

**The River Plate Meat Industry since  
c. 1900: Technology, Ownership,  
International Trade Regimes and  
Domestic Policy**

**Roberto C. Gebhardt**

**PhD Thesis  
London School of Economics  
Department of Economic History**

**Year 2000**

UMI Number: U118849

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI U118849

Published by ProQuest LLC 2014. Copyright in the Dissertation held by the Author.  
Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code.



ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

## Thesis Abstract

The thesis analyses factors that led to the growth and export leadership of the River Plate meat packing industry from c.1900 to the 1930s and its subsequent decline. In addition, it assesses the *renaissance* of the industry in the mid-1990s. Within this context, the thesis studies: (i) the impact of technological innovation on production, preservation and transportation methods; (ii) the transformation of the ownership structure, especially consequences for the organisation of the industry; (iii) the effect of changing international trade regimes, namely the shift from multilateralism to bilateralism and (after the 1980s) a return to more trade liberalisation; and (iv) domestic policy factors such as the establishment of property rights.

Although one factor was predominant in any phase in the history of the industry, the thesis proves that there were a series of interrelations and connections. Several elements affected and accelerated the rise of the industry until the 1920s, its decline after the 1930s, and recovery in the mid-1990s. For example, the rise of the industry cannot just be attributed to technological innovation. Other factors, such as the integration and adaptation of refrigeration technology, the transfer of related technical and management knowhow, improved railway networks and oceanic refrigerated shipping lines, as well as better cattle quality through cross breeding, also played a major role. Moreover, the establishment of a legal framework of property rights in the River Plate and the ability to export cattle products freely, were fundamental preconditions for the development of the industry. Similarly, consolidation in the ownership structure was driven by the meat packers' goal to increase economies of scale and scope. Yet, advancement was only possible thanks to technological innovation and adaptation, as well as a conducive domestic policy that failed to curb the heightened consolidation of the industry. Whereas changing international trade regimes were the primary reason for the decline of the industry in the 1930s, domestic policy and modifications in the industry structure also contributed to the long-term stagnation of the sector. For example, in the 1940s and 1950s domestic policy prevented the development of the industry and obstructed meat exports, even though there was increased international demand for River Plate meat. Indeed, domestic policy overreacted to international market access restrictions and introduced a severe import substitution industrialisation policy, which extracted so much surplus from the rural sector, that it became unremunerative to produce cattle. In contrast, the revival of the River Plate meat packing industry that is taking place in the 1990s is driven by a 'freer' international trade regime and domestic liberalisation policies, which are generating renewed foreign capital interest in the industry.

Most existing literature concentrates on a single aspect of the industry, either technology, ownership and domestic policy, or international trade regimes. In addition, most publications have studied the development of the industry up to the 1950s. Moreover, the majority of studies centre only on one country - Argentina or Uruguay, rather than analysing the River Plate as a whole. Hence, most existing publications are narrow in focus and limited by time span. The thesis makes a distinct contribution to the historiography of River Plate meat packing, not just by demonstrating the interrelations between the various factors affecting the industry. It also advances existing literature by compiling a complete historical analysis since the beginning of the century until the mid-1990s. Furthermore, by extending and bringing up to date the impact of changing international trade regimes to the mid-1990s, the thesis proves that a full cycle has taken place, from free trade in the early twentieth century, to control and bilateralism since the 1930s and back to more open trade in the mid-1990s. Similarly, it shows a full cycle in the ownership structure, from local to primarily foreign ownership in the early twentieth century, then a period of state intervention and control after the Second World War, and back to local ownership in the 1960-70s with the rise of the *nueva industria*, while in the 1990s there is renewed foreign capital interest in the industry. Finally, by studying both Argentina and Uruguay, the thesis sheds light on the differences and interactions between the meat packing industries of both countries.

The thesis utilises a unique methodology and constructs a new data set. It uses the concept of global export market share to analyse the performances of the sector. Given that the export sector was and remains extremely important for River Plate meat packing, it is imperative not just to examine output and exports alone, but rather analyse them in the context of the world export market for meat. Through the calculation of global export market shares, the thesis scrutinises the relationships between the factors impacting the industry, as well as the growth or decline of meat exports from Argentina and Uruguay. Furthermore, the thesis also calculates the distribution of global meat imports since 1900 to appraise the shifts of the major international markets for meat and how they affected River Plate meat exports.

## ACKNOWLEDGEMENTS

This thesis would not have been possible without the help and support of numerous persons. To start with, I would like to thank Dr. Colin Lewis, for his guidance, expert insights and helpful comments throughout the research and writing process. Indeed, Dr. Lewis' remarkable knowledge, exacting demands, academic excellence and abilities were most inspiring, while contributing substantially and adding enormous value to the thesis. In addition, I wish to thank Dr. Roberto Alemann, the leading Economist and former Argentinian Minister of Economics, for his invaluable support and crucial information provided in several meetings. Dr. Alemann was instrumental in setting the foundations of the research, by giving a thorough background about meat packing, providing various publications and materials, as well as bringing about meetings with key individuals related to the industry. Moreover, I wish to thank Ing. Alberto de las Carreras, the prominent writer on the River Plate meat packing industry and former Argentinian Secretary of Commerce for providing an in-depth review of the industry, particularly regarding international trade regimes, as well as supplying many books, articles and conference proceedings. Furthermore, I wish to thank Mr. Luis Baumeule (nieto) director of Frigorifico Quickfood (Paty), Argentina's third largest meat packing company, for the interesting and all encompassing interview that was consequential to understand the workings of *frigoríficos* in Argentina.

In Uruguay, I wish to thank Ing. Roberto Muñoz Duran, consultant and former director of I.N.A.C. and the Uruguayan Central Bank, for his revealing interview of the events in the 1990s and for providing copies of his highly influential reports, especially concerning the latest developments in the Uruguayan meat packing industry. Moreover, I wish to thank Dr. Barrios Mariezcurrena, director of Frigorifico San Jacinto-Nirea, Uruguay's second largest meat packing plant, for his detailed interview regarding the modifications in the ownership structure of the industry since the development of the *segunda nueva industria*. Furthermore, I appreciated the talk that I had with Ec. Fernando Calloia from the Uruguayan Central Bank, about his study of the River Plate meat packing industry in the 1960-80s.

In Geneva, I wish to thank Mr. João Magalhães, Counsellor of the Agriculture and Commodities Division at the W.T.O., which provided important information about the changes in international trade regimes, the effect of the Uruguay Round and an analysis of global trade conditions, in numerous meetings. Mr. Magalhães also supplied various official publications and other materials. Moreover, I wish to thank Dr. Miguel Berthet, Ambassador of the Uruguayan Permanent Representation to the W.T.O. and the U.N., for the interesting interview that we had in Geneva, regarding trade relations, liberalisation and its effect on River Plate meat exports. Furthermore, I wish to thank Mr. Riaboi, the Minister from the Argentinian Mission to the W.T.O. and the U.N., which provided some insights into international meat quotas.

In London, I wish to thank Dr. David Edgerton, the head of the Department for the History of Science, Technology and Medicine at Imperial College, for his support, encouragement and forward thinking feedback. Dr. Edgerton provided very useful comments at the ESTER 1996 Conference at the Université de Paris-Sorbonne (Paris IV), where I presented a paper on technological innovation. In addition, Dr. Edgerton invited me to give a presentation at the South Kensington Institute for the History of Technology Seminar at the Museum of Science in London (1997).

Overall, I truly appreciated the help and information provided. Please note that any potential errors are mine.

## **TABLE OF CONTENTS**

	<u>PAGE</u>
<b>1. <u>INTRODUCTION AND LITERATURE REVIEW</u></b>	<b><u>PAGE</u></b>
1.1 <b>Introduction</b>	<b>15</b>
1.2 <b>Thesis' Scope, Theoretical Framework and Hypotheses</b>	<b>15</b>
1.2.1 Definitions	15
1.2.2 Thesis' Scope and Objectives	16
1.2.3 Theoretical Framework	20
1.2.4 Methodology	23
1.2.5 Results Expected and Hypotheses	25
1.3 <b>Literature Review, Thesis' Contribution and Sources</b>	<b>30</b>
1.3.1 A Review of Publications on the River Plate Meat Packing Industry and How this Thesis Advances Existing Literature	30
1.3.2 Sources	38
<b>2. <u>APPLYING GLOBAL EXPORT MARKET SHARES AND IMPORT DISTRIBUTION SHARES TO ECONOMIC HISTORY: THEIR ADVANTAGES AND LIMITATIONS</u></b>	
2.1 <b>Introduction</b>	<b>41</b>
2.2 <b>Advantages and Limitations of Meat Global Export Market Shares and Distribution of Worldwide Imports for Meat</b>	<b>46</b>
2.3 <b>Calculation and Estimation Methods of Global Export Market Shares and Distribution of Worldwide Imports for Meat</b>	<b>55</b>
2.4 <b>Key Findings</b>	<b>61</b>
2.5 <b>Conclusion</b>	<b>71</b>

**3. THE IMPORTANCE OF TECHNOLOGICAL INNOVATION IN THE RISE OF THE RIVER PLATE MEAT PACKING INDUSTRY**

<b>3.1</b>	<b>Introduction</b>	<b>75</b>
<b>3.2</b>	<b>The Introduction of Cattle and the Rise of <i>Vaquerias</i> (Mid-Sixteen Century to 1750)</b>	<b>85</b>
<b>3.3</b>	<b>The Colonial <i>Estancia</i> (1750-1810)</b>	<b>87</b>
<b>3.4</b>	<b>The Rise of <i>Saladeros</i> (1810-1880)</b>	<b>89</b>
<b>3.5</b>	<b>Meat Extract and Cooked Packaged Meat: The Start of Technology Transfer (1860-1900)</b>	<b>92</b>
<b>3.6</b>	<b>The Creation of the Modern <i>Estancia</i> (1810-1880)</b>	<b>96</b>
<b>3.7</b>	<b>The Emergence of <i>Frigoríficos</i>: Their Impact on the Meat Packing Industry (1880 to date)</b>	<b>100</b>
<b>3.8</b>	<b>The Importance of Transportation Systems: Crucial Linkages for the Growth of the Industry</b>	<b>107</b>
<b>3.9</b>	<b>Prerequisite Spread Effects: Domestic Policy, National Unity and Institutional Factors</b>	<b>110</b>
<b>3.10</b>	<b>Incentives for the Establishment of Foreign Meat Packers: An Exemplary Environment to Shape the Marketing Mix and the 'Multiplier Accelerator Mechanism'</b>	<b>114</b>
<b>3.11</b>	<b>Conclusion</b>	<b>118</b>

#### **4. MODIFICATIONS IN THE OWNERSHIP STRUCTURE AND THE GOVERNMENTS' RESPONSE**

<b>4.1</b>	<b>Introduction</b>	<b>124</b>
<b>4.2</b>	<b>Meat Packers Rivalry: The Battle for 'Scale and Scope' (1900-1914)</b>	<b>135</b>
4.2.1	Pioneering <i>Frigorificos</i> : The Advent of Foreign Capital Participation	135
4.2.2	Entrance of U.S. Meat Packers: The Fight for Increased Economies of Scale and Scope	138
4.2.3	Emergence of <i>Frigorifico</i> Pools: Shifting the Supply Control from the 'Invisible' Hand to Managerial Command	142
4.2.4	Regional Rivalry for Increased Scale and the Modernisation of Meat Packing in Uruguay	144
4.2.5	Resuming the Leadership Battle Through an Aggressive Price War	146
4.2.6	Anglo-Argentinian <i>Frigorificos</i> Request State Support	150
4.2.7	Repercussions of the Intense 1913 Price War and the Creation of a New Pool	153
4.2.8	The Overall Implications of the Pools and Price Wars	155
<b>4.3</b>	<b>The First World War Boom (1914-1919)</b>	<b>160</b>
4.3.1	Extraordinary Volume Gains and Price Increases Despite Allied Supply Control	160
4.3.2	<i>Frigorificos</i> Increase Their Margins Generating Temporary Cattle Producer Dissatisfaction	163
4.3.3	Widespread Ramifications of the First World War on the River Plate Meat Packing Industry	165
<b>4.4</b>	<b>Price Collapse and the Revaluation of Expectations in the Post First World War Recession (1920-1923)</b>	<b>167</b>
<b>4.5</b>	<b>The Volume Record and Value Decline in Meat Exports (1924-1930)</b>	<b>173</b>
4.5.1	The Battle for Leadership in a Reorganised Competitive Environment: Renewed Price Wars and Consolidation of the Ownership Structure	176

<b>4.6 Fighting for Greater Domestic Participation and Cooperative <i>Frigoríficos</i>: A Response to the New Trade Regime and the Meat Packers Consolidated Oligopoly (1930-40)</b>	<b>180</b>
4.6.1 The Findings of the Joint Committee: Corroborating the De La Torre Debates	190
<b>4.7 The Rise of Peron and I.S.I.: Repercussions on the Ownership Structure (1940-55)</b>	<b>193</b>
4.7.1 Confusion and Contradictory Policies in Uruguay	195
<b>4.8 Alternating Between State Intervention and Moderate Market Orientation: The Rise of the <i>Nueva Industria</i> Amidst a Schizophrenic Domestic Policy (1955-90)</b>	<b>198</b>
4.8.1 The Uruguayan Ownership Structure: Finding the 'Minimum Efficient Scale' Threshold in a Changing Policy Environment	198
4.8.2 The Changes in Argentina's Ownership Structure after the First Peron Government: Revised Capacity Requirements and the Growth of the <i>Nueva Industria</i>	203
4.8.3 The Shift in the Ownership Structure, Policy Alternation and Variations in the Macro- / Micro-Environment: An Overall River Plate Perspective	207
<b>4.9 Renewed Foreign Capital Participation and Consolidation in the 1990s</b>	<b>210</b>
<b>4.10 Conclusion</b>	<b>218</b>
<b>5. <u>CHANGING INTERNATIONAL TRADE REGIMES AND THE DOMESTIC POLICY REACTION</u></b>	<b>231</b>
<b>5.1 Introduction</b>	<b>231</b>
5.1.1 Towards an Activist Trade Policy	236
5.1.2 Problems and Limitations of Strategic Trade Policy	238
5.1.3 James Brander's Rationales for Strategic Trade Policy	240
5.1.4 The 'Interaction & Retaliation' Process of Governments	243

<b>5.2 The Emergence of Protectionism in the 1920s: 'The First Signs of a 'Staple Trap'</b>	<b>247</b>
5.2.1 The Response of Cattle Producers to the Advent of Changing International Trade Regimes (1920s)	250
5.2.2 Other Factors That Exemplified the First Signs of the 'Staple Trap'	251
<b>5.3 Bilateralism and Control: The Establishment of the Staple Trap (1930-1939)</b>	<b>255</b>
5.3.1 The Impact of the Ottawa Conference and the Roca-Runciman Agreement	255
5.3.2 Struggling with the New Trade Regime: Conflicts, Severe Discontent and a Fragmented Domestic Policy Response	263
5.3.3 Extended Trade Concessions and Restrictions: Their Benefits and Disadvantages	264
<b>5.4 Emergence of I.S.I. and Inward Looking Policies: The Consolidation of the 'Staple Trap' (1940-55)</b>	<b>266</b>
5.4.1 The Impact of the Second World War on the River Plate Meat Packing Industry	266
5.4.2 Peron and British Post-War Economic Policy	269
5.4.3 The Peron Era: 'Killing the Milking Cow' Through Crippling I.S.I. Policies	271
5.4.4 The Overall Repercussions of Post-Second World War Domestic Policies and Its Long Term Effect on the River Plate Meat Packing Industry	275
<b>5.5 Renewed Trade Barriers: Restrictions, Quotas and Subsidies in Major World Markets (1955-90)</b>	<b>279</b>
5.5.1 The U.S. Foot and Mouth Disease Embargo and Strict Sanitary Constraints	280
5.5.2 European Economic Community Production, Export Subsidies and Import Quotas	285
5.5.3 The General Consequences of the U.S. and E.E.C. / E.U. Trade Restrictions	290

<b>5.6</b>	<b>Renewed Growth and Export Expansion in the 1990s</b>	<b>294</b>
5.6.1	The G.A.T.T. Uruguay Round , the S.P.S. and the Establishment of the W.T.O.: Crucial World Trade Changes to Relaunch the River Plate Meat Packing Industry	295
5.6.2	The Importance of the F.M.D.-Free Status and the Contribution of Mercosur to the Expansion of River Plate Meat Exports	299
5.6.3	The Combined Export Expansionary Effect, Positive Prospects	302
5.6.4	The B.S.E. Crisis and Its Effect on River Plate Meat Exports	306
5.6.5	Adopting an Activist Trade Policy for the River Plate Meat Packing Industry in the 1990s	309
<b>5.7</b>	<b>Conclusion</b>	<b>314</b>
<b>6.</b>	<b><u>CONCLUSION</u></b>	<b>320</b>
<b>7.</b>	<b><u>BIBLIOGRAPHY</u></b>	<b>333</b>
7.1	Parliamentary and Foreign Office Reports	333
7.2	Government, Non-Government, and International Organisations Articles, and Conference Proceedings / Theses	333
7.3	Reports from International Organisations and Foreign Missions	335
7.4	Company Annual Reports and Memorandums to Shareholders	335
7.5	Interviews	336
7.6	Newspapers, Reviews, Chambers of Commerce, News Agencies and Meat Boards / Societies Articles	337

<b>7.7 Journal Articles</b>	<b>338</b>
<b>7.8 Books</b>	<b>339</b>
7.8.1 Theoretical Works	339
7.8.2 Studies on the Meat Sector	341
7.8.3 Related and Background Text	343
<b>7.9 Others</b>	<b>345</b>
<b>7.10 Statistics</b>	<b>346</b>

**8. APPENDIXES**

## LIST OF CHARTS

Chart 2.1 : River Plate Meat Global Export Volume Market Share (%) Beef and Sheepmeat-Average Yearly Periods Between 1890-1992	63
Chart 2.2 : River Plate Meat Global Export Value Market Share (%) Beef and Sheepmeat-Average Yearly Periods Between 1890-1992	64
Chart 2.3 : Meat Global Export Volume Market Share-By Country / Region (%) Beef and Sheepmeat - Average Yearly Periods Between 1909-1992	68
Chart 2.4 : Worldwide Meat Import Distribution Shares-By Country (%) Beef and Sheepmeat - Average Yearly Periods Between 1890-1992	70
Chart 3.1 : Argentine Bovine and Ovine Animals on the Hoof Exports 1875-1915 72	99
Chart 3.2 : World Export Market Shares of Bovine and Ovine Meat % Volume 1909-13	105
Chart 3.3 : Average Consumption of Meat in the U.K. (Per Annum) 1831-1914	106
Chart 3.4 : Radar Diagram of River Plate Meat Exports 5 Year Moving Average 1890-1919 In Thousands of Tons	118
Chart 4.1 : Allocation of River Plate Meat Exports by Packers Origin In the Pool Agreements of 1911 and 1914 (% of Total Exports)	155
Chart 4.2 : River Plate Meat Exports - 5 Year Moving Average 1900-1914	159
Chart 4.3 : Argentinian and Uruguayan Average Yearly Cattle Prices (1913-1930)	172
Chart 4.4 : River Plate Meat Exports in Value and Volume 5 Year Moving Averages 1904-1932	174
Chart 4.5 : The Union Cold Storage Company (Vestey) Earnings 1916-1926	177
Chart 4.6 : Index of Cattle Prices in Liniers vs. Purchased Directly from <i>Estancias</i> 1934-41	189
Chart 4.7 : % Of Bovine Meat Produced By Type of <i>Frigorifico</i> in Argentina (Volume) 1945-1974	205
Chart 5.1 : River Plate Meat Exports By Type in Tons (1925-1938)	262

Chart 5.2 : River Plate Meat Exports in Tons (5-Year Moving Averages)	264
Bovine and Ovine Meat, Conserved Meat & Tongues and Meat Extract 1904-1936	
Chart 5.3 : Meat Global Export Market Shares - By Country / Region (%)	266
Beef and Sheepmeat - Average Yearly Periods Between 1926-30 and 1934-38	
Chart 5.4 : River Plate Meat Exports in Tons (5-Year Moving Averages)	273
1900-1954 Bovine and Ovine Meat, Conserved Meat & Tongues and Meat Extract	
Chart 5.5 : Argentinian Bovine Meat Produced for Domestic Consumption	274
In Thousands of Tons 1934-1954	
Chart 5.6 : % of Total Argentinian Meat Production for Domestic Consumption and for Export Bovine Meat 1934-1954	275
Chart 5.7 : River Plate Meat Export Market Share (Volume - %)	277
Bovine and Ovine Meat - Average Periods 1900-1952	
Chart 5.8 : Meat Global Export Volume Market Share	288
By Country / Region (%) Beef and Sheepmeat Average Yearly Periods 1968-72 and 1988-92	
Chart 5.9 : E.E.C. (12) Production of Beef and Sheepmeat	289
5-Year Moving Averages 1951-1985	
Chart 5.10 : Meat Production in the E.E.C., USA, Australia, New Zealand and the River Plate Beef and Sheepmeat in Thousands of Tons	292
5 Year Moving Averages 1951-1985	
Chart 5.11 : Meat Global Export Volume Market Share	293
By Country / Region (%) - Beef and Sheepmeat Average Yearly Periods Between 1909-1992	

## **LIST OF TABLES**

Table 2.1 : River Plate Meat Global Export Value vs. Volume Market Share Comparison (%) Beef and Sheepmeat Average Yearly Periods Between 1890-1992	65
Table 2.2 : River Plate, Australia and New Zealand's Meat Global Export Volume Market Share-Beef and Sheepmeat Average Yearly Periods Between 1909-1992 (%)	67
Table 2.3 : U.K. and U.S. Global Meat Import Distribution Shares (%) Beef and Sheepmeat - Average Yearly Periods Between 1909-1992	69
Table 3.1 : Bovine Cattle Slaughtered in <i>Saladeros</i> (in 000s) 1873-1897	92
Table 3.2 : Averages of Top Prices of Imported Beef at Smithfield Market (Pence per Pound)	104
Table 4.1 : Uruguayan Frozen and Chilled Meat Exports in Tons 1911-1914	145
Table 4.2 : Chilled Beef Prices in Britain, Cattle Prices in Buenos Aires and Shipments By Meat Packing Company Origin During and After the First Pool Agreement	148
Table 4.3 : Nominal Land Prices in Argentina 1901-1918	165
Table 4.4 : Profits of Major Ranches and Packing Houses, 1929-1934	181
Table 4.5 : % of Total Slaughters by Type of <i>Frigorífico</i> in Uruguay 1953-1980	201
Table 5.1 : Payoff Matrix of Different Trade Policy Scenarios	244
Table 5.2 : Length of Railway Lines in Argentina (in Km) 1896-1936	253
Table 5.3 : Ottawa Conference Quota as a % of Base Year Quarter Jan.1933 - Jul.1934	257
Table 5.4 : 1931-32 River Plate Frozen and Chilled Meat Exports Index vs. 1926-30	257

Table 5.5 : Budgetary Expenditure on the E.U. Common Agricultural Policy 289  
1991-94

Table 5.6 : Prices of Certain Beef Cuts in the F.M.D. and non-F.M.D. Circuits 291  
In US\$ - 1992

Table 5.7 : Argentinian and Uruguayan Bovine Meat Exports in Tons 1992-97 303

## **1. INTRODUCTION AND LITERATURE REVIEW**

### **1.1 Introduction**

In this introductory chapter, the overall scope and objectives of the thesis are spelled out, followed by an explanation of the theoretical framework, methodology and hypotheses. Thereafter, an in-depth literature review analyses the publications on the River Plate meat packing industry to date. This is followed by a thorough explanation of how the thesis advances existing literature, the purpose of the research and the thesis' importance in contributing to the understanding of the River Plate meat packing industry. Finally, the sources utilised in the thesis are examined, including an overview of the primary and secondary data employed in the research.

### **1.2 Thesis' Scope, Theoretical Framework and Hypotheses**

#### **1.2.1 Definitions**

It is important to define certain terms which appertain to this thesis, in order to clarify the meanings of the terminology utilised in this study. To start with the River Plate is sometimes associated with three countries, namely Argentina, Paraguay and Uruguay. Whereas Paraguay and Southern Brazil were also important meat producers, it was in Argentina and Uruguay that the meat sector played a principal role as the producer and processor of a major export commodity. Due to these factors and in order to reduce complexity, the River Plate is defined in this thesis as Argentina and Uruguay. Additionally, the thesis will concentrate on the meat packing industry, which represents the processing of meat starting with the slaughtering of the animal, as opposed to the cattle industry, which concerns itself with the production of cattle, through breeding and fattening of animals. Although the thesis will also examine and make reference to the

cattle industry and its relation to the meat packing industry, it will be primarily concerned with the latter. Similarly, technological innovation relates to the new scientific advances, which affect meat packing techniques as well as to a lesser extent cattle production. Furthermore, modifications in the ownership structure refer mainly to the impact of the change from local to predominately foreign ownership of the meat packing plants, particularly after the 1900s, and then back to domestic control starting in the 1960s. The ownership structure also pertains to shifts between private and public capital or cooperative organisations, as well as to periods of state intervention or control. Moreover, an essential aspect of the thesis are changing international trade regimes, which are defined for the purpose of the research as periods of significant continuity in international trade policy that affect the global meat trade and particularly the terms of trade of River Plate meat exports. The thesis is concerned with shifts in international trade regimes and their repercussion on the meat packing industry.

### **1.2.2 Thesis' Scope and Objectives**

Overall, the objective of the thesis is to determine the elements that led to the strong growth as well as international export leadership position of the River Plate meat packing industry until the 1930s and the factors that brought about its subsequent decline. An additional objective of the thesis is to examine whether the industry is undergoing a *renaissance* in the mid-1990s and if there are signs of a reversal of the declining trend since the late 1920s that could epitomise a significant turnaround, and thus denote favourable prospects for the new millennium. Within the context of the objectives outlined, the thesis will study the impact of technological innovation, modifications in the ownership structure and changing international trade regimes on the River Plate meat packing industry, while examining the effects that each one of these

factors had on the meat processing corporations. Additionally, the elements that triggered modifications in domestic policy from the Argentinian and Uruguayan governments will be analysed, as well as the reasons for their implementation. Importantly, the research will examine the interactions and interrelations between these factors, thereby seeking a comprehensive and ample explanation for the growth, decline and prospects of the River Plate meat packing industry.

The thesis will study the effect that technological innovation had on the development of the industry, in terms of improved production, preservation and transportation methods. Indeed, this analysis will show how crucial technological innovations were for the rise of the River Plate meat packing industry, while highlighting the augmented value added that they provided and their increasing capital requirements. Additionally, the research will examine the effect that transformations in the ownership structure had on the organisation of the industry. In particular, the practices of large meat packers in the fight for supremacy and supply control will be studied. The analysis will highlight the importance of economies of scale for meat packers, the resulting vertical and horizontal integration, as well as the significance of technical and managerial know-how. Furthermore, the rapid expansion of foreign meat packers in the beginning of the twentieth century and the reasons for their retreat in the 1950s will be analysed, as well as the subsequent rise of locally owned *frigoríficos* and new foreign capital interest in the 1990s. Moreover, the thesis will focus on international trade regimes and their impact on the meat packing industry, especially the advent of bilateralism and trade restrictions for River Plate meat starting in the late 1920s, the development of a broad trade negotiations deadlock thereafter, and freer trade in the 1990s. Finally, the research will examine the effect of domestic policy towards the industry. To start with, the

analysis will demonstrate how crucial the establishment of a legal framework and property rights were in building the foundations for the growth of the industry. In addition, domestic policy will be investigated, concentrating on the decline in profitability for cattle producers particularly after the 1920s, the influence of the Rural Society/Association, the emergence of import substitution, intervention and inward looking policies in the mid-1940s, as well as renewed liberalisation and openness in the 1990s.

Though the impact of technological innovation, modifications in the ownership structure and changing international trade regimes will be studied, the relative importance of these factors varies depending on historical circumstances and the development phase of the River Plate meat packing industry. Indeed, three main phases can be identified. In each phase one of the factors played the most important role in the industry. Technological innovation was the most significant factor in the rise of the industry, given that it enabled the production and distribution of ever better quality meat and by-products. However, technological innovation reached an apogee in the early 1910s, as advancements in refrigeration techniques and shipping provided the means to produce high quality chilled meat and to transport it to far away markets. Thereafter, technological innovations related to meat packing were unimportant and only led to very marginal improvements in the texture and taste of meat. Thus the thesis will analyse the impact of technological innovation from the rise of the industry in the early nineteenth century until the 1910s. Modifications in the ownership structure started to play a role with the advent of refrigeration in the 1880s, given that foreign capital and technical know-how were needed for the capital intensive and complex machinery. But it was only in the 1900s that foreign capital began to be consequential, as it increasingly

displaced domestic capital. The modification in the ownership structure was the most important factor in the 1900-20s consolidation phase of the industry, although it remained a meaningful element, particularly with the rebirth of domestic meat packers after the 1960s and renewed foreign capital interest in the 1990s. Therefore, modifications in the ownership structure will be examined since 1900. International trade regimes started to be an issue in the late-1920s, when major restrictions began to be imposed on River Plate meat exports. Prior to the late-1920s, an 'open' international trade regime was in place that enabled exports of River Plate meat to Europe and especially to the main British market. The shift in international trade regimes became the crucial factor in the late-1920s and remained the primary hindrance to the growth of the River Plate meat packing industry, although there has been a move back to 'freer' trade in the 1990s. Thus, changing international trade regimes will be studied since the late 1920s. Moreover, domestic policy is examined throughout the industry's evolution.

In this overall context, the development of the industry is divided into three main chapters, each of which incorporates one of the main factors: (i) the importance of technological innovation in the rise of the River Plate meat packing industry (until the 1910s), (ii) modifications in the ownership structure and the governments' response (since 1900) and (iii) changing international trade regimes and the domestic policy reaction (since the late 1920s). Finally, the thesis analyses the River Plate meat packing industry up to mid-1997, when the research programme was completed. Hence, any events that occurred thereafter are not included.

### **1.2.3 Theoretical Framework**

This thesis will utilise a comprehensive theoretical framework to enhance the analysis of the data. Specifically, a combination of theories will be applied that complement each other and reinforce the explanation for the growth, subsequent decline and renewed expansion of the River Plate meat packing industry. In addition, the theories will help to explain the impact of technological innovation, modifications in the ownership structure and changing international trade regimes, as well as domestic policy.

Firstly, the staple theory, developed by the Canadian economic historian Harold Innis and strengthened by contributions from M. Watkins and C.B. Schedvin will be used to analyse the rise of the River Plate meat packing industry.<sup>1</sup> The thesis will apply the staple theory to examine how linkages and spread effects that were derived from meat enabled the expansion of the industry until the early twentieth century. Within this context, demand side responses will be analysed, including forward, backward and final demand linkages, as well as supply factors. In addition, the thesis will also evaluate whether the decline of the meat packing industry in Argentina and Uruguay after the late 1920s can be attributed to a 'staple trap'. See section 3.1 for a review of the staple theory and its application to the analysis of the rise of the River Plate meat packing industry, as well as an explanation of the 'staple trap'.

Secondly, the marketing mix concept advanced by P. Kotler and expanded by N.H. Borden will be used to analyse the strategic reasons for the foreign meat packing firms'

---

<sup>1</sup> H.A. Innis depicted how staples contributed to the growth of the Canadian economy, especially in the eighteenth and nineteenth century. In particular, his pioneering work included the study of the Cod Fisheries and Fur Trade in Canada in The Cod Fisheries: The History of an International Economy (The Ryerson Press, Toronto, 1940) and The Fur Trade in Canada: An Introduction to Canadian Economic History (University of Toronto Press, Toronto, 1956) as well as Essays in Political Economy (The University of Toronto Press, Toronto, 1938), which he edited. Additionally, Schedvin, C.B., "Staples and Regions of Pax Britannica", Economic History Review, November 1990, Vol. XLIII, No. 4, pp. 533-559 and Watkins, M., "A Staple Theory of Economic Growth", The Canadian Journal of Economics and Political Science, May 1963, Vol. XXIX,

decision to invest in the River Plate.<sup>2</sup> Specifically, the analysis will seek to understand how variations in the macro- and micro- environments shaped management decisions concerning the marketing mix and hence the firm's strategies. The company's strategies, particularly in regards to the foreign meat packers investments in the River Plate, had a profound effect on the growth of the industry, as well as on the ownership structure. See section 3.1 for an explanation of the marketing mix and its application to the analysis of the rise of the River Plate meat packing industry. In addition, the marketing mix concept will also highlight the reasons for the withdrawal of foreign meat packers from the River Plate in the 1950s.

Thirdly, Alfred Chandler's general theory of business will be applied to the analysis of the modifications in the ownership structure. Since Alfred Chandler's work is vast, the thesis will focus on particular ideas developed in two of his most recognised books, The Visible Hand and Scale and Scope.<sup>3</sup> Yet, some of Chandler's other publications will also be used to complement the theoretical framework.<sup>4</sup> The thesis is particularly interested in employing some of Chandler's core concepts, such as the importance of economies of 'scale and scope', 'throughput' and 'minimum efficient scale', which help explain the reasons for the meat packing firms rivalry and their objective of market share maximisation. Furthermore, the notion put forward by Chandler that the 'visible hand of management' took over the supply control from the invisible hand of market

---

No. 2, p.144, expanded and reinforced Innis' staple theory further.

<sup>2</sup> Kotler, P., Marketing Management - Analysis, Planning, Implementation and Control (Prentice-Hall, New Jersey, 1991), pp. 71-72 and Borden, N., The Concept of the Marketing Mix in Enis. B., Cox, K., Marketing Classics - A Selection of Influential Articles (Allyn and Bacon, Massachusetts, 1988), pp. 429-480.

<sup>3</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990) and The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978).

<sup>4</sup> References will also be made to Chandler, A., "The Enduring Logic of Industrial Success", Harvard Business Review, Number 2, March-April 1990, "The Emergence of Managerial Capitalism", Business History Review, Volume 58, Number 4, Winter 1984, "The Beginnings of 'Big Business' in American Industry", Business History Review, Volume XXXIII, Number 1, Spring 1959, [with F. Redlich] "Recent Developments in American Business Administration and their Conceptualization", Business History Review, Volume XXXV, Number 1, Spring 1961, "The Emergence of Managerial Capitalism", Business

forces, sheds light on the motives for setting up shipment pools among meat packing firms. See section 4.1 for a thorough review of Chandler's overall theory of business and its application to the analysis of modifications in the ownership structure.

Fourthly, P.R. Krugman's and J.A. Brander's 'new thinking' regarding trade policy will be utilised in the analysis of changing international trade regimes, in addition to the staple theory.<sup>5</sup> Krugman's and Brander's proposal of identifying strategic sectors and implementing an 'activist trade policy' will be examined, as well as their notion of expanding the share of 'rent' and 'external economies' for the sectors. Specifically, the analysis will discuss whether protectionist measures and subsidies have been used as a means to increase 'rent' and 'external economies' for the River Plate meat packing industry until the 1990s. Additionally, the thesis will consider whether the Argentinian and Uruguayan governments are applying an 'activist trade policy' in the 1990s. Moreover, the thesis will take into consideration Brander's examination of the strategic game played by states. The analysis will reflect on the process of interaction and retaliation among countries in regards to the River Plate meat packing industry, including the utilisation of 'tit for tat' tactics. In particular, the thesis will concentrate on recognising broad movements in trade policy, between 'cooperative' and 'non-cooperative' stands, and will identify periods when governments were faced with a 'prisoner's dilemma'. However, the thesis is not interested in particular 'tit for tat' strategies, but mainly in studying significant tendencies and periods of cooperation or

---

History Review, Volume 58, Number 4, Winter 1984.

<sup>5</sup> Krugman, P.R., "New Thinking about Trade Policy" and Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), pp. 1-45 and pp. 257-281. In addition, Krugman's other publications related to trade policy include "Free Trade and Protectionism" in The Age of Diminished Expectations (The MIT Press, Cambridge, Massachusetts, 1994), pp. 123-135, Rethinking International Trade (The MIT Press, Cambridge, Massachusetts, 1990), the chapters "Does Third World Growth Hurt First World Prosperity" and "The Illusion of Conflict in International Trade" in Pop Internationalism (The MIT Press, Cambridge Massachusetts, 1996), pp. 49-84 and "The Political Economy of Trade Policy" in Krugman's textbook International Economics - Theory and Policy (Harper Collins, New York, New York, 1994), especially pp. 238-241.

defection between the Argentinian and Uruguayan governments and their trading partners. See section 5.1 for an in-depth examination of Krugman's and Brander's new thinking about trade policy and its application to the analysis of changing international trade regimes.

#### **1.2.4 Methodology**

In order to determine the reasons and degree of the growth and decline of River Plate meat, it is important to first quantify the increase or decrease of the industry. Many authors have used exports as an indicator of the River Plate meat packing industry's performance. This is traceable to the importance of exports in a small local market. Although the domestic market also plays a role in determining the size of the meat packing industry, the limitations of both Argentina's and Uruguay's small local markets are evident, despite the high per capita consumption of meat in the River Plate. Therefore, exports are a crucial measurement and will be used as a proxy to determine the growth of the industry. Thus the thesis is interested in the 'production surplus' for export, over and above the production for the domestic markets. Whereas numerous authors have used exports as a method of appraisal, they tended to use nominal export volume as a numeric value that mostly ignored changes in the world market and even in domestic growth. Hence, the relative or weighted value has often been neglected and a nominal figure has been used as an indicator of export performance and thus growth. It appears as if this practice is traceable to the use of short time frames, which tends to decrease the importance of weighted or relative values in export volume analysis. Indeed, most studies consider export volume index figures as indicative of the growth or decline of the industry. Although this analytical method might be adequate in the short term, it can be deceptive when analysing longer periods, as this thesis will do.

Therefore, a broader method or concept has to be taken into consideration to measure exports. In this context, the thesis will apply global export market shares and import distribution shares to economic history, by using four principal measures to evaluate the performance of the River Plate meat packing industry. Firstly, it will calculate comprehensive global export market shares from 1890 until the 1990s, using a series of five year average periods. Secondly, the thesis will calculate the distribution of worldwide imports for meat since 1900, in order to show the trends in the key meat purchasing markets of the world. This will help illustrate the principal changes that occurred in the important world markets, as well as showing the rising and falling trends of the main global meat importers. Thirdly, given that volume export market shares will be calculated using total meat in tons, disregarding the quality and most importantly the price of meat, it is also meaningful to calculate the value share, or in this case the export value market share, as opposed to the export volume market share, which is described above. The value share takes into consideration the various cuts and quality of meat, which vary in price and hence influence sales figures, which in turn has an effect on the profitability of the industry. See chapter 2 for the benefits and limitations of applying global export market shares and import distribution shares to Economic History, as well as for explanations of their estimation and calculation methods for the River Plate meat packing industry.

This extensive quantitative study of the River Plate meat packing industry from 1900 to the 1990s will be of vital importance in providing the foundation, as well as the quantitative evidence for the analysis on the impact of technological innovation, modifications in the ownership structure and particularly changing international trade regimes on the meat packing industry. Importantly, it represents a novel and thorough

measuring method that will enable to assess the growth, decline and prospects of the River Plate meat packing industry since 1900, while strongly enhancing the qualitative research and analysis.

### **1.2.5 Results Expected and Hypotheses**

The thesis seeks to study the different factors that had an impact on the meat packing industry in detail and then formulate a clear conclusion about the interrelations and connections between the various elements. Thereby, the aim is to determine and explain the causes for the performance of the meat packing industry. Many studies blame changing international trade regimes for the decline of the industry after the 1920s and although the research aims to show that this was the primary reason, it also conjecturalises that various factors influenced, affected and accelerated the move towards the decline of the River Plate meat packing industry after the 1930s, while more recently in the mid-1990s inducing a shift back towards renewed expansion. In this context, it is hypothesised overall that the River Plate meat packing industry grew and then declined, due to a combination of reasons and forces, which were interdependent, while having a bearing on each other. Although the predominant factor in the decline was a shift in international trade regimes, other elements impacted the industry, namely domestic policy, technological innovation and modifications in the ownership structure, which conflicted and forced each other into certain directions, thereby determining the fate of the River Plate meat packing industry. From this overall premise, a number of specific hypotheses will be tested that build on the theoretical framework.

Firstly, it is hypothesised that whereas the rise of the River Plate meat packing industry can be attributed principally to technological innovation, other factors were also crucial

in enabling the expansion. Indeed, a number of supply as well as demand side responses derived from the meat staple occurred and strengthened over time, which facilitated the development of the industry. As such, the growth of the industry reflects, among others, the integration and full adaptation of refrigeration technology with the transfer of related technical know-how and management techniques, improved transportation networks, in terms of the development of local railways and oceanic refrigerated shipping lines, as well as ameliorated cattle quality through cross breeding. However, a conducive domestic policy environment combined with an 'open' international trade regime were also essential factors for the rise of the industry. Indeed, the establishment of a legal framework and property rights in the River Plate, as well as the ability to export meat and cattle products freely, were fundamental preconditions that enabled the development of the industry, which in turn contributed to the transfer of capital and technology, while fostering meat exports. The supply and demand side responses expanded, gained strength and were consolidated through a 'multiplier accelerator mechanism'. This boosted the growth of the meat packing industry, especially in the late nineteenth- and early twentieth- century. By the 1920s the River Plate meat packing industry was the overwhelming global meat export leader.

Secondly, it is argued that the consolidation in the ownership structure was driven by the U.S. meat packers goal to increase their economies of scale and scope, as well as achieve adequate 'minimum efficient scale' and higher 'throughput' for their expanding plants. However, their advancement was only possible thanks to technological innovation and adaptation, as well as a conducive *laissez faire* domestic policy. To start with, the transfer of refrigeration technology and the ability to ship chilled and frozen meat from the River Plate to Europe were essential for the expansion of foreign meat

packers. In addition, domestic policy, which was strongly influenced by cattle producers, did not discourage rivalries and price wars among meat packers, given that they increased cattle prices. Moreover, American meat packers had significant first mover advantages vs. their Anglo-Argentinian counterparts that enabled them to expand their market share rapidly. They had acquired substantial technical and managerial knowledge through their developed American business, particularly in exporting to the U.K. market. Indeed, they pioneered the export of high value chilled beef from the River Plate. Additionally, they had large U.S. operations from which they could draw funds to finance expensive price wars. These two benefits enabled the American meat packers to achieve leadership in a remarkably short timeframe. Through price wars they successively increased their market share, at the expense of the Anglo-Argentinian meat packers, thereby intensifying the consolidation of the industry. In the 1920s, with the rise of the British Vestey concern, price wars occurred between large and small packers. Specifically, the American meat packers and Vestey increased their economies of scale and scope at the expense of smaller *frigoríficos*, resulting in further consolidation, which reached extreme oligopolistic proportions. Domestic policy makers failed to curb the heightened consolidation of the meat packing industry, especially when it attained extreme oligopolistic dimensions in the 1920s, partly due to the sheer size of meat packers, but primarily as a result of their alliance with fatteners. Meat packers developed a particular relationship with fatteners, through special pricing arrangements and other benefits, which in turn provided them with a powerful domestic policy influence. The creation of the Frigorífico Nacional in the late 1920s acted as a significant counterweight against the heightened consolidation in Uruguay. However, in the much larger Argentinian market, it was not until intensive and frantic parliamentary debates occurred in the mid-1930s that this relationship was weakened.

