets the average prices received by Uruguay exceeded those of New Zealand. This premium in part reflected a better ratio of prime to manufacturing beef because of the impact of New Zealand's large dairy herd and the consequent large numbers of cull cows. With the loss of these markets due to FMD, the average price declined below that received by New Zealand.

Figure 2: Average FOB values received by Uruguay and New Zealand per tonne carcass weight exported



Source: Derived from INAC (2002) and MWESNZ (2003)

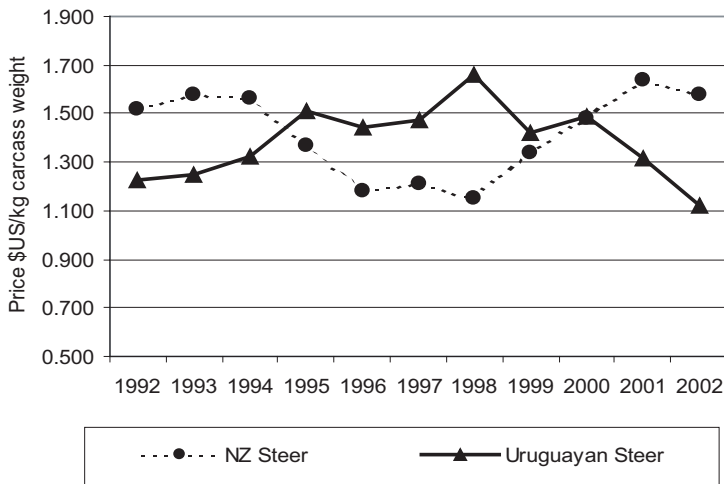
The same trends are evident in the prices received by farmers in each country for their steers (Figure 3).

It is apparent that since the re-opening of the North American market the prices received by Uruguayan farmers have increased considerably and by historical standards these prices are currently very high. However, in relative terms they are considerably below those received by New Zealand farmers. Trade comparisons made in May 2005 indicate that Uruguayan farmers were receiving approximately \$US1.58 per kg carcass for steers (Camara Mercantil de Productos del Pais 2005) whereas New Zealand farmers were receiving exchange rate adjusted prices of approximately \$US2.20. (Fencepost 2005) Most of this difference appears to be a direct result of the 26.4% tariff in the North American market.

### Structure, Strategy and Competition.

Both countries have many producers and a much smaller number of processors. However, the horizontal integration in the processing sector has proceeded somewhat faster in New Zealand than Uruguay. In New Zealand, there are 24 separate export processing plans but most beef is processed and marketed by three major companies, with one of these being a producer-owned co-operative. In Uruguay, 95% of cattle are slaughtered in 38 licensed processing

Figure 3: Farm gate price for steer in Uruguay and New Zealand per kilo carcass weight



Source: Derived from INAC (2002) and MWESNZ (2003)

plants, of which 25 plants are licensed for the international market. However, 83% of the exported beef comes from 10 abattoirs. There is only one co-operative and most of the processing companies are owned by Uruguayans (INAC 2002). The technologies employed in the processing plants are similar in each country.

There is considerable diversity of marketing strategy within both countries. For example, despite the overall dominance of the manufacturing product within the New Zealand beef sector, there is a considerable number of exporters who have consumer brands. Similarly, Uruguay has a small ‘high end’ European Union trade known as the ‘Hilton quota’ of 6300 tonnes.

At the producer level the two industries have followed different strategies. In New Zealand, producers have typically invested heavily in fertiliser, fencing and improved pastures. In contrast, much of the Uruguayan industry is based on more extensive systems, lower fertiliser levels, and natural pastures. The lower performance of the Uruguayan beef farms in comparison to New Zealand farms can be seen in a calving rate of 65-70% in Uruguayan breeding stock (OPYPA 2002) compared to 80-85% on New Zealand beef farms (MWESNZ 2000). Beef production of 46kg per ha per annum in Uruguay (OPYPA 2002) compares to 288kg beef carcass weight per hectare per annum in New Zealand (MWESNZ 2000).