Thirdly, although meat exports in volume terms reached their apogee in the late 1920s, the first signs of a ‘staple trap’ were already evident. The value of exports started to fall and there was a gradual shift in international trade regimes away from ‘free trade’ towards bilateralism, while the ‘multiplier accelerator mechanism’ reached a saturation point. Thus the effectiveness of the meat staple in generating supply and demand side responses diminished. This reduced the attractiveness of meat, especially beef, as a staple. It is hypothesised that although the first signs were already apparent in the late 1920s, the ‘staple trap’ was established in the 1930s, especially after the Ottawa Conference, and was consolidated in the 1940-50s. In the early 1930s, the decline became evident, after Britain imposed significant trade barriers for River Plate meat, thereby limiting exports and placing a substantial strain on the industry. Whereas a change in international trade regimes was the primary reason for the ‘staple trap’ and thus the decline of the industry, domestic policy and modifications in the ownership structure also contributed to the long-term stagnation of the sector. The thesis will show how in the 1940-50s domestic policy prevented the development of the industry and obstructed meat exports, even though there was increased international demand for River Plate meat within an improved trade environment. Indeed, domestic policy overreacted to international market access restrictions and introduced a severe import substitution industrialisation policy, which extracted so much surplus from meat, that it became unremunerative to produce cattle. Thus this represented the consolidation of the ‘staple trap’. In addition, Argentina and Uruguay were increasingly facing a broad ‘prisoner’s dilemma’ due to their inward looking and non-cooperative stand. Moreover, state intervention and control in the meat packing industry led to severe distortions in the ownership structure, by maintaining large outdated plants, while smaller and more efficient meat packers emerged. The I.S.I. policies remained broadly in place until the

1990s, albeit with periods of moderate liberalisation. Starting in the late 1950s the U.S.A. imposed even stricter sanitary restrictions for River Plate meat and continued the ban on chilled and frozen exports until the 1990s. This combined with the establishment of the European Community's Common Agricultural Policy, that subsidised producers as well as exports, led to a further increase in market access restrictions and lower exports for River Plate meat, especially since the E.C. restrained meat imports through strict quotas and became a net meat exporter.

Fourthly, it is argued that a revival of the River Plate meat packing industry is taking place in the 1990s, as the industry is entering a new period of growth, albeit through a gradual process. The elimination of Foot and Mouth Disease in the River Plate led to the lifting of the U.S. embargo and has helped secure an increase in export quotas to North America. In addition, the Uruguay Round G.A.T.T. negotiations have led to a 'freer' international trade regime, which is gradually increasing the export opportunities for River Plate meat. Furthermore, both Argentina and Uruguay have liberalised the meat packing industry and their economies. This has led to significant efficiency gains, as meat packers operate within an economic environment driven by market forces. As a result of these changes, there is renewed foreign capital interest in the industry. Moreover, Argentina and Uruguay are no longer confronted with a 'prisoner's dilemma', due to their cooperative and outward looking position. They have also identified the industry as a strategic sector and have adopted an 'activist trade policy' for meat packing.

Finally and following the renewed 'openness' in the 1990s, it is hypothesised that a full cycle has taken place in the River Plate meat packing industry in the twentieth century,

shifting from a ‘free’ international trade regime until the late 1920s, to a period of ‘bilateralism and control’ thereafter, and back to ‘freer’ trade in the 1990s. Similarly, the ownership structure changed from local ownership until the 1900s to principally foreign ownership until the mid-1940s, followed by a period of intervention and state control, then back to local ownership in the 1960-70s, while in the 1990s there is renewed foreign capital interest in the industry. Moreover, domestic policy also shifted, from *laissez faire* economic policies until the mid-1940s, to broadly based import substitution industrialisation, control and intervention from the end of the Second World War until the late 1980s, and back to liberalisation and market oriented policies in the 1990s.

### **1.3 Literature Review, Thesis’ Contribution and Sources**

#### **1.3.1 A Review of Publications on the River Plate Meat Packing Industry and How this Thesis Advances Existing Literature**

Before we examine how this thesis will advance existing literature, an analysis of the works to date will shed light on the importance of this thesis in contributing to the understanding of the River Plate meat packing industry. Due to the significance of the River Plate meat packing industry, especially in the first half of this century, a variety of literature exists on the topic. However, the existing literature is narrow in focus, given that most authors concentrate on a single aspect of industry. These include: (i) the effect of technological innovation on the growth of the industry, (ii) the shift in the ownership structure and the impact of domestic policy as well as (iii) international trade regimes.

When it comes to technological innovation, various authors have written about its effect on the growth of the River Plate meat packing industry. Most concentrate on the evolution of the industry from the mid-nineteenth to the early twentieth century,

especially the shift to *saladeros* and then *frigoríficos*. One of the best known writers on the impact of technological innovation for Argentina is H. Giberti, who describes how technology enabled gradual improvements in meat conservation and how it helped the development of the industry since colonial times.<sup>6</sup> He argues that first gradual indigenous technological innovation and later on foreign technology allowed the expansion of the River Plate meat packing industry. He focuses on the changes that cattle producers had to undergo in breeding methods to adjust to foreign technology, particularly the new requirements of refrigerated meat packing plants. For Uruguay a similar meat packing industry evolution was compiled by P. Seoane who depicted technological changes and their effect on the production and commercialisation of meat.<sup>7</sup> Seoane examines the effect that the industrialisation of *saladeros* and then the *frigoríficos* had on the growth of the industry, concentrating on the improvement in meat production techniques and the greater utilisation of cattle. In this respect, he points out that technological innovation facilitated the manufacturing of an ever increasing number of by-products and improved meat quality. The value of cattle was increased through expansive utilisation of the animal, as well as better conservation techniques. Hence, he maintains that technological innovation increased value added production that combined with better processing methods, enabled the meat industry to grow through greater export value. Another writer which has examined the importance of technological innovation in Uruguay is A. Castellanos.<sup>8</sup> His main analysis centres on the changes that cattle producers underwent to adjust to technological innovation and technology transfer. In particular, he evaluates how production methods changed, from encircling herds on open land, concentrating primarily on expansive cattle rearing, to the

---

<sup>6</sup> Giberti, H., Historia Económica de la Ganadería Argentina (Ediciones Solar / Hachette, Buenos Aires, 1961).

<sup>7</sup> Seoane, P., La Industria de las Carnes en el Uruguay (Montevideo, 1928).

<sup>8</sup> Castellanos, A., Breve Historia de la Ganadería en el Uruguay (Banco de Crédito, Montevideo, 1973).

introduction of fencing and mixed breeding techniques. He sustains that cattle producers were often proactive and through the Rural Association encouraged production improvements, while additionally promoting meat and animal by-products in export markets. Finally, J.P. Barran and B. Nahum, in their broad analysis of the Uruguayan political history from 1851-1904, provide an evolution of the meat packing industry, particularly the impact of technological innovation and the effect of domestic policy.<sup>9</sup> Importantly, among other significant findings, they show how political instability in Uruguay, until peace was finally established in 1904, affected the development of the industry, which combined with the lack of good quality cattle hindered the establishment of *frigoríficos* until the early twentieth century.

Various writers have focused on the ownership structure and the impact of domestic policy in Argentina and Uruguay. To start with, J. Liceaga, who examines the events up to 1950, centres his argument on the formation of the industry, the creation of oligopolistic pools by foreign meat packers before the Second World War and their effect on cattle producers.<sup>10</sup> Additionally, his book investigates some aspects of the export sector and evaluates the Roca-Runciman agreement, a bilateral Anglo-Argentinian trade accord, as well as the succeeding pacts in the 1930s. His analysis aims to provide the basis to defend the creation of the C.A.P., a group of Argentinian public cooperative *frigoríficos* set up in the 1930s, and to protect this newcomer in a novel industrial ownership structure. Similarly, G. Bernhard, appraises the industrial composition of the meat packing industry in Uruguay until 1970, using his evaluation to defend the establishment of the Frigorífico Nacional, a public meat packing plant in

---

<sup>9</sup> Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno (Ediciones de la Banda Oriental, Montevideo, Vol. 1/1, 1967, Vol. 2, 1971, Vol. 3, 1973).

<sup>10</sup> Liceaga, J., Las Carnes en la Economía Argentina (Editorial Raigal, Buenos Aires, 1952).

Montevideo, as well as arguing that it should remain a public firm in the long term.<sup>11</sup> Furthermore, Hanson researches the ownership structure of the Argentinian *frigoríficos* from their beginnings until the 1930s, while being critical of the meat export pool formation.<sup>12</sup> An extreme in the literature is R. Puiggros, who in his book written in the 1950s, not only defends the establishment of the C.A.P. in Argentina and condemns the oligopolistic nature of the ownership structure, but most importantly supports the nationalisation of foreign *frigoríficos* and the establishment of regional cooperative *frigoríficos* across Argentina, with the aim to provide higher profitability for cattle producers.<sup>13</sup> Puiggross points out that foreign *frigoríficos* paid low prices to cattle producers, thereby providing very low margin yields to land owners, while they maintained high profits. Another author who defends the C.A.P. in the 1970s is J. Calvet. He gives a strong background of the conflicts of interest between foreign meat packers, the state and *estancieros*, while describing the Roca-Runciman agreement and following bilateral pacts, as well as studying the rise of the meat packing industry in Argentina.<sup>14</sup> His thesis centred on the reasons for maintaining the C.A.P. operational in the 1970s and he suggested that a complete liberalisation and the dismantling of the C.A.P. would not provide the basis for improved productivity and increased cattle producer profitability. A broader analysis of domestic policy and the effects of the ownership structure change, is provided by P.H. Smith, whose assessment of the internal political power struggles, sheds light on the interaction and conflicts between different interest groups involved in the meat sector.<sup>15</sup> Indeed, P.H. Smith investigates the political development of the Argentinian meat industry in 1900-1946, analysing foremost the development of the industry as well as disputes between the various

<sup>11</sup> Bernhard, G., Los Monopolios y la Industria Frigorífica (Ediciones de la Banda Oriental, Montevideo, 1970).

<sup>12</sup> Hanson, S., Argentine Meat and the British Market (Stanford University Press, California, 1938).

<sup>13</sup> Puiggros, R., Libre Empresa o Nacionalización en la Industria de la Carne (Editorial Argumentos, Buenos Aires, 1957).

interest groups and the *frigoríficos*. Moreover, he reviews the 1930s bilateral agreements, but relates it primarily to the diverse opposing interest groups. Smith's findings explain the internal political conflicts and their relations to the distribution of power in Argentina, while identifying a power shift from packers and fatteners until the mid-1930s to breeders until the rise of Peron. Finally, M.H.J. Finch provides a broad, yet short perspective of the Uruguayan meat packing industry, in one of the chapters of his book.<sup>16</sup>

Changing international trade regimes are a key component to explain the decline of the River Plate meat packing industry. Although many authors analysed international trade regimes, most did not incorporate them as a main element in their research and they tended to focus on the events up to the late 1940s. Nevertheless, two key writers have centred on international trade regimes, namely D. Drosdoff and A. de las Carreras. Specifically, D. Drosdoff examined the Roca-Runciman agreement and subsequent pacts until 1956 in detail, while demonstrating a clear shift to bilateralism in the 1930s and depicting the effects it had on the meat packing industry.<sup>17</sup> Drosdoff shows how the decline in the River Plate meat packing industry after 1930s is attributable primarily to the changes in international trade regimes. While Drosdoff examines mainly the international trade regime in the 1930s and 1940s, A. de las Carreras, concentrates on the issues faced after the Second World War. Indeed, one of A. de las Carreras' key publications provides an excellent review of the problems encountered due to Foot and Mouth Disease and explains the limitations placed on the River Plate meat packing industry by the existence of the disease, especially since the 1950s, in terms of

---

<sup>14</sup> Calvet, J., Un Siglo Frio en la Ganaderia Argentina (Carbab, Buenos Aires, 1977).

<sup>15</sup> Smith, P.H., Politics and Beef in Argentina (Columbia University Press, New York, 1969).

<sup>16</sup> Finch, M.H.J., A Political Economy of Uruguay since 1870 (The Macmillan Press, 1981), pp. 123-152.

international market access restrictions due to strict sanitary regulations.<sup>18</sup> His overall findings maintain that Foot and Mouth Disease sanitary restrictions placed on the River Plate represented a non-tariff barrier. Through the development and usage of the 'no-risk' and 'minimum-risk' hypotheses, A. de las Carreras shows that the severe hygiene regulations put in place by the U.S.A. starting in the 1950s, lacked scientific justification and hence represented a non-tariff barrier. Furthermore, another important book of A. de las Carreras presents a well laid out evolution of the industry until the 1980s, one section of which also studies changing international trade regimes.<sup>19</sup> Finally, R. Muñoz Duran analysed international trade regimes in several reports, primarily in the 1990s.<sup>20</sup> Muñoz Duran was one of the first to recognise the shift back to 'freer' international trade in the 1990s and the positive implications for the Uruguayan meat packing industry.

Overall, most writers have centred on primarily one aspect of the change and development of the River Plate meat packing industry up to the 1950s. This is traceable to the key role that meat played in the River Plate in the first half of the century, when it expanded rapidly and became the world's leading meat exporter, while it lost importance after the Second World War. In addition, much of the literature dates from before the 1950s, thereby only covering events up to the point at which they were written. Therefore, very few publications have taken the complete lifespan of the meat packing industry into consideration and prepared a full historical analysis since the beginning of

<sup>17</sup> Drosdoff, D., El Gobierno de las Vacas (Ediciones La Bastilla, Buenos Aires, 1972).

<sup>18</sup> Carreras de las, A., La Afosa en la Argentina, Un Desafío Competitivo (Editorial Hemisferio Sur, Buenos Aires, 1993).

<sup>19</sup> Carreras de las, A., El Comercio de Ganados y Carnes en la Argentina (Editorial Hemisferio Sur, Buenos Aires, 1986).

<sup>20</sup> Muñoz Duran, R., Cambios en las Corrientes Comerciales de Carne Bovina en el Mercado Internacional para los Años 90 (Banco Central del Uruguay, Departamento de Investigaciones Económicas, Montevideo, April 1990), "Informe Sobre el Mercado de Carne Bovina de la Comunidad Europea en lo que Va del Año 1996", INAC, 11 November 1996, Resultados en el Sector Carne Bovina de la Ronda Uruguay del GATT (Comisión Sectorial para el Mercosur), Montevideo, April 1995, "El Mercado de Carnes del Río de la Plata", Banco de la República Oriental del Uruguay, Montevideo, 1966, "Aspectos Básicos de la Industria de Carnes de Uruguay", Banco Central del Uruguay, Asesoría Económica, Montevideo, 1974, pp. 84-91.

the century, which includes the major changes that took place since the 1950s, with the exception of A. de las Carreras work, which expands until the early 1990s and to a lesser extent that of J. Calvet and M.H.J. Finch, whose research spans up to the 1970s. Importantly, though some publications assimilate a supplementary viewpoint, most research focuses on a single angle of the River Plate meat packing industry, while analysing other factors sparsely. Additionally, most studies either centre on Argentina or Uruguay, rather than analysing the River Plate as a whole, thereby ignoring complementary and interrelated forces that had a bearing on the combined industry of both countries. Hence, in general most publications on the River Plate meat packing industry are limited by time span, subject or analytical angle and often country.

The thesis will advance existing literature and change the focus of technological innovation, modifications in the ownership structure and international trade regimes, by analysing the River Plate meat packing industry in the six following ways. Firstly, it will compile a complete historical analysis since the beginning of the century until the mid-1990s. Secondly, it will re-examine the influence of technological innovation and to what an extent it was responsible for the rise of the meat packing industry. Thirdly, by extending and bringing up to date the impact of changing international trade regimes to the mid-1990s, the thesis will contain a full international trade regime cycle, from free trade in the early twentieth century, to control and bilateralism since the 1930s and back to more open trade in the mid-1990s, given the latest trade initiatives. Similarly, it will include a full cycle in the ownership structure, from local to primarily foreign ownership in the early twentieth century, then a period of state intervention and control after the Second World War, and back to local ownership in the 1960-70s, while in the 1990s

there is renewed foreign capital interest in the industry. Fourthly, the thesis will investigate the changes in the ownership structure and their impact on the organisation of the industry, the importance of management know-how as well as the role played by large foreign meat packers. Fifthly, the reaction of domestic policy to changes in the industry's ownership structure and international trade regimes will be studied, as well as the influence that cattle producers had on policy makers. In addition, the interactions between meat packers, cattle producers and policy makers will be analysed. Moreover, the thesis will determine to what an extent domestic policy contributed to the meat packing crisis, especially after the Second World War. Finally, by studying both Argentina and Uruguay, the thesis will shed light on the differences and interactions between the meat packing industries of both countries.

Another important contribution that this thesis aims to make is by calculating and applying global export market shares and import distribution shares to Economic History. Given that the export sector was and remains extremely important for the River Plate meat packing industry, it is imperative not just to examine exports alone, but rather analyse them in the context of a growing world export market for meat. Through the calculation of novel global export market shares for River Plate meat since 1900, the thesis aims to scrutinise as well as reassess the relationships between the factors impacting the industry, as well as the growth or decline of meat exports from Argentina and Uruguay. Furthermore, the thesis will also calculate the distribution of global meat imports since 1900 to measure and appraise the shifts of the key international markets for meat and how they affected River Plate meat exports.

### **1.3.2 Sources**

This thesis considers the work of numerous authors and various sources. The data found, libraries consulted and fieldwork undertook have provided substantial material for the thesis. Indeed, facts, statistics and information from numerous sources in Europe, the U.S.A. and the River Plate have been obtained. To start with, the qualitative sources incorporate a vast array of publications. These include books, journal articles, company and government reports, abstracts, estate papers and numerous official documents, which concentrate on the economic history of Argentina as well as Uruguay and more specifically on the River Plate meat packing industry. In-depth research at numerous libraries in the U.K., such as the L.S.E., Imperial College, Oxford University and the University of London libraries, as well as the British Library, have provided the groundwork for the thesis. Additionally, archive research in England, including the Annual Report archives at the London Guildhall Library (Corporation of London), were crucial in enhancing the thesis.

Although various publications were available in the U.K., travel to the River Plate has been very beneficial to detail and sharpen the thesis, through additional materials, which were difficult to obtain, particularly those items which were out of print and with work in progress. My fieldwork in Argentina and Uruguay, which entailed numerous trips in 1994-97, has provided specific local information and data on the River Plate meat packing industry. Specifically, the field programme in Buenos Aires and Montevideo included extensive research in the main as well as specialist libraries and archives. In Argentina, I obtained large quantities of archive material in the Argentinian Central Bank, both at the Tornquist and Prebisch libraries. At the Tornquist library, I found various documents, articles and reports appertaining to the River Plate meat packing

industry from the late nineteenth century until the 1930s. Moreover, at the Prebisch library, I obtained archive material for the post 1930s period. Furthermore, I analysed nineteenth century estate papers at the Di Tella University in Buenos Aires, in particular the William Walker accounts and also found other relevant material. In Uruguay, I gathered various documents on the development of the meat packing industry in the late nineteenth- and early twentieth- century at the National General Archive in Montevideo (Archivo General de la Nacion). Additionally, I also obtained numerous reports, books and articles for the twentieth century at the library of the Uruguayan National Meat Institute (Instituto Nacional de Carnes [I.N.A.C.]).

It is important to note that fewer archive documents relating to the River Plate meat packing industry exist after the 1950s. Thus for the 1950-90s period, I have broadened the primary sources substantially by conducting interviews and fact gathering meetings with key individuals in the meat packing industry, in related organisations, with academics, economists, economic historians and specific writers on the industry, as well as with prominent decision makers. In Buenos Aires, I interviewed Dr. Roberto Alemann, the leading Economist and former Economy Minister, who played a key role in negotiating the quota for cooked River Plate meat imports to the USA with the Kennedy administration. Dr. Alemann was the Argentinian Ambassador in Washington during the market access crisis in the late 1950s. Additionally, I interviewed Ing. Alberto de las Carreras, a former Argentinian Secretary of Commerce and a prominent writer on the River Plate meat packing industry, as well as Mr. Luis Baumeule, director of *Frigorifico Quickfood* (Paty), Argentina's third largest meat packing company, that also owns a plant in Uruguay. In Montevideo, I conducted interviews with Ing. Roberto Muñoz Duran, consultant and former director of I.N.A.C. and the Uruguayan Central

Bank, as well as with Dr. Barrios Mariezcurrena, director of *Frigorífico San Jacinto-Nirea*, Uruguay's second largest meat packing plant. Finally, I talked to Ec. Fernando Calloia from the Uruguayan Central Bank in Montevideo, relating to his study of the industry in the 1960-80s. Importantly, during these interviews and through numerous meetings with other experts in the field, I obtained additional post-1950s primary data, such as conference proceedings, newspaper articles as well as governmental and trade documents.

The research in the River Plate was complemented with field work in Geneva and California. I obtained key evidence and findings in libraries and from international organisations, such as the W.T.O., the U.N. (Geneva), particularly U.N.C.T.A.D. and the International Meat Secretariat (Paris). In Geneva, I conducted interviews with officers at the W.T.O. and diplomats representing Argentina and Uruguay. Specifically, I interviewed Mr. João Magalhães, Counsellor of the Agriculture and Commodities Division at the W.T.O., Dr. Miguel Berthet, Ambassador of the Uruguayan Permanent Representation to the W.T.O. and the U.N., as well as Mr. Riaboi, the Minister from the Argentinian Mission to the W.T.O. and the U.N. Additionally, I obtained numerous publications at the Graduate School of International Studies library in Geneva and from the Monterey Institute of International Studies in California.

Furthermore, the statistical data on River Plate and world exports, imports and production have been gathered from a number of official publications, compromising the Institute of Agriculture for reports up to the 1950s, and for the 1950-90s period from the Food and Agriculture Organization, G.A.T.T. / W.T.O. and the International Meat Secretariat.

**2. APPLYING GLOBAL EXPORT MARKET SHARES AND IMPORT DISTRIBUTION SHARES TO ECONOMIC HISTORY: THEIR ADVANTAGES AND LIMITATIONS**

**2.1 Introduction**

This chapter demonstrates how the application of global export market shares and import distribution shares can be utilised as a methodological tool to analyse the export performance of industries on a global scale, especially when examining long-term trends. In particular, this chapter analyses the global export market shares and import distribution shares of the River Plate meat packing industry, and explains the calculation and estimation methods. Moreover, it considers the overall importance, advantages and limitations of global export market shares and import distribution shares as an analytical device in Economic History, which can be applied to further industries in different regions or countries.

Global export market shares measure the share of a particular export product(s) from one country or region, in this case River Plate meat, as a percentage of the total global exports of that product(s). Worldwide import distribution shares measure imports of a specific product(s) in one country or region, in this case imports of meat, as a percentage of the total global imports of that product(s).

Whereas the calculation of market shares is a fairly conventional device to organise or process data, in this thesis its use is more elaborate and incorporates a strong analytical dimension. Specifically, market shares have been used by industry, but they have tended to concentrate on a national market for a particular product in comparison with other manufacturers. Only occasionally have manufacturers used a regional market (i.e.

Europe) as the ‘universe’ from which to calculate the shares, while very rarely determining world market shares for their products. In addition, companies are inclined to analyse their products vs. their competitors and tend not to compute market shares of an entire industry for one region and compare it to another. Some governments and industry boards or associations of certain countries have started, albeit seldom, to measure some of their principal industries’ export market share vs. other countries in the world market. But they tend to concentrate on very recent periods (i.e. last 5 years) and often neglect historical export market share data, which can reveal strong fluctuations and thus important changes in the global export market, particularly when dealing with traditional exports.<sup>21</sup> Through the application of global export market shares and import distribution shares over longer periods of time, the analysis goes beyond nominal export / import figures, or short-term market share changes, which can often be misleading. Indeed, weighted or relative figures are measured by comparing them with the world market over long periods of time. As a result, global export market shares and import distribution shares facilitate the identification of shifts in global markets, which in turn enable companies and governments to recognise the need for new strategies, priorities and policies. Furthermore, global export market shares can serve as an ‘attractiveness barometer’ for investments in particular export industries in one region or country vs. other worldwide areas.

When calculating market shares, as a first step the total market, known as the ‘universe’, must be defined geographically, demographically as well as by product range. Additionally, the unit of measurement must be determined, such as whether the market

---

<sup>21</sup> For example, the British Tourist Authority (BTA) utilises market shares to estimate the U.K.’s share of total global tourist spending and number of tourist arrivals per country.

share will be measured either in value or volume. Another approach often used in industry is a system of statistical units, which combines volume, value and profitability elements to analyse a broad range of products within a market.<sup>22</sup>

The overall aim of global export market shares is to quantify the increase or decrease of a particular industry or company in the world export market. Thus, when applying global export market shares to the River Plate meat packing industry, they will demonstrate the increasing or declining role of River Plate meat exports and can be used to identify moments of change within the sector and, consequently, act as a proxy for positive or negative factors affecting the industry. These can include the impact of technological innovation, modifications in the ownership structure and changing international trade regimes. Importantly, numerous publications have utilised exports to analyse the progress of the River Plate meat packing industry.<sup>23</sup> The reason for this is that the River Plate domestic markets are limited, given the low number of inhabitants in Argentina and Uruguay. Although the consumption of meat per capita in the River Plate is high when compared with the rest of the world, the domestic market remains small. Consequently, exports constitute a determining evaluation method of the River Plate meat packing industry. Whereas many authors have employed exports as a assessment tool, they were inclined to disregard alterations in the global market, thereby using exports as a nominal value. Accordingly, the relative or weighted value has been mostly ignored and the nominal amount utilised as an indicator of the industry's growth. This seems to reflect the brief periods of investigation in most studies, that are inclined

<sup>22</sup> Statistical units (SU) are often used by international companies to analyse a range of products that might have different units of volume measure (i.e. weight, liquid content), value and level of profitability. A SU factor is calculated / assigned to each product version and size in the various product categories, thereby facilitating volume and market share analysis across a series of products, which are often not related.

<sup>23</sup> Finch, M.H.J., A Political Economy of Uruguay since 1870 (The Macmillan Press, London, 1981), pp. 124-131, Liceaga, J.,

to reduce the significance of weighted or relative values of export figures. Many publications regard export figures as representative of the growth and decline of the industry. Whereas this might be appropriate when studying short periods, it can be misleading in the analysis of longer time-frames, such as the over one hundred year period that this thesis will study. While many authors have utilised export nominal quantities, only a very limited number of publications have made reference to weighted export figures in comparison with the world meat market. One of the few exceptions is A. de las Carreras, who actually computed and displayed global export market shares and worldwide meat import distribution shares, though confined to two periods, one in 1934-38 and the other in 1970.<sup>24</sup> Overall, when analysing exports as a nominal figure, it implies that the world market has not changed and that exports have grown or declined in line with the global market for a particular export product. This may at times be deceptive and therefore highlights the significance of examining exports with an ample viewpoint by producing global export market shares. The scarcity of global export market shares production and allusion in most studies of the River Plate meat packing industry, reflects the intricacy of collecting, ordering and computing them, especially for numerous periods.

This thesis will reexamine the correlation and links of the elements that changed and influenced the River Plate meat packing industry, through the calculation of comprehensive global export market shares since the late nineteenth century until the 1990s, while analysing the growth and decline of Argentinian and Uruguayan meat exports. In this context, global export market shares will be calculated from 1890s to the

---

Las Carnes en la Economía Argentina (Editorial Raigal, Buenos Aires, 1952), pp. 102 and 296, Giberti, H., Historia Económica de la Ganadería Argentina (Ediciones Solar / Hachette, Buenos Aires, 1961), p. 184.

mid-1990s, using a series of five year average periods. This will be measured firstly for the River Plate meat packing industry as well as in comparison with other key worldwide meat exporters, including Australia, New Zealand, the U.S.A. and the countries that belong to the European Community / European Union. In addition, distribution of worldwide imports for meat will be computed in order to assess the changes and key shifts in the main international markets for meat as well as the effect they had on the River Plate meat exports. Specifically, import distribution shares will be calculated from the early twentieth century until the mid-1990s of the principal importers of meat, such as the U.K., Germany, France, the U.S.A. and Japan, which will reflect the allocation of worldwide imports for meat and thus indicate which countries played an important role as meat importers, as well as demonstrating changes in the pattern of importing markets since the early twentieth century. Separately, production and consumption of meat will also be analysed, especially in chapter 5.

In addition to the global export volume market share, in which volume in tonnes will be used for the calculation, this thesis will also compute global export value market shares, which appraises the value of meat. Indeed, the global export value market share may vary from the volume share depending on the quality of the meat exported. This is due to the varying cuts and quality of meat, which can command higher or lower prices, thereby influencing the global export market value share. Moreover, value shares might be affected by international or domestic policy, which might create artificial price corridors and inflated or deflated prices vs. the world market, due to tariff or non-tariff barriers and taxation procedures, among other reasons. Thus the global export value

---

<sup>24</sup> Carreras de las, A., La Aftosa en la Argentina. Un Desafío Competitivo (Editorial Hemisferio Sur, Buenos Aires, 1993), pp. 14-15.

share provides an indication of the export sales, which are influenced by prices and in turn can have an effect on the industry's profitability. However, calculating the global export value market share is very complex and many technical differences have to be overcome. To start with a breakdown of export values of meat is extremely intricate, given that many countries have varying meat cuts. Hence, the value share will be calculated for total meat exports, thereby taking into consideration the various meat cuts and price differentiation since 1890.

Overall meat global export market shares, both in volume and value as well as distribution of worldwide imports for meat can be very important and have a number of benefits. The next section will highlight the key advantages of global export market shares and import distribution shares, while outlining their main limitations.

## **2.2 Advantages and Limitations of Meat Global Export Market Shares and Distribution of Worldwide Imports for Meat**

Global export market shares and import distribution shares can be applied to most industries that produce for the export market. The utilisation of this analytical method is particularly important for industries in specific countries or regions which are highly dependent on exports. This can be the case if their products do not have a significant local market, either due to sheer market size or due to demand constraints (lack of local purchasing power), or an industry could be facing the saturation of the local market. One of the most significant advantages of global export market shares is that they help establish a relative weighted value for exports, given that local exports (in this case of River Plate meat) are compared with the global export market (in this instance total meat world exports). Thus, changes in the world export market for a particular product

are taken into consideration and therefore exports are not just seen in the local context but vs. the global marketplace. Indeed, exports in volume or value of an industry in a particular country may increase, but this augmentation might be much lower than the export increase of the same industry in other countries and accordingly the global export market could have risen by a significantly larger index than local exports. Therefore, the absolute need for countries to look at the global export market share of their principal exports or those which are considered to have potential.

If the analysis encompasses a long period (i.e. over 30 years), global export market shares and import distribution shares can show long term trends and changes in markets, while they can help identify key "breaking or crisis points" which might derive from repercussions of influential policy implementation, either on a national or international basis, such as amendments in domestic policy as well as changes in international trade regimes. In addition, these "breaking or crisis points" might indicate or help recognise significant transformations in the use of technology or technological innovation, changes in the priorities of companies as well as potential effects of modifications in the ownership structure of particular industries. Moreover, global export market shares and worldwide import distribution shares enable countries or companies to identify shifts in the global market buyers (the importers) and sellers (the exporters), which will show potential new markets, a possible decline of traditional markets and changes in competing countries or regions. Importantly, global export market shares and worldwide import distribution shares will enable countries or regions to identify new priorities for policy making, both on an international and national basis. On an international basis, a decline in the global export market share for an important export product could signal

the need for trade negotiations, to remove potential tariff or non-tariff barriers and / or a stronger marketing concentration in a particular market or markets, by for example running a country, industry or firm related marketing campaign for a particular export product. In parallel, on a national policy basis, a global export market share decrease might indicate the decline of an export product or staple, while it also could confirm the need to shift export products and look for new export commodities or products. Moreover, global export value market shares will show if the value of products increased or declined vs. the global export volume market share. If there is a large divergence between the global export volume and value share, this might indicate that either the quality of the export product has improved or declined in the world market, or that tariff, non-tariff barriers or subsidies have distorted the world prices or created global pricing corridors. All these factors might also influence policy decisions, while indicating clear shifts in the export industry position vs. the global market.

Most companies' or industries' objective is to maximise market share within their market "universe", which could be the national, regional or global marketplace. This is primarily based on the assumption that market share maximisation will ensure long term earnings growth potential. Thus many firms might reduce or ignore profitability in the short term with the aim to increase their long term earnings potential. Although certain corporations or industries sometimes, yet rarely, reduce their market share deliberately to augment profitability in the short term, most aim at market leadership, as this entails a number of benefits. Firstly, the market leader can frequently influence prices in certain industries, as the market (i.e. other firms) often follows the leader on pricing, thereby maximising overall profitability for the leading firm or industry. Additionally, the

leading firm will also gain from quantity discounts when purchasing inputs, thus also often buying raw materials and other inputs at lower prices. Secondly, market leadership represents larger economies of scale, given that fixed costs per unit decline as more volume of a particular product or commodity is sold, thus achieving greater resource maximisation. Thus global export market shares can show which firms or group of firms become market leaders and which are the firms or industries which are disputing the market supremacy position.

When considering policy development, another important aspect of global export market shares is that they might show to a country or region that their policies or that the overall macro-environment is changing, while they might indicate that the country or region is losing competitiveness vs. other areas or nations for particular export products. This can be traced to the conflicting interests that firms within an industry and governments can have, in that a country's or region's objective could be to maximise the global market share of their principal export products or those who seem to have potential, while a firm often wants to maximise the global market share for their products but do not necessarily care whether they do this within one country or region. Rather many firms would try to produce their products while minimising costs, regardless of geographical location, as long as the region of production has a number of advantages, which could include a friendly investment climate, appropriate infrastructure, availability of the necessary inputs for production as well as access to their markets locally and abroad. This is especially the case if the principal firms of an industry within a country or region is a foreign corporation or a transnational corporation, in particular if it is foreign and operates in many markets. Thus global

export market shares can act as a country or region "attractiveness barometer" for investments in the particular export industries vs. other worldwide areas.

Overall, global export market shares and import distribution shares are important, while having a number of advantages when applying them to Economic History and in particular to the study of export based industries within a country or region, but this technique also has some limitations. To start with, global export market shares measure exports either in volume or value of a particular country or region vs. world exports, while import distribution shares assess imports of a specific country or region vs. world imports. However, a country or region that imports can often also re-export some of their imports, or alternatively export their production while using imports for domestic consumption. This can distort the notion of the two bloc approach, namely that importers (buyers) are separate from exporters (sellers) and can artificially increase the size of the import as well as export markets, given that re-exports or domestic production for export of importing countries are often counted double in the global export and import market size. Nevertheless, this distortion in market size and hence in the import and export market is only significant if the degree of re-exports or the export level of local production of a key importer is very high, particularly if an importing country or region becomes a net-exporter. When analysing the River Plate meat packing industry since 1900, re-exports of imports or exports of domestic production of key importing countries are minimal until the 1960s. This is traceable to the importance of the British market as the major importer of meat until the 1950s, accounting for between approximately two-thirds and four-fifths of global beef and sheepmeat imports, while

exports of beef and sheepmeat rarely surpassed the 2% of total imports.<sup>25</sup> Starting in the 1950s and especially in the 1960s, the U.S.A. became the second key importer of beef and sheepmeat, which together with the U.K. represented the great majority of worldwide meat imports until the 1970s. Most importantly, the combined U.K. and U.S. exports, continued to represent a very small ratio of joined imports. Thus from the early twentieth century until the 1970s the overall notion of the two block approach of buyers (importers) and sellers (exporters) was still applicable, while the distortions of the worldwide import and export markets were minimal. However, with the creation of the Common Agricultural Policy within the European Economic Community and its subsequent consolidation, the E.E.C. became a net beef and sheepmeat exporter in the 1970s. This created some distortions in the worldwide import and export markets, primarily driven by high producer and export subsidies. Despite the distortions driven by the E.E.C. / E.U. subsidies after the 1970s, which artificially inflated the worldwide export and import market for meat, due to lower prices driven by subsidised exports, the overall direction of global meat export market shares and meat import distribution shares were not significantly affected. Importantly, this limitation may also appertain to other studies which might apply global export market shares and worldwide import distribution shares. It is therefore important to measure the ratio of exports vs. imports of a particular product or commodity for key importing countries, in order to establish whether the global import or export markets might be artificially inflated and how this might affect the interpretation and analysis of the shares.

---

<sup>25</sup> The export / import ratio of approximately 2% (i.e. that the amount of exports as a percentage of imports) is calculated based on 1909-13, 1926-30, 1934-38 and 1948-52 periods. Please see Appendix 13 for a full list of sources.

Another limitation of export market shares, is the difficulty in measuring accurate global export value market shares, due to transfer pricing or over-invoicing practices by corporations. Whether global export market value shares are calculated from countries' or regions' export values or computed using import values of key importing countries, the value of exports or imports are often distorted, due to transfer pricing or over-invoicing by vertically integrated companies. This is particularly the case when studying the River Plate meat packing industry's global export value market share. Specifically, the majority of River Plate meat exports from the early twentieth century until the 1950s occurred through vertically integrated companies who controlled the production and distribution of meat from the slaughtering of animals in the River Plate through to the wholesaler or even retailers in key importing markets, primarily the U.K. This was not just the case for the U.K. and U.S. transnational corporations, but also the large Argentinian meat packing houses, which often had offices in the U.K. These firms used transfer pricing and over-invoicing techniques to minimise their tax burden, but by doing so often distorted the value of exports and imports. Although global export value market shares might be misrepresented at times, they are nevertheless indicative and show the direction of overall export values of particular countries or regions. Importantly, this does not only apply to the River Plate meat packing industry and the calculation of world export market value shares for meat, but is also relevant for other studies which might use this technique, involving industries in which companies are strongly vertically integrated on an international level.

Finally, a further limitation of global export market shares and import distribution shares is that although they assess the export growth or decline for a particular industry

or company, they are not an accurate measure of economic development. Whereas export growth of a particular product or industry in a country or region is usually associated with strong earnings and thus economic development for the country and region concerned, an increase in exports might have a greater or smaller effect on economic development depending on the type of composition, ownership structure and the laws governing the industry. Given that this thesis studies the reasons for the growth and decline of the River Plate meat packing industry, it is not interested in the effect that the industry's growth might have had on the economic development of Argentina and Uruguay. Nevertheless, it is important to clarify this limitation for the potential application of global export market shares and import distribution shares in other economic history or especially economic development studies. In order to establish how important an increase in exports or in the global export market share is for a country's or region's economic development, the global export market share and worldwide import distribution share data could be complimented and further enhanced using a domestic expenditure approach concept, which analyses the value-added disaggregation of production processes, such as the "retained/returned" value models developed by M. Mamalakis and C. W. Reynolds as well as R. Thorp and G. Bertram. Specifically, M. Mamalakis and C. W. Reynolds applied the "retained/returned" value concept to the Chilean copper industry, while R. Thorp and G. Bertram used it to analyse key export staples in Peru.<sup>26</sup> Overall, the "retained/returned" model concentrates on how much benefit the domestic market obtained from particular exports. As Reynolds points out:

---

<sup>26</sup> Mamalakis, M., Reynolds, C., Essays on the Chilean Economy (R. Irwin, Homewood, Illinois, 1965), pp. 256-343, as well as Thorp, R., Bertram G., Peru 1890-1977: Growth and Policy in an Open Economy (Columbia University Press, New York, 1978), pp. 26-38.

"The convenience of this model is that it isolates all operating and investment expenditures which accrue to the local economy in the absence of detailed data on individual factor payments. The residual between these local charges and total value of production may be said to be expatriated." <sup>27</sup>

Importantly, the "retained/returned" value model distinguishes between the total product of an industry (sales and inventory change) and the payments to domestic factors for operating expenses, including taxes, local capital acquisitions and import duties. Indeed, payments to foreign factors of production, expatriated profits and depreciation are not included. Thus, the "retained/returned" value model shows the gain to the domestic economy derived from exports and hence their potential "net benefit" obtained, which in turn releases a domestic surplus for economic development. However, though the degree of "net benefit" can be influenced through changes in domestic policy, it is important to find the right balance between allowing a reasonable "surplus" to foreign and local corporations and maximising the "retained/returned" value to countries. The reasonable "surplus" should enable firms to pay competitive dividends and be able to invest in new technology as well as research and development. Most importantly, the reasonable "surplus" must also be competitive in comparison with other countries or regions, in that firms might decide to change their production, wherever possible, to another location or stop producing / extracting a particular product or commodity in a country or region, because it has become uncompetitive. This is where global export market shares could help in showing whether a country's or region's competitiveness in an industry is increasing or declining vs. other nations or worldwide areas, by revealing global trends in the export market of a particular industry.

---

<sup>27</sup> As outlined in Mamalakis, M., Reynolds, C., Essays on the Chilean Economy (R. Irwin, Homewood, Illinois, 1965), p. 274.

After examining global export market shares and import distribution shares, this section has shown how important these marketing techniques can be when analysing an export industry, despite their limitations. The benefits of the global export market shares, both in volume and value as well as import distribution shares will become even more evident when applying these techniques to the River Plate meat packing industry. Before the key findings are examined since the late nineteenth- and early twentieth- century, the next section will outline the calculation and estimation methods of global export market shares and distribution of worldwide imports for meat.

### **2.3 Calculation and Estimation Methods of Global Export Market Shares and Distribution of Worldwide Imports for Meat**

Global export volume market shares and worldwide import distribution shares will be computed from the late nineteenth- and early twentieth- century until the beginning of the 1990s, using a series of five year average periods. Specifically, the periods which will be used are 1890-94, 1900-04, 1909-13, 1926-30, 1934-38, 1948-52, 1968-72 and 1988-92. These periods were chosen due to a combination of available data and in order to minimise distortions of major world events, such as the First and Second World Wars, as well as the immediate aftermath of the Great Depression. In addition, these periods represent significant shifts in global export market shares and distribution of worldwide imports for meat. Importantly, global export market volume and value market shares for the River Plate meat packing industry will be determined from 1890-94 until 1988-92. However, the global export market shares for the 1890-94 and 1900-04 periods will be estimated, due to the lack of available global export data for these periods. The estimation process and method will be described later on in this section. After 1909 reliable world import and export volume figures exists, therefore the global

export market shares can be calculated for the River Plate meat packing industry and other countries. Indeed, worldwide import distribution shares as well as global export distribution shares for countries and regions other than the River Plate will be calculated starting in 1909.

Global export volume market shares will be calculated using exports volume (in thousands of tons) and global export value shares will be computed calculating the value of exports. The succeeding equation will exemplify the overall calculation method that will be used to compute global meat export volume market shares, as well as global export value shares. However, many sources must be used to compute global export market shares for such a long period, due to the long span of the study, while full export volume and especially value data are not available for the entire calculation period, especially before 1909. Therefore, the following equation 2.1 as well as the calculation method will vary in certain periods, as will be explained later in this section.

Equation 2.1: River Plate Global Meat Export Market Volume and Value Shares

$$RPGMEMS = \sum_{i=1}^n CME_A + CME_U / CME_i$$

Where: RPGMEMS = River Plate Global Meat Export Market Share [%]  
(Volume or Value)

CME = Country Meat Exports (Volume or Value)

A = Argentina

U = Uruguay

i = All Meat Exporting Countries (Volume or Value)

This equation can be used to calculate global meat export market share (in volume or value) for any country or region by substituting:

$$CME_A + CME_U$$

With:  $CME_{AEC}$

Where:  $AEC = \text{Any Exporting Country (or Region)}$

Although this equation represents the overall calculation method that will be used to compute global export market shares, for some periods estimates will be made due to the lack of available data. Specifically, given that comprehensive global export volume sources are only available since 1909, the period between 1890-1909 must be estimated using import data. However, this task is facilitated by the fact that the U.K. was the main worldwide importer of beef and sheepmeat in 1909-13, when she imported almost 80% of the world's meat.<sup>28</sup> Thus it is assumed that for the 1890-94 and 1900-04 periods the U.K. represented the overwhelming majority of worldwide imports of meat and hence that meat imports by country into the U.K. were almost equivalent to global exports from those countries. Whereas this is a prudent assumption for chilled and frozen meat, it is less so for global salted beef exports (jerked beef or *tasajo*), given that most salted beef was exported from the River Plate primarily to Brazil and Cuba. For perspective, salted beef exports were still significant in the late nineteenth century and early twentieth century, while they declined considerably and lost importance after the 1910s, due to the proliferation of refrigeration technology and thus widespread availability of better quality chilled and frozen meats. Thus for the 1890-94 and 1900-04

---

<sup>28</sup> Calculated from the 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1929, tables 139-140, pp. 416-425.

estimates we will take global salted beef exports into consideration (prepared salted meat). Indeed, by adding total British meat imports with Argentinian and Uruguayan salted beef exports, a fairly accurate estimate can be made of the global meat export market. However, salted beef imports into the U.K. which came from other countries than the U.S.A. will be subtracted to avoid double counting of River Plate salted beef exports. This will then provide an even more reliable estimate of the global meat export market. Finally, by dividing total Argentinian and Uruguayan meat exports by the global meat export market, a good estimate of the River Plate global meat export market share, either in volume and value, can be made. Equation 2.2 on the next page depicts the estimation method for the 1890-94 and 1900-04 periods.

Equation 2.2: Estimated River Plate Global Meat Export Market Volume and Value Shares (1890-94 and 1900-04)

$$ERPGMEMS = \sum_{i=1}^n CME_A + CME_U / BMI_i - (BSBI_i - BSBI_{US}) + SBE_A + SBE_U$$

<u>Where:</u>	ERPGMEMS =	Estimated River Plate Global Meat Export Market Share [%] (Volume or Value 1890-94 and 1900-04 Periods)
CME	=	Country Meat Exports (Volume or Value)
BMI	=	British Meat Imports (Volume or Value)
BSBI	=	British Salted Beef Imports (Volume or Value)
SBE	=	Salted Beef Exports (Volume or Value)
A	=	Argentina
U	=	Uruguay
US	=	United States
i	=	All Meat Importing Countries (Volume or Value)

After 1909 there are reliable worldwide export volume figures to calculate the River Plate meat packing industry's global volume export market share. In contrast, the global export value data is very difficult to assimilate until the mid-1950s, given that meat value exports would have to be calculated for each country in the world, while export values are often only provided by each individual country in local currency, with frequently fluctuating exchange rates, making an accurate calculation extremely difficult. Thus from 1909 until 1952, global export value market share will be calculated using a similar principle than with the export volume global export market shares in the 1890-94 and 1900-04 periods, portrayed in equation 2.2. Indeed, global export value shares will be computed based on U.K. imports, which until the mid-1950s represented the great majority of worldwide imports of meat. For perspective, U.K. imports represented 79.2% of total global meat imports in 1909-13, 66.9% in 1926-30, 82.2% in 1934-38 and 68.7% in 1948-52.<sup>29</sup> However, unlike the 1890-94 and 1900-04 periods, depicted in equation 2.2, after 1909 *tasajo* or jerked beef from the River Plate will not be added to the worldwide meat export market calculation, given that the quantities of jerked beef exports became significantly less important after the 1910s, especially the trade in *tasajo* between the River Plate with Brazil and Cuba. Hence, global export value market share will be calculated as a percentage of U.K. imports, as shown in equation 2.3 on the next page.

---

<sup>29</sup> Calculated based on worldwide meat import distribution volumes. Please see Appendix 13 for a full list of data and sources, as well as equation 2.4 for a full explanation of global meat import distribution share calculation method.

Equation 2.3: River Plate Global Meat Export Value Market Shares (For Periods between 1909-52)

$$RPGMEVMS = \sum_{i=1}^n BMI_A + BMI_U / BMI_i$$

Where:      RPGMEVMS =      River Plate Global Meat Export Value Market Share [%] (1909-13, 1926-30, 1934-38 and 1948-52 Periods)

                  BMI           =      British Meat Imports (Value)

                  A           =      Argentina

                  U           =      Uruguay

                  i           =      All Meat Importing Countries (Value)

So far this section has demonstrated the estimation and calculation methods for global export volume and value market shares. However, it is also vital to examine which countries or areas are the main importers and how their position as significant players in the import market has changed over time. Moreover, newcomers to the world import market need to be assessed, in order to determine their importance. For this it is necessary to calculate the distribution of worldwide imports for meat, which will be computed using the equation shown below. Importantly, the distribution of worldwide imports for meat will be determined for a specific set of key meat importing countries, namely the U.K., France, Germany, Italy, the U.S.A., Canada and Japan as well as comparing them to the rest of the world. This process will identify fluctuations in the main meat importing countries as well as acting as a tool to establish trends in the global market for meat since 1909, as depicted in the following equation 2.4.

Equation 2.4: Distribution of Worldwide Imports For Meat (Volume)

$$DWIM_j = \sum_{i=1}^n CMI_j / CMI_i$$

Where:

DWIM	=	Distribution of Worldwide Imports For Meat (%)
CMI	=	Country Meat Imports (Volume)
i	=	All Meat Importing Countries (Volume)
j	=	One Particular Meat Importing Country

Finally, global export market shares by country will also be calculated, showing the important meat export countries, namely Argentina, Uruguay, Australia, New Zealand and the U.S.A., as well as exports of the rest of the world. For perspective, global export market shares will be computed using equation 2.1, while substituting  $(CME_A + CME_U)$  with  $CME_{AEC}$  and inputting the various key importing countries separately in  $CME_{AEC}$ . This will help determine trends and show which countries have increased or decreased their exports in the global meat export market.

## 2.4 Key Findings

So far, this chapter has provided an assessment of the methodology, namely market share analysis, while explaining calculation and estimation methods of the global meat trade since the late nineteenth century. In this section, the most important findings of the River Plate global export volume and value shares will be analysed. This section will provide an overall review and examination of the findings, while the in-depth analysis of any reasons that might have induced changes in the River Plate meat packing industry

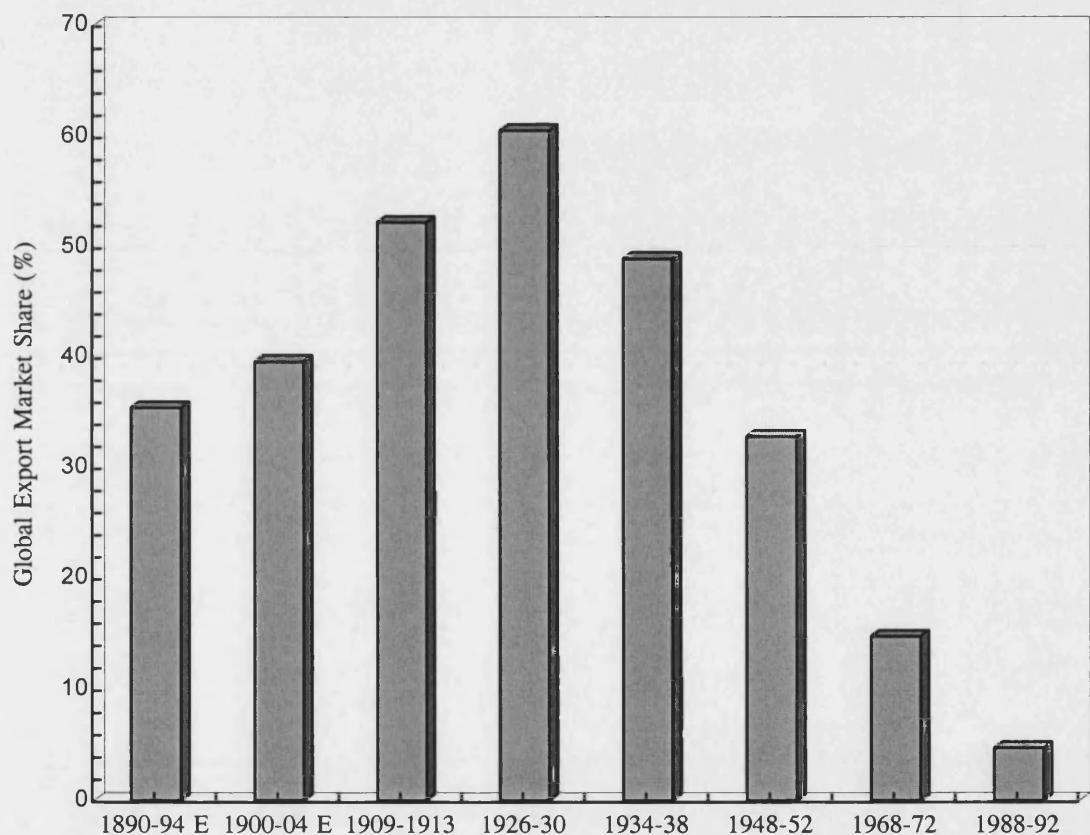
global export market shares and worldwide import distribution shares will be investigated thoroughly in subsequent chapters.

The application of global export market shares and worldwide import distribution shares to the River Plate meat packing industry, revealed some key findings. To start with, the River Plate global meat export volume market share increased strongly from 1890 until the 1930s, rising by 25.1 percentage points from an important 35.4% in 1890-94 to an all time high of 60.5% in 1926-30. The 1890-94 high market share suggests that the River Plate was already an important player before 1890. However, after the 1930s the River Plate global meat export volume market share decreased a drastic 55.8 percentage points from the record 60.5% in 1926-30 to 4.7% in 1988-92. Whereas this decline occurred gradually, it still represents a highly significant drop in River Plate global meat export volume share. Importantly, although this strong decrease in global export volume market shares occurred in both Argentina and Uruguay, it was not evenly spread among both countries. While Argentina global export volume market share declined from 49.4% in 1926-30 to 11.7% in 1968-72 and 3.1% in 1988-92, Uruguay's decrease was proportionally less pronounced falling from 11.1% in 1926-30 to 3.0% in 1968-72 to 1.6% in 1988-92. Chart 2.1 clearly shows the upswing in River Plate meat global volume market shares from a high base in 1890 until the 1930s and the drastic decline thereafter.

Importantly, the increase from 1890-94 until 1926-30, can be traced to adaptation of technological innovation, particularly the introduction of refrigeration, as well as changes in the supply of beef in the U.S.A. for the key growing U.K. market, which will

be analysed in depth in chapter 3. In contrast, the drastic decline after the 1930s reflects firstly the Ottawa conference and the Roca Runciman agreements in the 1930s, the Foot and Mouth Disease sanitary restrictions in the 1950-60s, in addition to the E.E.C.'s /E.U.'s Common Agricultural Policy, which encouraged subsidised meat exports, particularly after the 1970s. These factors will be investigated as part of the analysis of changing international trade regimes in chapter 5.

**Chart 2.1 - River Plate Meat Global Export Volume Market Share (%)**  
Beef and Sheepmeat - Average Yearly Periods Between 1890-1992

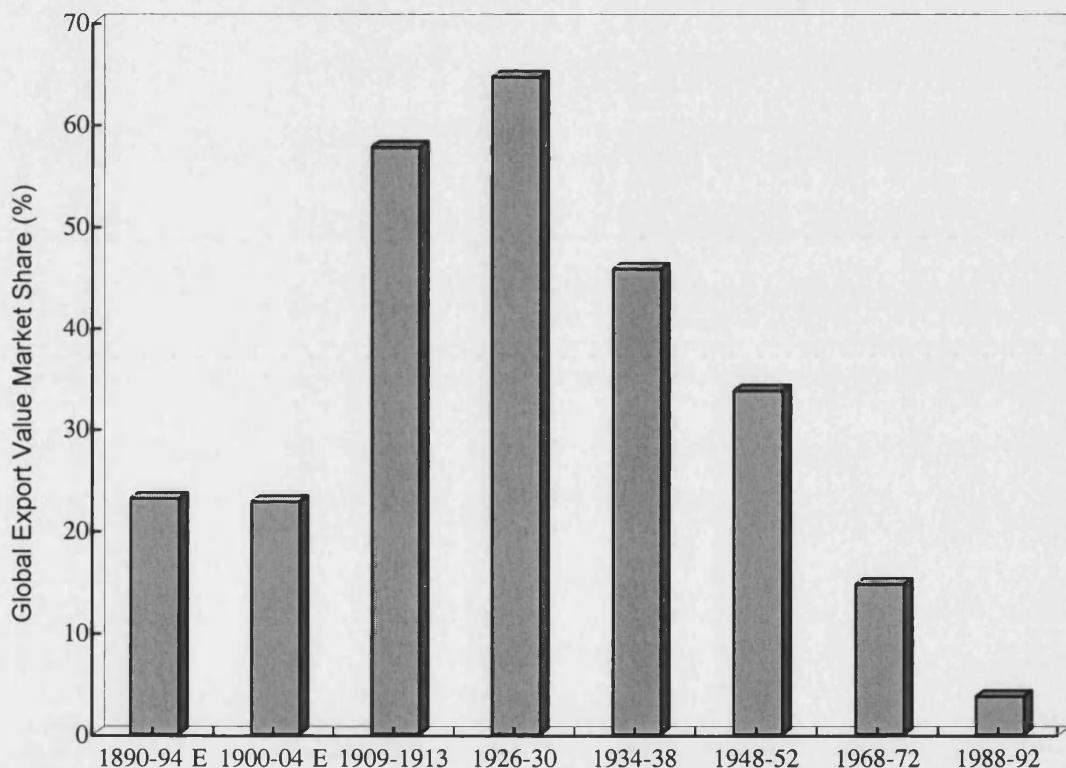


Sources: See Appendixes 1, 2, 4 and 5 as well as Section 2.3 for calculation and estimation methods.

The findings relating to the River Plate meat global export value market share reveal similar patterns than the volume share, namely an increase, albeit later than in volume shares, until 1926-30 and thereafter a gradual, yet drastic decline until the 1988-92.

Specifically, the River Plate meat global export value shares increased 41.5 percentage points, from 23.1% in 1890-94 to 64.6% in 1926-30. However, the overall augmentation pattern of the global export market value share from the late nineteenth century until the 1930s changed vs. the volume share, given that the value share inched downwards from 23.1% in 1890-94 to 22.8% in 1900-04 and then jumped 34.9 percentage points to 57.7% in 1909-13, as can be seen in chart 2.2.

Chart 2.2 - River Plate Meat Global Export Value Market Share (%)  
Beef and Sheepmeat - Average Yearly Periods Between 1890-1992



Sources: See Appendixes 6, 7, 8, 9, 10 and 11 as well as Section 2.3 for calculation and estimation methods.

Most importantly, the meat global value market share had a much lower base than the volume share in 1890-94 and 1900-04. Indeed, the River Plate meat global export value market share was 23.1% in 1890-94 and 22.8% in 1900-04 vs. a volume share of 35.4% in 1890-94 and 39.6% in 1900-04. The overall lower figures in 1890-94 and 1900-04 as well as the strong increase in the River Plate meat global export value share from 1900-

04 to 1909-13, is traceable to the importance of *tasajo* or salted jerked beef exports from the River Plate until the 1910s, after which refrigerated technology became more widespread and chilled beef started being exported in large quantities. Thus the value of exports increased as the River Plate improved the quality and hence the price of exports, from *tasajo* to frozen meat to chilled beef, whose exports expanded rapidly after the 1910s, while *tasajo* exports slowly declined and became much less important. This implies a 'technology lag', in that other exporting regions, in particular the U.S.A., were processing higher value, more sophisticated products before the River Plate. The U.S.A. was exporting large quantities of frozen beef to the U.K. in the early 1890s. In contrast, the River Plate was just starting to export limited quantities of frozen beef and was primarily concentrating on frozen mutton, conserved meat, meat extract and *tasajo* exports. The River Plate meat global export value share was lower in 1890-94 and 1900-04 than the volume share, but thereafter both shares moved within similar ranges and in the same direction, as can be seen in table 2.1.

Table 2.1: River Plate Meat Global Export Value vs. Volume Market Share Comparison  
 Beef and Sheepmeat – (%) Average Yearly Periods Between 1890-1992

Period	Global Export VALUE Market Share	Global Export VOLUME Market Share	Value vs. Volume Difference
1890-94	23.1	35.4	-12.3
1900-04	22.8	39.6	-16.8
1909-13	57.7	52.2	5.5
1926-30	64.6	60.5	4.1
1934-38	45.7	48.9	-3.2
1948-52	33.7	32.8	0.9
1968-72	14.7	14.7	0.0
1988-92	3.7	4.7	-1.0

Sources: See Appendixes 1, 2, 4, 5, 6, 7, 8, 9, 10 and 11.

When examining the meat global export volume market share by country or region, the River Plate, Australia and New Zealand combined provided more than 70% of the world's meat exports until 1948-52. Although the River Plate global meat market share decreases after 1926-30, the decline of River Plate meat exports was more than offset by Australian and New Zealand exports in 1934-38 vs. 1926-30. This was primarily due changing international trade regimes, already starting in the late 1920s and especially after the Ottawa Conference in 1932, as will be analysed in chapter 5. However, in 1948-52, despite a strong increase in New Zealand exports, the combined total of the three exporting regions declines to just over 71.9% global export volume market share, while thereafter a steady decrease in all three traditionally exporting regions occurs. Specifically, the River Plate falls to a single digit global export market share by 1988-92 and New Zealand declines to less than 2/5 of its all time high 25.5% world meat global export market share in 1948-52, declining to 9.7% in 1988-92. Whereas, the River Plate lost by far the highest meat global export market share, New Zealand also experienced a strong decline after 1948-52, while Australia lost the least of the three traditional global meat export regions, maintaining a healthy 12.3% global export market share in 1988-92. Table 2.2 exhibits the meat global export volume market share of the three meat exporting regions separately and combined.

**Table 2.2: Meat Global Export Volume Market Share of the River Plate, Australia and New Zealand**

Beef and Sheepmeat - Average Yearly Periods Between 1909-1992 (%)

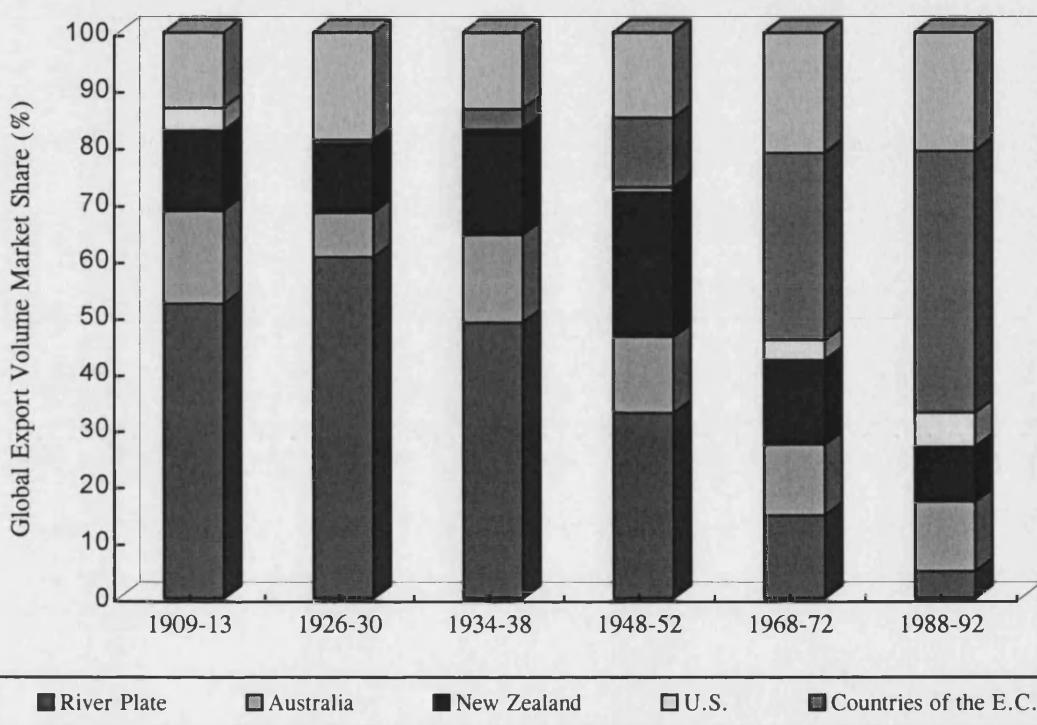
Periods	River Plate	Australia	New Zealand	Total Three Regions Combined
1909-13	52.2	16.4	14.1	82.7
1926-30	60.5	7.8	12.1	80.4
1934-38	48.9	15.5	17.9	82.3
1948-52	32.8	13.6	25.5	71.9
1968-72	14.7	12.6	15.0	42.3
1988-92	4.7	12.3	9.7	26.7

Sources: See Appendix 12.

As the export volume market share of the three traditional exporting regions declined, as shown in table 2.2, from 82.7% of world exports in 1909-13 to just above a quarter in 1988-92, it is important to determine who became the "newcomers" to the world market, especially in the 1968-72 and 1988-92 periods. Not surprisingly, it were the countries of the E.C.C. / E.U. who represented the vast majority of new meat exporters. As early as 1948-52, the countries which would become part of the European Community had a 12.3% share of the global market by volume. This rose to 33.1% in 1968-72 and 46.3% by 1988-92. Importantly, the increase of European Community exports in 1968-72 and particularly in 1988-92 can be traced to the generous system of producer and export subsidies provided after the introduction and consolidation of the Common Agricultural Policy, which is analysed in chapter 5. Indeed, the combination of production and export subsidies, stimulated the strong rise in meat exports from European Community countries which quickly expanded reaching almost half of the world's meat exports in 1988-92. Indeed, this led to unprecedented increases in exports from the E.E.C. / E.U., which for the first time during the 1970s became a net exporter of meat. Chart 2.3 below

shows the importance of the River Plate as the largest meat world exporter in the 1909-13, 1926-30, 1934-38 and 1948-52 periods, which combined with Australia and New Zealand represented the great majority of global meat exports from the early twentieth century through to 1948-52. Thereafter, the chart clearly displays an increase in the E.E.C. /E.U. countries exports in 1968-72 and especially in 1988-92.

**Chart 2.3 - Meat Global Export Volume Market Share - By Country / Region (%)**  
Beef and Sheepmeat - Average Yearly Periods Between 1909-1992



Sources: See Appendix 12 as well as Section 2.3 for calculation and estimation methods.

So far the key findings have concentrated on meat global export market shares, both for River Plate meat exports and other key exporting countries. This has shown specific trends and developments in meat export markets since the late nineteenth- and early twentieth- century until the beginning of the 1990s. However, it is also important to examine the worldwide import distribution shares for meat, in order to determine any changes in the pattern of global importers and the effects that this had on the River Plate meat packing industry. Since the early twentieth century and until the 1950s, the U.K.

was overwhelmingly the largest importer of meat, with a global meat import distribution share which ranged between two-thirds and 80 percent of total global imports between 1909-13 until 1948-52. In the 1950s the U.S.A. became the second most important market, while the U.S.A. and the U.K. combined still accounted for the vast majority of the world's meat imports, with a share of 78.4% in 1948-52. However, by 1968-72 the U.K. had significantly reduced her imports, with her share falling 38.8 percentage points from 68.7% in 1948-52 to 29.9% in 1968-72. Although the increase in U.S. meat imports partly offset the fall in relative U.K. demand, the combined share was reduced from over 70% since the early twentieth century to just under 50% in 1968-72, while falling further to 24.3% in 1988-92, as can be seen in table 2.3, column (c).

Table 2.3: U.K. and U.S. Global Meat Import Distribution Shares (%)  
Beef and Sheepmeat - Average Yearly Periods Between 1909-1992

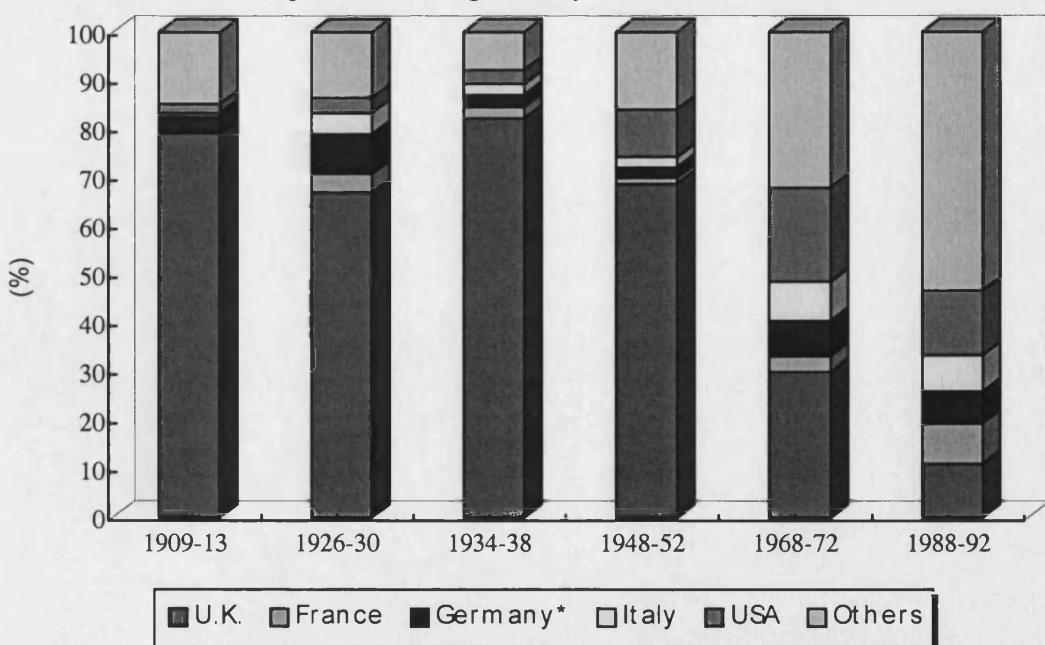
Period	United Kingdom (a)	United States (b)	Total U.K. and U.S. Combined (c)
1909-13	79.2	1.9	81.1
1926-30	66.9	3.2	70.1
1934-38	82.2	2.9	85.1
1948-52	68.7	9.7	78.4
1968-72	29.9	19.4	49.3
1988-92	11.1	13.2	24.3

Sources: See Appendix 13.

The global meat import distribution share decline of the traditional world meat importers, namely the U.K. and the U.S.A., in the 1968-72 period, is due to the larger imports of Japan, Italy, Germany and France, as well as "other countries". This latter category of "other countries" grew substantially in 1968-72, while augmenting dramatically in 1988-92 and reaching an unprecedented 44% global meat import distribution share, excluding Canada. Specifically, the strong growth of "other

"countries" imports is traceable to large subsidised meat exports from the European Community, which were primarily imported by countries in Northern Africa, the Middle East and Asia. Importantly, the growth in meat imports from these countries, reflects an increase in the overall purchase of meat due to their low prices, given the generous subsidies of the European Community, as well as the rising standards of living in the population of the purchasing regions, due to higher levels of economic growth. These combined factors encouraged an increase in consumption, which in turn translated into even higher imports. Chart 2.4 below exhibits the importance of the U.K. market as a key importer of meat until the 1948-52 period and then the growing role played by the U.S.A, Italy, Germany, France and Japan, as the main world importers of meat. Hence, it shows a clear switch after 1948-52 in the world's meat importers structure, moving from the U.K. as the most important importer by far, to the growing significance of the U.S.A. already in the 1948-52 period and especially in 1968-72, to the drastic switch and increase in imports of "other countries".

Chart 2.4 - Worldwide Meat Import Distribution Shares - By Country (%)  
 Beef and Sheepmeat - Average Yearly Periods Between 1890-1992



Sources: See Appendix 13 as well as Section 2.3 for calculation and estimation methods.

## 2.5 Conclusion

This chapter has shown how global export market shares and import distribution shares can be utilised in order to improve the understanding of different subjects. In this context, the chapter has applied global export market shares and worldwide import distribution shares for the River Plate meat packing industry since the late nineteenth- and early twentieth- century, as well as examining their advantages and limitations as an analytical tool. Additionally, it has provided an explanation of the calculation and estimation methods of global export market shares and worldwide import distribution shares, which specify how they were measured and computed, while representing the basis for potential future calculation and analysis of these techniques in other economic history studies.

There are numerous advantages in the application of global export market shares and worldwide import distribution shares for the purpose of this research. Global export market shares measure exports of an industry or company vs. the world's export market and thereby produce a weighted value rather than viewing exports in isolation as a nominal figure, which does not take into consideration changes in the global marketplace. Most importantly, through careful analysis over long periods of time, they can disclose influential "breaking or crisis points", which in turn might indicate significant changes either in domestic policy decisions, alterations in the international trade regimes, modifications in the ownership structure of an industry, amendments in utilisation, application or the generation of new technology and potentially a shift in the priority of firms. Thus global export market shares and worldwide import distribution shares can identify key turning points in the examination of an industry, company or the

export economy of a country, which can not only improve the understanding of the historical analysis, but also represent a useful tool in economic policy making. Specifically, they might signal the need for changes in policy, such as augmented efforts in trade negotiations, a reduction of domestic taxes or tariffs, an increase in investment and training incentives or boosting marketing efforts in a particular market for certain export products. Furthermore, worldwide import distribution shares show if traditional importing countries or regions are reducing their worldwide imports vs. other importers. In addition, they disclose any shifts in importing markets and thus pinpoint growing, declining or potential future markets.

The assumption is that an industry or a company aims at maximising their global export market share, as this can entail a number of advantages, including larger economies of scale as well as influencing pricing, which in turn has an effect on long-term profitability. However, companies and governments can have conflicting interests, given that a firm might want to maximise their global export market share, often ignoring geographical location. Thus companies might produce or extract a product or commodity in any country or region depending on cost and the investment climate. Therefore, global export market shares might also act as an "attractiveness barometer", in that a significant decline in the share might symbolise better conditions in other countries or regions. Moreover, global export market value shares, which take into consideration the price of products rather than the physical weight or volume, could indicate fluctuations in the quality of products or modifications in the international trade regime, which could have distorted global prices by the artificial creation of pricing corridors.

Overall, global export market shares and worldwide import distribution shares have numerous advantages and benefits, though they also have limitations. Specifically, one significant limitation originates due to potential re-export of particular export commodities or products by importing countries, which can therefore create a double-counting effect of exports and imports. Another notable limitation is that global export market shares and worldwide import distribution shares are not an exact measure of economic development, but rather concentrate primarily on the growth and decline of an export product or industry vs. the world market. Although this thesis is not concerned with economic development, for future studies that might be interested in development, the global export market shares and worldwide import distribution shares can be complimented using the "returned/retained" value model. This is applicable in particular to research that involves measuring the effect that an export product or commodity might have on a country's or region's economic development.

Finally, the application of global export market shares and worldwide import distribution shares to the study of the River Plate meat packing industry has shown some important findings and confirmed some of the key advantages of utilising these marketing techniques. Specifically, one of the most significant findings is that the meat global export market shares of the River Plate grew strongly until the 1930s and declined drastically thereafter. However, the key is that the fall after the 1930s of the River Plate meat global export market share was proportionally much larger than the decline in meat exports in nominal terms. Thus, the importance in the world market of Argentinian and Uruguayan meat exports declined substantially more after the 1930s than the decrease in exports might suggest. In addition, the analysis of the global export

market shares by country or region has shown that the decline of the River Plate meat global export market share after the 1930s was initially offset by Australian and New Zealand meat exports, but starting in the 1960s the countries of the European Community started exporting ever larger quantities of meat and managed to surpass the combined exports of the traditional exporters, namely the River Plate, Australia and New Zealand in the 1980s. Furthermore, the global meat import distribution shares also revealed some significant findings, in particular they highlighted the importance of the U.K. as the world's largest importer until 1950s, the rise of the U.S.A. as an notable importer thereafter and most importantly the enormous growth of non-traditional meat importing markets already starting in the 1960s, but particularly in the 1980s. So far this thesis has provided an overall overview of the River Plate meat global export market shares and worldwide import distribution shares main findings. In subsequent chapters, these findings will be examined in more detail, while they will provide strong support for the in-depth analysis of the River Plate meat packing industry since the late nineteenth century.

### **3. THE IMPORTANCE OF TECHNOLOGICAL INNOVATION IN THE RISE OF THE RIVER PLATE MEAT PACKING INDUSTRY**

#### **3.1 Introduction**

The rise of the River Plate meat packing industry was led by technological innovation, combined with changes in domestic policy, in a "free" international trade regime. Whereas the most important aspect of the historical development of River Plate meat packing until the early twentieth century is the key role that technological innovation played in building and expanding the industry, it is also crucial to understand the parallel elements that advanced the process. Therefore, not just the impact of technological innovation will be analysed, but also the following factors will be examined, namely (i) the effects of domestic policy, in particular the establishment, integration and consolidation of the modern state, the creation of property rights and a legal framework, (ii) the modernisation of cattle production and (iii) the reasons for investment of foreign firms and capital in the River Plate meat packing industry. In order to enhance the analysis of the rise of the River meat packing industry and in particular the additional factors that influenced the growth process, the thesis will draw on the staple theory, which was developed by Harold Innis and expanded by M. Watkins and C.B. Schedvin.<sup>30</sup>

Harold Innis was mainly interested in the effect of staple production on the Canadian economy and society. He studied the cod fisheries and the fur trade, while analysing their impact on Canadian development. Cod and fur constituted an abundant and readily

<sup>30</sup> Innis, H.A., The Cod Fisheries: The History of an International Economy (The Ryerson Press, Toronto, 1940), The Fur Trade in Canada: An Introduction to Canadian Economic History (University of Toronto Press, Toronto, 1956) and Essays in Political Economy (The University of Toronto Press, Toronto, 1938), which he edited. Moreover, Schedvin, C.B., "Staples and Regions of Pax Britannica", Economic History Review, November 1990, Vol. XLIII, No. 4, pp. 533-559 and Watkins, M., "A Staple Theory of Economic Growth", The Canadian Journal of Economics and Political Science, May 1963, Vol. XXIX, No. 2, pp. 141-158, reinforced Innis' staple theory.

available resource in the early settlement period - cod in the coastal areas and fur further inland - that could be traded primarily with Europe.

"The most promising source of early trade was found in the abundance of fish, especially cod, to be caught off the Grand Banks of Newfoundland and in the territory adjacent to the Gulf of St. Lawrence. The abundance of cod led the peoples concerned to direct all their available energy to the prosecution of the fishing industry which developed extensively. In the interior, trade with the Indians offered the largest returns in the commodity which was available on a large scale and which yielded substantial profits, namely furs and especially beaver."<sup>31</sup>

Innis also emphasised the importance of the lumber trade and wheat after the decline of fur, due to the extinction of the beaver following widespread hunting in ever more remote areas, as settlements moved further inland.<sup>32</sup>

Moreover, Innis pointed out that the improvement of transportation systems was crucial to the exploitation and development of staple production. In the early stages, the adoption of the canoe and the utilisation of existing waterways were fundamental in Canada to transport furs. This was followed by the development of lake transport, the utilisation of the York boat as well as the building of canals in the mid-nineteenth century, which facilitated the movement of staples, through an increasingly more sophisticated transportation and trading system. Finally, the expansion of the railways in the second half of the nineteenth century encouraged the settlement of areas which were not close to waterways and enabled easier transportation of staples from inland regions to important ports, while the development of steam vessels made transatlantic shipping faster and more reliable. In addition to improvements in transportation networks, Innis emphasised that better production techniques and marketing facilitated the development of staples. In parallel, numerous activities developed, including the financing of staple

<sup>31</sup> Drache, D., ed., Staples, Markets, and Cultural Change - Selected Essays of Harold Innis (McGill-Queen's University Press, Montreal, 1995), pp. 4-5. Also see Innis, H.A., The Fur Trade in Canada: An Introduction to Canadian Economic History (University of Toronto Press, Toronto, 1956).

<sup>32</sup> *Ibid*, p. 13.

production and trade, as well as the manufacturing and trading of semi-finished and finished goods derived from the staple. Furthermore, public policy was also influenced through staple developments.

“Large-scale production of raw materials was encouraged by improvement of technique of production, of marketing and of transport as well as by improvement in the manufacture of the finished product. As a consequence, energy in the colony was drawn into the production of the staple commodity both directly and indirectly. Population was involved directly in the production of the staple and indirectly in the production of facilities promoting production. Agriculture, industry, transportation, trade, finance, and government activities tend to become subordinate to the production of the staple...”<sup>33</sup>

Overall, Innis analysed the general effect of the production of staples on the development and historical evolution of Canada. He concentrated on the products and services that were derived from staples, as well as to a lesser extent domestic policy. An important part of his analysis centred on technological innovation. Indeed, he was concerned with the improvement of staple production methods and the manufacturing of value added goods obtained from staples, as well as the impact of better transportation systems. In addition, he placed significant emphasis on management know-how and logistics and their importance in facilitating the distribution and marketing of staples.

In essence, Innis demonstrated the importance of staples in Canadian development, while compiling a broad technological history. Whereas Innis pioneered the staple approach and prepared comprehensive historical analysis, he failed to build a clear theoretical framework.

“[Innis’] method was to cast the net widely. The staple approach became a unifying theme of diffuse application rather than an analytic tool fashioned for specific uses. There was little attempt to limit its application by the use of an explicit framework. Methodologically, Innis’ staple approach was more technological history writ large than a theory of economic growth in the conventional sense.”<sup>34</sup>

<sup>33</sup> Drache, D., ed., *Staples, Markets, and Cultural Change - Selected Essays of Harold Innis* (McGill-Queen’s University Press, Montreal, 1995), p. 5.

<sup>34</sup> Watkins, M., “A Staple Theory of Economic Growth”, *The Canadian Journal of Economics and Political Science*, May 1963, Vol. XXIX, No. 2, p. 141.

Melville H. Watkins built on Harold Innis' work and developed a framework for staple theory. Although Watkins created a 'staple theory of economic growth', he insisted that the staple theory was not presented by him as "a general theory of economic growth, nor even a general theory about the growth of export-oriented economies, but rather as applicable to the atypical case of the new country."<sup>35</sup> Indeed, the staple theory is highly relevant and suitable for all regions of recent settlement, which were identified by T. Duncan and J. Fogarty as Australia, Argentina, the U.S.A., Canada, South Africa, New Zealand and Uruguay.<sup>36</sup> These countries had similar characteristics. They were land abundant and labour scarce, while dependent on exports of primary products. Furthermore, they concentrated on a limited number of export staples, which were the prominent sector. The surplus quantities of land available, lack of labour and capital, as well as generally restricted local market, gave them a comparative advantage in specific export staples.

"The fundamental assumption of the staple theory is that staple exports are the leading sector of the economy and set the pace for economic growth ... Economic development will be a process of diversification around the export base. The central concept of a staple theory, therefore, is the spread effects of the export sector ... To construct a staple theory, then, it is necessary to classify these spread effects and indicate their determinants."<sup>37</sup>

The strength of the spread effects will be dependent on the character of the staple, in particular where and how it is produced and possibly processed. This in turn will determine the level of investment in the staple industry and potentially the amount of diversification around the staple. Watkins praised Innis' analysis of the character of staples and quoted C.R. Fay to highlight its importance:

<sup>35</sup> Ibid, p. 148.

<sup>36</sup> Duncan, T., Fogarty, J., Australia and Argentina - Parallel Paths (Melbourne University Press, Melbourne, 1984), p. 16.

<sup>37</sup> Watkins, M., "A Staple Theory of Economic Growth", The Canadian Journal of Economics and Political Science, May 1963, Vol. XXIX, No. 2, p. 144.

“... the emphasis is on the commodity itself: its significance for policy, the tying in of one activity with another, the way in which a basic commodity sets the general pace, creates new activities and is itself strengthened or perhaps dethroned, by its own creation.”<sup>38</sup>

Within this context, the level of technology needed to produce or extract and process the staple is fundamental, as explained by Watkins:

“The important determinant is the technology of the industry, that is, the production function, which defines the degree of factor substitutability and the nature of returns to scale. With the production function specified and the necessary *ceteris paribus* assumptions - including the demand for goods and the supply of factors - a number of things follow: demand for factors; demand for intermediate inputs; possibility of further processing; and the distribution of income ... These determine the range of investment opportunities in domestic markets, or the extent of diversification around the export base. If the demand for the export staple increases, the quantity supplied by the new country will increase. This export expansion means a rise in income in the export sector.”<sup>39</sup>

The character and production function of the staple, combined with the possibilities of further processing, the domestic policy environment, as well as the size and income distribution of the local market, will determine if and to what an extent the export income is invested domestically. Investment could flow back into staple production, or occur in industries, transportation and services related to the staple. Alternatively, investments could also take place in other domestic industries (i.e. consumer goods) or services. Watkins makes use of Albert Hirschman’s linkage approach to classify domestic investments derived from the export staple.

“In Hirschman’s terms, the inducement to domestic investment resulting from the increased activity of the export sector can be broken down into three linkage effects: backward linkage, forward linkage and what we shall call final demand linkage.”<sup>40</sup>

Linkages broadly defined, occur when a prevailing operation leads to novel activities due to economic or other forces. The following statement by Albert Hirschman provides a general definition of linkages:

<sup>38</sup> Ibid, p. 148.

<sup>39</sup> Ibid, p. 144.

“A linkage exists whenever an ongoing activity gives rise to economic or other pressures that lead to the taking up of a new activity. ... They [linkages] focus on certain characteristics inherent in the productive activities already in process at a certain time. These ongoing activities, because of their characteristics, push or, more modestly, invite some operators to take up new activities. Whenever that is the case, a linkage exists between the ongoing and the new activity.”<sup>41</sup>

Watkins defines the backward, forward and final demand linkages as follows:

“Backward linkage is a measure of the inducement to invest in the home-production of inputs, including capital goods, for the expanding export sector ... Theory and history suggest that the most important example of backward linkage is the building of transport systems for collection of the staple, for that can have further and powerful spread effects. Forward linkage is a measure of the inducement to invest in industries using the output of the export industry as an input. The most obvious, and typically most important, example is the increasing value added in the export sector; the economic possibilities of further processing and the nature of foreign tariffs will be the prime determinants. Final demand linkage is a measure of the inducement to invest in domestic industries producing consumer goods for factors in the export sector. Its prime determinants is the size of the domestic market, which is in turn dependent on the level of income-aggregate and average - and its distribution.”<sup>42</sup>

Watkins points out that investment is not only induced by demand side responses. There are also a number of supply side factors, such as the “relationship between staple production and the supply of entrepreneurship and complementary inputs, including technology.”<sup>43</sup> This technology, Watkins adds, is “likely to be substantially borrowed from abroad [and that] ... the inflow of foreign technology will be facilitated by the inflow of foreign entrepreneurship and capital.”<sup>44</sup>

Importantly, through the classification of linkages and supply side factors, the staple theory can be seen as a ‘multiplier accelerator mechanism’. Specifically, as staple

<sup>40</sup> Watkins, M., "A Staple Theory of Economic Growth", *The Canadian Journal of Economics and Political Science*, May 1963, Vol. XXIX, No. 2, p. 145.

<sup>41</sup> Hirschman, A., *A Generalized Linkage Approach to Development, with Special Reference to Staples* in Nash, M., *Essays on Economic Development and Cultural Change in Honor of Bert F. Hoselitz* (Economic Development and Cultural Change, Volume 25, Supplement, 1977), p. 80-81.

<sup>42</sup> Watkins, M., "A Staple Theory of Economic Growth", *The Canadian Journal of Economics and Political Science*, May 1963, Vol. XXIX, No. 2, p. 145. Also see Hirschman, A., *The Strategy of Economic Development* (Westview Press, London, 1988), pp. 98-119 and Schedvin, C.B., "Staples and Regions of Pax Britannica", *Economic History Review*, November 1990, Vol. XLIII, No. 4, p. pp. 533-559.

<sup>43</sup> Watkins, M., "A Staple Theory of Economic Growth", *The Canadian Journal of Economics and Political Science*, May 1963, Vol. XXIX, No. 2, p. 146.

<sup>44</sup> *Ibid*, p. 148.

exports generate intensifying linkages, they facilitate growth, which in turn strengthen linkages further and generate more growth, thereby creating a multiplier accelerator effect.

Through the application of the staple theory, the chapter will demonstrate how linkages and spread effects derived from the meat staple enabled the rise of the River Plate meat packing industry. Within the framework of the staple theory put forward by Watkins, supply and demand side responses will be analysed, including forward, backward and final demand linkages. Importantly, for the purpose of this thesis, the staple theory will only be used in order to allow for a thorough explanation of the growth of the River Plate meat packing industry, rather than for the development of the economy as a whole. Indeed, this thesis is not interested in the impact of meat packing on the River Plate economy or its development, but on how linkages and spread effects of meat as a staple benefited the River Plate meat packing industry.