### Related and Supporting Industries

The New Zealand beef industry is well supported by related industries. For example, there are two major fertiliser supply co-operatives in New Zealand which supply services (product plus advice) with national coverage to pastoral farmers in the dairy, sheep and beef industries. Similarly, there are well developed agribusiness service industries in relation to chemicals, seeds and finance. In contrast, the Uruguayan industry does not benefit to the same extent from complementary industries such as sheep and dairy, nor from such well developed agribusiness service industries.

### The Role of Government.

In the mid 1980s the New Zealand Government initiated major economic reforms with the



move to a market economy based on deregulation of industries, transportation, financial markets and labour markets. The beef industry and other rural industries are now influenced by legislation such as the “Resource Management Act” which provides the legislative framework for management of environmental issues, and the Reserve Bank Act which sets the framework under which the Reserve Bank is to administer monetary policy. However, the Government itself has no day-to-day role in monetary policy and has no powers to influence the exchange rate except very indirectly through fiscal policy and similar influences on market sentiment. It is widely accepted in New Zealand that these changes have allowed a business climate of entrepreneurship to emerge, where businesses can plan with confidence, knowing that they do not have to ‘second guess’ what the government might do.

In contrast, in Uruguay the government more directly imposes policy in areas such as the exchange rate. In addition, the government has provided direct financial assistance within the processing industry. Managers from within the processing industry reported that financial support for inefficient plants has affected the competitiveness of the whole industry.

### **Chance**

The major issue of ‘chance’, to use Porter’s terminology, is the risk of animal health related issues, and in particular the risk of foot and mouth disease (FMD). Whereas New Zealand has always been able to maintain its status as free of FMD this has not been the case in Uruguay. The historical and ongoing problems associated with FMD, linked in part to long external borders, have been a major issue that has impacted on market access for Uruguayan beef.