As part of the demand side responses, forward and backward linkages will be analysed, while final demand linkages will only be investigated to see how they benefited the development of the meat packing industry. In addition to the important forward, backward, final demand linkages, the chapter will also analyse fiscal linkages. Specifically, fiscal linkages represent the participation of a government in the earnings flow created by the export sector.<sup>45</sup> This could occur through levying taxes to the export sector, while the additional fiscal revenues could be used by the government to invest in infrastructure for areas related to the export staple or in other sectors. Moreover, supply

<sup>45</sup> Hirschman, A., *A Generalized Linkage Approach to Development, with Special Reference to Staples* in Nash, M., *Essays on Economic Development and Cultural Change in Honor of Bert F. Hoselitz* (Economic Development and Cultural Change, Volume 25, Supplement, 1977), p. 77.

side responses will be examined, especially the supply of additional inputs. Finally, there are also some spread effects that derive from the staple. These could be the establishment of legal frameworks, such as property rights or the creation of a monetary system, which could also stem from fiscal linkages. The chapter will analyse the main spread effects and their contribution to the growth of the River Plate meat packing industry.

Importantly, the chapter will show how meat staple exports generated intensifying linkages and spread effects that facilitated the further growth of the meat packing industry. As such, the chapter will depict how meat exports acted as an ‘multiplier accelerator mechanism’ that induced augmenting growth and progressively generated increasing staple linkages and spread effects, which in turn enabled the further expansion of the industry.

Overall, the chapter will analyse how spread effects and linkages derived from the meat staple have enabled the rise of the industry in the late nineteenth- and early twentieth-century. However, the staple has a dynamic aspect, in that amendments in the environment can reduce its importance. This can occur through simple depletion of the staple, given that it might be a limited resource. The staple can become obsolete due to new technology. Or the importance of a staple can also be reduced depending on actions taken by local governments, such as shifts in development strategies, or through changes in international markets. Specifically, international demand could decline or supply increase in the world market, changes could occur in the international trade regime or the cost of production abroad might decrease. Moreover, the institutional framework, the political structure and the influence of key industrial or land-owner groups on the

policy making process could also affect the long term prospects of a staple. These factors could lead to a 'staple trap' and thus the ability of the staple to generate spread effects and linkages would diminished. In this respect, in chapter 5, the thesis will examine whether the River Plate meat packing industry entered into a 'staple trap' starting in the late 1920s.

Whereas the staple theory will be used as a method of assessment of how linkages derived from the meat staple enabled the rise of the industry, it is also important to understand the factors that shaped the meat packing firms decision regarding their investments in the River Plate. In this context, foreign capital and firms reasons to invest in River Plate meat packing will be analysed, while examining the elements that encouraged capital transfer. In addition, the thesis will determine the factors that led to the River Plate becoming a key foreign meat supplier for the British market, rather than other areas of the world. For this purpose, the thesis will utilise the marketing mix concept put forward by P. Kotler and developed further by N.H. Borden.<sup>46</sup> Through the marketing mix concept, the aim is to understand how changes in the meat packing firms' macroenvironment, namely demographic / economic environment, technological / physical environment, the political / legal environment and the socio / cultural environment, as well as to a lesser extent the microenvironment (suppliers, competitors, marketing intermediaries, publics) have affected management decisions regarding the companies' marketing mix, namely product, price, place and promotion, thereby shaping their strategies. The River Plate meat packing firms' strategies in turn have an effect on the growth or decline of the industry. Although firms try to influence the

<sup>46</sup> Kotler, P., Marketing Management - Analysis, Planning, Implementation and Control (Prentice-Hall , New Jersey, 1991), pp. 71-72 and Borden, N., The Concept of the Marketing Mix in Enis. B., Cox, K., Marketing Classics - A Selection of Influential Articles (Allyn and Bacon, Massachusetts, 1988), pp.429-480.

macroenvironment, they often are forced to adapt to it and most importantly shape their strategies accordingly. Hence, the examination of the influence of the macroenvironment on company strategy will enable the thesis to determine the internal dynamics of meat packing firms and how changes in the micro- and macro- environment shaped management decisions.

Historians of the River Plate meat packing have identified five stages in the evolution of the industry, which mostly coincide with J. Calvet's and H. Giberti's phases of development, namely (i) the introduction and expansion of cattle (until 1600), (ii) the *vaqueria* (1600-1750), (iii) the colonial *estancia* (1750-1810), (iv) the *saladero* (1810-1880) and (v) the *frigorífico* (1880- to date).<sup>47</sup> These periods will be used to analyse the overall historical evolution of the meat packing industry until the early twentieth century. They are roughly continuous with the production of distinct commodities and technologies, each of which was displaced by a more technically advanced product with a higher value. However, the division of the industry's development is over-simplistic, since some overlapping between methods occurred in the various periods, given that between one main production technique and another there was a fade out phase, until the new one became predominant (i.e. *tasajo* was still the main Uruguayan export in 1910). In this context, the chapter will also study the importance of linkages in enabling the widespread adaptation of new technology. This is particularly relevant to technological change after the mid-nineteenth century, when a clear shift occurred from indigenous or local technological innovation to foreign technology transfer in the River Plate meat packing industry. Most importantly, historians have often omitted an

<sup>47</sup> Calvet, J., Un Siglo Frio en la Ganaderia Argentina (Carbap, Buenos Aires, 1977), p. 17-38 and Giberti, H., Historia Económica de la Ganadería Argentina (Ediciones Solar / Hachette, Buenos Aires, 1961), p. 10.

important stage in the evolution of the industry. Indeed, in the chapter an additional period will be included, 1850-1880, decades when meat extract and cooked canned meat (a product similar to corned beef) were produced for the world market. Moreover, the analysis will also compare Argentina and Uruguay, while assessing the different stages in the evolution of the industry in both countries.

### **3.2 The Introduction of Cattle and the Rise of *Vaquerias* (Mid-Sixteenth Century to 1750)**

Since the early days of the Spanish colonisation, cattle products played a key role in the River Plate. Although it lacked mineral wealth and had a shortage of labour, the large surplus of fertile and flat grassland, combined with the sub-tropical climate, made it an ideal location for cattle breeding. Nevertheless, it was an area of little importance to the colonisers, who were seeking to exploit primarily precious metals and a docile work force. However, with the introduction of the first cattle from Europe in the mid-sixteenth century, which quickly reproduced themselves due to the excellent biological and topographical conditions, the potential for the large scale exploitation of cattle products was soon realised. By the early 1600s, the River Plate had a large number of cattle herds which were mostly running wild on open land. Specifically, cattle became wild and unruly due to the inhabitants inability to control their expansion, as well as the lack of fences and laws prohibiting cattle raising in large urban centres and their proximity. This combined with the cattle's capacity to reproduce at rapid speed, due to excellent breeding conditions, led to a fast increase in wild cattle herds. Importantly, the introduction of cattle by the Spanish represented one of the first major supply side linkages, which contributed to the establishment of a useful staple in the River Plate.

By the early seventeenth century, the first forward linkage from cattle emerged, namely the *vaquerias*, which hunted wild cattle, through inland expeditions in order to obtain leather. *Vaquerias* were organised and mostly licensed cattle hunting expeditions. The first official permit to hunt wild cattle was granted by the Buenos Aires council in 1608.<sup>48</sup> Leather extraction was lucrative and soon came to dominate River Plate exports. Additionally, some *vaquerias* supplied fresh cattle meat, primarily to the urban population of Buenos Aires and Montevideo. However, overall most *vaquerias* did not use or sell meat, as there was such a large abundance of meat that prices in the local market were very low.<sup>49</sup> Rather, *vaquerias* concentrated primarily on leather, which had greater value and carcasses were left to rot in the countryside. By 1783 approximately 800 thousand units of leather per year were exported from Buenos Aires, while thereafter, with peace and trade re-established with England, exports rose to 1.4 million units per year.<sup>50</sup>

As the world demand for leather increased, the *vaquerias* became a more stable cattle exploitation system, which led to better handling and operations organisation. Specifically, cattle started being funnelled and cornered into natural corridors, instead of being laced and hunted on open ground. The system consisted of pushing cattle in a half circle towards waterways and then capturing them, thereby providing greater economies of scale, as it allowed a larger catch per *gaucho*, the River Plate version of the cowboy, and more leathers could be cut as well as sun-dried simultaneously, which reduced production time. This represented the first forward linkage in cattle catching, which increased productivity and augmented the number of cattle caught and hence the

<sup>48</sup> Coni, E. , Historia de las Vaquerias de Rio de la Plata (Editorial Devenir, Buenos Aires, 1956), p. 11.

<sup>49</sup> Seoane, P., La Industria de las Carnes en el Uruguay (Montevideo, 1928), pp. 91-92.

<sup>50</sup> Giberti, H., Historia Economica de la Ganaderia Argentina (Ediciones Solar / Hachette, Buenos Aires, 1961), pp. 42-43.

production of cattle products. The *vaquerias* began to capture increasingly larger quantities of cattle, which forced them to search for greater cattle herds further inland and hence at larger distances from urban centres. By the early eighteenth century, this led to overproduction and a near extinction of cattle within the boundaries of the Indian frontier. In 1700 cattle could be found for *vaquerias* at twenty to thirty leagues (approximately 110 to 170 km) from Buenos Aires. By 1713 a significant number of animals could only be found 90 to 100 leagues (approximately 500 to 560 km) from the city.<sup>51</sup> Efforts from the Buenos Aires council to control *vaquerias*, through restrictions and cattle catching licences were often undermined by the illegal catching of cattle and leather smuggling from illicit *vaquerias* and Indians, as well as to a lesser extend the hunting by wild dogs.<sup>52</sup> Moreover, as cattle were caught far away from urban centres, even more meat was wasted and left behind. Furthermore, due to the reduction of cattle herds, *vaquerias* were often forced to pass the Indian frontier to obtain cattle.

### **3.3 The Colonial *Estancia* (1750-1810)**

Colonial *estancias* were ranches located in the interior of Argentina and Uruguay, which controlled cattle herds and took advantage of their location to maximise the utilisation of the cattle. The colonial *estancia* would round up and enclose cattle, letting it feed mostly under strict supervision from humans. Wild cattle became domesticated, although this was a very gradual process, due to the vast extensions of land in the River Plate. Cattle were marked for identification.

<sup>51</sup> Capdevila, P., *La Estancia Argentina* (Editorial Plus Ultra, Buenos Aires, 1978), p.26. Approximate kilometres calculated on the basis 5572.7 metres per league, based on Martinez Amador, E., *English Spanish Dictionary* (The Dolphin Book Company, Oxford, 1946), p.588.

*Estancias* became the first fixed centres of cattle exploitation, in which by-products were manufactured and production techniques developed. The fixed and central position of *estancias* against the ever shifting *vaquerias* allowed the former to develop indigenous technological innovation. *Estancia* cattle raising helped improve leather drying methods and facilitated the development of by-products as well as the better use of meat. The extraction by boiling of tallow and meat grease, as well as the production of sun-dried meat were just the start of a technological evolution which later led to the salt treatment meat system. Already in the pioneering colonial *estancias* in the early eighteenth century, small quantities of sun-dried meat were being produced for export, primarily to Cuba. Nonetheless, demand for sun-dried meat was low, due its poor appearance and taste. It was not until the late eighteenth century, with the development of salt treated meat conservation techniques that exports of meat in large quantities occurred. This was a product called *tasajo* or jerked beef.

One of the first *estancias* which started producing *tasajo* belonged to Francisco Medina and was located in the region of Colla, near Colonia del Sacramento, Uruguay.<sup>52</sup> The salt treated meat technique consisted of cutting meat into pieces, covering it with salt and then drying it in the sun. Once the meat pieces were dry, the final product, *tasajo*, could last for months. Overall the colonial *estancias*' production methods were primitive. These usually comprised a covered area under which the animal was slaughtered and the meat, leather and grease cut off. Thereafter, the meat was salted and together with the leather, hung in the sun, over wooden bars and left to dry. The stimulus to expand and improve production further was restricted primarily due to the

<sup>52</sup> 'El Libro del Centenario del Uruguay', Archivo Nacional, Montevideo, 1925, pp. 61-62.

<sup>53</sup> Montoya, A. J., Historia de los Saladeros Argentinos (Editorial Raigal, Buenos Aires, 1956), p.21.

limited supply of cattle. Colonial *estancias* relied on their own cattle to supply their elementary production facilities, thereby generally lacking the economies of scale to justify the large investments required for further technological innovation and development, as well as to upgrade their production facilities. On a small scale colonial *estancias* increased forward linkages by expanding the range of products extracted from cattle, particularly meat. In the early nineteenth century, the first large scale production sites emerged, namely the *saladeros*, which produced *tasajo*, leather and other by-products in large quantities, while being supplied with cattle from various *estancias*. This led to the centralisation and industrialisation of meat, by-products and leather production, yielding economies of scale which encouraged further improvements in technology and production processes.

### **3.4 The Rise of *Saladeros* (1810-1880)**

The first *saladeros* were elementary meat packing houses in or near urban centres, to which cattle were brought from *estancias*. *Saladeros* slaughtered the animal in their plants and then salted the meat, while using almost all the rests of the animal to produce by-products. As a consequence, *estancias* became suppliers of cattle and moved away from their vertically integrated production process. Most importantly, *saladeros* encouraged the industrialisation of meat production and thus further forward linkages, which led to significant improvements in by-products production techniques, as well as an expansion of the by-product range. This process was facilitated by increasing economies of scale, as numerous *estancias* provided large quantities of cattle to *saladeros*. The production of *tasajo* and a growing range of by-products increased the value of cattle. Indeed, the increase in meat production alone, accounted for an

augmentation in the value of the animals by 30-40% over the extraction of leather.<sup>54</sup> In the early nineteenth century meat exports rose strongly, with Argentinian *tasajo* or jerked beef increasing from 113,404 quintals in 1835 to 198,046 in 1841 and 431,873 in 1851.<sup>55</sup>

By the 1840s, *saladeros* had slaughtering grounds with water-proof floors, carcass hauling devices as well as outbuildings for the salting of hides and to stock products.<sup>56</sup> Their product range was gradually expanded to soaps, sulphuric acid and candles. Innovations pioneered by industrial *saladeros* included covered slaughtering grounds with water-proof floors, enclosed farmyards, large covered sheds for manipulation and handling of carcasses, improved storage facilities, the use of steam in the extraction of fats and revolving traction wheels to haul carcasses. The expansion of technological innovations led to further improvements starting in the 1860s, such as pipe-ducts on water-proof floors to collect blood, which was often used once dry as blood powder or nitrogenous fertiliser, the salting of leather in special basins, wax refinements, production of cattle foot oil, improvements in the appearance, smell and preparation of meat, due to careful washing of the *tasajo* prior and after the drying process, improved packaging for the *tasajo* and by-products that aided conservation, as well as the further expansion of by-products, such as bone meal.<sup>57</sup>

<sup>54</sup> Barran, J.P. and Nahum, B., *Historia Rural del Uruguay Moderno* (Volume I/I, Ediciones de la Banda Oriental, Montevideo, 1967), pp. 102-103.

<sup>55</sup> Lynch, J., *The River Plate Republics from Independence to the Paraguay War* in Bethell, L., ed., *The Cambridge History of Latin America* (Volume III, Cambridge University Press, Cambridge, 1985), p. 620.

<sup>56</sup> Seoane, P., *La Industria de las Carnes en el Uruguay* (Montevideo, 1928), p. 93.

<sup>57</sup> Ibid, pp. 96-97.

Despite significant improvements in technology and better manufacturing methods, the production process of *saladeros* remained primitive and rudimentary, stemming primarily from local craftsmanship and indigenous technological innovation. The production utensils, buildings and facilities had been manufactured mostly with local materials. Indeed, knives played a fundamental role in the production process, given that plant operators would slaughter, cut and extract leather and meat from the animals manually with it. Furthermore, the conservation process primarily consisted in placing meat in basins with salt and water, letting it dry in the sun and storing the salt treated meat in piles.<sup>58</sup> Similarly, the leather production system involved salting and hanging leather in the sun to dry. Hence, product quality depended on operators, whose ability was crucial in order not to ruin leathers and minimise meat wastage, as well as maintaining quality across the production process by drying, salting and storing at appropriate intervals as well as adjusting them to changes in the environment, such as strong meteorological fluctuations. *Tasajo* was vulnerable to changes in the environment, as overexposure to sun could make it too dry, while excessive humidity encouraged putrefaction.

“*Tasajo* is a product of craftsmanship produced, paradoxically, in a factory. It does not require machinery, not even packaging; it does not use more than two natural agents: sun and air and two other elements which are easily accessible: common salt and water. The attention, experience, the personal abilities (of labourers), were much more essential for the quality of the product than the technical complex of the European industrial contemporary civilisation.”<sup>59</sup>

With the emergence of the industrial *saladeros*, meat and by-products exports of both Argentina and Uruguay increased dramatically. Specifically, *saladeros* exported leather and by-products, such as fats and waxes to Europe, primarily Great Britain, while *tasajo*

<sup>58</sup> Williams Alzaga, O., *Evolucion Historica de la Explotacion del Ganado Vacuno en Buenos Aires* (Imprenta Ferrari, Buenos Aires, 1943), pp. 24-25.

<sup>59</sup> Translated from Spanish: Barran, J. P. and Nahum, B., *Historia Rural del Uruguay Moderno* (Volume I/I, Ediciones de la Banda Oriental, Montevideo, 1967), pp. 111.

was exported to Brazil, the U.S.A. and Cuba. *Tasajo* was mainly used to feed slaves and, later in the late nineteenth century, emancipated labourers working in the Brazilian, U.S. and Cuban plantations.<sup>60</sup> Some *tasajo* was also supplied to the navy. But despite the gradual amelioration in the quality of the *tasajo* as production techniques improved, it remained a product of poor texture and taste. Hence, *tasajo* had limited market appeal. Nevertheless, *tasajo* was an important export product in the River Plate and especially in Uruguay, in the nineteenth century, as can be seen in Table 3.1.

Table 3.1: Bovine Cattle Slaughtered in *Saladeros* (in 000s)

Years	Uruguay	Argentina
1873-77	2985	2825
1878-82	3239	2228
1883-87	3524	2199
1893-97	3704	2665

Source: Bernhard, G., Los Monopolios y la Industria Frigorífica (Ediciones de la Banda Oriental, Montevideo, 1970), p. 15.

In spite of *tasajo* export growth, jerked beef ranked second to leather as the *saladeros'* main export. For perspective, in 1862, *tasajo* only represented 28% of the total value of the *saladeros'* export production in Uruguay.<sup>61</sup>

### **3.5 Meat Extract and Cooked Packaged Meat: The Start of Technology Transfer (1860-1900)**

First the colonial *estancia* and then the *saladero* played a crucial role in cattle utilisation and meat conservation. Given the limited export market for *tasajo*, there was an interest to find a way to conserve meat in a manner that would make it acceptable to Europeans. In this context, two technological innovations, which are often omitted in the literature, were important, namely meat extract and cooked canned meat. Indeed, the first

<sup>60</sup> Puiggros, R., Libre Empresa o Nacionalización en la Industria de la Carne (Editorial Argumentos, Buenos Aires, 1957), pp.10-11.

successful technological innovation that allowed the export of meat products to Europe was meat extract, which was invented by the German chemist Justus von Liebig.<sup>62</sup> In 1863 a factory was constructed in Fray Bentos, Uruguay, which in 1864 started producing meat extract and exporting it to Europe, where it was marketed successfully under the "Liebig Extract of Meat" brand name. The Liebig factory had a revolutionary impact on the River Plate meat packing industry, in that it was the first to transfer technology and build a very large packing plant with modern machinery.

The Liebig invention represented a breakthrough in conservation methods, given that the product appealed to consumers in the key European market, especially the industrial proletariat of France, Germany and Great Britain, due to its nutritious content with an acceptable taste and low price. Meat extract was used extensively in military rations across the world. The extract was a prepared food product, solid or liquid, that contained the nutritive elements of meat, excluding grease and bones. In order to produce one kilogram of meat extract, thirty kilos of boneless, greaseless meat were needed. The "Liebig Extract of Meat" was produced on a specially built industrial estate with its own slaughter house and machinery. Production volume increased rapidly, slaughtering almost 60 thousand cattle already in 1868.<sup>63</sup> Liebig was the first factory to produce meat extract in the world and continued growing into the twentieth century, slaughtering over 110 thousand animals in 1885 and 186 thousand in 1886.<sup>64</sup>

<sup>61</sup> Finch, M.H.J., *A Political Economy of Uruguay since 1870* (The Macmillan Press, London, 1981), p. 133.

<sup>62</sup> After inventing and perfecting the meat extract Justus von Liebig realised the enormous potential that it could have to transport meat from far away and low cost areas of the world, where cattle were abundant and animals were primarily valuable for their skins and wool, such as the River Plate, as explained in Shenstone, W. A., *Justus von Liebig - His Life and Work* (Cassell and Co., London, 1895), p. 164.

<sup>63</sup> Castellanos, A., *Breve Historia de la Ganadería en el Uruguay* (Banco de Credito, Montevideo, 1973), pp. 86-87.

Importantly, the Liebig factory symbolised the first supply side linkage that involved technology transfer to the River Plate for meat production. Another supply side linkage was the transfer of management know-how, particularly technical capabilities to operate the complex meat extract manufacturing machinery and also in terms of marketing, distribution and logistics. Additionally, given that the company was financed via a London based company, the foreign capital transferred to fund the technology also became an important supply side linkage.

Liebig was the first foreign public company in the River Plate that was involved with meat packing. Operating in Fray Bentos, in the west of Uruguay, on the Uruguay River, far from *saladero* cattle purchasers in Montevideo, its location and primarily its size, allowed it to pay lower prices for cattle than available in Montevideo. But the Liebig factory did not just manufacture meat extract and conserved meats, it also produced a wide variety of by-products, similar to those of the industrial *saladeros*, including leather and *tasajo*. Hence, it acted as an industrial *saladero*, but made better use of meat, while commanding greater prices for meat extract and conserved meat than the *saladero* obtained for its *tasajo*. In addition, the Liebig Company became an important cattle producer, thereby vertically integrating its activities. It acquired numerous *estancias* where it produced cattle for its overall requirements.<sup>65</sup> Nevertheless, the vertical integration did not occur fully, given that it was still purchasing cattle from outside suppliers to meet growing demands. The financial returns of the Liebig company were outstanding and proved to be an excellent investment. Indeed, the dividend paid to shareholders in 1884 was 12%. In 1894 and 1895 dividends of 15% and 17.5%

<sup>64</sup> Malagraba Elichiri, J.P., *Mi Vida - 68 Años Ininterrumpidos en la Industria* (Impresos Vanni, Montevideo, 1993) p.18.

<sup>65</sup> Scarborough, C., ... *About Oxo - In its Golden Jubilee year 1965* (Spectator Publications, London, 1965), pp. 4-6.

respectively were paid, increasing to over 20% after 1900, while the £5 shares of the company were trading between £23 and £24 in 1910.<sup>66</sup>

The other significant technological advance was the development of cooked canned meat or conserved meat, similar to today's corn beef. Both the meat extract and cooked canned meat were meaningful forward linkages that improved the value added of the meat export staple. In 1868 the first cooked canned meat factory opened in Uruguay, called La Trinidad, where the meat was cooked and then packed. Shortly thereafter Liebig also started producing conserved meat, on top of the already successful meat extract. Like meat extract, cooked canned meat had an appeal to the European proletariat and as rations for armies. The La Trinidad factory was highly depended on one client, the French. With the loss of the French contract the La Trinidad went out of business in 1884.<sup>67</sup> The closure of La Trinidad showed the importance of management know-how, especially in terms of marketing and international distribution. Indeed, the dependence of La Trinidad, a locally owned and run company, on a single buyer, made it extremely vulnerable. In contrast, Liebigs had a well established distribution network across Europe and did not depend on a single customer for its business, thereby clearly showing a competitive advantage in management know-how regarding global distribution and marketing.<sup>68</sup> Additionally, more capital availability as well as larger economies of scale, allowed the Liebig company to have greater financial resources and hence access to better management practices and know-how.

<sup>66</sup> Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno (Volume III, Ediciones de la Banda Oriental, Montevideo, 1973), pp. 335-338.

<sup>67</sup> Castellanos, A., Breve Historia de la Ganadería en el Uruguay (Banco de Credito, Montevideo, 1973), p. 88.

### 3.6 The Creation of the Modern *Estancia* (1810-1880)

The development of *saladeros* coincided with the establishment of the modern *estancia*, which moved away from vertically integrated production and started specialising in livestock-raising. Control of cattle movement was vital to the process of blood stock improvement as well as reducing losses due to theft. Cattle started to be marked, thereby further establishing property rights, and herds were closely supervised by *peones*. However, the first phase of the modernisation process, from the early- to mid-nineteenth century, consisted in expanding herds and improving security and control, while mostly ignoring cattle quality. Thus the backward linkage of improving cattle production was restricted in the first phase to maximising the number of cattle. Hence, expansion was extensive rather than intensive, given that land was abundant. At this stage the nature of the market did not encourage stock improvement.<sup>68</sup> By the mid-nineteenth century *estancias* began the second phase of modernisation, which consisted in consolidating herds and improving them, through the mixing of breeds. *Estancieros* imported superior livestock, primarily from the U.K., to be cross-bred with *criollo* cattle. The objective was to produce fatter, more meaty animals in place of thin *criollo* cattle. Therefore, the second phase of the backward linkage of cattle production improvements consisted in refining cattle production and breeding techniques to improve the quality of the animals. An important supply side linkage helped this process, namely the introduction of European, primarily British superior bred cattle.

One of the most important aspects that contributed to the modernisation of *estancias* was the introduction of fencing. In the late nineteenth century *estancias* started to use

<sup>68</sup> Scarborough, C., ... About Oxo - In its Golden Jubilee year 1965 (Spectator Publications, London, 1965), pp. 4-6.

<sup>69</sup> Lynch, J., The River Plate Republics from Independence to the Paraguay War in Bethell, L., ed., The Cambridge History of Latin America (Volume III, Cambridge University Press, Cambridge, 1985), p. 617.

wire fencing in order to improve property rights, both in terms of cattle and land.<sup>70</sup>

Although prior to the introduction of fencing, the marking of cattle was a means of claiming animal ownership, it proved difficult and costly to control property rights in animals, given that cattle were mostly running freely, thereby often leading to the mixing of herds, while requiring large manpower to avoid loss or theft of cattle.<sup>71</sup>

Furthermore, many landowners did not respect the limits of *estancias*. Therefore, wire fencing increased the ability to control property rights, while reducing costs substantially, given that much less manpower was needed to manage herds. Wire fencing represented an important supply side linkage, as the wire imported from Europe facilitated the production and control of cattle. Additionally, it also encouraged the improvements of grazing grounds and herd improvements, through selective breeding.

The formation of the Rural Society in Buenos Aires and Rural Association in Montevideo, strongly fomented the *estancia* modernisation process, especially after the 1870s. In fact, the Rural Society / Association were consultation and promotion forums for *estancieros* and strongly encouraged the introduction of wire fencing. Although the first shipments of fencing wire from the U.K. occurred in the 1850s, large imports were not registered until the 1870s. By 1882 64% of all *estancias* in Uruguay were fenced.<sup>72</sup>

Through fencing, the modern *estancia* was able to improve livestock production, while reducing costs significantly. Indeed, fencing reduced manpower requirements, given that less *peones* were needed to control and protect herds. Hence, fencing replaced herd-keepers, thereby increasing returns for *estancieros*.

<sup>70</sup> Castellanos, A., *Breve Historia de la Ganadería en el Uruguay* (Banco de Credito, Montevideo, 1973), pp. 74-77.

<sup>71</sup> Each *estancia* had a specific symbol for cattle marking. These were inscribed in an official emblem registration book to ensure property rights. 'Registro de Marcas de Ganado', (Archivo Nacional, No. 930, Montevideo, 1874-1876).

Yet, in the early- and mid- nineteenth century herd improvement efforts of *estancieros* had limited success, as the improved breeds were only in demand for fresh meat production for the narrow domestic market. This was traceable to the preferences of *saladeros*, which favoured the *criollo* cattle. Indeed, *criollo* cattle constituted the perfect raw material for the *saladero*. *Criollo* cattle were thin, had meat with a low grease content and heavy hides, which facilitated production and improved returns for *saladeros*. Lean *criollo* meat was favoured by *saladeros*, given that fat was difficult to dry as part of the *tasajo*. Additionally, the thick leather peculiar to *criollo* cattle also increased the quality and value of their most profitable export. Similarly to *saladeros*, the Liebig company preferred *criollo* cattle over improved animals. It favoured *criollo* cattle because the meat needed for its extract and conserved meat, as well as *tasajo*, which it produced at least in the first decades of operation, had to be lean with minimal grease. Additionally, just like *saladeros*, leather was still an important part of its business, therefore preferring the thick hides of *criollo* cattle.

"As long as the *saladeros* remained the principal outlet for the cattle producers, the livestock sector remained tied to an institution which frustrated the efforts of 'progressive' landowners ... The contribution of Liebig's to the modernisation of the cattle herds was very limited. The most important feature of their purchases was that they should be cheap. The *criollo* cattle were thus perfectly suited to their needs."<sup>73</sup>

Hence, herd improvement occurred very gradually and it was only with the growth of exports on the hoof that the process accelerated.<sup>74</sup> Although live exports were expensive, given the high price of feeding the animal during the long trip to Europe, prices for cattle producers were attractive, compared with prices paid by the *saladeros* and Liebigs. The live export market favoured improved breeds, due to consumer preference and high shipping cost of cattle on the hoof, which were calculated on per

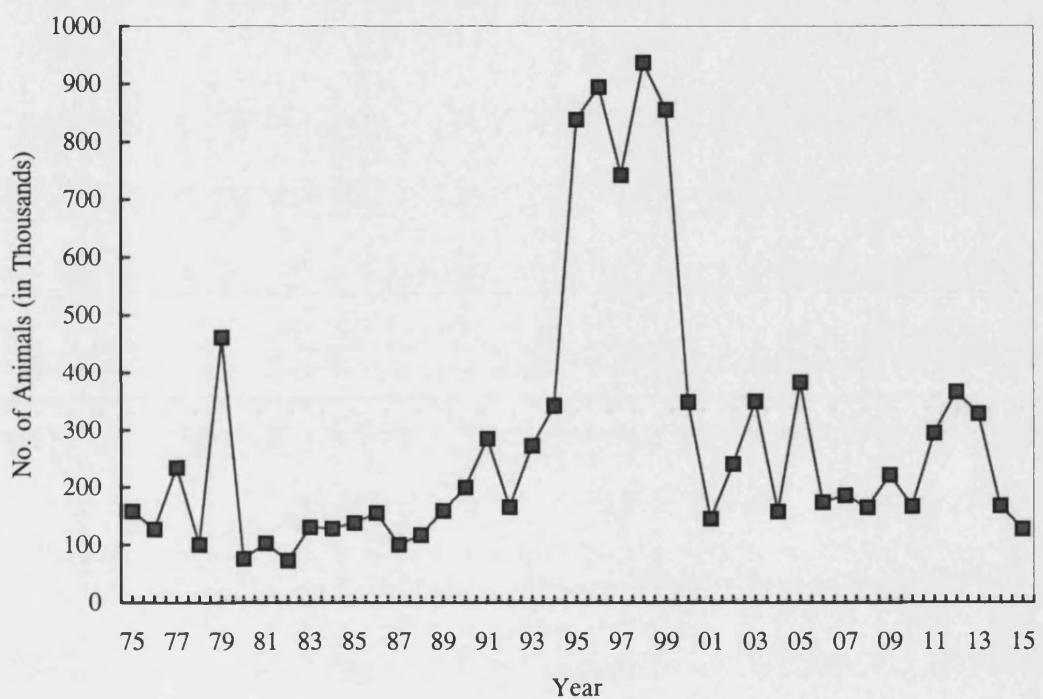
<sup>72</sup> Castellanos, A., *Breve Historia de la Ganadería en el Uruguay* (Banco de Crédito, Montevideo, 1973), pp. 74-77.

<sup>73</sup> Finch, M.H.J., *A Political Economy of Uruguay since 1870* (The Macmillan Press, London, 1981), p. 134.

<sup>74</sup> Gibson, H., *Informe sobre la Exportación de Ganado en Pie* (Talleres de Publicaciones del Museo, La Plata, 1896), pp. 8-10.

animal unit basis, regardless of size or breed.<sup>75</sup> The development and growth of exports on the hoof particularly in the late nineteenth century, helped accelerate selective and mixed breeding. Live exports were also facilitated by an important backward linkage, namely the increase in shipping lines and capacity between the British market and the River Plate. As shipping rates to Europe declined, exports on the hoof grew, especially in the 1890s, as can be seen in chart 3.1.

Chart 3.1: Argentine Bovine and Ovine Animals on the Hoof Exports (1875-1915)



Source: Republica Argentina, Extracto Estadistico 1915, Ministerio de Hacienda (Compania Sud-Americana de Billetes de Banco, Buenos Aires, 1916), pp. 56-57.

The trade in live animal stock from the River Plate to Europe had a limited life span, starting with low yet significant exports in the 1870s, growing, albeit with limited volume in the 1890s and then fading away due to prohibitions on live imports. In particular, the ban imposed by the U.K. in 1900, which prohibited the import of cattle on the hoof due to the high risk that live animal stock posed in spreading Foot and

<sup>75</sup> Calvet, J., Un Siglo Frio en la Ganaderia Argentina (Carbab, Buenos Aires, 1977), p. 34.

Mouth Disease marked the cessation of large scale live stock shipments.<sup>76</sup> However, exports on the hoof played a crucial role, given that they encouraged cattle breed improvements among the large land owners, the *estancieros*, especially in Argentina. This improved the quality of cattle and was the beginning of a shift away from the local *criollo* breed and towards a gradual total herd improvement of River Plate cattle. In addition, the demand for fat cattle promoted the improvement of pastures in *estancias*, especially the planting of *Alfalfa*. Specifically, the area cultivated with *Alfalfa* grew drastically from 390 thousand hectares in 1888 to 713 thousand hectares in 1895 and 4.6 million hectares in 1908.<sup>77</sup> The refinement of cattle production, breeding techniques and improved pastures were fundamental to improve the quality of inputs for refrigerated meat packing plants, the *frigoríficos*, in the long run.

### **3.7 The Emergence of *Frigoríficos*: Their Impact on the Meat Packing Industry (1880 to date)**

It was not until the invention of the refrigerated plant, by the French scientist Charles Tellier in the 1860s, that conservation of fresh meat was possible. After numerous improvements, the compression refrigerated plant that Tellier called *Le Frigorifique* was perfected, thereby allowing large scale frozen and chilled meat exports to Europe, starting in the 1880s.<sup>78</sup> Specifically, the refrigeration system allowed meat to be maintained fresh for about five weeks if chilled or several month if frozen, thereby enabling it to arrive in time to Europe for consumption. This led to the creation of *frigoríficos*, large scale refrigerated meat packing plants in the River Plate, which would slaughter animals and export high quality refrigerated meats, while continuing to

<sup>76</sup> Liceaga, J., *Las Carnes en la Economía Argentina* (Editorial Raigal, Buenos Aires, 1952), p. 22.

<sup>77</sup> Giberti, H., *Historia Económica de la Ganadería Argentina* (Ediciones Solar / Hachette, Buenos Aires, 1961), pp. 173, 175 and 185.

<sup>78</sup> Tellier, C., *Histoire D'une Invention Moderne - Le Frigorifique* (Ch. Delagrave, Paris, 1910), pp. 305-307.

produce by-products. The first *frigorífico* in the River Plate, was the River Plate Fresh Meat Company, which was set up in 1882 by George W. Drabble in San Nicolas, Argentina. First exports of frozen meat were shipped in 1883.<sup>79</sup> Many other investors followed suit in the 1880s. The establishment of *frigoríficos* represented the most important shift in the production process and distribution methods of the River Plate meat packing industry. It embodied one of the most significant supply side linkages in terms of the transfer of foreign technology, advanced management and foreign capital. *Frigoríficos* became large industrial plants, which increased the utilisation of the animal through by-product expansion, while improving the production process, thereby providing a superior meat and by-products range.<sup>80</sup> Hence, *frigoríficos* rapidly increased the quality and thus the value of exports, therefore symbolising a key forward linkage that enabled the further development of the River Plate meat packing industry. British capital was often involved in the establishment of the first *frigoríficos*. Already in 1886, in Argentina, the Las Palmas Produce Company was set up with British funds and in 1902 English and other foreign capital built the La Plata Cold Storage Company, while the Smithfield and Argentine Meat company started in 1903. Major Argentinian *frigoríficos* were the Sansinena Company established in 1884, then followed by Frigorífico La Blanca in 1902 and Argentino in 1905. However, even the Argentinian *frigoríficos* often had British capital participation.

"The first period of the freezing industry in Argentina may be said to have been in 1899, up to the end of which year 442,000,000 kilogrammes of mutton and 29,000,000 kilogrammes of beef were exported by the three great concerns (Sansinena's, River Plate Fresh Meat Co., and Las Palmas [J. Nelson and Sons], which held the field without competition."<sup>81</sup>

<sup>79</sup> Richelet, J., *L'Industrie de la Viande en République Argentine* (Societe Industrielle D'Imprimerie, Paris, 1928), p. 21.

<sup>80</sup> See Appendix 14, which shows that in addition to the much higher value chilled and frozen meats, the by-product range was significantly expanded with the introduction of *frigoríficos*.

<sup>81</sup> Critchell, J. T., *A History of the Frozen Meat Trade* (Constable & Co., London, 1912), p. 74-75.

British and Argentine capital dominated the River Plate business from the 1880s until 1907, after which the large U.S. meat companies entered the Argentinian market. The successful *frigoríficos* had offices in the key U.K. markets and highly sophisticated international marketing and distribution systems. *Frigoríficos* required a large urban labour force, which was primarily composed of new European immigrants and to a lesser extend internal migration from the interior of the country.

In Uruguay, the first *frigorífico* was set up in 1904 with local capital, named La Frigorífica Uruguaya. Although prior attempts to open a *frigorífico* in Uruguay had been made, such as the installation of a *frigorífico* subsidiary of the River Plate Fresh Meat Company in Colonia, on the south west coast, in 1884, the lack of large quantities of quality breed cattle in Uruguay until 1900, did not allow it to be successful. As a consequence, the first *frigoríficos* were established in Argentina, given that more mixed bred cattle were available to fulfil their requirements.<sup>82</sup> This demonstrates the necessity of improved cattle breeds for *frigoríficos*. La Frigorífica Uruguaya was yet another example of the importance of management know-how in terms of marketing and distribution in the *frigorífico* business. Indeed, it failed to make a profit in the first years of operation, primarily due to poor understanding of the key U.K. market and lack of financial resources, given that it did not have an office in Great Britain, nor control over its distribution. Although it managed to make a profit after a number of years, it was finally bought by the Argentinian Sansinena company in 1911.<sup>83</sup> Uruguay was able to benefit of the Argentinian *tasajo* production decline to build its export volume, thereby acting as a niche player, which specialised in *tasajo* exports, as can be seen in

<sup>82</sup> Williman, J. C., *Historia Económica del Uruguay* (Vol. II, Editorial Fin de Siglo, Montevideo, 1994), p. 139.

<sup>83</sup> Hanson, S., *Argentine Meat and the British Market* (Stanford University Press, California, 1937), p. 164.

appendices 15 and 16. This enabled Uruguay to increase *tasajo* production in the 1890s, despite lower world-wide demand, and benefit from an important export business until the 1910s. However, the continued production of large quantities of *tasajo* delayed the switch from traditional markets for Uruguayan meat exports to the larger and more profitable European market. Thus by 1910 Argentina's main export market was the U.K., representing over 88% of total Argentinian meat and by-products exports in 1906-1910, as can be seen in appendix 17. In contrast, Uruguay's meat and by-products exports continued to concentrate overwhelmingly on Cuba and Brazil, with 38% and 16% respectively in 1906-10. Given the lack of significant chilled or frozen meat production in Uruguay until the 1910s, Great Britain represented only 14% of total meat and by-products exports, as can be seen in appendix 18. Importantly, although Uruguay was able to take advantage of the Argentinian *tasajo* export decline, Uruguay's role as a niche player and prolonged concentration on *tasajo* exports, does not seem to have been an intentional strategy, but is traceable to the low *frigorifco* capacity and lack of quality mixed bred cattle until the 1910s.

The main export of *frigorificos* in the late 1880s was frozen mutton, but in the 1890s frozen beef exports started to grow slowly and in the 1900s chilled beef began to be exported in large quantities. Thus from the 1880s to 1900s, the quality of exports improved, thereby also increasing the value of the exported volume. Specifically, mutton in general, but particularly frozen mutton was considered poor quality meat and consequently had a low price. Nevertheless, the quality and therefore the price of mutton was still much higher than meat extract, cooked canned meat and low value *tasajo*. Although *frigorificos* played a key role in fostering better bred cattle, especially after 1900, in the 1880-90s many were still concentrating on frozen mutton exports.

Therefore, exports on the hoof in their peak period, 1880-90s, encouraged the development of better rearing techniques. The improvement in the value of exports increased further with the introduction of frozen and particularly chilled beef production, due to its superior quality and texture. Thus, technology and product innovation allowed for increased value added industries and higher value meat products, moving from *tasajo*, to meat extract and cooked packed meat, to frozen mutton and eventually chilled mutton and beef. Chilled beef represented the highest standard of excellence and thus value. Indeed, chilled commanded higher prices than frozen meat, as can be seen in table 3.2 below.

Table 3.2: Average Top Prices of Imported Beef at Smithfield Market  
(Pence per Pound)

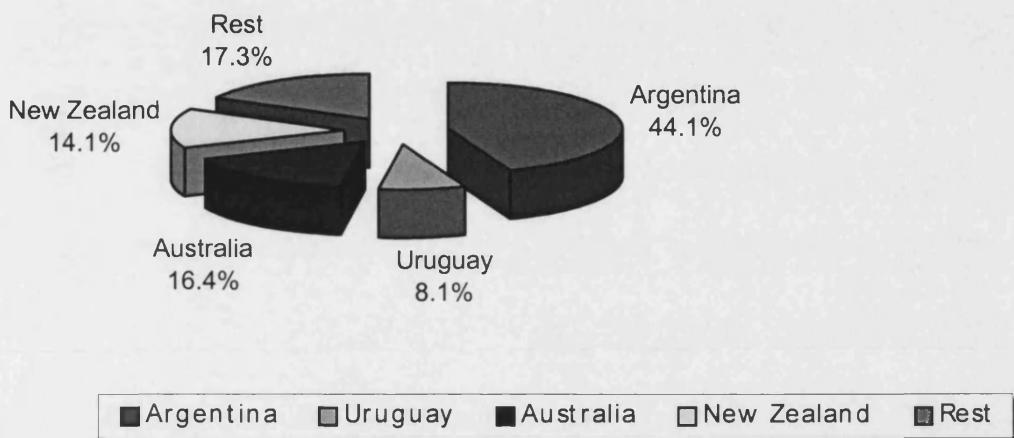
Year	Argentine Chilled Hinds	Argentine Frozen Hinds	Chilled vs. Frozen Index
1912	4 7/8	3 7/8	126
1923	6 1/8	5 3/8	114
1927	6 1/4	5 1/8	122

Source: Hanson, S., Argentine Meat and the British Market (Stanford University Press, California, 1938), p. 253.