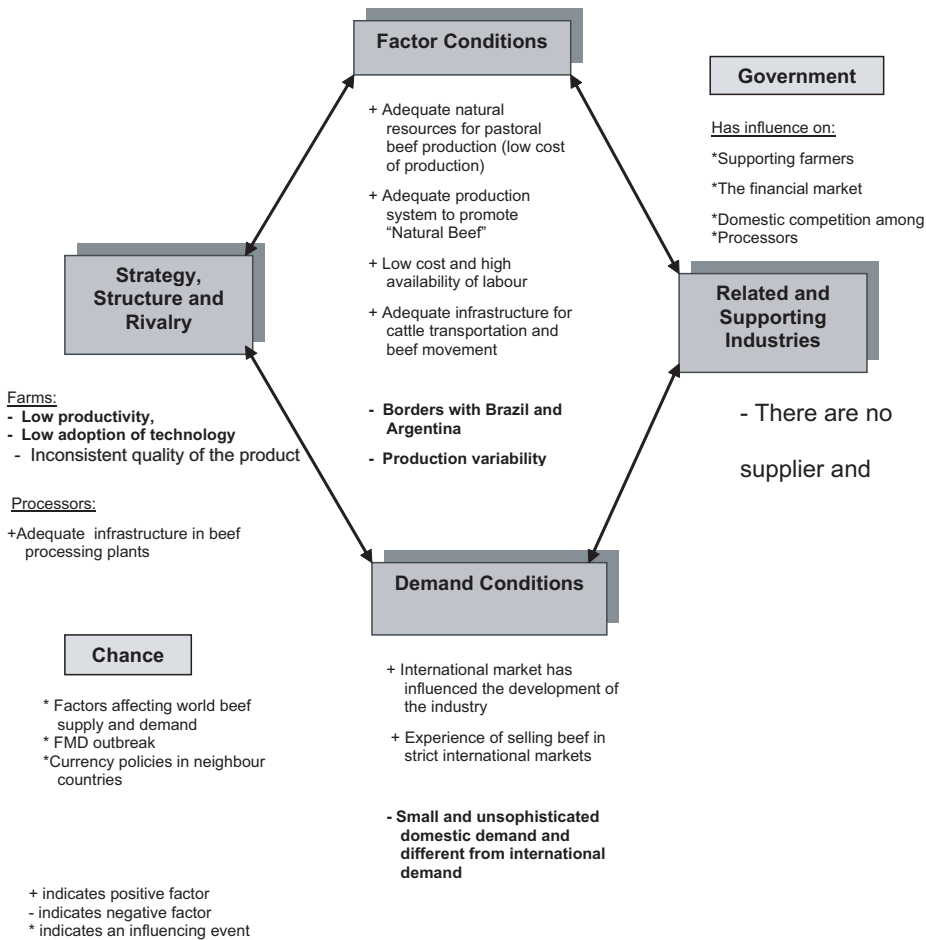
## **DISCUSSION**

It is clear that the Uruguayan diamond (Fig 4) contains considerable weaknesses compared to the New Zealand diamond (Fig 5). It is also clear that the New Zealand industry has indeed been more successful than the Uruguayan industry if success is measured in terms of industry output, resources used, market returns, and returns to labour. This raises questions as to what are the fundamental causative factors. This then leads on to further questions as to how Uruguay might improve the performance of its beef industry, and in the case of New Zealand, what measures it might need to take to sustain its competitive position.

We are inclined to the perspective that the most fundamental problem facing the Uruguayan beef industry has been the low prices to producers, which in large part reflects issues of access to international markets. These access problems have in the past been largely by Uruguay’s historical FMD status. However quota restrictions into the USA are currently the most important issue, with most of the USA exports carrying a tariff of 26.4%. Many of the other apparent problems of the Uruguayan industry, both historical and current, are consequential to these fundamental problems of market access.

If New Zealand farmers were to receive low prices for their pastoral products (beef, sheep meats and dairy) as what Uruguayan beef farmers have typically received, and if NZ farmers had to experience the equivalent input prices to output product ratios that Uruguayan farmers have typically experienced, then we believe that the NZ pastoral industries would look different to how they look today. But we also are inclined to the perspective that the New Zealand pastoral industries, which are currently very vibrant, would not be in their current position if it had not been for the government moving decisively to a deregulated market-focused economy some 20 years ago. Entrepreneurs are prepared to risk their capital where they see the playing field as being essentially level, but are disinclined to risk their capital in situations where government intervention is likely to tilt the playing field.

Figure 4: Uruguayan Beef Diamond



The current competitive position of the New Zealand beef industry is consistent with a diamond that has many more strengths than weaknesses. This has led to an overall position where the New Zealand beef industry has been internationally competitive based on a strategy of cost leadership combined with quality assurance. It can be argued that this situation applies not only to the New Zealand beef industry but to the New Zealand pastoral industries in general. The challenge for the future will be to sustain this competitive position as other nations seek to emulate and surpass New Zealand. There is currently a debate in New Zealand as to the extent to which New Zealand can sustain its competitive position through an ongoing focus on productivity improvements and cost leadership, or whether greater focus must be placed on high-end consumer marketing.