Chilled beef exports grew strongly in the late-1900s and particularly in the 1910s. Moreover, the superior quality of chilled vs. frozen meats also allowed the River Plate area to gain a competitive advantage vs. Australia and New Zealand, two other key meat exporters. Chilled meat could be maintained in good condition only for forty days, before it had to be consumed. The journey time from the River Plate area was short enough (about three weeks) for chilled meat to arrive in good condition to the U.K. In contrast, Australia and New Zealand, were forced to ship frozen rather than chilled meat, due to their longer distance with the U.K., thereby offering lower quality meat, especially after the 1900s, when River Plate chilled meat exports surged. Indeed, the

River Plate global export meat market share for bovine and ovine meat reached 52.2% in 1909-1913, as can be seen in chart 3.2, while achieving an even more impressive 62.5% world meat export market share of bovine meat.

Chart 3.2: World Export Market Shares of Bovine and Ovine Meat  
% Volume (1909-13)



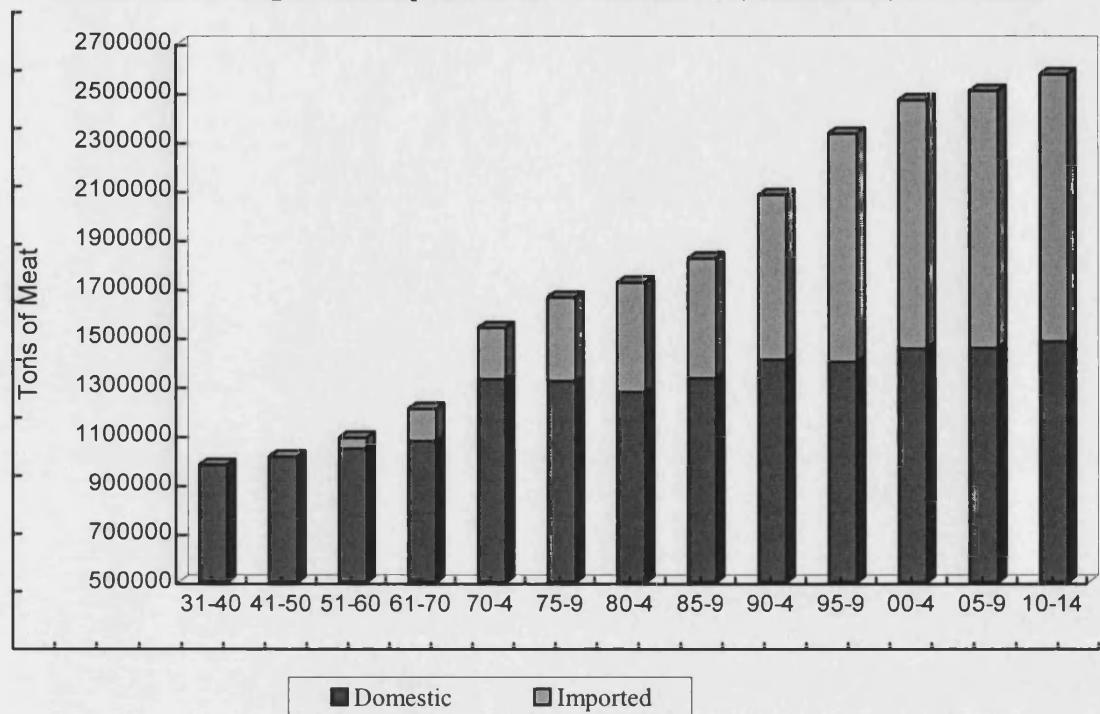
Source: Calculated with sources from the 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1929, tables 139-140, pp.416-425.

Due to the growing purchasing power of the British public and their increasing preference for high quality meat, particularly beef, the U.K. represented the largest world-wide importer of meat. Indeed, British meat consumption grew strongly from the mid-nineteenth century until the First World War, as can be seen in chart 3.3. This can be traced to the increase in the standard of living of the working classes in the late nineteenth century, as real wages increased in Britain.<sup>84</sup> Most importantly, imports of meat grew, reaching 42% of total consumption in 1905-14, from virtually none in 1850.

<sup>84</sup>

The increase in the standard of living of the British working class and the whole of the U.K. population, as well as the augmentation in food and particularly meat consumption during the late nineteenth century is depicted in Burnett, J., Plenty and Want - A Social History of Diet in England from 1815 to the Present Day (Scolar Press, London, 1979), pp. 123-148.

Chart 3.3: Average Consumption of Meat in the U.K. (Per Annum) 1831-1914



Source: Perren, R., The Meat Trade in Britain in 1840-1914 (Routledge & Kegan Paul, London, 1978), p.3.

Despite strong growth in domestic production, demand outstripped supply, driven by higher per capita consumption, thereby encouraging meat imports. In addition, imports of cheaper foreign meat suppliers reduced consumer prices. This helped the volume growth of foreign meat suppliers. However, there was a lack of foreign cattle suppliers. The U.S.A., which was an important supplier to Britain, gradually reduced its exports until they became insignificant. This is due a decline in U.S. cattle production and an increase in demand. Moreover, the reduction in meat prices was welcomed by the British government, given that they were concerned about inflationary pressures, particularly with foodstuffs. Importantly, the increased demand gradually turned the U.K. into the largest purchaser of imported meat in the world. In 1909-13, Great Britain accounted for 79.2% world imports of bovine and ovine meat, as can be seen in appendix 19.

The quality of chilled and frozen meat gradually improved as refrigeration technology, in particular on refrigerated shipping boats, was perfected. Meat aboard the first refrigerated ships which arrived in Europe was of inferior quality than local meat. However, as refrigeration technology advanced, the quality of meat improved, thus becoming as good and often better than local meat. This was particularly the case with chilled beef, which matured during transport from the River Plate to the U.K., acquiring an excellent texture and taste.

“The temperature of just one degree over cero (centigrade) in the holds (of ships) did not just allow the conservation of the characteristics of fresh meat during maritime transport, but also, due to its subtle maturing process, improved its taste and turned it into highly satisfactory (meat) for British consumers.”<sup>85</sup>

Indeed, shipping was one of the main factors which together with the railways facilitated the growth of the River Plate meat packing industry.

### **3.8 The Importance of Transportation Systems: Crucial Linkages for the Growth of the Industry**

Transportation systems, which gradually improved thanks to advancing technological innovations, were crucial to enable the expansion of the River Plate meat packing industry. The growth of the internal transportation system, included the establishment of water-ways stemming from *saladeros* in the early nineteenth century and the building of the railways in the late nineteenth century. Most importantly, the expansion of trans-Atlantic shipping lines to the River Plate enabled the transport of goods to the key British market. In the mid- to late- nineteenth century faster ships facilitated the transport leather, cattle on the hoof, meat extract and cooked canned meat, while in the 1890-1900s the expansion of improving refrigerated shipping lines enabled the shipment of higher value frozen and particularly chilled meats.

The establishment of *saladeros* fostered the expansion of a domestic water-way transportation system, which consisted primarily of small cargo boats that would transport *tasajo*, leather and processed cattle products to major ports for loading onto larger transatlantic vessels. This constituted a key backward linkage that reduced cost significantly. Indeed, as many *saladeros* were located near navigable water-ways, there was a considerable reduction in transport costs. Colonial *estancias* had been forced to transport processed products overland to reach ports. Until the development of the railway in the late nineteenth century, the main overland transportation system for bulky goods were *carretas*, primitive carts pulled by bullock, which were slow and expensive. It became much more cost effective to move herds either on the hoof or on small vessels from *estancias* to *saladeros* near waterways and then ship the processed goods with small boats to major ports or directly onto large vessels for export.

Similar to *saladeros*, *frigoríficos* tended to have large plants in urban areas, often located near navigable waterways, which facilitated the movement of goods. This also meant a concentration of production facilities in urban centres, which in turn required transportation systems to move cattle from *estancias* to *frigoríficos*, such as the railway. *Frigoríficos* needed trans-Atlantic refrigerated shipping boats for shipments abroad and a local transportation network for internal supply of cattle. This led to the development of important backward and forward linkages, such as the construction and expansion of the railways as well as regular services from the River Plate to Europe by refrigerated shipping lines. Indeed, as the railways expanded further into the interior of Argentina and Uruguay, they had an ever increasing network to supply cattle in a fast and efficient

<sup>85</sup> Translated from Spanish: Carreras de las, A., *El Comercio de Ganados y Carnes en la Argentina* (Editorial Hemisferio Sur, Buenos Aires, 1986), p. 111.

manner from remote areas. In turn this provided *frigoríficos* with a constantly increasing supply and thus encouraged the growth of the industry. Likewise, as the amounts of cattle supplied to *frigoríficos* increased so did their output, thereby encouraging the expansion of refrigerated shipping lines from the River Plate to the U.K.

The shipping of chilled beef required the use of fast steamers, as time was of essence. In addition, chilled beef took more space in ships than frozen meat and needed special holds, given that chilled carcasses had to be hung, instead of stacked, thereby requiring the construction of new steamers or special refrigerated holds on existing vessels.<sup>86</sup>

Moreover, the refrigeration machinery was complex and costly. Chilled meat shipments had to be maintained at an even temperature throughout the journey to Europe. Yet, refrigerated transatlantic ships experienced enormous temperature variations, as they had to cross the Equator, while a very small change in temperature would spoil a cargo of chilled beef.<sup>87</sup> As refrigeration technology on ships progressed, meat arrived in an ever better condition in Europe. In addition, technological innovation in the shipbuilding industry enabled the production of faster ships, which made increasingly more frequent trips to the River Plate.<sup>88</sup> Overall, shipping and the expansion of the railways played a very important role in the growth of the industry, while gradually enabling the transportation of higher quality and value meat products.

<sup>86</sup> Greenhill, R., 'Shipping and the Refrigerated Meat Trade from the River Plate', *International Journal of Maritime History*, June 1992, Vol. IV, No. 1, p. 72.

<sup>87</sup> Ibid.

<sup>88</sup> The improvements in shipbuilding technology is outlined in C. Harley, "British Shipbuilding and Merchant Shipping: 1850 - 1890", *The Journal of Economic History*, Volume XXX, March 1970, Number 1, pp. 262-266. Moreover, the number of ships arriving in the River Plate from foreign ports grew strongly in the nineteenth century. This is depicted overall in C.B. Kroeber, *The Growth of the Shipping Industry in the Rio de la Plata Region 1794-1860* (The University of Wisconsin Press, Madison, 1957) and in particular for the port of Buenos Aires in table VI, p. 126.

### **3.9 Prerequisite Spread Effects: Domestic Policy, National Unity and Institutional Factors**

Domestic policy and institutional factors set the foundation for the development of the River Plate meat packing industry, in particular the creation of property rights and a legal framework, as well as the establishment of peace and national unity in Argentina and Uruguay. Indeed, they were important spread effects that enabled the development of the meat packing industry.

In the sixteenth and seventeenth century, the lack of property rights combined with a non-enforceable judicial system outside of the urban centres, mainly Buenos Aires and Montevideo, made control of cattle and land extremely difficult.<sup>89</sup> In particular, the *gauchos*, the River Plate equivalent of the cowboys, which lived mostly in open countryside, were nomads and mainly ate wild cattle meat, rarely obeyed laws and had little material interest, except to buy some minimal necessities, for which they worked the bare minimum in *vaquerias*. These men often had contacts with Indians, while contributing to the illegal leather trade. The response of the municipal council to the lack of control in the countryside, the reduction of cattle stocks within the Indian frontier, as well as the unruly nature of the *gauchos*, was to introduce and try to enforce property rights for land, cattle and labour. This combined with the goal of local governments to increase the overall utilisation of cattle, led to the establishment of the colonial *estancia*. Cattle were marked for identification, further establishing the property rights of the *estancieros*. Given that land and cattle ownership grew, *gauchos* were increasingly less free to continue their nomad and relatively independent lifestyle and were therefore forced to become *estancia* peons. This was further consolidated through anti-vagrancy

laws, which were enacted to enforce order outside the large urban centres and provide a workforce for the *estancias* and the army.<sup>90</sup> Importantly, the creation of property rights and a legal framework beyond the urban centres also represented a key fiscal linkage, given that the Buenos Aires and Montevideo councils could augment their fiscal earnings, through higher duty and tax revenues.

The establishment of living quarters on *estancias* was a slow process, given that *estancieros* were mostly absentee landowners. Nevertheless, in order to increase security for their cattle, *estancieros* started to ensure that at least some personnel lived on the *estancias*. Gradually, the colonial *estancias* became small settlements with living quarters for peons and their families, in addition to corrals and outbuildings, as well as the main house. In this way the *estancieros* provided security against Indian raids and bandits. The *estancia* was also a social system based on retribution and patronage, in particular when the *estanciero* lived on the estate.<sup>91</sup> This created the conditions for the development of a charismatic, clientelistic and paternalistic political system, *caudillismo*. The *estancias* became small urban centres and political entities, due to the vast distance that separated them from the large urban centres.

The shift to the modern *estancia* and the entire modernisation process was not stable and simple, rather it was plagued with difficulties and conflicts, due to some *caudillos* reluctance to change and the remaining Indian frontier. Indeed, throughout the nineteenth century the modernisation process was hindered and slowed by *caudillo*

<sup>89</sup> Puiggros, R., *Libre Empresa o Nacionalizacion en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), pp. 8-9.

<sup>90</sup> Lynch, J., *The River Plate Republics from Independence to the Paraguayan War* in Bethell, L., ed., *The Cambridge History of Latin America* (Volume III, Cambridge University Press, Cambridge, 1985), p. 629.

<sup>91</sup> Caetano, G., Rilla, J., *Historia Contemporanea del Uruguay* (Editorial Fin de Siglo, Montevideo, 1994), p. 19.

revolts, civil wars and Indian raids. The Indian frontier was pushed in order to conquer the so-called desert, mainly the interior of Argentina and the northern areas of Uruguay. Nevertheless, Indian raids were common until they were gradually reduced as the frontier was pushed further inland and finally stopped through its elimination in the late nineteenth century. However, *caudillo* revolts and civil war still represented a key threat and hindrance to modernisation, especially in Uruguay. Importantly, *caudillo* revolts and civil war did not just exemplify confrontation between the countryside and large urban centres, namely Buenos Aires and Montevideo, but most importantly, represented conflicts between the traditional vs. modernising *estancieros*, including mainly absentee landowners, as well as the urban merchants, bureaucrats and intellectuals. The triumph of General Roca in 1880 and his strong subsequent government, put an end to *caudillo* revolts in Argentina and conflicts between the Buenos Aires urban nucleus and the provinces, thereby ensuring peace and overall national stability thereafter.<sup>92</sup> Nonetheless, in Uruguay periods of fragile peace continued to be interrupted by *caudillo* revolts and civil war, until the last uprising in 1904, which ended with the victory of José Battle y Ordóñez.<sup>93</sup> The Uruguayan civil war between the Colorado and Blanco fractions, represented a conflict between modernising *estancieros* together with the progressive urbanites, united as Colorados, against the traditional *caudillos*, grouped as the Blancos. However, one of the most important aspects of these conflicts, was the instability they brought to the interior of Argentina and Uruguay and the level of destruction, which affected animal stocks. Indeed, livestock was reduced strongly by the conflicts, as armies not only left a trail of destruction behind, but also needed food supplies and horses, while at the same time they slaughtered cattle and horses to

<sup>92</sup> Gallo E., *Argentina: Society and Politics, 180-1916* in Bethell, L., ed., *The Cambridge History of Latin America* (Volume V, Cambridge University Press, Cambridge, 1985), pp. 359-363.

smuggle leather, thereby reducing stocks in *estancias*. The eradication of the entire stock of *estancias* by armies was commonplace, which would consume meat, as well as smuggle in leather of cattle and horses, especially until the mid-nineteenth century.<sup>94</sup> In addition to the reduction in overall animal stocks, due to army consumption, destruction and smuggling, the passage of cattle and transportation of goods was often hindered, thereby further diminishing supplies for *saladeros* and processed commodities for export. However, in the second half of the nineteenth century, animal stocks increased and plundering by armies was reduced, while the Indian frontier was pushed and finally defeated. The final peace and stability achieved in Argentina after 1880 and Uruguay already starting in the late nineteenth century, but only established after 1904, helped accelerate the overall modernisation process, while it represented the final consolidation of the modern *estancia*. Most importantly, the push of the Indian frontier and the final peace agreements between the urban centres with the interior provided further growth opportunities for the River Plate meat packing industry through the elimination of a key hindrance as well as the consolidation and better enforcement of property rights. The push of the Indian frontier occurred in order to expand the land under production, thereby representing a vent-for-surplus, which enabled augmented cattle production.<sup>95</sup> Moreover, the last push of the frontier and peace with the provinces also represented an important fiscal linkage, in that the national governments of Argentina and Uruguay could expand as well as improve their nation-wide tax collection, across their respective

<sup>93</sup> Oddone, J. A., *The Formation of Modern Uruguay* in Bethell, L., ed., *The Cambridge History of Latin America* (Volume V, Cambridge University Press, Cambridge, 1985), pp. 461-464.

<sup>94</sup> The destruction of livestock by armies is analysed in the extreme context of the Great War (1850s) in Uruguay by Barran, J.P. and Nahum, B., in *Historia Rural del Uruguay Moderno* (Volume I/I, Ediciones de la Banda Oriental, Montevideo, 1967), pp. 18-23.

<sup>95</sup> The vent-for-surplus attained in the River Plate is analysed in the context of H. Myint's theory of international trade and growth in the Third World, evaluated in his book *The Economics of the Developing Countries* (Hutchinson, London, 1984), pp. 32-56, as well as in his article entitled 'The 'Classical Theory' of International Trade and the Underdeveloped Countries' in *The Economic Journal*, June 1958, Vol. LXVIII, No. 270, pp. 317-337. In addition, a further examination is provided in R. Findlay's and M. Lundahl's paper 'Natural Resources, 'Vent for Surplus' and the Staple Theory: Trade and Growth with an Endogenous Land Frontier', Columbia University, Department of Economics, New York, January 1992, Discussion Paper Series No. 585, pp. 5-11 and 22-36.

territories. In the late nineteenth- and early twentieth century domestic policy fostered investment in the River Plate meat packing industry and encouraged the transfer of technology and capital.

### **3.10 Incentives for the Establishment of Foreign Meat Packers :An Exemplary Environment to Shape the Marketing Mix and the 'Multiplier Accelerator Mechanism'**

Although demand rose in the U.K., it is important to determine what factors allowed the River Plate to become a key foreign meat supplier for the British market, rather than other areas of the world. For this purpose the concept of the marketing mix will exemplify the reasons for the transformation of the River Plate into one of the key exporters to the U.K. market, as well as the rationale for the establishment of British and thereafter U.S. interests in the River Plate meat packing industry.

The River Plate had a number of characteristics which facilitated its development into a key meat supplier to the U.K., while leading to the decision of local and predominantly foreign firms to increase their presence and interests in the River Plate meat packing industry. To start with the meat packing firms' macroenvironment in the River Plate changed drastically in the late nineteenth century. Of foremost importance was the technological / physical environment, which through the development of refrigeration, enabled high quality meat to be transported to Europe from more distant sources of supply. As technological processes progressed, the River Plate had the advantage to be able to transport superior quality chilled meat to the U.K. vs. only the frozen meat that further away locations could provide, such as Australia and New Zealand, given the longer shipping journey. The physical conditions were also advantageous, given that the River Plate had an excellent grass replenishment system and sub-tropical climate, which

encouraged the rapid growth and reproduction of cattle, while abundant cattle herds were available, albeit only partially cross bred. In addition, the demographic / economic environment had many advantages, including a developed money economy in a land abundant and labour scarce region, an established cattle production system which provided low price cattle supplies and hence high profitability, as well as a region that encouraged free trade, welcomed foreign business and often provided major concessions for investment. Moreover, the political / legal environment was very developed in the River Plate. It possessed a legal framework and property rights in a relative stable political climate, the Indian frontier had been abolished and peace with the provinces had been established, albeit only in the early twentieth century in Uruguay. Finally the socio / cultural environment also played a role, as investors were dealing mainly with immigrants in an extremely Europeanised society. Thus the overall macroenvironment was very conducive to foreign investment in the River Plate meat packing industry.

On the microenvironmental front, there was a lack of cattle suppliers, while demand was growing in the late nineteenth century. The U.K. cattle production could not keep up with domestic demand and the U.S.A., which was an important supplier to Britain, gradually reduced its exports until they became insignificant. This is traceable to a decline in U.S. cattle production, while their demand for meat was also increasing.

"The population of the U.S. was rapidly increasing, and in order to meet the demands of a growing population many of the ranges formerly given over to cattle-raising were being broken up and devoted to more intensive farming. The result was that during the decade 1900-10 beef cattle production declined 18%, although the increase in population during the same period was 20%."<sup>96</sup>

---

<sup>96</sup> Putnam, G. E., Supplying Britain's Meat (George G. Harrap & Co., London, 1923), p. 71.

Indeed, the U.S.A. not only reduced their exports considerably, but became a net meat importer by the beginning of the twentieth century.<sup>97</sup> This left Australia, New Zealand and the River Plate as potential large suppliers of meat, but only the latter was able to provide chilled meat. Although other South American suppliers existed, such as Colombia and southern Brazil, their meat packing business and cattle production lagged behind the River Plate's, in terms of productivity, specialisation and infrastructure provided and they could not supply as large quantities of cattle as the River Plate. Indeed, the River Plate had the largest stock of bovine and ovine animals combined at the turn of the twentieth century.<sup>98</sup> Furthermore, the River Plate represented a low cost supplier, specialised in cattle raising, with an already established meat packing business, while providing an adequate macro-environment for investment in the industry. Additionally, competitors could take advantage of low cost supplies in the River Plate and thus augment their profitability or increase market share by selling at a lower price. This encouraged further investment by competing meat packing firms first from Britain and then the U.S.A. in the 1900-10s. Moreover, most meat packing plants in the River Plate had their own marketing and distribution networks in the U.K., especially after 1910, thereby controlling the entire distribution chain from the River Plate to the main British cities and often even butchers. In contrast, meat packers in Australia and New Zealand often used marketing intermediaries, such as U.K. import houses and distributors. Finally the British public did not have a negative perception about River Plate meat, while the British government welcomed cheap food imports.

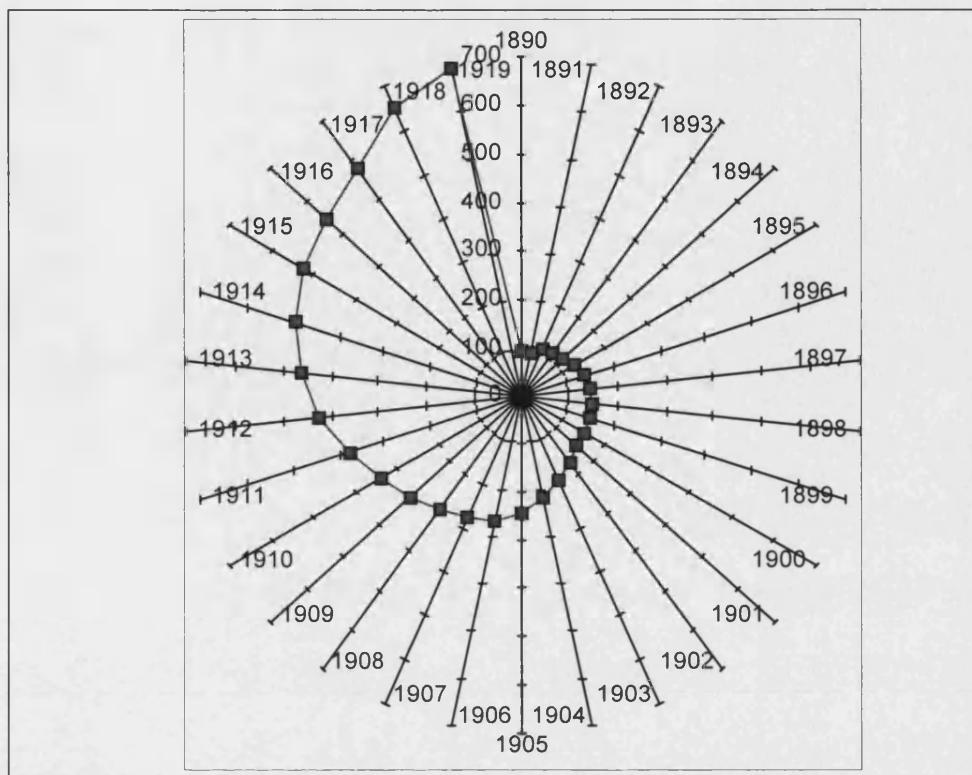
<sup>97</sup> Williman, J. C., Historia Economica del Uruguay (Vol. II, Editorial Fin de Siglo, Montevideo, 1994), p. 136.

<sup>98</sup> Cibils, F.R., La Ganaderia Nacional y la Evolucion Frigorifica (Tailhade & Rosselli, Buenos Aires, 1902), p. 9.

Overall, the River Plate offered meat packing firms as well as investors in the industry a good macro- and micro- environment as an important meat supplier, while it provided exemplary elements to shape the marketing mix for meat in the U.K. market. Indeed, the product was of superior quality (chilled), relatively low priced (lower than the U.S.), the distribution was fully controllable from production to the main markets or even butchers, while the promotion could be enhanced through branding of major meat packers, which had large economies of scale. The excellent macro- and micro-environment encouraged heavy investment in the meat packing industry, leading to the expansion of the sector, while meat exports soared in the late nineteenth century and particularly in the early twentieth century.

The linkages derived from the meat staple grew stronger, as the nature of the product changed over time. As the price of meat and by-products rose, due to quality improvements driven by technological innovation, the value derived from the staple also increased, thereby encouraging more linkages. In particular, major backward, forward and fiscal linkages developed, accelerated and finally consolidated themselves. The escalating supply and demand side responses coupled with growing demand for meat in Britain, expedited the production of increasing value added meat products that led to the export of mainly prime chilled beef. Thus a 'multiplier accelerator mechanism' developed which provided stronger demand and supply side responses, while multiplying and intensifying the linkages derived from the meat staple. In chart 3.4 the 'multiplier accelerator mechanism' is epitomised through a radar diagram.

Chart 3.4: Radar Diagram of River Plate Meat Exports - 5 Year Moving Average 1890-1919  
 (In Thousands of Tons)



Sources: See Appendix 3 for 1890-1899 and Appendix 24 for 1900-1919.

The spiral in the radar diagram represents an almost ideal growth curve, indicating that the export expansion was accelerating. It shows that meat exports grew continuously in 1890-1919, creating an ever greater radius within the radar frame, thereby depicting how the ever strengthening linkages had an increasingly expansionary effect on the meat sector.

### 3.11 Conclusion

Although cattle products represented the backbone of the River Plate economy ever since the Spanish brought the first cattle in the late fifteenth century, the large scale meat packing industry took more time to develop, due to key technological constraints. Indeed, conservation of meat was the main challenge, which limited the early expansion

of the industry, thereby restricting meat production to the low demand of local urban centres. Hence, technological innovation was of vital importance for the growth of the meat packing industry. Despite rapid development of other cattle exports, such as leather, meat remained an unimportant or even wasted resource during the sixteenth and seventeenth century. Between the eighteenth and the early twentieth century a series of technological innovations played an important role in building the meat packing industry, by developing ever more sophisticated methods of conservation, which preserved meat and allowed its export to markets beyond the local urban centres. Whereas technological innovation was a crucial element that led to the rise of the River Plate meat packing industry, a number of other factors also played an important role in fostering the development and adaptation of technology, as well as the growth of the industry. In particular the effects of domestic policy, the modernisation of cattle production as well as the investment of foreign firms and capital were key in generating the conditions for the progress of the industry.

The meat staple became an important driving force, which generated linkages that enabled the expansion of the River Plate meat packing industry. This created a multiplier accelerator effect, by which the stronger the linkages, the more the industry would grow and this in turn would generate further linkages. Within this context, a number of demand and supply side responses developed. On the demand side, the main forward linkage was the improvement of meat production techniques, which enabled a gradual, yet fundamental expansion in the range of cattle products that were increasingly of better quality. Indeed, in each production phase from the colonial *estancia* to the *saladero*, to the Liebig plant to the *frigorífico*, there was a profound improvement in the quality of meat and by-products. Another important forward linkage was the

development of refrigerated shipping between Europe and the River Plate. Furthermore, important backward linkages derived from the meat staple included the building of a transportation network, particularly of waterways within the River Plate as well as the railways. The new transportation network and infrastructure provided an efficient method of moving cattle from far away domestic locations to large *frigoríficos*. Moreover, the refinement of cattle production and breeding techniques was also a key backward linkage. *Frigoríficos* required a different type and quality of animal than the *saladeros* and the Liebig meat extract plant, due to their distinct manufacturing requirements and most importantly the varying demands of the end consumer. Specifically, the *saladeros* and Liebig preferred lean traditional *criollo* cattle, characterised for their lack of grease and thick leather, while the *frigoríficos* favoured fatter and larger animals, with mixed high quality European pedigree. This is traceable to the production process, which allowed lean *criollo* meat to be dried easier and faster in *saladeros*, due to the lack of grease, while it was lower priced, a key determinant given that quality was of secondary importance due to the profile of the end-users. Additionally, *criollo* cattle were preferred, given that leather still represented a key by-product and an important revenue earner for *saladeros* as well as for Liebig. In contrast, *frigoríficos* depended on the meat itself for a great part of their revenues, while its sophisticated consumers, mainly the middle and upper classes in the U.K., demanded high quality meat.

Moreover, there were some significant spread effects derived from the meat staple, such as domestic policy and institutional factors, in particular the establishment of property rights and a legal framework, the push of the Indian frontier and the final internal peace agreements between the urban centres and the interior. Indeed, conflicts between the

provinces and the urban centres hindered the development of the River Plate meat packing industry, especially in Uruguay, where final peace was only achieved in 1904.

On the supply side, technological innovation and technology transfer were important, especially the transfer of refrigeration technology in the late nineteenth century. Moreover, supply factors such as the transfer of capital and management know-how played a crucial role in the growth of the River Plate meat packing industry, due to the capital intensive and technical nature of the machinery required for *frigoríficos*. Indeed, management know-how represented a major supply side response, not just in technical or engineering terms, in order to operate and maintain complex refrigeration or extraction technology, but also in marketing, logistics and distribution expertise. In particular, the establishment of Liebig and the *frigoríficos* also meant dealing with new markets, especially regarding the distribution of meat to Britain. Hence, this required knowledge of the market, access to an extended distribution system as well as logistical and marketing management know-how. Furthermore, there were a number of fiscal linkages stemming from the meat staple. Fiscal linkages occurred primarily due to the increasing volume and value of cattle product exports, especially meat. Indeed, through the expansion of the industry and the increasing exports in a stable legal, political and economic environment, especially after the 1890s, the governments of Argentina and Uruguay were able to increase duty and tax revenue. These fiscal linkages enabled the local councils of Buenos Aires and Montevideo to obtain funding, in order to among others, build a strong army, establish a modern state and create a legal system. All of these factors were important, first to expand and eliminate the Indian frontier, while thereafter to establish peace with the provinces and the interior, as well as to maintain and secure property rights.

Overall, the intensifying supply and demand side responses led to the development of a 'multiplier accelerator mechanism' which enabled the expansion of the meat packing industry. In parallel, the value added of the meat staple increased, moving from sun dried meat, to *tasajo*, to meat extract and cooked packaged meat, to frozen mutton (low quality) to frozen beef and finally to chilled beef. Additionally, the by-product range was vastly improved and expanded. Furthermore, Uruguay played the role of a niche *tasajo* producer until the early-1900s, thereby complementing the growing Argentinian *frigorifico* exports, while benefiting from declining Argentinian *tasajo* production to boost Uruguayan exports, particularly in the 1890s. However, this was not an intentional strategy, but rather can be traced to the lack of a key backward linkage, namely improved cattle, as well as political instability until 1904.

Finally, through the concept of the marketing mix, the chapter has shown which factors allowed the River Plate to become a main foreign meat supplier for the British market and which decisions led to the establishment of British interests in the River Plate in the late nineteenth century, as well as U.S. meat packing plants in the late 1900s. Indeed, the meat packing firms' macroenvironment played a fundamental role, in particular the technological environment, given that chilled meat could be transported to the U.K., a unique advantage over Australia and New Zealand. Furthermore, the excellent grass replenishment system represented a good physical environment for cattle production. At the same time, the demographic / economic environment was also favourable, especially the established large cattle production system, which supplied low priced cattle, while the political environment was stable and an enforceable legal framework was in place. In addition, the European socio / cultural environment facilitated working methods and transactions, through similar value systems and easier communication. Moreover, the

meat packing firms' microenvironment was characterised by the lack of global suppliers, given that the U.S. was producing less cattle, in order to concentrate on intensive agriculture, while the U.S. population and hence the demand for foodstuffs grew. This combined with other microenvironmental factors and a favourable macroenvironment provided meat packing firms with the incentive to invest in the River Plate meat packing industry, which led to its subsequent growth and enabled it to become the world's leading meat exporter, as well as the prime supplier to Britain, by providing an excellent marketing mix for the U.K. market.

#### 4. **MODIFICATIONS IN THE OWNERSHIP STRUCTURE AND THE GOVERNMENTS' RESPONSE**

##### 4.1 **Introduction**

The ownership structure of the River Plate meat packing industry experienced significant periods of change since the nineteenth century. Indeed, the industry shifted from local control in the nineteenth century to primarily foreign ownership by the early twentieth century until the end of the Second World War. Then it went through a period of intervention and state control, while in parallel smaller locally owned *frigoríficos* started to emerge, which gradually achieved leadership until they took over command of the industry in the late 1970s. In the 1990s, renewed foreign direct investment is taking place, albeit slowly. The analysis will demonstrate how in the early twentieth century the capital intensive nature of *frigoríficos* encouraged meat packers to maximise economies of scale by establishing ever larger plants, consolidating the industry and controlling supply through the infamous shipment pools. Whereas few players controlled the oligopolistic industry by the 1910s, the battle for leadership and increased economies of 'scale and scope' led to various 'meat wars' until the late 1920s. As the chapter will show, the modification in the ownership structure altered the relationship between cattle producers and packers, while leading to a split between fatteners and breeders in the first half of the twentieth century. Although the response of cattle producers influenced domestic policy formulation until the Second World War, the post-war era was characterised by an autonomous state apparatus, whose aim was to foster industrialisation, while financing it from the surplus of the primary sector. Even though severe state control in the 1940-50s was followed by short periods of moderate liberalisation, intervention continued until the 1980s, generating significant market distortions. In this context the following factors will be analysed: (i) the repercussions of

foreign capital involvement in the ownership structure of the industry, in particular its level of concentration and the creation of an oligopoly in the first half of the twentieth century that increasingly controlled the supply of meat, (ii) the effect of determined U.S. investment and the subsequent battle for leadership of the industry to ensure ever greater economies of scale through horizontal as well as vertical integration and expansion, (iii) the reaction of cattle producers and domestic policy makers, which ultimately led to state intervention and control, as well as (iv) the rise of the *nueva industria*. Finally, the elements that are leading to renewed direct foreign investment in the industry in the 1990s will be examined.

Alfred Chandler's work will be utilised to analyse the driving factors that led to modifications in the ownership structure of the River Plate meat packing industry, first in an oligopolistic foreign controlled industry, then within a system of state administration and intervention, and finally back to 'freer' market forces. The analysis will concentrate on certain concepts put forward in two of Chandler's best-known books, namely The Visible Hand and Scale and Scope.<sup>99</sup> Nevertheless, to provide a broader framework, references will be made to some of his other publications. The overall premise of The Visible Hand is that "modern business enterprise took the place of market mechanisms in coordinating the activities of the economy and allocating its resources. In many sectors of the economy the visible hand of management replaced what Adam Smith referred to as the invisible hand of market forces. The market remained the generator of demand for goods and services, but the modern business enterprise took over the functions of coordinating flows of goods through existing

---

<sup>99</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990) and The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978).

processes of production and distribution, and of allocating funds and personnel for future production and distribution.<sup>100</sup> Chandler defined the 'modern business enterprise' as a firm that "contains many distinct operating units and is managed by a hierarchy of salaried executives ... The activities of these units and the transactions between them thus became internalised. They became monitored and coordinated by salaried employees rather than market mechanisms."<sup>101</sup> While keeping the main concept of the 'visible vs. the invisible' hand in the market as an umbrella theorem, Chandler also provided a number of 'general propositions' in his book, some of which are highly relevant to the analysis of the modifications in the ownership structure of the River Plate meat packing industry. Firstly, he proposed that the modern multi-unit business enterprise displaced traditional firms "when administrative coordination permitted greater productivity, lower costs, and higher profits than coordination by market mechanisms".<sup>102</sup> Then he emphasised the essential pre-requisite of a managerial hierarchy in order to group together many business units into one firm. As the management hierarchy became more professional, these 'career managers' were inclined to take a long-term view of the enterprise, given that their future livelihood depended on the health of the firm, rather than family run companies whose objective was often to maximise short term profit.<sup>103</sup>

Most importantly, he stressed that the modern business enterprise emerged when economic activity expanded to such a degree that it "made administrative coordination more efficient and more profitable than market coordination. Such an increase in volume of activity came with new technology and expanding markets. New technology

<sup>100</sup> Chandler, A., The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978), p. 1-3.

<sup>101</sup> Ibid.

<sup>102</sup> Ibid, p. 6.

made possible an unprecedented output and movement of goods.<sup>104</sup> The final proposition is that big companies led industries and changed the structure of entire sectors and the economy.<sup>105</sup> Chandler accentuated that the modern business enterprise did not displace the market as the main driving force, given that the resources continued to be assigned depending on demand projections. However, he stressed that the modern enterprise "took over from the market the coordination and integration of the flow of goods and services from the production of the raw materials through the several processes of production to the sale to the ultimate consumer".<sup>106</sup> Hereby, the importance of vertical integration is highlighted, which enabled the modern corporation not just to control the movement of goods, increase efficiency and reduce inventory turnover, but also absorb the multiple margins of suppliers, middlemen, wholesalers and sometimes retailers, thereby augmenting operating profitability substantially. Finally, Chandler asserted that the modern business enterprise represented an institutional answer to the accelerated speed of technological innovation and expanding consumer demand in the late nineteenth century.<sup>107</sup>

In Scale and Scope Chandler expanded his 'historical theory of big business' by emphasising the importance of horizontal and vertical integration as well as 'throughput' and first-mover advantage. He insisted that as a general rule large firms did not continue to expand in the long-term if they did not augment efficiency (in marketing, purchasing and production) and reduce costs, while increasing the number of business units.<sup>108</sup> Efficiency and cost reduction came about from taking advantage of economies of scale

---

<sup>103</sup> Ibid, p. 8.

<sup>104</sup> Ibid.

<sup>105</sup> Ibid, p. 10.

<sup>106</sup> Ibid, p. 11.

<sup>107</sup> Ibid, p. 12.

and/or scope in production and distribution.<sup>109</sup> Economies of scale occur when the quantity of output of a single product increases, resulting in the cost per unit to decrease.<sup>110</sup> Moreover, economies of scope take place when joint production or distribution of more than one product reduces the combined unit cost.<sup>111</sup> Thus, by using "many of the same raw and semifinished materials and intermediate production processes to make (or distribute) a variety of different products" the cost of each product declines.<sup>112</sup>

Chandler pointed out that technological innovation combined with new markets were crucial in providing economies of scale and scope in production, in particular the novel methods of production in the late nineteenth-century, which led to the emergence of new industries and major changes in old ones.<sup>113</sup> In particular, capital intensive industries benefited by building large plants, while bettering and reorganising inputs, implementing new production methods and utilising the latest technologically improved equipment.<sup>114</sup> Indeed, "production units achieved much greater economies of scale ... Therefore, large plants operating at their 'minimum efficient scale' (the scale of operation necessary to reach the lowest cost per unit) had an impressive cost advantage over smaller plants that did not reach that scale."<sup>115</sup> In addition, cost reduction was achieved through economies of scope, by utilising the same production capacity, inputs (raw materials) and manufacturing/processing methods to expand the product range.

---

<sup>108</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990), p. 17.

<sup>109</sup> Ibid.

<sup>110</sup> Ibid and Chandler, A., "The Enduring Logic of Industrial Success", Harvard Business Review, Number 2, March-April 1990, p. 132.

<sup>111</sup> Ibid.

<sup>112</sup> Ibid, p. 132.

<sup>113</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990), pp. 18 and 21.

<sup>114</sup> Ibid, p. 21.

<sup>115</sup> Ibid, p. 23.

However, Chandler emphasised that the economies of scope and scale could only be maximised if a "constant flow of materials through the plant or factory was maintained to assure effective capacity utilisation. If the realised volume of flow fell below capacity, then actual costs per unit rose rapidly."<sup>116</sup> This was traceable to the elevated fixed costs associated with capital intensive, large scale industries and the significant investment capital required to purchase expensive plant and machinery. High capacity utilisation was crucial to enable a reasonable amortisation of the costly assets. Therefore, the large industrial companies required a high 'throughput' in order to enable a significant capacity utilisation and in order to sustain 'minimum efficiency scale' levels. Thus meticulous organisation and alignment were needed to ensure that the flow within the plants from one production process to the other occurred as fast and efficient as possible. Ideally the flow through the plant would be kept constant to maximise capacity. In addition, the constant and carefully coordinated flow of supplies was also very important, as was the efficient flow of outputs to middlemen and the final consumer. As Chandler pointed out, "such coordination did not, and indeed could not, happen automatically. It demanded the constant attention of a managerial team or hierarchy."<sup>117</sup>

But there were some major pre-requisites for attaining enough scale and achieving minimum efficiency scales. Indeed, Chandler explains that the reason for the very strong shift from traditional enterprises to the modern large firm in the late nineteenth century are the dramatic technological changes that took place and their subsequent

---

<sup>116</sup> Ibid, p. 24.

<sup>117</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990), p. 21.

implementation, a phenomenon he refers to as the 'Second Industrial Revolution'.<sup>118</sup> The new 'mass-production technologies' and the organisational knowhow to efficiently manage integrated production methods enabled a significant reduction in cost. However, "a much more important cause was the coming of modern transportation and communication. The railroad, telegraph steamship, and cable made possible the modern mass production and distribution."<sup>119</sup>

In order to compete in capital intensive industries, large investment in plant and equipment were needed, especially to achieve higher scale and scope. However, this led an increasingly oligopolistic structure in many industries, given that they had to achieve extremely high levels of constant throughput to maintain these large plants in operation, while maintaining minimum efficiency scales. Furthermore, these large industrial firms also benefited from economies of scale and scope in distribution, through vertical integration, forward into distribution and backward into purchasing, thereby reducing costs and circumventing middlemen and wholesalers.<sup>120</sup> First mover advantages also played an important role, in that companies that were the first in producing new or significantly improved products with novel and technologically advanced methods, had a competitive edge, not just due to the preemption to market, but their learning curve was usually more advanced than the newcomers. Indeed, newcomers had to increase their size to the often enormous scale of the capital intensive industrial enterprises as well as having to learn how to utilise new production processes and manage novel purchase, distribution and marketing methods. Additionally, newcomers had to acquire the knowhow to ensure a constant throughput and the smooth running of the entire

---

<sup>118</sup> Chandler, A., "The Emergence of Managerial Capitalism", *Business History Review*, Volume 58, Number 4, Winter 1984, p. 474.

<sup>119</sup> Ibid.

integrated production and distribution systems. This 'challenge' was often too large and translated into such costly entry barriers, that it often led to the control of an industry by only a handful of companies. However, Chandler argues that in order to maintain their competitive advantages, the first movers of the capital intensive industries had to maintain a long-term strategy.

In Scale and Scope Chandler also emphasised the importance of vertical and horizontal integration as well as geographical expansion for the continued growth of the modern industrial firm, through organic growth as well as mergers and acquisitions. However, he pointed out that mergers and acquisitions with competitive firms often took place to "gain more effective control of output, price and markets", while vertical integration enabled "faster throughput and with it significant cost reductions and increased productivity ".<sup>121</sup> Thereby the oligopolistic structure of the capital intensive industries was strengthened. The motivation for internal diversification was to maximise the utilisation of the firms resources. Indeed, Chandler uses the meat packing industry's extensive development of by-products as an example. "Internal stimulus (for diversification) came from the needs and opportunities to use existing facilities and capabilities more fully ... An impetus to diversification at the operating level was the emergence of by-products, such as fertiliser, soap, and glue in meat packing ... "<sup>122</sup> In general, though, diversification was primarily driven by the firm's aim of maximising the economies of scope, in particular in production and distribution.

<sup>120</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990), p. 31.

<sup>121</sup> Ibid, p. 37.

<sup>122</sup> Ibid, p. 40.

Chandler used the meat packing industry as examples in many of his publications.<sup>123</sup> However, he focused mainly on Swift's and Armour's operations in the U.S.A. Indeed, already in his early writings Chandler referred to the meat packing industry. In The Beginnings of Big Business he examined how the development of a large marketing organisation enabled Swift to become one of the leading meat packers in U.S.A., in particular through the establishment of national chain of branch houses. In addition, he highlighted the expansion into by-products and how this internal diversification facilitated the better use of entire animals. Finally, he stressed that Swift's foothold in the U.S. market was strengthened further due to the clout of their vertically integrated organisation.<sup>124</sup> He also emphasised that the other large meat packers were obliged to create comparable organisations in order to remain competitive. "Thus by the middle of the 1890s the meat-packing industry, with the rapid growth of these great vertically integrated firms had become oligopolistic (the 'Big Five' had the major share of the market)."<sup>125</sup> In Recent Developments in American Business Administration and their Conceptualization Chandler together with F. Redlich also used the meat packing industry as an example.<sup>126</sup> They focused primarily on the flow of communication in the organisation, in terms of timely reports, forecasts and operating data. These management 'instruments' enabled the coordination of product flow, by forecasting demand and systematically controlling the purchases of inputs. The expansion of the telegraphic network was crucial for the large meat packers, given that it facilitated communication

<sup>123</sup> Chandler, A., "The Beginnings of 'Big Business' in American Industry", Business History Review, Volume XXXIII, Number 1, Spring 1959, pp. 7-9, [with F. Redlich] "Recent Developments in American Business Administration and their Conceptualization", Business History Review, Volume XXXV, Number 1, Spring 1961, pp. 17-18, pp. 166-168, pp. 375-378, "The Emergence of Managerial Capitalism", Business History Review, Volume 58, Number 4, Winter 1984, pp. 488-489, The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978), pp. 299-302, 348-349 and 391-402 and Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990, pp. 166-168).

<sup>124</sup> Chandler, A., "The Beginnings of 'Big Business' in American Industry", Business History Review, Volume XXXIII, Number 1, Spring 1959, p. 7.

<sup>125</sup> Ibid, p. 8.

<sup>126</sup> Chandler, A., [with Redlich, R.] "Recent Developments in American Business Administration and their Conceptualization", Business History Review, Volume XXXV, Number 1, Spring 1961, pp. 17-18, pp. 166-168, pp. 375-378.

within the firm, especially through the fast relay of data between sales and purchasing managers with the branch houses.<sup>127</sup> Thus national off-take could be measured daily and livestock purchases finetuned accordingly. This was an early, yet sophisticated, inventory control method and the pioneering predecessor to 'just in time' inventory system so popular in today's industrial plants. However, "ultimately the total of product flow through various departments depended on demand. The more accurately demand could be forecast, the more evenly the flow could be channelled and thus the over-all organisation could be operated closer to the maximum capacity."<sup>128</sup> Indeed, meat packers tried to forecast demand and then coordinate meat supply accordingly, in order to maintain high prices, optimise capacity utilisation, reduce working capital through fast inventory turnaround and strong throughput.

In The Visible Hand Chandler examined the emergence of Swift in the U.S. market from the pioneering days of the first refrigerated meat shipments and emphasised the importance of integrating mass production with mass distribution in the success of the Chicago meat packers.<sup>129</sup> Specifically, he stressed that the creation of their own marketing networks through vertical integration, by eliminating of middlemen, was one of the main reasons for their success in controlling the industry. As already outlined in his previous work, Chandler stressed that the vertical integration process included the building of their own branch houses, which had refrigerated storage capacity, a sales force and staff to deliver meat to retailers, as well as the buying of stockyards including their own specialist cattle buyers. In addition, Swift and Armour built new meat packing plants and expanded their fleet of refrigerated railroad cars, while the railroad and

<sup>127</sup> Ibid, pp. 17-18.

<sup>128</sup> Ibid, p. 17

<sup>129</sup> Chandler, A., The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978), pp. 299-302.

telegraph network expansion enabled the growth of the market for meat. Moreover, Chandler also emphasised that Swift "became the first modern meat packer because ... he was the first to build an integrated enterprise to coordinate the high-volume flow of meat from the purchasing of cattle through the slaughtering or disassembling process through distribution to retailer and ultimate consumer."<sup>130</sup>

Chandler also mentioned the U.S. meat packers entrance to the River Plate in both Scale and Scope and The Visible Hand. In Scale and Scope he used the expansion to the River Plate as an example of geographical diversification.<sup>131</sup> Moreover, he briefly touches on the impact of the American enterprises on the River Plate meat packing industry, in particular in the consolidation and centralisation that the intensified competition brought about.<sup>132</sup> Similarly, in the Visible Hand Chandler refers to the need for American meat packers to find new sources of supply for their exports to European markets, which led to their expansion into the River Plate.<sup>133</sup>

Overall, Chandler's 'historical theory of big business' provides a solid explanation for the rise of large corporations in the late nineteenth century, primarily by analysing the changes in the internal operating structure and functions of firms, as well as their ever increasing control over supply. However, one of the main limits of Chandler's theoretical framework is the lack of in-depth analysis of external factors to the firm, in particular public policy and the establishment of anti-trust laws.<sup>134</sup> Indeed, Chandler only considers legislation and public policy in passing, while ignoring the importance of

<sup>130</sup> Ibid.

<sup>131</sup> Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990), pp. 167-168.

<sup>132</sup> Ibid, pp. 376-377.

<sup>133</sup> Chandler, A., The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978), p. 401.

the reaction of suppliers (i.e. cattle producers) and their ability to influence government. In this respect, the chapter will build on Chandler's theory by also including cattle producer's reactions and the governments' response to the modifications in the ownership structure.

In addition to Chandler's theoretical framework, the marketing mix concept put forward by P. Kotler and developed by N. H. Borden will be used to evaluate how changes in the micro- and macro- environment encouraged U.S. investment in the River Plate meat packing industry and justified their highly competitive battle for market leadership, especially in the 1910s.<sup>135</sup> In addition, the marketing mix concept will also enhance the analysis on how changes in the micro- and macro- environment led to a decline of foreign investment in the River Plate meat packing industry and eventually to the withdrawal of many of the large foreign meat packers in the late 1950s. Finally, global export market shares and import distribution shares will be used to analyse the importance of River Plate meat in international markets and the key role that exports played in expanding the industry.<sup>136</sup>

## 4.2 Meat Packers Rivalry: The Battle for 'Scale and Scope' (1900-1914)

### 4.2.1 Pioneering *Frigorificos*: The Advent of Foreign Capital Participation

Foreign capital played an important role in the establishment of the first freezing plants, although often together with domestic capital. Thus the pioneering *frigorificos* often had a combined participation of British and Argentinian capital. A great proportion of

<sup>134</sup> Eichner, A. S., "Book Review - The Visible Hand. The Managerial Revolution in American Business", Business History Review, Volume LII, Number 1, Spring 1978, pp.98-101.

<sup>135</sup> See chapter 3, section 3.1 for a further analysis and applications of the marketing mix concept. Kotler, P., Marketing Management - Analysis, Planning, Implementation and Control (Prentice-Hall, New Jersey, 1991), pp. 71-72 and Borden, N., The Concept of the Marketing Mix in Enis, B., Cox, K., Marketing Classics - A Selection of Influential Articles (Allyn and Bacon, Massachusetts, 1988), pp. 429-480.

the funds provided for the first *frigoríficos* was from British long-term residents in Argentina. However, during the early twentieth century a significant consolidation of the industry occurred. Initially British and then U.S. capital invested heavily in the ever larger refrigerated meat packing plants. As *frigoríficos* gradually displaced *saladeros*, the ownership structure of the industry was modified, shifting from local to largely foreign control. In the 1900s most *frigoríficos* were Anglo-Argentinian firms. For example, the *frigorífico* La Blanca, which was regarded as an Argentinian refrigerated meat packing plant, was set up with primarily British capital, representing more than 57% of the funds invested, while of the remaining 43% in Argentinian capital participation, a quarter came from London.<sup>137</sup> Similarly, the Smithfield and Argentine company was partly owned by Argentinian and British capital, while the latter participated with a majority ownership. In contrast, Uruguay's first *frigorífico*, the Frigorífica Uruguaya, which was set up in 1904, was financed with local capital and it remained in control of Uruguayan shareholders until 1911. For perspective, it was the only *frigorífico* in Uruguay until the early 1910s.

Early *frigoríficos* were extremely profitable and their shareholders obtained excellent, albeit volatile returns. For example, in 1901 James Nelson & Sons reported trading profits of £85,072 and paid dividends of 12% on preference shares.<sup>138</sup> Similarly, the River Plate Fresh Meat Company high trading profits of £67,822 in 1901 augmented sharply to £272,475 in 1902, while it paid a dividend of 10% in both years, plus a 2/-

<sup>136</sup> See chapter 2, section 2.3, for the calculation and estimation methods of global export market shares and import distribution shares.

<sup>137</sup> Calculated with data from Hanson, S. G., *Argentine Meat and the British Market, Chapters in the History of the Argentine Meat Industry* (Stanford University Press, California, 1938), pp. 133-134. In addition, *The South American Journal*, Volume LIII, No. 10, September 6, 1902 on p. 255, examines the ownership of 'La Blanca' in more detail and accentuates the perception that the firm is Argentinian, while at the same time highlighting the importance of British capital participation.

<sup>138</sup> James, Nelson & Sons (thereafter Nelsons), *Report of the Directors and Statement of Account for the Year ending 28 December 1901, presented to the Eleventh General Meeting* (London, 1902).

and 4/- shillings bonus per share in 1901 and 1902 respectively.<sup>139</sup> The Compania Sansinena de Carnes Congeladas (Sansinena Frozen Meat Company) went even further and paid a dividend of 50% in 1902 on all existing shares, after achieving a spectacular net profit of \$1,833,255 (Argentinian Gold Pesos) for the year, equivalent to £363,741.<sup>140</sup>

Relations between meat packing houses and cattle producers were good in the first decade of the twentieth century, given that both were benefiting from the increasing meat export trade. Indeed, *frigoríficos* were expanding, exporting larger quantities of meat and at the same time improving their production as well as distribution methods. This led to an improvement in the quality of meat, which had an increasingly better appearance, taste and smell when reaching the U.K. market, thus fetching better prices. This increased the value of cattle, thereby benefiting cattle producers. Moreover, cattle producers also profited from the robust demand in the U.K. market, which allowed larger quantities of meat to be exported. Furthermore, some of the larger cattle producers were sometimes shareholders in *frigoríficos* and so obtained a significant return from their dividends and share price appreciation. In general, cattle producers were benefiting from the expansion of *frigoríficos* and their increasing output, both in terms of quantity and value. Similarly, domestic policy, which was strongly influenced by cattle producers, was favourable to *frigoríficos*, given that cattle prices and export volumes were increasing. Hence, during the strong growth period from the early twentieth century to the end of the First World War, domestic policy opposition to the meat packing industry was minimal. Indeed, local policy was overwhelmingly in favour

<sup>139</sup> River Plate Fresh Meat Company, Reports of the Directors and Statement of Account for the Years ending 30 April 1902 and 30 April 1903, presented to the Thirteenth and Fourteenth General Meetings (London, 1902 and 1903).

of foreign meat packing plants. Thus until the 1920s the augmenting foreign control of the industry did not induce major resistance, but at times dissatisfaction from cattle producers led to some limited short-lived complaints.

#### **4.2.2 Entrance of U.S. Meat Packers: The Fight for Increased Economies of Scale and Scope**

In the early 1900s, the Anglo-Argentinian *frigoríficos* competed primarily with meat packing houses in the U.S.A., while secondarily with the Australian and New Zealand frozen meat trade, in the supply of the main U.K. market. During the early twentieth century, U.S. meat exports declined sharply, due to growing home consumption, while cattle production decreased. The U.S. meat packing plants, which had built up an important business exporting American meat primarily to Britain in the late nineteenth century, became interested in finding a new supplier for the British market in the early 1900s.<sup>141</sup> This combined with the attractive overall returns obtained by the Anglo-Argentinian *frigoríficos*, which were benefiting from cheap cattle, low labour costs and improving cattle products, made the River Plate an appealing option. By utilising cattle from the River Plate, the U.S. meat packing houses could offset the declining production for export in the U.S.A. with River Plate meat. Indeed, as River Plate meat exports expanded in the early 1900s, U.S. meat companies began to be interested in moving into the region.

The first U.S. investment in the River Plate meat packing industry was made by Swift in 1907, one of the Chicago based meat packing companies, which acquired the biggest

<sup>140</sup> Compania Sansinena de Carnes Congeladas (Sansinena Frozen Meat Company), Report of the Directors and Statement of Account for the Year ending 31 December 1902, presented to the Eleventh General Meeting (Buenos Aires, 1903). One Pound was equivalent to \$5.04 Argentinian Gold Pesos and \$11.4545 Paper Pesos.

<sup>141</sup> Yeager, M., Competition and Regulation: The Development of Oligopoly in the Meat Packing Industry (Jai Press, Greenwich, Connecticut, 1981), pp. 158-159.

Argentine plant at the time, the La Plata Cold Storage Company. Additionally, in 1909 the National Packing Co., that was owned by the Chicago meat companies, namely Swift, Armour and Morris, purchased the La Blanca plant. Importantly, the entrance of the American meat packers was quickly followed by fierce competition between the U.S. and Anglo-Argentinian *frigorificos*. However, business conditions remained acceptable until 1910, albeit with intensified competition, given that the U.S. meat packers were increasingly augmenting their meat exports.<sup>142</sup> The export expansion led to a further increase in the number of ships that were able to transport refrigerated cargo. Indeed, numerous steamers with refrigeration capacity were built in the early 1910s and consequently the capacity as well as frequency of refrigerated services between the River Plate and Europe augmented.<sup>143</sup> In 1910, the American meat packing houses started to export even larger quantities of meat, thereby saturating the British market. As a result, meat prices in the U.K. decreased significantly and cattle prices in the River Plate augmented drastically. Thus the U.S. meat packers excessive overstocking of the British market marked the beginning of a severe price war in 1910. The U.S. meat packing houses' aim was to capture an ever increasing market share of the River Plate meat export trade, through aggressive pricing. Specifically, the American meat packing houses bought cattle at very high prices, usually top quality animals due to their concentration on chilled beef exports, while they sold their meat in the U.K. at low prices. Through this buying and pricing strategy, they managed to obtain an ever larger share of total cattle purchases in the River Plate and of meat sold in the U.K. market. The American meat packers had a long-term view and the professional career managers that run the firms wanted to maximise long-term profitability. Thus they were willing to sacrifice profits in the short-term to gain market share, that would translate into higher

<sup>142</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p. 60.

earnings in the longer-term. Moreover, they also needed significant economies of scale, in order to ensure that the meat packing plants were operating at the 'minimum efficient scale' and could thereby benefit from a cost advantage vs. smaller *frigoríficos*.

Due to the intense price war, the profitability of most Anglo-Argentinian *frigoríficos* declined sharply, given that they had difficulty in competing with the larger and better capitalised American meat packers. The River Plate Meat Company's net profit on trading declined from £104,996 in 1910 to £25,119 in 1911 and dividends for ordinary shares decreased from 10% plus a bonus of 1 shilling in 1910 to 5% in 1911, although the dividend on preference shares remained at 10%.<sup>144</sup> Similarly, the Sansinena net profit was low in 1911, while the merchandise account profit fell from \$1,174,286 (Argentinian Gold Pesos) in 1910 to \$323,261 in 1911 and dividends declined from 15% on all shares in 1910 to 6% and 10% in 1911 on preferred shares and ordinary shares respectively.<sup>145</sup> Although the U.S. meat packing houses were not maximising their returns in the short term and at times also suffered from a lack of profitability, their objective was market share growth. However, the U.S. meat packers were also more competitive, while there were two important factors which made the Anglo-Argentinian *frigoríficos* vulnerable to the forceful American competition in the River Plate. Firstly, the U.S. meat packing houses were more efficient and had better production, logistics as well as distribution methods, traceable to their extensive management as well as technical knowhow acquired and perfected since the 1870s through their operations in the large U.S. market. This accumulation of experience and knowhow represented a

<sup>143</sup> *The Times*, 'Argentine Meat and the Construction of New Steamers', London, November 26, 1910, p. 19, col. 3.

<sup>144</sup> River Plate Fresh Meat Company, *Reports of the Directors and Statements of Account, Years ending 31 December 1910 and 31 December 1911, presented to the Twenty-Second and Twenty-Third General Meetings* (London, 1911 and 1912).

<sup>145</sup> Compania Sansinena de Carnes Congeladas (Sansinena Frozen Meat Company), *Reports of the Directors and Statements of Account, Years ending 31 December 1910 and 31 December 1911, presented to the Nineteenth and Twentieth General Meetings* (Buenos Aires, 1911 and 1912).

clear first mover advantage, that enabled them to produce and deliver meat as well as by-products of better quality faster and at lower costs, while they utilised more of the slaughtered animal, through superior manufacturing methods and refrigeration techniques. Additionally, they increased their economies of scope by expanding the by-product range and thereby maximising the utilisation of the slaughtered animal even more. Through the expansion of by-products they were able benefit from supplementary revenue. In particular, the start of chilled beef production led to a significant increase in the value of exports. Indeed, the U.S. *frigoríficos* were principally involved in the chilled beef trade, which was primarily developed by them in the River Plate. Chilled beef commanded a much greater price than frozen meat, thus providing a higher value product. Furthermore, their plants were mostly located near deep-water docking facilities, which allowed them to unload meat and by-products directly onto large transatlantic refrigerated ships and thereby reduce transhipment costs, that most Anglo-Argentinian *frigoríficos* had to incur, given that they were located further up river. Secondly, the main American meat packing houses had built up an enormous business in the large U.S.A. market, building a 'meat trust', which was extremely profitable and slaughtered almost 90% of all cattle at Chicago.<sup>146</sup> American meat packers were under significant pressure in the U.S.A. to dismantle the trust, especially in the 1890s and 1900s following the passage of the Sherman Anti-Trust Act. Despite legal constraints, the American packers managed to sustain their powerful alliance and in general continued operating as a trust, albeit with some modifications.<sup>147</sup> Nevertheless, the increasing policy pressure to dismantle the trust in the U.S.A. persuaded the American

<sup>146</sup> Mary Yeager analysed the development and operations of the meat trust in the U.S., while examining the role of the main Chicago meat packers in the late nineteenth century, in her book *Competition and Regulation: The Development of Oligopoly in the Meat Packing Industry* (Jai Press, Greenwich, Connecticut, 1981). The meat packing companies that participated in the trust were Armour & Co., Swift & Co., Nelson Morris and Hammond & Co., which slaughtered on average 87% of the total cattle brought to Chicago, the main market, in 1886-1890, as shown on p. 67.

<sup>147</sup> Yeager, M., *Competition and Regulation: The Development of Oligopoly in the Meat Packing Industry* (Jai Press, Greenwich, Connecticut, 1981), pp. 178-190.

meat packers to devise a new international supply strategy, which led to their establishment in the River Plate.

"They began to reassess the relationship between domestic and export markets and to consider a new strategy to counter domestic difficulties. Sometime between 1906-1907, the packers moved abroad to secure new sources of supply. Swift moved first into Argentina, followed rapidly by his anxious rivals, who used the National Packing Co. to force a joint multinational strategy."<sup>148</sup>

Given that the American meat packers operating in the River Plate were trust members, they could endure losses if necessary by drawing funds from their large U.S. business. Indeed, Swift and the National Packing Company -the latter incorporated the trust members Swift, Armour and Morris- were able to maintain very low or even negative margins in their River Plate business for long periods of time, by subsidising their business from their large American base. In contrast, the majority of Anglo-Argentinian *frigorificos*, were mainly dependent on their River Plate export business and in some cases a U.K. wholesale and retail business. Therefore, their ability to draw significant funds from Europe was limited, especially since the U.S. meat packers were selling meat in the U.K. at largely depressed prices.

#### **4.2.3 Emergence of *Frigorifico* Pools: Shifting the Supply Control from the 'Invisible' Hand to Managerial Command**

The 1910 price war enabled the U.S. meat packing houses to expand their exports of chilled beef substantially, thereby crowding out the Anglo-Argentinian *frigorificos*. Indeed, competition for the dominance of the meat packing industry was intense until end-1911. This led to friction, especially between the Anglo-Argentinian and U.S. meat packing houses. Nevertheless, conflicts were resolved with the creation of pools starting

in December 1911, which were cartels formed by the *frigoríficos* to allocate shipment space on refrigerated boats. This benefited the meat packers, given that they could optimise their cargo volume. Thus, the meat packers coordinated and managed the supply of meat, thereby replacing the 'invisible hand' of market forces by the 'visible hand' of managerial control. Most importantly, the establishment of pools ensured that prices in the U.K. remained high due to supply controls, while in Argentina it avoided inflated cattle prices through restricted demand from meat packing houses. Hence, by maintaining stable cattle prices in Argentina and high selling prices in the U.K., the meat packers could maximise their profits, at least in periods when the pools were in place and running well. For perspective, the American meat packing houses had used pools extensively in the U.S.A., both internally, through the allocation of wagon space in trains, and externally by dividing export shipments to the U.K. market. Although agreements between Anglo-Argentinian meat packers existed prior to the 1911 pool, they were less effective, given that their arrangements seldomly included all *frigoríficos*, as explained in a parliamentary enquiry in 1909:

"You say some slight attempt to regulate prices is made. What exactly do you mean ? - The three oldest companies meet and talk of their business - the Sansinena Company, the River Plate Fresh Meat Company and James Nelson and Sons ... The three companies meet together once a week and discuss the situation and decide what price they ought to make among themselves. I believe they adhere to that pretty closely, but inasmuch as the other seven South American companies are rarely consulted in the matter, I say they have no effective control."<sup>149</sup>

Thus prior to the 1911 pool the Anglo-Argentinian *frigoríficos* already had the intention of devising an arrangement, as this would have ensured higher returns. Most importantly, after the establishment of the large U.S. meat packers, it was in the best interest of the Anglo-Argentinian *frigoríficos* to create a pool, as it 'froze' the expanding

---

<sup>148</sup> Yeager, M., *Competition and Regulation: The Development of Oligopoly in the Meat Packing Industry* (Jai Press, Greenwich, Connecticut, 1981), pp. 178-190.

market share of the American meat packing houses, when the pool functioned, while restoring profitability. In addition, the rising exports of chilled beef also placed a burden on *frigoríficos*, given that chilled meat could only be maintained in good condition for forty days, before it had to be consumed. The journey time from the River Plate to the U.K. was about one month, leaving only ten days for distribution and consumption.<sup>150</sup> Price wars increased the cost burden of chilled beef because it could not be stored for long periods of time without being frozen down at an exuberant cost, especially due to the loss incurred in the price differences between the higher value chilled beef and lower priced frozen meat. Within this context, the first pool was set up in December 1911, which was a joint agreement that divided the total meat exports by *frigorífico*. The pool of 1911 provided the U.S. meat packing houses with a 41.35% share of exports, while the U.K. and Argentine *frigoríficos* received a 40.15% and 18.5% share respectively.<sup>151</sup>

#### **4.2.4 Regional Rivalry for Increased Scale and the Modernisation of Meat Packing in Uruguay**

The 1911 pool agreement incorporated only *frigoríficos* operating in Argentina. Therefore, Uruguay was excluded in the creation of the pool, due to the minor role that Uruguayan refrigerated meat exports played as a percentage of total River Plate *frigorífico* exports.<sup>152</sup> Indeed, *saladeros* still represented an important, albeit declining, part of meat exports in Uruguay. Given that further market share gains in Argentina were constrained by the pool, it was in Uruguay where the meat packing houses fought to expand their chilled and frozen meat export business and obtain increasing economies of scale and scope. Prior to the formation of the pool, the only *frigorífico* operating in

<sup>149</sup> Parliamentary Papers, Report of the Departmental Committee appointed to inquire into combinations in the meat trade, presented to both houses of Parliament, Cd. 4643, Minutes of Evidence, Questions 292-293, George Goodsir, Esq. (Messrs. Weddel & Co.) examined, London, 1909, p. 11-12.

<sup>150</sup> Williman, J. C., *Historia Económica del Uruguay* (Vol. II, Editorial Fin de Siglo, Montevideo, 1994), p. 143.

<sup>151</sup> Calvet, J., *Un Siglo Frio en la Ganadería Argentina* (Carbab, Buenos Aires, 1977), p. 39.

Uruguay at the time, namely La Frigorifica Uruguaya, was acquired by the Argentinian Sansinena meat packing company.<sup>153</sup> Since 1904 it had been owned by domestic capital, primarily land owners and banking interests, and run by local management. The battle for control was severe, with both Swift and Sansinena bidding for La Frigorifica Uruguaya during the height of the price war in early 1911. Swift tried to buy the Uruguayan *frigorifico*, but was outbid by Sansinena. Nevertheless, Swift quickly followed Sansinena and entered the Uruguayan market by purchasing the Cibil *saladero* in Montevideo, while transforming it into a large *frigorifico*. Importantly, the Uruguayan government encouraged foreign capital participation in the industry by disbursing major tax and duty concessions to *frigorificos* in 1910.<sup>154</sup> These were further enhanced by the Batlle administration in 1911, making meat packing plants exempt from export taxes, import duties on capital equipment and other minor state charges, thereby strongly fomenting a friendly investment climate for foreign capital participation in the meat packing industry.<sup>155</sup> In fact, the expansion of *frigorificos* in Uruguay was enormous after the entrance of foreign capital in the industry, which is evidenced by the large increase in frozen and chilled meat exports, as can be seen in table 4.1.

Table 4.1: Uruguayan Frozen and Chilled Meat Exports in Tons (1911-1914)

Year	1911	1912	1913	1914
Total Frozen and Chilled Bovine and Ovine Meat Exports (Tons)	10618	21843	49564	71837
Index (1911=100)	100	206	467	677

Source: Fournier, R., *Estudio Economico de la Produccion de las Carnes del Rio de la Plata* (Pena & Cia, Montevideo, 1936), appendix V, tables I & II, pp. 368-369.

<sup>152</sup> Finch, H., *A Political Economy of Uruguay since 1870* (The MacMillan Press, London, 1981), p. 136.

<sup>153</sup> Compania Sansinena de Carnes Congeladas (Sansinena Frozen Meat Company), *Report of the Directors and Statements of Account, Year ending 31 December 1911, presented to the Twentieth General Meeting* (Buenos Aires, 1912).

<sup>154</sup> Nahum, B., *La Epoca Batllista 1905-1929* (Historia Uruguaya, Ediciones de la Banda Oriental, Tomo 6, Montevideo, 1986), pp. 92-93.

<sup>155</sup> Barran, J.P., Nahum, B., *La Civilizacion Ganadera Bajo Batlle (1905-1914)* (Historia Rural del Uruguay Moderno, Ediciones de la Banda Oriental, Volume VI, Montevideo, 1977), pp. 211-212.

This robust expansion in *frigorifco* meat exports from the River Plate, which were not included in the 1911 Argentinian pool, put pressure on the arrangement. Indeed, one of the main reasons for the large meat packers to enter Uruguay was to expand their production capacity, increase their economies of scale and ensure effective control of Uruguayan supply, without affecting the Argentinian pool agreement. This indicates that regional rivalry was partly responsible for the modernisation of meat packing in Uruguay.

#### **4.2.5 Resuming the Leadership Battle Through an Aggressive Price War**

Despite their significant expansion in Uruguay, the U.S. meat packing houses, which wanted to obtain an ever increasing share of River Plate meat exports, were not content with their 41.35% meat export allocation under the terms of the pool agreement. Thus the 1911 pool was short-lived and came to an end in 1913. U.S. meat packers aimed to expand their share of total River Plate meat exports and consequently launched an aggressive competitive initiative. As occurred prior to the 1911 pool arrangement, the U.S. meat packing plants augmented their shipments, thereby increasing the prices of cattle in Argentina and overstocking the U.K. market. This led to a severe price war. Having extended production facilities, La Blanca, owned by the National Packing Company, a joint firm of the Chicago trust companies Swift, Armour and Morris, wanted to have a larger meat export share. Indeed, the American meat packers wanted to ensure that their new plant would be operating at the 'minimum efficient scale', in order to maintain an overall cost advantage without cannibalising the business from their other *frigorificos*. In addition, they wanted to ensure high capacity utilisation and needed to generate significant 'throughput' in their expanded La Blanca plant. Therefore, La Blanca asked to have its meat export share increased by one-half: the request was not

accepted by the Anglo-Argentinian *frigoríficos* and instead a 10% increase was proposed.<sup>156</sup> However, La Blanca refused the counter-offer and started expanding its output, triggering a price war. The 1913 price war was particularly fierce, not just because of the American meat packers' goal to enlarge their share of exports to Britain, but also due to a new potentially lucrative business in exporting meat to the U.S. market. In 1913 the U.S. was modifying import duties for numerous products. Meat was placed on the free list, thereby establishing a new outlet for River Plate cattle products.<sup>157</sup> The first direct shipment of Argentine beef to New York, albeit on an experimental basis, took place in September 1913.<sup>158</sup> However, meat exports to the U.S.A. did not become an important business for the River Plate. They were impeded during the First World War and the U.S. government imposed significant barriers to River Plate meat in the early 1920s, while banning them altogether in 1926.<sup>159</sup>

Table 4.2 indicates the extent of the decline in chilled beef prices in Britain and the increase in cattle prices in Buenos Aires after the collapse of the first pool in 1913. Additionally, the table shows that exports of American meat packing plants indexed 144 in the first nine month of 1913 compared with the same period in 1912, while shipments of Anglo-Argentinian *frigoríficos* declined slightly by 1%. This reflects the strategy of the U.S. meat packers to flood the market in order to gain a larger share of total sales and thus increase their economies of scale and 'throughput'.

<sup>156</sup> *The Economist*, London, Vol. LXXVII, No. 3647, July 19, 1913, p. 119.

<sup>157</sup> *The Economist*, London, Vol. LXXVII, No. 3670, December 27, 1913, p. 1402.

<sup>158</sup> *The Times*, 'Argentine Beef for New York - The First Shipment', London, September 9, 1913, p. 11, col. 5.

<sup>159</sup> For an in-depth analysis of changing international trade regimes and U.S. trade restriction, see chapter 5.

Table 4.2: Chilled Beef Prices in Britain, Cattle Prices in Buenos Aires and Shipments By Meat Packing Company Origin During and After the First Pool Agreement

Period	<u>During the First Pool</u> (A)	<u>After the First Pool</u> (B)	<u>Index</u> (C)
Year	1912	1913	$[(B) / (A)]$
Meat Prices in the U.K. (Sept.)	3s. 6d.	3s. 2d.	(90)
Cattle Prices in Buenos Aires (Sept.) In Argentinian Paper Pesos	120	166	(138)
Shipments by American Companies (Jan.-Sept.) In Chilled Quarters	1020838	1475359	(144)
Shipments by All Other Companies (Jan.-Sept.) In Chilled Quarters	743742	734621	(99)
Total Shipments (Jan.-Sept.) In Chilled Quarters	1764580	2209980	(125)

Source: Annual Report on Argentine Republic for the Year 1913, British Confidential Report from the Foreign Office, from Sir Reginald Tower, British Minister in Buenos Aires, to Sir Edward Grey, Doc. 53-54, 3563, received January 26, in Bourne, K., Watt, D.C., (gen. eds.), 'British Documents on Foreign Affairs: Reports and Papers from the Foreign Office Confidential Print', Latin America 1845-1914, Part I, Series D, Volume 9, p.312.

Similarly to the drastic increase in cattle prices in Argentina, the value of Uruguayan cattle continued its strongly ascending trend, also reaching extremely high prices in 1913 and 1914. Specifically, prices paid by Swift in Uruguay per cattle head augmented from \$21.94 (Uruguayan Paper Pesos) in January 1912 to \$37.12 and \$43.84 in January of 1913 and 1914 respectively, thus almost doubling in a two year period.<sup>160</sup>

The Anglo-Argentinian *frigoríficos* were evidently not in favour of the price war, as their profitability declined and many were forced to endure losses in 1913, while the

U.S. meat packers' share of exports was increasing. Indeed, the Sansinena's profit and loss account showed a loss of \$997,484 (Argentinian Gold Pesos) in 1913 and it was consequently forced to cancel its dividend for the year, in contrast with a profit of \$406,872 reported in 1912 and dividend payments of 10% and 6% on ordinary and preferred shares respectively.<sup>161</sup> Likewise, the Smithfield and Argentine Meat Company was not profitable and its dividend was cancelled for 1913 after a 10% dividend payment in 1912, while James, Nelson & Sons' net profit declined sharply from £51,045 in 1912 to £16,728 in 1913 and part of its 7% total dividend had to be paid out of the reserve fund.<sup>162</sup> One exception was the Union Cold Storage Company (Vestey), whose rapidly expanding global business enabled it to continue reporting stronger profits in 1913, despite a decrease in profitability from their River Plate operations. Global profits increased from £133,225 in 1912 to £143,586 in 1913, as the poor profitability achieved in the River Plate and U.K. operations was more than offset by extensive business interests in Australasia.<sup>163</sup> This indicates that Anglo-Argentinian *frigoríficos* that only had operations in the River Plate could not cross-subsidise operations with profits generated elsewhere.

As a consequence of the poor results achieved in the River Plate, the Anglo-Argentinian *frigoríficos* requested help from the Argentinian, Uruguayan and British governments to defend them against the American *frigoríficos*. Indeed, they asked the governments to set a limit on meat exports by *frigorífico*. They claimed that the large Chicago meat

<sup>160</sup> Barran, J.P., Nahum, B., La Civilización Ganadera Bajo Battle (1905-1914) (Historia Rural del Uruguay Moderno, Ediciones de la Banda Oriental, Volume VI, Montevideo, 1977), p. 226.

<sup>161</sup> Compañía Sansinena de Carnes Congeladas (Sansinena Frozen Meat Company), Reports of the Directors and Statements of Account, Years ending 31 December 1912 and 31 December 1913, presented to the Twenty-First and Twenty-Second General Meetings (Buenos Aires, 1913 and 1914).

<sup>162</sup> Smithfield & Argentine Meat Company, Report of the Directors and Statement of Account, Year ending 31 December 1913, presented to the Twelfth General Meeting (London, 1914) and James, Nelson & Sons, Reports of the Directors and Statements of Account, Years ending 28 December 1912 and 27 December 1913, presented to the Twenty-Second and Twenty-Third General Meetings (London, 1913 and 1914).

<sup>163</sup> The Union Cold Storage Company, Report of the Proceedings 1913, Seventeenth General Meeting (London July 28, 1914).

packers were using their robust economic power to dominate the industry in the River Plate, while through price wars they aimed at expanding their supremacy and control. However, the governments were only slightly sympathetic, while they did little to reverse the American meat packer's inroads.

#### **4.2.6 Anglo-Argentinian *Frigoríficos* Request State Support**

The Anglo-Argentinian *frigoríficos* asked the Argentinian government for support, while threatening to close their plants. Although the implications of the American meat trust were debated in parliament and a commission was appointed to examine its consequences, the Anglo-Argentinian *frigoríficos* received little state backing.<sup>164</sup> In his 1913 annual report, the British Minister in Buenos Aires, portrayed the negotiations with the Argentinian government as follows:

"At the end of May the three British companies asked me to represent to His Majesty's Government the expediency of supporting the Argentine Government and encouraging them to resist the growing power of the Beef Trust. In June three British companies, in conjunction with the Sansinena and the Argentino Companies, approached the Minister of Agriculture and threatened, unless action were taken by the Argentine Government to protect them, to close their establishments and throw over 6,000 men out of work. I informed the Argentine Government on the 11<sup>th</sup> of June that His Majesty's Government would watch with sympathetic concern any action which might be taken for the purpose of preventing the establishment of a monopoly in the meat export trade. Cabinet Councils were held on the question of Government action, but nothing was done, largely in consequence of the opinion of the cattle breeders, who were more satisfied with the high prices then ruling for live cattle."<sup>165</sup>

Indeed, the lack of support received by the Anglo-Argentinian *frigoríficos* reflects the powerful influence that cattle producers, in particular the large land-owners, had on the Argentinian government. In fact, numerous government officials were members and former directors of the influential Rural Society, so that policy-makers had an intertwined political relationship and thus were strong supporters of cattle producers

<sup>164</sup> *The Times* reported on the meat trust debate and the designation of a meat commission in 'Alleged Meat Trust in Argentina', July 4, 1913, p. 17, col. 4 and 'Argentine Meat Commission Appointed', London, July 18, 1914, p. 17, col. 4.

<sup>165</sup> Annual Report on Argentine Republic for the Year 1913, British Confidential Report from the Foreign Office, from Sir Reginald Tower, British Minister in Buenos Aires, to Sir Edward Grey, Doc. 53-54, 3563, received January 26, in Bourne,

interests.<sup>166</sup> Nevertheless, the government also had a detached interest in backing cattle producers, given that more fiscal resources could be derived from higher cattle prices. Specifically, tax revenue would increase, as the higher cattle prices augmented the profitability of cattle producers, which in turn increased consumption and the value of assets. This would translate into higher value added and property taxes, as well as import duty revenue. Thus, the higher the price of cattle, the greater the tax base. This was also a reason, albeit probably not the primary consideration, not to support the Anglo-Argentinian *frigoríficos*. Although a small number of *estancieros* were also shareholders in *frigoríficos*, the majority did not have investments in meat packing. Thus the government backed local cattle producers, which had the joint objective with the government to obtain the highest possible prices for cattle. This governmental stand was endorsed further by the response of the Argentine Agricultural Minister to the British Minister in Buenos Aires, in regards to the request for support, in the midst of the 1913 price war, for the Anglo-Argentinian *frigoríficos*. Indeed, the Minister of Agriculture insisted that a way to control the trust was to partly lift Foot and Mouth Disease restrictions, which had prevented cattle on the hoof exports to the U.K. since 1900, by permitting cattle to be slaughtered on an island off the British mainland, where the meat and hides could be sanitised prior to their distribution in the U.K.<sup>167</sup> This would have evidently led to severe competition between cattle on the hoof exporters and meat packing houses, thereby maximising cattle prices in Argentina, while minimising meat prices in the U.K. Most importantly, the resumption of cattle on the hoof shipments would have depressed the profitability of *frigoríficos* and restrained pool arrangements. Despite the suggestion to resume cattle on the hoof exports by the

---

K., Watt, D.C., (gen. eds.), 'British Documents on Foreign Affairs: Reports and Papers from the Foreign Office Confidential Print', Latin America 1845-1914, Part I, Series D, Volume 9, p. 312.

<sup>166</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), pp. 47-50.

Argentinian government, British sanitary laws in regards to Foot and Mouth Disease were not amended. Thus hygiene restrictions remained in place and cattle on the hoof could not be exported to the U.K.

Another important factor in favour of the American meat packers was their relationship with fatteners. Indeed, cattle producers were divided in two groups, breeders and fatteners. Specifically, breeders would sell young animals, usually after they were six to eight months old, to the fatteners. Subsequently, the fatteners held cattle for between two and three years, before selling them to the *frigoríficos*. Fatteners tended to have more fertile pasture, rich in alfalfa, which allowed cattle to gain weight rapidly. The division between fatteners and breeders was encouraged by the U.S. meat packers, whose aim was to obtain larger and heavier animals for chilled beef. Since the chilled beef business was developed strongly by the U.S. *frigoríficos*, ever since they established themselves in the River Plate, they fostered this partition between cattle producers. Most importantly, American meat packers developed a strong relationship with the fatteners, who were mostly the larger landowners, especially by forward buying cattle directly from their *estancias* at above market prices. Thus the fatteners, who had a strong influence in the Rural Society and therefore in government, were firm supporters of the U.S. meat packing houses. In general, this close affiliation enabled the American *frigoríficos* to create an alliance with fatteners, which in turn provided them with an indirect influence in domestic policy formulation.<sup>168</sup>

<sup>167</sup> *The Economist*, London, Vol. LXXVII, No. 3647, July 19, 1913, p. 119. Also see Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), pp. 62-63.

<sup>168</sup> For foreign meat packing plants the alliance with fatteners represented a powerful force to influence domestic policy as explained in Olariaga De, N., *El Ruralismo Argentino* (Editorial El Ateneo, Buenos Aires, 1943), pp. 154-155.

The response of the Uruguayan government corresponded to that of the Argentinian.

While the Uruguayan government acknowledged the dangers of the Chicago trust, it did not take steps to control *frigoríficos* nor the meat trade in the 1910s, especially in light of the significant increases in cattle prices. Additionally, domestic policy had encouraged foreign capital participation in the meat packing industry to foster the establishment and improvement of *frigoríficos*, with the goal to offer an alternative outlet to *saladeros*, which would increase the value of the trade. In this sense, American meat packers were not seen as a major threat.

Separately, the British government had voiced concern regarding the potential control of the British meat trade by the Chicago trust.<sup>169</sup> Nevertheless, little was done to support the Anglo-Argentinian *frigoríficos*. This was primarily traceable to the British fear of inflationary pressure, given that meat represented a significant part of the food purchases and hence was an important component of the foodstuffs basket index. Thus the British government's priority was to have the lowest possible meat prices in the U.K. market. Pools restricted meat supplies thereby maintaining prices at a high level. Furthermore, Britain advocated free trade and any protective measures which would have restricted or controlled imports would not have supported an open trade policy.

#### **4.2.7 Repercussions of the Intense 1913 Price War and the Creation of a New Pool**

The 1913 price war enabled the American meat packing houses to expand, while the Anglo-Argentinian *frigoríficos* were forced to retract. Indeed, two of the longest established meat packing firms, namely The River Plate Fresh Meat Company and James Nelson and Sons, merged in 1914 to form the British and Argentine Meat

Company.<sup>170</sup> The *frigorífico* Las Palmas, a former subsidiary of James Nelson and Sons, was forced to close and the capital of the merged companies was increased in order to renovate the industrial plant of the River Plate Meat Company in Campana.<sup>171</sup> Additionally, the Frigorífico Argentino was shut down and leased to the American firm Sulzberger & Sons.<sup>172</sup> Following the intense price war between the American and Anglo-Argentinian *frigoríficos* in 1913, a new pool was formed in 1914, before the start of the First World War. The new pool arrangement was concluded largely at the expense to Anglo-Argentinian meat packing plants: U.S. meat packing firms increased their share of meat exports to 58.5%, while reducing the British share to 29.64% and the Argentinian to around 11.86%.<sup>173</sup> Hence, the American meat packing houses had achieved their objective of obtaining a larger share of the export trade and therefore benefited from greater economies of scale and 'throughput'. The share of the U.S. meat packers increased by 17.15 percentage points between the first pool in 1911 and the second in 1914, while the British and Argentinian *frigoríficos* lost 10.51 and 6.64 percentage points respectively. However, the largest relative share decline was the Argentinian, whose share of meat exports indexed 64 in the 1914 vs. the 1911 pool, in comparison with an index of 74 for the British, and 141 for the American meat packers.<sup>174</sup> For perspective, prior to the entrance of American meat packing houses, one Argentinian *frigorífico* alone, namely Sansinena, had a 18.1% export share of all chilled and frozen beef shipments in 1906.<sup>175</sup> Chart 4.1 shows the rapid proportional increase of U.S. *frigoríficos* in the River Plate meat export trade, from none before they arrived in

<sup>169</sup> Report of the Departmental Committee appointed to inquire into combinations in the meat trade, presented to both houses of Parliament, Cd. 4643, London, 1909, p. 9-15.