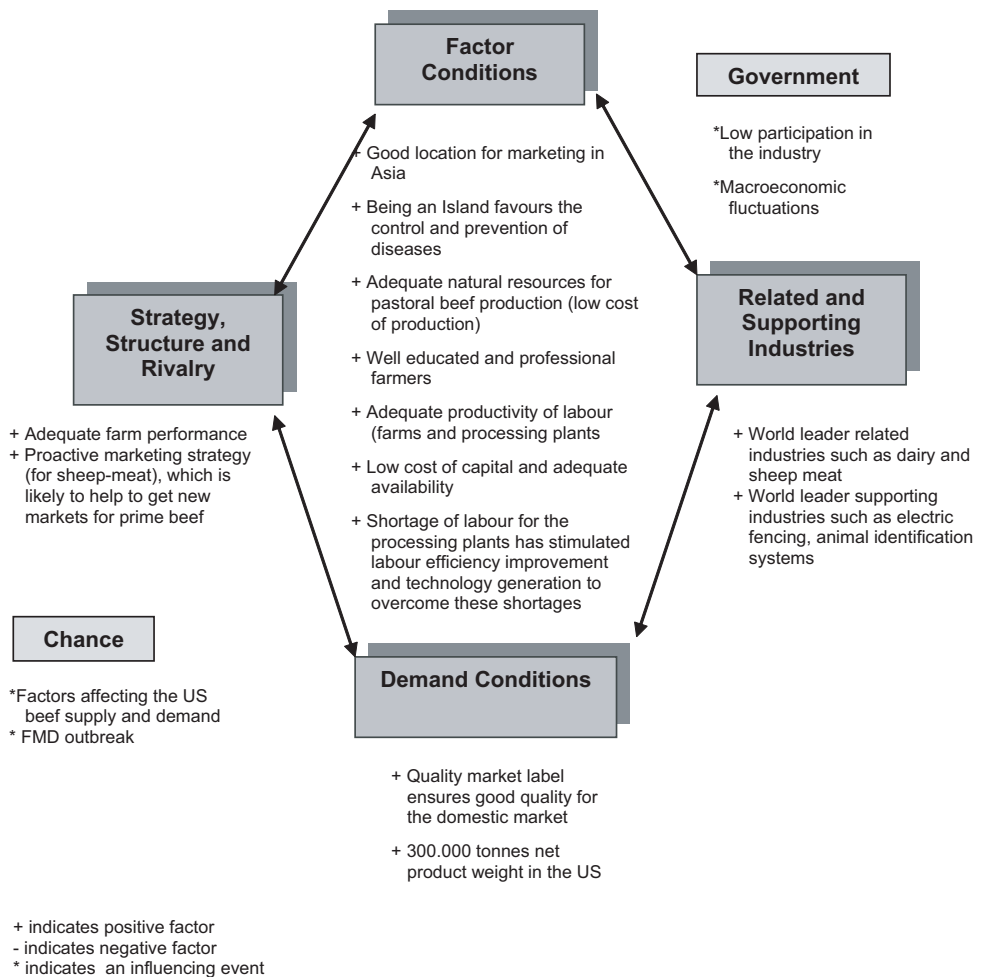
## REFERENCES

- Camara Mercantil de Productos del Pais (2005). Mercados Agropecuarios. [www.camaramercantil.com.uy](http://www.camaramercantil.com.uy) Accessed 27/5/2005
- Davies, H. & Ellis, P. (2000). 'Porter's Competitive Advantage of Nations: Time for the





Figure 5: The New Zealand Beef Diamond



final judgement?'. Journal of Management Studies. 37 (8), 1189-1213.

Fencepost (2005). Market Prices [www.fencepost.com](http://www.fencepost.com) Accessed 27/5/2005

Grant, R.M. (1991). 'Porter's Competitive Advantage of Nations: An Assessment'. Strategic Management Journal, 12, 535-548.

INAC (2002). Instituto Nacional de Carnes. Pagina central. [www.inac.gub.uy/inacingles/serviciosen.htm](http://www.inac.gub.uy/inacingles/serviciosen.htm).

INAC (2005). 'Carne Vacuna: Situation Actual y Perspectivas'. Instituto Nacional de Carnes. [www.inac.gub.uy](http://www.inac.gub.uy) Accessed 27/05/2005

MAF (2002). 'Situation and Outlook for New Zealand Agriculture and Forestry'. Ministry of Agriculture and Forestry, Wellington.

MWESNZ (2000). 'Compendium of New Zealand Farm Production Statistics'. Publication 62141, New Zealand Meat and Wool Board's Economic Service, Wellington.

MWESNZ (2003) 'Annual Review of the Sheep and Beef Industry 2002-03' New Zealand

Meat and Wool Board's Economic Service, Wellington.

OPYPA (2002). Anuario, 2002. Retrieved from [www.mgap.gub.uy/opypa/index.htm](http://www.mgap.gub.uy/opypa/index.htm)

Porter, M.E. (1990). *The Competitive Advantage of Nations*. New York: The Free Press.

Serra, V. (2004). *A Comparative Study of the Sources of Competitive Advantage in the New Zealand and Uruguayan Beef Industries*. Master Thesis, Lincoln University, New Zealand.