<sup>170</sup> River Plate Fresh Meat Company, S. Young, Memorandum sent to Shareholders (London, 28 March 1914) and James Nelson & Sons, P. Holmes, Memorandum sent to Shareholders (London, 22 January 1914).

<sup>171</sup> Puiggros, R., *Libre Empresa o Nacionalizacion en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 24.

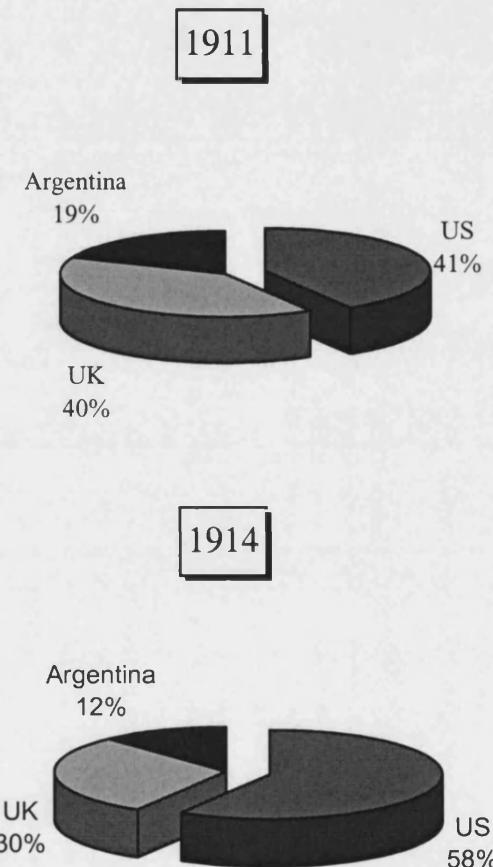
<sup>172</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p.68.

<sup>173</sup> Calvet, J., Un Siglo Frio en la Ganaderia Argentina (Carbap, Buenos Aires, 1977), p.42.

1907, to 41.35% in the pool agreement of 1911 and 58.5% in the one of 1914.

Importantly, unlike the previous agreement, the 1914 pool embraced all River Plate *frigoríficos*, including all packers in Argentina and Uruguay.

Chart 4.1: Allocation of River Plate Meat Exports by Packers Origin  
In the Pool Agreements of 1911 and 1914 (% of Total Exports)



Sources: Calvet, J., Un Siglo Frio en la Ganadería Argentina (Carbap, Buenos Aires, 1977), pp. 39 and 42.

#### **4.2.8 The Overall Implications of the Pools and Price Wars**

In retrospect, the pool arrangements were a cartel system, which rather than enabling demand and supply forces to determine a market equilibrium, fixed the supply of River

<sup>174</sup> The index numbers only indicate a relative rise or decline in the export share figures. Given that chilled and frozen meat exports grew sharply in 1900-1914 the nominal export values increased.

<sup>175</sup> Calculated with data from The South American Journal, London, Volume LXIV, No. 6, February 8, 1908, p. 149.

Plate meat through refrigerated shipment space allocation, thereby maintaining low cattle prices in the River Plate, while ensuring high prices for meat in the U.K. Thus, pools replaced the invisible hand of market forces and the meat packers controlled supply by coordinating the flows of meat and byproducts. Contrarily, price wars swamped the British market with River Plate meat from U.S. *frigoríficos*, especially in the 1913 price war, thus having the opposite effect, which indicated dumping practices, although the American meat packers dismissed claims that they were selling under cost.<sup>176</sup> The U.S. *frigoríficos* were more efficient and benefited from greater economies of scope, as evidenced by their larger range of better quality products than their Anglo-Argentinian counterparts. In addition, they also gained from economies of scale generated by their large increase in exported volume. Therefore, it is contestable whether the American meat packers were only strongly undercutting competition or selling below their overall cost, given that they could draw funds from their large U.S. businesses. The Anglo-Argentinian *frigoríficos* claimed that the American meat packing plants were selling under costs in 1913, as reported in The Economist:

"(In June 1913) the authorities were approached by six out of nine (Anglo-Argentinian) large meat companies for protection, these alleging that, 'owing to the burdensome conditions created by three other (United States) companies in the country preparing an absolute monopoly by selling Argentine meat in the English markets below costs price', they would be compelled to close their factories.<sup>177</sup>

In any case, in periods of price wars, American *frigoríficos* in the River Plate suffered a drastic decline in their margins, thereby severely reducing their profitability. Hence, there were periods of cartel agreements, that restricted supply to the U.K., and stages of enormous supply expansion, that dumped meat onto the British market, heavily

<sup>176</sup> Dumping is difficult to define, while it is complex to establish and classify as already explained in the early 1920s by Jacob Viner in Dumping: A Problem in International Trade (The University of Chicago Press, Chicago, 1923), pp. 1-34, as well as more recently updated and expanded in Dale, R., Anti-dumping Law in a Liberal Trade Order (The MacMillan Press, London, 1980), pp. 8-17. Nevertheless, if goods are sold under cost and thus a 'sale at prices unremunerative to the sellers' occurs, it can be regarded as dumping (see Viner, op. cit. p. 3).

<sup>177</sup> The Economist, London, Vol. XCVI, No. 4149, March 3, 1923, p. 489.

depressing prices. As such it was an inter-*frigorifco* war, between the American meat packers that wanted to rapidly expand their share of the export meat market in order to benefit from greater economies of scale and the Anglo-Argentinian *frigorificos* whose aim was to reverse or at least stop the advance of the U.S. meat packing houses, so as to maintain their scale and adequate 'throughput'. Thus the Anglo-Argentinian *frigorificos*, which were warning the Argentinian, British and Uruguayan governments as well as cattle producers in 1913 about the potential control of the U.S. trust, were trying to build up a separate trust that would include themselves and the Americans through the creation of a new pool arrangement, which as already mentioned was set-up in 1914. Nevertheless, the Anglo-Argentinian meat packing plants' resistance played an important role as a opposing force to the American *frigorificos*, thereby ensuring that the Chicago trust would not obtain total control of the River Plate meat packing industry. Thus the pool agreements represented an oligopoly between the large Anglo-Argentinian and U.S. *frigorificos*, rather than only a monopoly of the American meat packing houses.

Importantly, through rivalry the centralisation of the River Plate meat packing industry gradually increased, by displacing *saladeros* in the first instance and then by reducing the number of 'peripheral' *frigorificos*, who only accounted for a 'marginal' proportion of the meat export business. The latter was achieved through mergers or acquisitions of meat packing plants and their subsequent closure or amalgamation. Hence, the inter-*frigorifco* battle for leadership and control, which would translate into greater 'scale and scope', had a profound effect on the ownership structure of the River Plate meat packing industry. In addition, the opening up of the American market in 1913, further expanded the worldwide market for River Plate meat. This was particularly important

for meat, given that the U.S.A. switched from being one of the main exporters throughout the nineteenth century, first with cured pork products and starting in the 1870s with frozen beef, to an importer in the 1910s.<sup>178</sup> Therefore, the American meat packing houses export business was declining due to a lack of surplus meat production in the U.S. market. Consequently, they needed new sources of supply to maintain their lucrative export business and thence their entrance to the River Plate. Although a significant proportion of meat was exported from the River Plate to the U.S.A., it remained very small if compared with exports to the large U.K. market or the American internal domestic trade. Whereas the U.S. meat packers had superior technology and logistics, the low price of River Plate cattle and hence meat, could offset the Anglo-Argentinian inferior quality and techniques. Thus the U.S. meat packing companies battle for control of the River Plate meat packing industry, was aimed at increasing their share of the global meat export trade by weakening the position of the Anglo-Argentinian competition in their main supply region and the British market. Indeed, the opening of the U.S. market for River Plate meat exemplified a change in the political / legal macroenvironment, while the decline in U.S. production epitomised an amendment in the technological / physical macroenvironment.<sup>179</sup> These macroenvironmental modifications persuaded the American meat packers to change their pricing strategy, which led to the aggressive price war in 1913. As a result, the ability of Anglo-Argentinian *frigorificos* to draw on potentially large profits from their River Plate operations was reduced, while they were forced to focus overall resources and

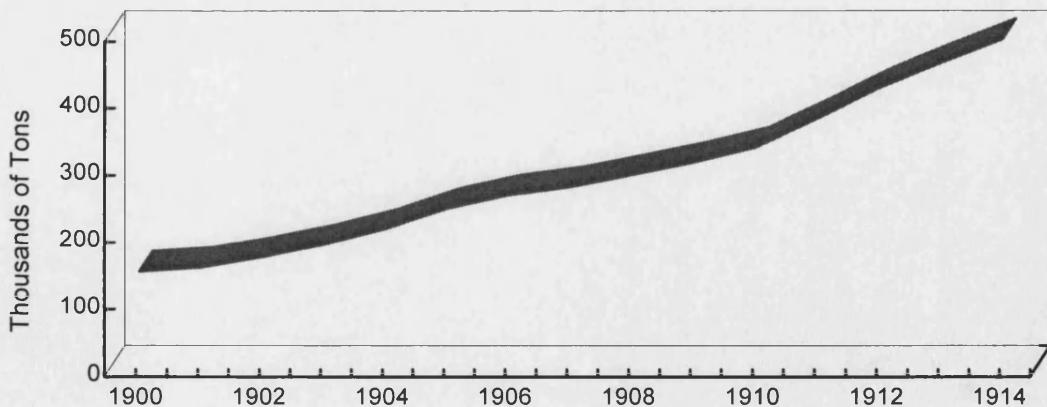
<sup>178</sup> American exports to the U.K. declined steadily until they became insignificant, decreasing from 120,880 tons in 1907 to 305 tons in 1912 and to 73 tons in 1913, while the U.S.A. opened the market and allowed free imports of frozen and chilled meats in 1913, as depicted in the *Review of the Frozen Meat Trade*, Weddel & Co., London, No. 26, 1913, p. 3 and 10.

<sup>179</sup> See Section 4.1 for an analysis of the Marketing Mix concept.

management attention on preserving their core businesses. Moreover, the aggressive strategy also led to the further expansion of the American *frigoríficos* meat export share. Although the 1914 pool also had the objective to export meat to the U.S. market in agreed proportions, the outbreak of the First World War hindered shipments to the U.S.A. due to the lack of transportation capacity. Indeed, during the war almost all the meat exported from the River Plate was consigned to the U.K and to the allied forces. Furthermore, due to the erratic demand generated by the war, combined with transatlantic shipment difficulties, the export allocations had strong variations and therefore only corresponded broadly to the 1914 pool agreement.

Overall, River Plate meat exports increased dramatically from the early twentieth century until the First World War, as can be seen in chart 4.2.

Chart 4.2: River Plate Meat Exports - 5 Year Moving Average 1900-1914



Sources: See Appendix 24.

The inter-*frigorifco* leadership contest and the battle for greater 'scale and scope' benefited cattle producers and River Plate governments alike, as prices and production capacity augmented sharply. Consequently, Argentinian and Uruguayan meat exports experienced enormous growth.

#### **4.3 The First World War Boom (1914-1919)**

##### **4.3.1 Extraordinary Volume Gains and Price Increases Despite Allied Supply Control**

As the First World War broke out, the demand for meat increased dramatically, given that war stricken Europe needed rations for its soldiers as well as food supplies for the population. This led to a large rise in canned and frozen meat exports from both Argentina and Uruguay. At the same time there was a significant decline in chilled meat exports, because war conditions required longer lasting produce. As chilled meat needed to be consumed within weeks, it was not suited for the war requirements. Indeed, shipping blockages and U.K. trans-shipments to the front hindered fast transportation. This combined with strategic long-term stockpiles in the U.K. increased the demand for meats that could be preserved for several months. The Allied Command sent missions to the River Plate to establish supply stations in Argentina and Uruguay. These missions arranged government contracts to secure meat supply for the war effort. But through the control of meat quantities and shipping capacity the buying commissions were also trying to regulate prices. Thus in theory the commissions served not only to ensure regular purchases and shipments, but also functioned as a monopolistic buyer, preventing competition. Hence, the invisible hand of market forces was taken over by the Allied Command that controlled supply. However, the war effort required much higher supplies than they had anticipated, thus prices rose to very high levels despite

their centralised buying process.<sup>180</sup> Indeed, contracts were often underestimated, given that the average man in combat consumed much more meat than during peace time, while the domestic production of meat in Europe was severely affected by the war. As a result, agreements were largely increased over time, reflecting the much higher than expected demand from the allied forces.

Due to the war-time demand, River Plate meat exports grew significantly, as evidenced by the large increase in ovine and bovine meat exports volume of 40% from 1910-14 to 1915-1919.<sup>181</sup> The main surge was in canned meat. In addition, the escalating demand had an extreme accelerating impact on prices throughout the war. Indeed, prices of meat and cattle rose sharply, reaching all time highs in the late 1910s. By country, Uruguay had the most spectacular rise in volume and prices, given that the proliferation of *frigorificos* had just started in 1911, when foreign capital expanded the capacity for frozen and chilled meat by establishing new plants or acquiring and developing existing ones. On top of the purchase of la Frigorifica Uruguaya in 1911 by the Argentinian Sansinena group and the entrance of Swift shortly thereafter, Armour also started operations in Uruguay in 1917, buying the Frigorifico Artigas, which had been built with domestic capital in 1915.<sup>182</sup> This led to a significant increase in the production capacity just before and in the beginning of the First World War. In addition, given that the Uruguayan chilled meat exports were not very developed, due to the late entrance of the American meat packers, the decline of the chilled beef business did not affect the cattle producers in Uruguay as much as in Argentina. The Uruguayan export volume grew strongly, with shipments of bovine and ovine meat indexing 163 in 1915-1919 vs.

<sup>180</sup> Ruano Fournier, A., *Estudio Economico de la Produccion de las Carnes del Rio de la Plata* (Pena y Cia Impresores, Montevideo, 1936), p. 164.

<sup>181</sup> See Appendix 24 for data and Appendixes 20 and 22 for sources.

1910-14, while in comparison with 1905-09 the volume augmented more than twofold with a strong 219 index (Base 1905-09 = 100).<sup>183</sup> Prices of cattle in Uruguay rose proportionally even further, while more than doubling their value with an index of 253, when comparing the 1914-1920 average with the six years preceding the war, namely 1908-1913 (Base 1908-1913 = 100).<sup>184</sup> This enormous escalation in Uruguayan prices was also due to the capacity expansion of *frigoríficos* vs. *saladeros*, in particular after 1912, that created an increasingly higher value outlet for Uruguayan cattle. Indeed, as *frigoríficos* absorbed more animals largely displacing *saladeros*, the value of cattle appreciated.

In Argentina, the meat volume and price increases during the First World War were less pronounced, but were still very significant. Specifically, meat export volume indexed 135 in 1915-1919 vs. 1910-1914, while similarly to the Uruguayan case it more than doubled over the longer term, with an index of 222 in 1915-1919 vs. 1905-09.<sup>185</sup> The lower short term increase during the war is traceable to the earlier establishment of American meat packing houses in Argentina, which augmented the *frigorífico* production capacity sooner than in Uruguay. Furthermore, average cattle prices rose sharply in Argentina, indexing 144 in 1919 vs. 1913.<sup>186</sup> Cattle prices reversed temporarily in 1917, while then continuing their accelerating rate until 1920. Both Argentina and Uruguay experienced a short-lived reversal of the rising trend in animal prices in 1917 (in Uruguay in 1916 and 1917), but this brief deviation only caused a momentary drop, while it represented a blip in the upward direction of cattle prices.

<sup>182</sup> Nahum, B., La Epoca Battista 1905-1929 (Historia Uruguaya, Ediciones de la Banda Oriental, Tomo 6, Montevideo, 1986), pp. 93.

<sup>183</sup> See Appendix 20 for data and sources.

<sup>184</sup> Calculated with data from the 'Anuario Estadístico de la República Oriental del Uruguay', Dirección General de Estadística, 1932, p. 106. Prices based on bovine animals dispatched on the main market of Montevideo (La Tablada).

<sup>185</sup> See Appendix 22 for data and sources.

<sup>186</sup> Calculated with data from Liceaga, J., Las Carnes en la Economía Argentina (Editorial Raigal, Buenos Aires, 1952), p. 50.

Although cattle prices decreased in 1917, they were still higher than in the pre-war years in nominal terms.

#### **4.3.2 *Frigoríficos* Increase Their Margins Generating Temporary Cattle Producer Dissatisfaction**

The cattle price decline was unjustified, given that prices in London were increasing. Although part of the difference can be accounted for in higher transport and insurance costs, due to the large war risk involved in transatlantic shipping, the sharply higher London prices and clearly lower River Plate prices in 1917, suggests that meat packers benefited from extremely high earnings in this period. Indeed, the British and Argentine Meat Company reported a strong net profit of £445,513 in 1917 and paid total dividends of 12½% on ordinary- and 8½% on preference- shares.<sup>187</sup> Similarly, the Sansinena Frozen Meat Company achieved exceptionally high profits of \$3,464,223 (Argentinian Gold Pesos) and paid dividends of 50% (10% in cash and 40% in shares) per ordinary share and 6% on preference shares.<sup>188</sup> Likewise, the balance that stood on the credit of the profit and loss account of the Smithfield and Argentine Meat Company was £124,354 in 1917 and a 5% dividend bonus was paid bringing the total dividend for the year to 15%.<sup>189</sup>

As regularly increasing cattle prices had created strong expectations in the River Plate, the 1917 temporary decline generated discontent among cattle producers and concerns were voiced by the Argentinian and Uruguayan governments. The dissatisfaction was further heightened due to the indignation of fatteners, given that the war effort demanded frozen and canned meat, which replaced chilled beef as the main *frigorífico*

<sup>187</sup> British and Argentine Meat Company, *Report of the Directors and Statement of Account, Year ending 31 December 1917* (London, 1918).

<sup>188</sup> Compañía Sansinena de Carnes Congeladas (Sansinena Frozen Meat Company), *Report of the Directors and Statements of Account, Year ending 31 December 1917, presented to the Twenty-Sixth General Meetings* (Buenos Aires, 1918).

export products during the First World War. Most importantly, the superior blood stock that fatteners had developed since the entrance of the U.S. meat packing houses for chilled beef exports, commanded a very low premium relative to inferior cattle during the war. Indeed, demand for premium animals declined, given that thin traditional cattle were preferred for canned or conserved meat. Although packers could not be held responsible for the type of meat demanded in Europe, they were criticised for the extremely high profits that they attained in 1915-1917, which were not just achieved through higher meat prices in the U.K., but also through margin gains at the expense of River Plate cattle producers. In Argentina, a number of discontent cattle producers put forward a plan for the expropriation of meat packing plants by the government, that would be financed through a bond issue subscribed by cattle producers, while the government asked *frigoríficos* to explain the reasons for the low cattle prices and to suggest any action that could be taken to revert their decline.<sup>190</sup> Similarly in Uruguay, the lower prices already in 1916, created dissatisfaction among cattle producers. This led to the denunciation of the meat trust by the pro-rural Blanco party due to alleged unfair treatment facing the Frigorífica Uruguaya, owned by the Argentinian Sansinena company.<sup>191</sup> However, as cattle prices increased in 1918, thereby continuing their rising trend, complaints from cattle producers and policy makers quickly receded, while expropriation plans and trust denunciations faded away. At the same time, cattle producers continued to expand their output and increase their land holdings, driven by expectations of persistent strong growth and higher prices. Cattle prices continued to rise until the end of the First World War, thereby encouraging further investments by cattle producers. This boosted land prices as can be seen in table 4.3 on the next page.

<sup>189</sup> Smithfield and Argentine Meat Company, Report of the Directors and Statement of Account, Year ending 31 December, 1917 (London, 1918).

<sup>190</sup> Hanson, S., *Argentine Meat and the British Market* (Stanford University Press, California, 1937), p. 205.

<sup>191</sup> Finch, H., *A Political Economy of Uruguay since 1870* (The MacMillan Press, London, 1981), p. 137.

Table 4.3: Nominal Land Prices in Argentina 1901-1918

Period	Average Argentinian Pesos \$ per Hectare	Index (1901-1905=100)
1901-1905	14.08	100
1906-1910	25.53	181
1911-1915	40.07	285
1916-1918	49.82	354

Source: Calculated with figures of total rural real estate transactions in Argentina as well as total sales of land in hectares and value in Tornquist, E., The Economic Development of the Argentine Republic in the Last Fifty Years (Ernesto Tornquist & Co., Buenos Aires, 1919), p. 240.

#### 4.3.3 Widespread Ramifications of the First World War on the River Plate Meat Packing Industry

Overall the First World War was a period of prosperity for both the meat packing plants and cattle producers. Prices increased dramatically, driven by demand from the allied troops. *Frigorificos* enlarged their capital, while they increased their shareholder value by paying out handsome dividends as well as through sharply appreciating share prices. After a very profitable 1916-18 period, meat packers continued to benefit from excellent results in 1919. Specifically, the British and Argentine Meat Company reported profits of £589,668 in 1919 and paid total dividends of 12½% on ordinary- and 8½% on preference- shares.<sup>192</sup> Likewise, the Sansinena Frozen Meat Company's profits reached almost 3 million Argentinian Gold Pesos (about £600,000) in 1919, while paying a dividend of \$20 gold (about £4) per share on ordinary shares and 6% on preference

<sup>192</sup> British and Argentine Meat Company, Report of the Directors and Statement of Account, Year ending 31 December 1919 (London, 1918).

shares.<sup>193</sup> The Union Cold Storage Company (Vestey) continued its rapid global expansion, increasing earnings from £350,108 in 1918 to £368,586 in 1919 and to £539,110 in 1920, while paying dividends of 6%, 7% and 10% per share type each year.<sup>194</sup> In 1919-20 the Union Cold Storage Company acquired the Blue Star Line, thereby controlling one of the largest shipping fleets with refrigeration capacity in the 1920s, consisting of fifteen steamers.<sup>195</sup> This enabled the company to integrate vertically its meat production and distribution activities further and continue creating greater economies of scale and scope.

Cattle producers also achieved high profitability, due to the sharp increase in cattle prices as well as higher volumes. For example, one of the large landowners, namely the Argentine Land and Investment Company showed a balance of £98,843 in the profit and loss account for the fiscal year ending June 30, 1920 and paid high dividends of 20% on ordinary- and 10% on preference- shares for the year.<sup>196</sup> However, all types of cattle producers enjoyed prosperity, even small breeders, given that meat packers purchased every kind of animal at high prices. Thus continued breed improvement was temporarily discouraged and postponed, while the extremely high prices and volume gains until 1920, also averted major conflicts between meat packers and cattle producers. Additionally, the extremely high profitability achieved by *frigoríficos* fostered a temporary cessation of the rivalry between the Anglo-Argentinian and American meat packers.

<sup>193</sup> Sansinena Frozen Meat Company, Report of the Directors and Statement of Account, Year ending 31 December 1919, presented to the Twenty-Eighth General Meeting (Buenos Aires, 1920).

<sup>194</sup> The Union Cold Storage Company, Report of the Proceedings 1922, presented to the Twenty-Sixth General Meeting (London, 1923).

<sup>195</sup> The Union Cold Storage Company, Report of the Proceedings 1918, Twenty-Second General Meeting (London, 1919).

<sup>196</sup> The Argentine Land and Investment Company was one of the few Argentine landowners to be quoted in London. Data from its Report of the Directors and Statement of Accounts, Year ending 30 June 1920 (London 1920).

#### **4.4 Price Collapse and the Revaluation of Expectations in the Post First World War Recession (1920-1923)**

After the First World War the demand for meat and cattle products collapsed, thereby putting extreme downward pressure on prices. Specifically, cattle and byproduct prices declined sharply, while the volume of exports decreased. This downturn was traceable to a post-war recession in Europe, driven by a significant drop in consumer purchasing power in the period right after the war, as the economy shifted back to peacetime activities. Additionally, during the war the U.K. had accumulated large quantities of frozen and canned meat stocks, which further reduced the requirement of imported meat.<sup>197</sup> As a consequence of the large stocks and suppressed post-war demand, prices declined, only recuperating somewhat to pre-war levels in the mid-1920s. Indeed, cattle prices tumbled in the early 1920s, more than halving in Uruguay, with an 1922-1923 index of 48 vs. the 1920 all time high average year, while in Argentina they indexed 53 in 1922-1923 vs. the 1919 record average year.<sup>198</sup> During the First World War the lack of European meat supply as well as strengthened demand due to the war effort, had boosted prices of meat in the mid- to late- 1910s to extremely high and hence unsustainable levels. In the fervour of the First World War boom, the exceedingly high prices had generated over-optimistic expectations with local cattle producers of never-ending growth. Although the expectations proved to be unrealistic, they were understandable, given that meat exports in volume and value had grown consistently from the 1890s until the end of the First World War, albeit with volatility, while nominal prices increased regularly and achieved exceptionally high levels during the war. Thus when prices dropped sharply after 1920, due to the post-war recession, cattle

<sup>197</sup> Ruano Fournier, A., *Estudio Economico de la Produccion de las Carnes del Rio de la Plata* (Pena y Cia Impresores, Montevideo, 1936), p.164.

<sup>198</sup> Calculated with sources from 'Anuario Estadistico de la Republica Oriental del Uruguay', Direccion General de Estadistica, 1932, p. 106 for Uruguay and Liceaga, J., *Las Carnes en la Economia Argentina* (Editorial Raigal, Buenos Aires, 1952), p. 50 for Argentina.

producers were highly dissatisfied, creating the conditions for severe conflicts thereafter with meat packing plants and among each other.

As had occurred on previous occasions when animal prices declined, cattle producers appealed to the government for support, primarily through the Rural Society/Federation. However, the different circumstances of fatteners and breeders created friction between the two factions within the Rural Society/Federation. Indeed, fatteners were generally larger, risk-adverse landowners, which as a whole had greater capital reserves than the often smaller and more speculative breeders. Therefore, fatteners were better prepared to survive the crisis than breeders, who were primarily the small and medium size landowners. Breeders were the most affected by the post-war recession because they had extended their holdings, rented new land and increased their operating costs during the export peak war period.<sup>199</sup> In contrast, fatteners generally did not pay rent, while their operating costs had not increased and even if the prices of *frigoríficos* were lower, it often just meant that their earnings would decline, but they would not face major economic hardship or bankruptcy.<sup>200</sup> The desperation that indebted breeders faced, following the enormous price decline in the early 1920s, led them to demand state intervention against *frigoríficos*. Fatteners proceeded more cautiously, given that they had developed a good relationship with *frigoríficos*, while often obtaining above market prices for their quality cattle, which the meat packers purchased directly at their *estancias*. Although some *frigoríficos* continued to be profitable during the crisis, overall their earnings had declined substantially due to the fall in prices. Sansinena Frozen Meat Company's profits fell from around \$3,000,000 (Argentinian Gold Pesos)

<sup>199</sup> Nahum, B., *La Epoca Battista 1905-1929* (Historia Uruguaya, Ediciones de la Banda Oriental, Tomo 6, Montevideo, 1986), p. 118.

<sup>200</sup> Ibid.

in 1917 and 1919 to \$790,343 gold in 1922, while dividends decreased from 50% in 1917 and \$20 gold in 1919 to \$6 gold per ordinary share, although the preference dividend remained at 6%.<sup>201</sup> The Smithfield and Argentine Meat Company reported a trading profit of £118,036 for the 1922 year, but due to a negative balance of £356,625 carried forward from 1921, which reflected adverse trading conditions, a debit balance of £234,589 remained in 1922, resulting in the cancellation of the dividend for the year.<sup>202</sup> Whereas the Union Cold Storage Company reported higher earnings of £685,617 in 1922, this still represented a deceleration of its growth rate, given that 1922 earnings only rose 6.1% vs. 1921, while they had increased 19.9% in 1921 when compared with 1920 and 46.3% in 1920 vs. 1919.<sup>203</sup> For perspective, the Union Cold Storage Company acquired several large meat distributors in the U.K. and purchased the British and Argentine Meat Company in 1923, thereby continuing its global expansion, while contributing to the further concentration of the meat packing industry in the River Plate.<sup>204</sup> This proved to be a shrewd strategy, given that the acquisitions took place when prices were low and the market was starting to recover. Moreover, the Union Cold Storage Company also managed to maintain its profitability, due to the increasing economies of scale and scope it had attained through vertical and horizontal expansion, primarily via acquisitions.

The demand for action against *frigoríficos* was an attempt by some cattle producers to obtain a larger percentage of total net earnings attained in the entire international meat production and distribution chain. Thus the debate about the profit margins of

<sup>201</sup> Sansinena Frozen Meat Company, Report of the Directors and Statement of Account. Year ending 31 December 1922, presented to the Thirty-First General Meeting (Buenos Aires, 1923).

<sup>202</sup> Smithfield and Argentine Meat Company, Report of the Directors and Statement of Account, Year ending 31 December 1922 (London, 1923).

<sup>203</sup> The Union Cold Storage Company, Report of the Proceedings 1922, presented to the Twenty-Sixth General Meeting (London, 1923).

<sup>204</sup> The Union Cold Storage Company, Memorandum to Shareholders (London, 3 July 1923).

*frigoríficos* resurfaced, mainly through strong protest by breeders. The post-First World War slump marked an important turning point, given that it represented the most severe fall in prices since the late nineteenth century and hence a clear discontinuity of the constantly augmenting trend in the value of cattle. As the post-war downturn persisted in 1922, the calls for government intervention increased. Indeed, the post-war recession continued into 1923, despite minor improvements in cattle prices, as reported for Uruguay in The Economist:

"The report for 1922 ... shows that Uruguay's recovery from the post-war depression is delayed by the lessened European demand for meat, which is her staple export ... The economic conditions are sound, however, and the country will respond to any improvements in the purchasing power of Europe. The only remedies yet actually adopted are the suspension of the export duties on meat and cattle, and the organisation of the export of cattle to Spain ... The slump has further lessened the demand for European pedigree stock, which fell off during the war because inferior animals were good enough for 'bully beef.' "<sup>205</sup>

The slow recovery increased the severe dissatisfaction of cattle producers, which led to a significant increase in the number of landowners requesting action against meat packers, while only a small group of fatteners remained in favour of the *status quo*. Both the Argentinian and Uruguayan government enacted laws that attempted to counter-balance the power of the meat packing plants and increase the profitability of cattle producers. In Uruguay, various policies were debated in 1923 which encompassed, among others, anti-trust bills and the establishment of a semi-public Uruguayan meat packing plant, namely the Frigorífico Nacional, with the objective to increase competition and thereby compel foreign *frigoríficos* to increase prices offered for cattle.<sup>206</sup> However, the law regarding the foundation of the Frigorífico Nacional was only authorised in 1928, after prolonged deliberation and significant lobbying from private *frigoríficos*.

<sup>205</sup> The Economist, London, Vol. XCVI, No. 4163, June 9, 1923, p. 1293

<sup>206</sup> Finch, H., A Political Economy of Uruguay since 1870 (The MacMillan Press, London, 1981), p. 136-137.

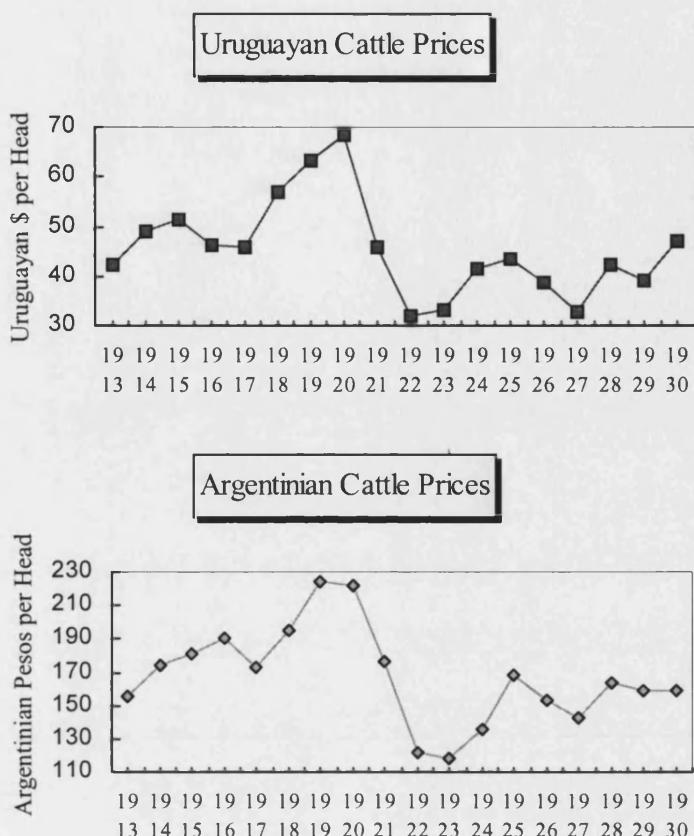
Importantly, the Argentinian government went a step further in trying to rapidly influence cattle prices and control meat packers margins by introducing several laws. Firstly, similar to the Uruguayan case, an Argentinian 1923 bill approved the acquisition or building of a national meat packing plant. Secondly and most importantly, in 1923 a minimum price law was introduced, which fixed cattle live-weight prices. *Frigoríficos* were strongly opposed to the law, yet it was enacted in October 1923. Pricing was one of the components of supply control and therefore one of the tools to coordinate the flows of meat. Thus, the response of the *frigoríficos* was to close down their plants and stop purchasing cattle from the day in which minimum price buying started.<sup>207</sup> For perspective, the law tested the ability of the Argentinian government to take radical legislation against *frigoríficos* in order to improve cattle prices. But the attempt failed given that Argentina was highly reliant on the large *frigoríficos* for the export and distribution of meat and also by-products. Indeed, as meat packers did not resume cattle purchases, the government was forced to abandon the minimum price scheme three weeks after it had been enacted.<sup>208</sup> The ordeal represented an enormous triumph for the *frigoríficos*, while clearly demonstrating the limitations of domestic policy in enacting extreme measures against large foreign meat packers.

Although in 1924 cattle prices improved, as European demand for meat recovered, they did not reach the nominal war time levels in the mid 1920s, as can be seen in chart 4.3 on the next page. In real terms the decline was even more drastic and the recovery more moderate. Nevertheless, the augmenting prices reduced the discontent of cattle producers and thus diminished the conflict with *frigoríficos*.

<sup>207</sup> *The Review of the River Plate*, Buenos Aires, No. 1664, October 26, 1923, p. 971.

<sup>208</sup> *The Review of the River Plate*, Buenos Aires, No. 1666, November 9, 1923, pp. 1089-1097.

Chart 4.3: Argentinian and Uruguayan Average Yearly Cattle Prices (1913-1930)



Sources: 'Anuario Estadístico de la República Oriental del Uruguay', Dirección General de Estadística, 1932, p. 106 for Uruguay and Liceaga, J., *Las Carnes en la Economía Argentina* (Editorial Raigal, Buenos Aires, 1952), p. 50 and 106 for Argentina. Uruguayan nominal prices based on bovine animals dispatched on the main market of Montevideo (La Tablada), while Argentinian nominal prices based on bovine animals dispatched on the main market of Buenos Aires (Liniers) in 1913-1923 and price of cattle bought in estancias in 1924-1930.

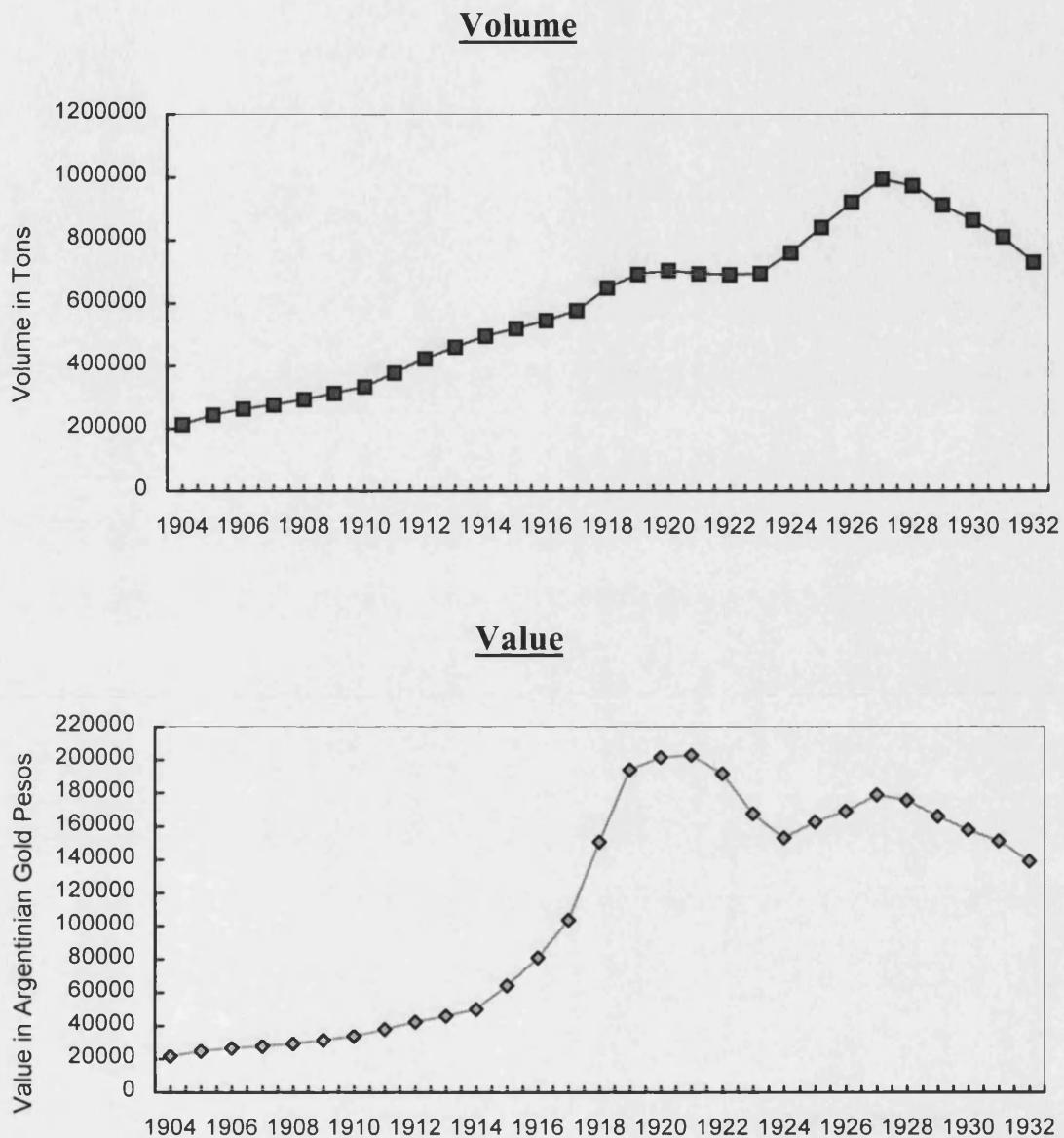
The post First World War recession was characterised by a drastic decline in cattle and meat prices, after reaching extremely high levels during the war. Although the post-war price collapse was primarily due to a significant reduction in demand triggered by a recession in Great Britain, the downturn affected cattle producers more than meat packers, given that the latter increased their margins at the expense of cattle producers, in an attempt to maintain overall profitability. From the early twentieth century until 1920, cattle prices had grown consistently, albeit with volatility. Thus the decline at first caused severe dissatisfaction among cattle producers due to: (i) declining meat prices in the main U.K. market, (ii) an even greater reduction in prices for cattle producers due to

higher *frigorífico* margins and (iii) the need for a severe revaluation of expectations after two decades of a rising trend in cattle prices. The revaluation of expectations seems to have occurred, given that cattle producers' discontent and conflicts with *frigoríficos* declined after a slight recovery in prices in the mid-1920s.

#### **4.5 The Volume Record and Value Decline in Meat Exports (1924-1930)**

After 1924 the export volume continued to grow, reaching all time high levels in the late 1920s. Although cattle prices improved in 1924 behind stronger European demand and increased significantly in 1925 due to a renewed price war among *frigoríficos*, they did not recapture their war time levels. Although in 1925 the pool was dissolved again and a price war followed which resulted in higher prices, the value per ton was still significantly lower than in the late 1910s. Thus a decline in the value of meat exports was apparent in the 1920s, given that nominal prices per ton decreased substantially. In real terms the prices were even lower. This reduced the attractiveness of meat, especially beef, after the early 1920s. Nevertheless, the value shortfall was partly offset by higher volume. Yet despite the significant increase in the export volume, the total export value was still lower in the mid- to late- 1920s than in the late 1910s, as can be seen in chart 4.4.

Chart 4.4: River Plate Meat Exports in Value and Volume (5 Year Moving Averages)  
1904-1932



Sources: See Appendix 28.

One of the main factors that led to the decrease in the value per ton was the decline in British demand. Another element which had a significant negative impact on the volume and value of River Plate meat exports was a change in international trade regimes, starting, albeit gradually in the 1920s and consolidating in the 1930s, as will be analysed in chapter 5. However, in the 1920s, one of the principal contributors to the decrease in the value of exports was the British economic decline. Given that the U.K. was the main

export market, any changes in the demand for meat in Britain, had a direct impact on the River Plate meat packing industry.

The U.K. market was declining, albeit slowly, while the purchasing power of British consumers was decreasing, as total economic activity receded. The deterioration of the British economy, that had an important impact on meat prices, was traceable to the downturn of industrial production in the U.K., given that Britain was failing to maintain industrial leadership, which was increasingly being taken over by the U.S.A. Although Britain was overtaken by the U.S.A. in per capita income terms in 1913, the Americans were already ahead in manufacturing labour productivity since 1875, while by the 1920s the U.S. output per worker as well as total factor productivity were more than double that of Britain and capital per worker indexed 173 vs. the U.K.<sup>209</sup> Indeed, the British decline had already started, albeit slowly in the late nineteenth century, while the interwar period represented a significant second phase in the long term economic downturn of the U.K.<sup>210</sup> Most importantly, the British economic upswing after the severe post-war recession in 1921-22 was feeble and unstable, while it was disrupted by numerous shocks, including the general strike in 1926 and the related coal walkout which lasted over half a year, thereby reverting the upswing, while industrial production declined by 5%.<sup>211</sup> The industrial action in 1926 had a highly negative impact on the U.K. economy, which combined with the already weak recovery of the post-war

<sup>209</sup> Edgerton, D.E.H., Science, Technology and the British Industrial 'Decline' 1870-1970 (Cambridge University Press, Cambridge, 1996), pp. 48-51.

<sup>210</sup> Extensive literature exists on the British economic decline, including numerous works by D.H. Aldcroft, N.F.R. Crafts and D. Edgerton. A. Gamble has identified three main phases of the British decline, namely (i) 1880-1914, (ii) between the two wars and (iii) after 1945 in Britain in Decline (MacMillan, London, 1990), pp. 4-6 and 10-19. Additional contributions include Kirby, M.W., The Decline of British Economic Power since 1870 (George Allen & Unwin, London, 1981), in particular the chapter on the 1920s, pp. 24-56, Dintenfass, M., The Decline of Industrial Britain, 1870-1980 (Routledge, London, 1932), pp. 4-11, Heim, C.E., 'Interwar Responses to Regional Decline' in Elbaum, B. and Lazonick, W., The Decline of the British Economy (Clarendon Press, Oxford, 1986), pp. 240-265, that analyses various industries, while assessing the narrow range and regionalisation of export businesses in the U.K.

<sup>211</sup> Richardson, H.W., 'The Role of Consumption in Interwar Fluctuations' in Aldcroft, D.H. and Fearon, P., British Economic Fluctuations 1790-1939 (Macmillan Press, London, 1972), pp. 161-162.

recession and export sluggishness, led to an overall reduction in British purchasing power in the 1920s, as expressed by the British Minister in Buenos Aires:

"... that the British consumer is not the handful of rich people but the British working man; that, if the British working man is out of job and earning no money, he must reduce his purchases of meat and other food stuffs. The unhappy coal strike has proved abundantly what I said, which was surely obvious. Including families, we now have five and six millions of people who have had to reduce their standard of living. The result has been a glutted market and a fall in prices ... If the British' working man in large numbers remains indefinitely out of work the prices of Argentine produce must fall and the prosperity and purchasing capacity of this country correspondingly diminish."<sup>212</sup>

Although the U.K. recovered moderately in 1927 and a short period of increased economic activity followed, the early entrance of Argentina and Uruguay into the Great Depression reduced the effect of the British upswing in 1928-29. Moreover, the British repayment of the large foreign debt accumulated during the First World War, primarily to the U.S.A., represented a large financial burden, especially because German full reparation payments failed to materialise.<sup>213</sup> Given that the overwhelming majority of River Plate meat was exported to the U.K., the decline in British purchasing power proved detrimental to the value of River Plate meat exports starting in the 1920s. Specifically, the reduction in purchasing power increased the elasticity of demand of meat in the U.K., while pushing the price equilibrium point lower, thereby decreasing its value.

#### **4.5.1 The Battle for Leadership in a Reorganised Competitive Environment: Renewed Price Wars and Consolidation of the Ownership Structure**

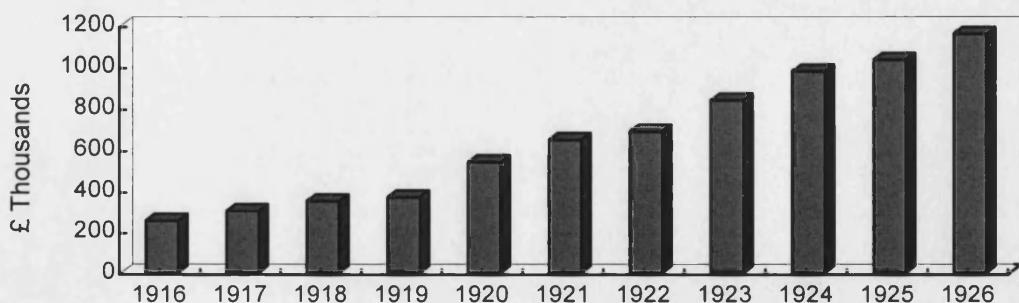
After the First World War, a clear shift of power took place in the meat packing industry. The battle for control and increased economies of scale and scope, was not

<sup>212</sup> Sir Malcolm Robertson, British Minister, address to the British Chamber of Commerce Annual General Meeting on 17 November 1926, *The British Chamber of Commerce Monthly Journal*, 'The Annual General Meeting', The British Chamber of Commerce in the Argentine Republic, Buenos Aires, Vol. VII, No.2, 26 November 1926, pp. 25-26.

<sup>213</sup> During the First World War the U.K. accumulated a foreign debt of more than £1,300 millions, mainly from the United States. This was due to the high expenditure required for the war effort. For perspective, before 1914 the Government was spending about 8% of the national income, however during the height of the war it took around half of the total output of

occurring anymore between the American and the Anglo-Argentinian meat packing plants, but rather among the large and small *frigoríficos*. Specifically, the rise and very important expansion of the Union Cold Storage Company, a large British meat packing plant, counterbalanced the strength of the U.S. *frigoríficos*. Indeed, the Union Cold Storage Company had grown significantly since the war. It operated numerous meat packing plants in South America, Australia and New Zealand, controlled a large proportion of cold storage and wholesale facilities in Britain and owned an enormous chain of 2353 retail butchers.<sup>214</sup> The Union Cold Storage company (Vestey) became the world's largest and most comprehensive organisation in the combined meat production, shipping, distribution and retailing businesses. It was also the biggest shop company in the U.K. as well as the leading worldwide meat retailer.<sup>215</sup> Moreover, it was active in cattle production, especially in Australia. The Union Cold Storage's earnings grew dramatically due to their spectacular global expansion, in particular after 1916, as can be seen in chart 4.5.

Chart 4.5: The Union Cold Storage Company (Vestey) Earnings 1916-1926



Source: Reports of Proceedings, The Union Cold Storage Company, London.

<sup>214</sup> goods and services as explained in Feavearyear, Albert Sir, *The Pound Sterling - A History of English Money* (Clarendon Press, Oxford, 1963), pp. 337-338 and 351.

<sup>215</sup> Loosli, C. E., 'Brot- und Fleischpreise in Grossbritannien und der Versuch, angemessene Lebensmittelpreise durchzusetzen', *Weltwirtschaftliches Archiv - Chronik und Archivalien*, Kiel, 23. Band (1926 I), 1926, pp. 29-30.

<sup>215</sup> The Union Cold Storage Company, *Reports of the Proceedings 1922 and 1925, presented to the Twenty-Sixth and Twenty-Ninth General Meetings* (London, 1923 and 1926).

Hence, the competitive microenvironment had changed substantially in the 1920s, given that the American *frigorificos* had to contend with a large and powerful British concern. Thus the aim of ultimate command of the industry by the American meat packers ceased to be a realistic proposition, due to the rise of a major British competitor, as explained by E.G. Jones:

"The large combine built up by the Vestey Brothers in the post-war period has deprived the Americans of any hope of ultimate success. But the rivalry between the companies continued to be intense."<sup>216</sup>

Indeed, the competition for leadership of the industry persisted, while the large meat packers gained export market shares and thus economies of scale at the expense of the smaller *frigorificos*. In Argentina and Uruguay, where the Union Cold Storage acquired the Uruguayan Liebig plant and transformed it into a *frigoriffo*, the battle continued mainly between the British giant and the U.S. meat packing plants. The 1925 price war started because both Vestey and the American meat packers, in particular Swift, wanted a larger export share than agreed by the pool members. Vestey and Swift were building new plants and were demanding a larger export allocation to accommodate their expanded production capacity.<sup>217</sup> They wanted to operate at their 'minimum efficient scale' and achieve a high 'throughput' for their new plants. In particular, the Vestey's group Union Cold Storage new *frigoriffo* was considered one of the largest and most advanced meat packing plants in the world.<sup>218</sup> The result of the price war, which lasted until 1927, was the elimination of marginal *frigorificos*. Specifically, the English and Dutch Company stopped production and closed down their *frigoriffo* plant in 1925.<sup>219</sup> Moreover, the Sansinena Company ceased exporting during the price war period and

<sup>216</sup> Jones, E. G., 'The Argentine Refrigerated Meat Industry', *Economica*, London, No. 26, June 1929, pp. 170-171.

<sup>217</sup> *The Review of the River Plate*, Buenos Aires, No. 1739, April 3, 1925, p. 38 and *The Times*, London, January 21, 1925, p. 13, col. 1-2.

<sup>218</sup> *The Times*, London, March 16, 1927, p. 15, col. 5.

closed its Uruguayan plant, thus concentrating mainly on the local Argentinian market.<sup>220</sup> Although Sansinena resumed meat exports after 1927, it did so through the Smithfield & Argentine Company, which agreed to become their agent in Britain. In addition, in 1927 the management control of the River Plate British and Continental Meat Company was given to one of the large American *frigoríficos*, namely Armour and Company.<sup>221</sup> Hence, the new pool agreement reached in 1927 benefited the large meat packing plants, while reducing the participation of the smaller ones considerably and in particular the Argentinian *frigoríficos*.<sup>222</sup> Thus the ownership structure of the River Plate meat packing industry concentrated further. In Argentina, five main organisations prevailed in 1927, namely Swift, Armour, Wilson, Vestey and the alliance between Sansinena and the Smithfield & Argentine Company.<sup>223</sup> In Uruguay, the concentration was even more pronounced, with three *frigoríficos*, Swift, Armour and Vestey, controlling the meat export market. This led to the establishment of a Uruguayan state run meat packing plant in 1928, namely the Frigorífico Nacional. It was installed in the unused Sansinena plant, which had originally been the Frigorífica Uruguaya. Importantly, the Frigorífico Nacional not only competed in the export market, but also was given the monopoly of the meat supply for the city of Montevideo.<sup>224</sup> Its overall aim

<sup>219</sup> *The Review of the River Plate*, Buenos Aires, No. 1745, May 15, 1925, p. 27-29.

<sup>220</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p. 113.

<sup>221</sup> *The Times*, 'An Argentine Agreement', London, July 17, 1927, p. 22, col. 4.

<sup>222</sup> There is some discrepancy with the figures of the 1927 pool agreement and different authors provide varying percentages of total exports allocated to the meat packing plants by nationality. Specifically, P. Smith maintains that the American *frigoríficos* allocation was reduced to 54.9%, while the British increased to 35.1% and the Argentinian declined to 10% in *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p. 113. In contrast, J. Calvet claims that the American allocation was increased to 69.91% and the British and Argentinian decreased to 20.09% and 10% respectively in Calvet, J., *Un Siglo Frio en la Ganadería Argentina* (Carbar, Buenos Aires, 1977), p.45. Similarly, J.C. Williman asserts that the U.S. share increased to 69.9%, while the British and Argentinian share declined to 25.2% and 8% respectively in *Historia Económica del Uruguay* (Vol. II, Editorial Fin de Siglo, Montevideo, 1994), p. 279. Finally, R. Puiggros affirms that the allocations for the U.S. and British meat packing plants were 69.901% and 20.099% respectively, but declined for the Argentinian *frigoríficos* to 10% in *Libre Empresa o Nacionalización en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 92. Thus from the figures provided we can deduce that the Argentinian *frigoríficos* export share allocation decreased, while based on evidence given in the literature we can extrapolate that larger meat packing plants augmented their export share allocation. However, differences remain regarding the precise allocation for American and British *frigoríficos* in the 1927 pool agreement.

<sup>223</sup> Hanson, S., *Argentine Meat and the British Market* (Stanford University Press, California, 1937), p. 251.

<sup>224</sup> Malagraba Elichiri, J.P., *Mi Vida, 68 Años Ininterrumpidos en la Industria 1925-1993* (Impresos Vanni, Montevideo, 1994), p. 98.

was to reduce the dominance of foreign *frigoríficos* in the Uruguayan market and counter-balance the power of concentration of the U.S. meat packing plants and Vestey, thereby ensuring higher prices and margins for producers.<sup>225</sup>

The reestablishment of the pool agreement in 1927 was received with dissatisfaction by cattle producers. Nevertheless, important protests and conflicts did not occur, due to the cattle producers' overall concern with the declining export market for meat. Indeed, in the mid- to late- 1920s, increasing market access restrictions were reducing the international market for River Plate meat exports. The U.S.A. banned meat imports from the River Plate and continental European countries were rapidly adopting protectionist policies. By the late 1920s, the River Plate became even more dependent on the British market for meat exports. This represented the beginning of a shift in trade regimes, moving away from 'free' market trade policies and towards bilateralism and control, as will be analysed in chapter 5.<sup>226</sup> In the early 1930s the important U.K. market also placed restrictions on River Plate meat exports. Specifically, after the Ottawa Conference in 1932, in which Britain agreed to given preference to the Dominions, particularly Australia and New Zealand, strict quotas were placed on the River Plate meat exports to the U.K.<sup>227</sup>

#### **4.6 Fighting for Greater Domestic Participation and Cooperative *Frigoríficos*: A Response to the New Trade Regime and the Meat Packers Consolidated Oligopoly (1930-40)**

The quotas imposed in the Ottawa Conference had strong implications for meat packers and cattle producers. Animals stocks were high and production capacity reflected the

<sup>225</sup> Nahum, B., *La Epoca Battista 1905-1929* (Historia Uruguaya, Ediciones de la Banda Oriental, Tomo 6, Montevideo, 1986), p. 118.

<sup>226</sup> See chapter 5 for a comprehensive analysis of the impact of changing international trade regimes on the River Plate meat packing industry and the domestic policy response.

high volume 'throughput' of the 1920s. Given that international demand was limited by export quotas and cattle supply outstripped the export 'allowance', meat and animal prices declined even further. In addition, the slackened demand in the main British market, particularly in the early 1930s following the Great Depression, had already placed significant downward pressure on meat prices in the U.K.

Though both meat packers and cattle producers were at risk, the latter stood to lose the most, given that packers tended to pass the price decline onto cattle producers, while attempting to keep their profit in line with previous years. As can be seen in table 4.4, cattle producer profit declined strongly in the early 1930s, while meat packing houses increased their margins, in an attempt to maintain their profit value. Therefore, cattle producers were anxious to increase their profits by expanding exports and reducing meat packers earnings.

Table 4.4 - Profits of Major Ranches and Packing Houses, 1929-1934

Year	Ranches (%)	Packing Houses (%)
1929	8.49	10.80
1930	4.91	13.65
1931	2.29	13.13
1932	0.65	12.22
1933	1.15	11.46
1934	1.91	14.12

Source: Smith, P.H., Politics and Beef in Argentina (Columbia University Press, London, 1969), p.142.

<sup>227</sup> For a full examination of protectionist measures and their effect on River Plate meat exports, see chapter 5.

The reduction in exports after the Great Depression, in addition to the quotas imposed following the Ottawa Conference, and the decline in margins, led to profound cattle producers discontent. They called upon the Rural Society and the government to take steps to increase the quotas or as a minimum secure that the quotas remained at the levels designated in the Ottawa conference. With this end in mind, the Argentinian government started negotiations with the U.K. The outcome was an accord known as the Roca-Runciman pact, in which Britain broadly agreed to maintain the quotas stipulated in the Ottawa conference agreement. The accords reached in the Roca-Runciman pact relating to meat export quotas were also applicable to Uruguay. Two resolutions of the Roca-Runciman pact had a significant impact on the modification of the ownership and market structure of the River Plate meat packing industry. Firstly, the pact formalised British control over the export quota allocation. Secondly, it stipulated that 15% of the export quota would be allocated to Argentinian *frigoríficos*.

Already through the Ottawa Conference agreement the British gained direct control of the River Plate meat export quotas. Indeed, the U.K. Board of Trade began administrating British meat import licences.<sup>228</sup> In the Roca-Runciman pact the British control was endorsed, given that the Argentinian government agreed with the U.K.'s licence administration. By constricting River Plate meat exports, the British government was apparently damaging the business of the U.K. meat packing plants in Argentina and Uruguay. However, the British *frigoríficos* also had operations in the Dominions, where they were confronted with less competition from the U.S. meat packers.<sup>229</sup> Indeed, the British *frigoríficos* were more concerned that another River Plate meat war would break

<sup>228</sup> "Licencias de Importacion al Reino Unido" *Anales de la Sociedad Rural Argentina*, No. 10, October 1940, Buenos Aires, p. 785.

<sup>229</sup> Gravil, R., *The Anglo-Argentine Connection, 1900-1939* (Westview Press, Boulder, Colorado, 1985), p. 186.

out in the 1930s, which would reduce their profitability and long-term market share. Through the firm control of import licences by the U.K. a further meat war was averted, given that the U.S. meat packers could not increase their meat import shares in Britain, even if they would augment cattle purchases in the River Plate.<sup>230</sup> Thus, through bilateralism and control in the 1930s, the British managed to prevent further business in-roads from the American *frigoríficos*, while maximising the profitability of the U.K. meat packing houses. The Ottawa conference had institutionalised the meat packing pool and given the supply control to the U.K. Board of Trade. However, the River Plate cattle producers welcomed competition among *frigoríficos* and preferred meat wars, as they led to higher cattle prices. Hence, they were concerned that the strict quotas, combined with the British control of import licenses that encouraged stability and a truce among *frigoríficos*, would place strong downward pressure on cattle prices.

Although the Roca-Runciman agreement in 1933 represented a threshold in the government's efforts to reverse the downturn of the Great Depression and to limit further losses in the meat sector, pressure from cattle producers to find a solution to the crisis had already started in 1931. Specifically, the Rural Society urged the government to take action and recommended the introduction of a comprehensive legislative programme for the sector. The Society insisted that all cattle producers, both fatteners and breeders, were suffering from the reduction in meat exports, which combined with the increasing margins of meat packers had generated a slump in cattle prices. Their aim was to ensure that the government would take measures to protect cattle producers from price and margin pressure of *frigoríficos*. For this purpose the Rural Society produced a livestock defence plan, in which it recommended the introduction of a National Meat

---

<sup>230</sup> Ibid.

Board and the formation of a cooperative *frigorifico*.<sup>231</sup> This led to the passing of a law (No. 11747) in 1933 establishing both institutions.<sup>232</sup> The legislation became to be known as the 'meat law' (*ley de carnes*) and its goal was to safeguard cattle producers from the low margins imposed by the meat packers. However, both projects were shelved shortly thereafter after the *frigorificos* closed their plants in protest.<sup>233</sup> The objective of the National Meat Board was to regulate the market, while the aim of the cooperative meat packing house, which became the *Corporacion Argentina de Productores de Carnes* (CAP), was to increase cattle prices, especially for breeders, and thereby reduce the overall meat packers margins. The CAP was financed through the obligatory contribution of 1½% of cattle producer's sales, of which 80% was for the CAP and 20% for the National Meat Board.<sup>234</sup> Moreover, the 11747 law also established the creation of the National *frigorifco* for Buenos Aires. Although the *ley de carnes* was passed in 1933, the debates about the establishment of a national meat packing plant had already taken place in 1923, when a law was passed for its creation, combined with a minimum price law. As in the early 1920s, the large *frigorificos* were strongly opposed to the *ley de carnes* and presented their position to the Argentinian Congress in 1933, through a report that primarily highlighted the negative aspects of a cooperative meat packing house.<sup>235</sup> The British Chamber of Commerce highlighted one of the arguments of the *frigorificos*:

"The old established meat concerns which are now collectively handling practically the whole of the country's meat export trade, have argued that the withdrawal from them of the 15 per cent of the United Kingdom quota would impair the efficiency of their international marketing organisation."<sup>236</sup>

<sup>231</sup> "Ejecucion del Plan Organico de Defensa Ganadera", *Sociedad Rural Argentina - Boletin de Divulgacion*, Buenos Aires, 1932, pp. 5-13 and 20-37.

<sup>232</sup> *Anales de la Sociedad Rural Argentina*, No. 11, November 1933, Buenos Aires, pp. 471-642.

<sup>233</sup> See section 4.4 for a full analysis of the 1923 national *frigorifco* and minimum prices law.

<sup>234</sup> Carreras de las, A., *Legislacion y Politica de Carnes* (Camara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 11.

<sup>235</sup> "Nueva Ley de Carnes - Presentacion de las Empresas Frigorificas ante el Congreso de la Nacion", Report to the Argentinian Senate, Buenos Aires, 6 September 1933.

<sup>236</sup> "The Beef Export Trade", *The British Chamber of Commerce Monthly Journal*, Vol. XIII, No. 13, October 31, 1933, p. 16.

The large meat packing houses were primarily afraid of the upward pressure that cooperative *frigoríficos* could place on cattle prices, which would have translated into a reduction of their margins. In addition, they feared being increasingly displaced by the national meat packing house for the supply of the domestic market, just as had occurred in Uruguay. Indeed, in Uruguay the Frigorífico Nacional was operational since 1929 and had the meat supply monopoly for the city of Montevideo.<sup>237</sup> Thus, the repercussions of the Ottawa Conference and the Roca-Runciman agreement led mainly to the passing of a 'promotion of cattle production' law (*fomento ganadero* - Nr. 8858), with the aim to improve the quality of meat, which would enable Uruguay to be more competitive, within the assigned export quotas.<sup>238</sup>

The CAP was foreseen in the Roca-Runciman pact. Specifically, the agreement stipulated that the quota negotiated for national *frigoríficos*, namely the 15% of meat exports to the U.K., would be covered by the CAP.<sup>239</sup> Nevertheless, the net quota for the CAP was 11%, given that two of the Argentinian meat packing plants already had an allotment of 4%. However, during the initial three years of the duration of the Roca-Runciman agreement, the CAP did not operate and the 11% quota was given to foreign meat packing plants.<sup>240</sup> The lobbying in Congress by foreign *frigoríficos* and their alliance with fatteners seemed to have paid off, given that the CAP quota was divided among themselves. This was strongly debated in the Argentinian Congress and was one of the elements that led to the intervention of Lisandro de la Torre as well as to the meat

<sup>237</sup> Ruano Fournier, A., *Estudio Económico de la Producción de las Carnes del Río de la Plata* (Pena y Cia, Montevideo, 1936), p. 186.

<sup>238</sup> Muñoz Duran, R., "El Mercado de Carnes del Río de la Plata", *Banco de la República Oriental del Uruguay*, Montevideo, 1966, p. 82.

<sup>239</sup> Torres, G., "Función Social de la Ley de Carnes", Conference Proceedings, Colegio Libre de Estudios Superiores, 16 July 1940, p. 29.

<sup>240</sup> Calvet, J., *Un Siglo Frio en la Ganadería Argentina* (Carbap, Buenos Aires, 1977), p. 50.

packing plants investigations in the mid-1930s.<sup>241</sup> Indeed, the Argentinian Congress as well as a joint Anglo-Argentinian governmental commission launched separate enquiries into the practices of *frigoríficos*, amidst allegations of transfer pricing, over-invoicing and profit concealment, in addition to discriminatory cattle pricing policies that favoured a confined group of large fatteners at the expense of smaller producers and breeders. The fierce debates in Parliament were led by Lisandro de la Torre, the representative of Santa Fe, a cattle producer and stringent defender of breeder interests. Whereas the dispute concentrated on the practices of *frigoríficos*, in particular on their cattle pricing policy and high profit margins, the continuing decline of meat exports also played a role in the dissatisfaction of cattle producers. Indeed, in the 1920s the decline in cattle prices was partly offset by higher export volumes and a price war. In the early 1930s, the Ottawa conference had reduced and fixed the export volume, while the British control of import licenses deterred price wars. Thus, cattle producers focused their discontent on the meat packing plants practices, while trying to increase their margins through higher cattle prices.

The Argentinian government persuaded the British authorities to organise a joint enquiry into the meat packing industry, as had been stipulated in the Roca-Runciman agreement. However, they were quickly faced with one main obstacle, the reluctance of the meat packing plants to show their accounts.<sup>242</sup> The British insisted that the Argentinian government did not have the right to force the meat packing plants to show their books, thereby creating enormous friction between the two governments.<sup>243</sup> Confronted with the inability of the Argentinian government to investigate the

<sup>241</sup> Ibid.

<sup>242</sup> Drosdoff, D., *El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman* (Ediciones La Bastilla, Buenos Aires, 1972), p. 51.

<sup>243</sup> Ibid.

*frigoríficos*, the Senate started their own enquiry in 1934. This led to the much publicised and passionate *debate de las carnes*.<sup>244</sup> The Senate investigation had the main purpose of determining the profitability of *frigoríficos* and finding out the difference between the cattle prices obtained in Argentina and meat prices abroad, among other objectives, which included differences with Australian cattle prices.<sup>245</sup> For this purpose it sent state accountants to examine the books of the large *frigoríficos*. The Senate investigation committee had difficulty in obtaining the accounts from the meat packing plants, in particular from the *frigoríficos* Anglo, Armour, La Blanca and Wilson.<sup>246</sup> However, the main incident that marked the investigations was the arrest of Mr. Richard Tootell, the president of the *Frigorífico Anglo* (Vestey). Specifically, Tootell denied investigators access to Anglo's books and insisted that they had been sent abroad, leading to his arrest. Anglo's books were later found in Argentina on board of a ship, the Norman Star, packed in disguised corned beef boxes, ready for shipment abroad.<sup>247</sup> Indeed, the accounts were being transported to Anglo's Fray Bentos plant in Uruguay, presumably to avoid auditing of the investigative commission. The outcome of the investigation, which included the books of *Frigorífico Anglo* found on the ship as well as other accounts handed over by other meat packers after the incident was compelling. Specifically, the findings highlighted the meat packers high profits, which 'were considerable and sometimes exuberant'.<sup>248</sup> In addition, the findings highlighted the lack of transparency in the meat packers accounting methods, which often concealed costs

<sup>244</sup> Roca J.A., *Eduardo Roca* (Consejo Argentino para las Relaciones Internacionales, Imprenta de los Buenos Ayres, Buenos Aires, 1995), p.67.

<sup>245</sup> Olariaga de, N., *El Ruralismo Argentino - Economía Ganadera* (Editorial El Ateneo, Buenos Aires, 1943), p. 239.

<sup>246</sup> Puiggros, R., *Libre Empresa o Nacionalización en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 147.

<sup>247</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p. 172.

<sup>248</sup> Drosdoff, D., *El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman* (Ediciones La Bastilla, Buenos Aires, 1972), p. 65.

through over-/under-invoicing techniques.<sup>249</sup> Moreover, the *frigoríficos* were also criticised for manipulating the classification of meats to their advantage.

De la Torre took the findings a step further and attacked the government, while accusing them of being an ally and protector of foreign meat packing plants as well as large fatteners, at the expense of breeders. In his conclusions, de la Torre also criticised the foreign meat packing plants for their monopolistic practices and vertical integration that allowed them to control prices.<sup>250</sup> Furthermore, he insisted that the CAP should obtain the 15% quota provided for it in the Roca-Runciman agreement. The debate became more heated over time until its tragic ending on the 23 July 1935, when a Senator, Dr. Enzo Bordabehere, who was in the party of de la Torre and a close friend, was shot dead in the Senate. The *Review of the River Plate* described the episode as follows:

"The caustic debate on the Senate's meat trade investigation had a tragic interruption on Tuesday when a Senator-elect was shot dead, a deputy wounded in the abdomen and the Minister of Agriculture, Ing. Luis Duhau, painfully injured as the sequel to an extraordinary bitter passage of words between Senator De la Torre and the Minister of Finance, Dr. Federico Pinedo. It would appear that the Senator for Santa Fe accused the Finance Minister of "insolence and cowardice" and that in the subsequent disturbance Ing. Duhau knocked Sr. De la Torre off his feet, falling also himself in the act. The senator elect for the Province of Santa Fe, Dr. Enzo Bordabehere, as a personal friend and party colleague of Senator De la Torre hurried to the scene of the scuffle when one of the spectators who, as a result of the overflow in the visitors' gallery, was in the body of the house, opened fire with a revolver. Ramon Valdez Cora, the individual accused of firing the shots, is a former police commissary, and it is related that he approached the scene of the disturbance and took deliberate aim. The result was that Dr. Bordabehere fell mortally wounded ... Dr. Mancini, a National Deputy, was wounded in the abdomen ... Ing. Duhau was wounded in the hand by one of the bullets ...<sup>251</sup>

But as if this unprecedented tragedy in the Senate would not have been enough, the Argentinian Minister of Finance, Dr. Federico Pinedo challenged de la Torre to a duel,

<sup>249</sup> Torre de la. L., *Las Carnes Argentinas y el Monopolio Extranjero* (Artes Graficas, Buenos Aires, 1947), pp. 171-173.

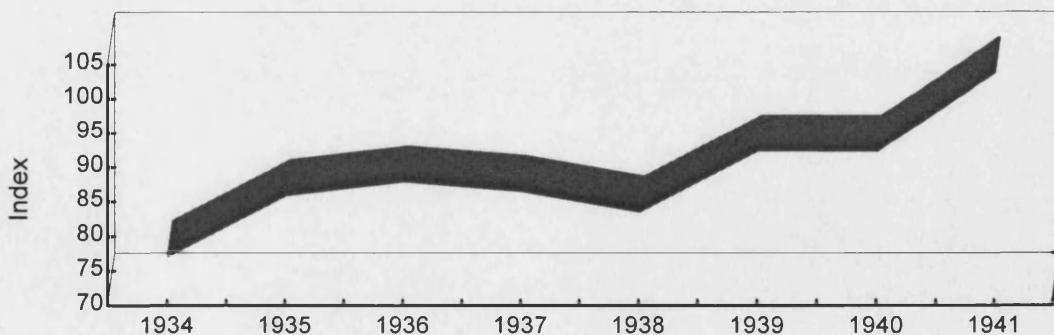
<sup>250</sup> Puiggros, R., *Libre Empresa o Nacionalizacion en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 150-151.

<sup>251</sup> "Shooting in the Senate", *The Review of the River Plate*, Volume LXXVIV, No. 2276, July 26, 1935, p. 7.

as a result of the accusations of "insolence and cowardice". They met on the morning of the 25 July 1935, both fired at a distance, but neither was hurt.<sup>252</sup>

With the death of Bordabehere and the subsequent Pinedo - De la Torre 'duel', the passionate *debate de las carnes* was brought to an end. Although the discussion initiated by de la Torre in the Senate did not translate into immediate results, it had an effect shortly after the end of the debate. Indeed, de la Torres' main goals: (a) to transfer the 11% remaining of the quota assigned to Argentinian *frigorificos* to the CAP, (b) augment cattle prices while reducing the premium to fatteners and (c) increase the control of foreign meat packers, were achieved within a year of the conclusion of the debate. Specifically, differences between cattle prices in the main market of Liniers and prices paid for direct purchases from *estancias* narrowed after 1935, as can be seen in chart 4.6. Thus the premium paid to fatteners by buying directly from their *estancias* was reduced and even reverted, thereby benefiting breeders and small fatteners.

Chart 4.6: Index of Cattle Prices in Liniers vs. Purchased Directly from *Estancias*  
1934-41



Source: "Mercados y Precios del Ganado Vacuno", Banco Ganadero Argentino, Servicio de Investigaciones Económicas, Talleres Gráficos Platt, Buenos Aires, 1966, Table 21, p. 57.

<sup>252</sup> "Duel", The Review of the River Plate, Volume LXXVIV, No. 2276, July 26, 1935, p. 19.

The increase in overall cattle prices and the rapid equalisation of the main market (Liniers) and *estancia* prices can be attributed to the start of operations of the CAP. Specifically, the CAP subcontracted its 11% quota (out of the 15% for Argentinian *frigoríficos*) to the Sansinena and Smithfield & Argentine *frigoríficos*, in order to enable the CAP to start trading immediately.<sup>253</sup> The CAP transformed itself into one of Argentina's biggest cattle purchasers and also helped expand the market and augment animal prices.<sup>254</sup> By the end of 1935, The Economist reported:

"The rise in meat prices during October (1935) is remarkable. The market value of exports for the first ten months of 1935 is the highest obtained since 1929 ... "<sup>255</sup>

The market was also helped by droughts in Australia, which placed upward pressure on prices, combined with the early British recovery from the Great Depression.

#### **4.6.1 The Findings of the Joint Committee: Corroborating the De La Torre Debates**

In late 1938, the report of the joint Anglo-Argentinian committee for the investigation of the River Plate meat trade was released. The report recognised that the meat business was fully dominated by a *frigorífico* pool that controlled cattle purchasing until the start of operations of the CAP. In addition, meat packers benefited from enormous profits, which were difficult to calculate or account for, due to the *frigorífico*'s intrinsic transfer pricing and over-invoicing accounting techniques.<sup>256</sup>

The committee indicated that the CAP represented the means to counterbalance the power of the large meat packers and reduce their strong profits, while ensuring higher

<sup>253</sup> Smith, P., Politics and Beef in Argentina (Columbia University Press, New York, 1969), p. 197.

<sup>254</sup> Smith, P., Politics and Beef in Argentina (Columbia University Press, New York, 1969), p. 198.

<sup>255</sup> The Economist, Vol. CXXI, No. 4815, December 7, 1935, p. 1127.

<sup>256</sup> Smith, P., Politics and Beef in Argentina (Columbia University Press, New York, 1969), p. 209.

prices for cattle producers.<sup>257</sup> The Economist reported the committee's findings as follows:

"Half a dozen private concerns (meat packing houses), which are so jealous of their rights to conduct their operations with freedom and secrecy that they have refused to co-operate in this inquiry which was set up for public purposes by the two Governments. In the circumstances, the Committee can only present partial evidence for their conclusion that though profits of the companies vary from year to year, there have been several years in which they have taken advantage of the Argentine's producer's poor competitive position without passing on to the British consumer any of the reduction in price thus exacted. It is, indeed, necessary for the companies 'to realise that their opportunity to continue must be conditional on their being able to satisfy the Governments in both countries that in their operations they are rendering service of public value at no more than reasonable charge'; and the Committee recommends, as a first step, the compulsory institution of a standardised form of accounts in which the companies shall make returns to the two Governments."<sup>258</sup>

Finally, the Committee also recognised that fatteners were in a better position than breeders, due to the higher prices paid to large fatteners for cattle bought directly on their *estancias*. In synthesis, the Anglo-Argentinian Committee arrived at the same conclusion as the Senate investigative commission, the Rural Society and the Minister of Agriculture.<sup>259</sup>

The conflict between breeders and fatteners continued in 1938 and 1939, when the ever stronger CARBAP, the federation of regional associations, requested that breeders have more control over the activities of the Meat Board and the CAP, through majority voting and increased benefit participation. In addition, they urged the government to construct a national meat packing plant for the CAP and recommended the regionalisation of the Meat Board. In 1939-40 a plan was put forward for the government to buy the Compañía Sansinena and other smaller meat packers so that they could become *frigoríficos* under direct control of the CAP.<sup>260</sup> However, it was not until the 1940s that

<sup>257</sup> Ibid.

<sup>258</sup> The Economist, Vol. CXXXIII, No.4965, October 22, 1938, pp. 162-163.

<sup>259</sup> Drosdoff, D., El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman (Ediciones La Bastilla, Buenos Aires, 1972), p. 108.

<sup>260</sup> "Examen de las Propuestas de Compra", Anales de la Sociedad Rural Argentina, No. 10, October 1940, Buenos Aires, p. 788.

major legislation was passed that responded to the demand of the breeders, in particular the functioning of CAP controlled *frigoríficos*.

Overall, in the 1930s, the Ottawa Conference and the subsequent Roca-Runciman agreement placed and then maintained market access restrictions to the key U.K. export market for River Plate meat. Although the supply control was placed in the hands of the U.K. Board of Trade, the foreign meat packers were still able to benefit from the very large economies of scale and scope that they had obtained in the 1910-20s consolidation phase of the ownership structure. Indeed, by the late 1920s the industry was dominated by a small group of firms which had formed a strong oligopoly. Given that meat wars were averted in the 1930s by the U.K. Board of Trade control, foreign meat packers proceeded to maximise their profitability, while maintaining their high market share levels steady.

Additionally, the Roca-Runciman pact triggered the first dependency arguments in Argentina and Uruguay, stressing that the River Plate was too dependent on foreign countries for the provision of export earnings and the supply of manufactured goods. Furthermore, the price decline of export commodities and increased protectionism were flagged as key issues for future economic growth and the entire free market based economy was put into question. However, the dependency arguments died down quickly, due to the strong influence that large cattle producers had in government, as well as Argentina's and Uruguay's fast economic recovery from the Great Depression, and improvements in cattle and agricultural prices. Nevertheless, the dependency arguments resurfaced in the 1940s, which led to import substitution industrialisation policies.

#### 4.7 The Rise of Peron and I.S.I.: Repercussions on the Ownership Structure (1940-55)

The Second World War brought significant prosperity to the River Plate. Both Argentina and Uruguay benefited from strong agricultural and meat exports, at high prices, to war stricken Europe. Given that manufactured products were difficult to acquire during the war, and meat as well as agricultural prices were high, large reserves were accumulated. These significant reserves were instrumental in financing the succeeding import substitution industrialisation policy (ISI), which was increasingly vocalised in the early 1940s and fully implemented by the Peron administration after the war.

The large incomes obtained during the war enabled the governments of Argentina and Uruguay to implement a subsidised pricing programme, while the CAP obtained increasingly more funds to expand their group of meat packing plants. Subsidies were introduced that guaranteed uniform cattle prices for producers, fixed at a minimum level and financed through a compensation fund, in which *frigoríficos* had to pay a fixed sum for every ton of exported meat.<sup>261</sup> As a result of the subsidies as well as gradually increasing meat prices in the early 1940s, cattle producers also obtain higher prices for their animals. Similarly, in Uruguay a subsidy was paid to the meat packing houses and base cattle prices were fixed.<sup>262</sup> During the war the CAP started operating an ever increasing number of their own meat packing plants. In 1941 the CAP bought numerous provincial *frigoríficos*, which provided cattle producers with regional cooperative meat packing plants.<sup>263</sup>

---

<sup>261</sup> "Examen de las Propuestas de Compra", Anales de la Sociedad Rural Argentina, No. 10, October 1940, Buenos Aires, p. 198.

By the end of the Second World War, the Peron administration introduced a fully fledged ISI policy. Peron's import substitution industrialisation policy was not only financed through the reserves accumulated during the Second World War, in addition surplus was extracted from the agricultural and livestock sectors. As the reserves dried up in the early 1950s, Peron sought to obtain more funds from the livestock sector, by not only controlling the export trade, but also through direct state intervention. Thus in 1950 the Argentinian government took state control a step further and through a new law (13.991) started intervening directly in the meat packing and cattle production industries. The National Meat Board became the *Instituto Ganadero Argentino*, which had the power to establish meat packing companies and trade in cattle. Taxes were also increased to cover the augmenting costs of state participation. The extreme intervention and tax increases of 3% of cattle sales, led to strong discontent of cattle producers and drastic conflicts with and within the government.<sup>264</sup> In addition to state intervention, cattle producers suffered a severe drought in 1949-51, which left the industry in a serious crisis and with minimal cattle stock.<sup>265</sup> This increased the dissatisfaction further and brought about heightened confrontations. In 1952, amidst strongly declining cattle production, cattle producer's outrage and a tightening of fiscal discipline of the Peron administration after years of mismanagement and overspending, led to a moderate decline in government intervention. Although a 10% levy for 'agricultural research' was added to the 3% tax by the government in 1952, the National Meat Board responsibilities were transferred to the Secretary of Agriculture, thereby reducing the dissatisfaction of cattle producers. In 1954, the National Meat Board was transferred to

<sup>262</sup> Bernhard, G., *Comercio de Carnes en el Uruguay* (Editores Aguilar e Irazabal, Montevideo, 1958), pp. 36-37.

<sup>263</sup> Liceaga, J.V., *Las Carnes en la Economía Argentina* (Editorial Raigal, Buenos Aires, 1952), p. 196.

<sup>264</sup> Carreras de las, A., *Legislación y Política de Carnes* (Cámara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 13.

<sup>265</sup> Calvet, J., *Un Siglo Frio en la Ganadería Argentina* (CARBAP, Buenos Aires, 1977, p. 60).

the Ministry of Commerce together with the Trade Promotion Institute external trade responsibilities.<sup>266</sup>

The long term implications of the ISI policy were profound, given that there was little incentive left to produce cattle, as margin declines in the livestock sector led to more profitable agricultural production. In addition, the export of meat was deterred by extremely high duties, unpropitious intervened exchange rates and governmental control. The ISI policy did not consider the long-term effect of 'over-extracting' surplus from the export sector. Although the extreme ISI policy is attributable to the fear of renewed trade restrictions after the Second World War, combined with inability to obtain industrial goods during the war, the policy was taken to an extreme. It was an over-reaction to the market access restrictions in the 1930s. The policy had a strong negative effect on the River Plate meat packing industry in the long term. Plant and equipment at the meat packing plants was mostly outdated and investment in the *frigoríficos* was minimal. The 'over-extraction' of surplus from the export sector, did not allow cattle producers nor meat packers to obtain adequate returns to continue investing in the sector. It was often unremunerative to operate in the legitimate meat sector for cattle producers and meat packers. Through state intervention the profitability of the meat sector was depressed further, while it led to an escalation in inefficiency and bureaucracy.

#### **4.7.1 Confusion and Contradictory Policies in Uruguay**

The Uruguayan government changed their meat trade policy considerably in 1948, as a result of price differentials between meat exports to the U.K., which had been

---

<sup>266</sup> Carreras de las, A., Legislacion y Politica de Carnes (Camara Argentina de Consignatarios de Ganado, Buenos Aires,

determined through large exporting contracts, and other international markets. Indeed, a livestock compensation fund was introduced, the *fondo de compensaciones ganaderas*, by which cattle prices were fixed at the higher international market price, while beef prices for domestic consumption increased in order to pay for the difference.<sup>267</sup> Given that the Frigorifico Nacional had the monopoly for the supply of the city of Montevideo, large private meat packers faced losses when exporting to the U.K. Thus, they were subsidised for British exports. However, instead of taking the difference between the international and the U.K. meat price, the subsidy was determined by the declared losses of the private *frigoríficos*. These varied between meat packers, due to their different distribution systems and labour relations, as well as disparities in efficiency and productivity. Moreover, it was in the best interest of *frigoríficos* to overstate their losses in order to maximise their subsidies. Indeed, all private *frigoríficos* declared higher losses than the Frigorifico Nacional, which became the benchmark, while the Frigorifico Anglo (Vestey) had a significantly larger difference, supposedly due to longer travel distances and high transhipment costs.<sup>268</sup> The decline in international meat prices in 1949 and higher labour cost, represented major burdens for the livestock compensation fund, given that subsidies continued to be based on declared *frigorífico* losses.<sup>269</sup> This led to the abolishment of the livestock compensation fund in 1950, although the system of subsidies continued until 1953.<sup>270</sup>

Uruguayan meat exports followed a similar trend than those from Argentina, as can be seen in appendixes 29 and 30. However, the system of subsidies seemed to have reversed the declining trend in Uruguayan meat exports temporarily in 1948-53,

---

1989), p. 13.

<sup>267</sup> Bernhard, G., *Comercio de Carnes en el Uruguay* (Editores Aguilar e Irazabal, Montevideo, 1958), pp. 44-47.

<sup>268</sup> Finch, H., *A Political Economy of Uruguay Since 1870* (The MacMillan Press, London, 1981), p. 144.

<sup>269</sup> Ibid.

although demand generated by the Korean war also played an important role. After the Second World War Uruguay started an import substitution industrialisation policy.<sup>271</sup> However, it was a more moderate and gradual process than in Argentina. Nevertheless, the program relied partly on the surplus of the livestock and agricultural sector to support the industrialisation process. This was achieved through a system of differentiating exchange rates, taxation and trade controls. In addition, the Uruguayan working classes experienced strong real income growth after the war, driven by favourable labour legislation, in particular the creation of salary councils in the early 1940s.<sup>272</sup> The increase in overall purchasing power led to stronger meat consumption, which translated into a rise in the proportion of total production for the domestic market. After 1953 a severe shortage of cattle led to a decline in total meat production. Indeed, cattle stocks decreased significantly, due to highly attractive wheat prices, that encouraged a shift from livestock to cereal production.<sup>273</sup> Thus an increasing amount of land was utilised for agriculture rather than for cattle production. Other factors also played a role in the shortage of cattle. To start with, a number of meat slaughtering houses opened on the border with Montevideo, thereby competing not just in the retailing of meat with the Frigorifico Nacional, who had the monopoly for the city, but also as wholesalers which supplied the city butchers with meat, within the 'black' market.<sup>274</sup> Additionally, higher prices in Brazil, encouraged cattle on the hoof smuggling across the border. By the mid-1950s Uruguayan meat packing houses were operating with severe overcapacity and had enormous difficulty in maintaining a profitable business. Overall, Uruguay had confusing and contradictory policies, which

<sup>270</sup> Ibid, p. 145.

<sup>271</sup> Caetano, G., Rilla J., Historia Contemporanea del Uruguay (Editorial Fin de Siglo, Montevideo, 1994), p. 174.

<sup>272</sup> Ibid, p. 163.

<sup>273</sup> Muñoz Duran, R., "El Mercado de Carnes del Rio de la Plata", Banco de la Republica Oriental del Uruguay, Montevideo, 1966, p. 83.

<sup>274</sup> Bernhard, G., Comercio de Carnes en el Uruguay (Editores Aguilar e Irazabal, Montevideo, 1958), p.148.

tried to extract surplus from the meat sector to support ISI and at the same time subsidise meat packers and cattle producers, albeit with less than the total surplus extracted. The subsidies, controls and the monopoly granted for the city of Montevideo, created serious distortions in the meat sector, which in turn encouraged illegitimate cattle and meat trade, 'creative' accounting practices by packers, as well as disinvestment from livestock production to the more lucrative and less regulated agricultural sector.

#### **4.8 Alternating Between State Intervention and Moderate Market Orientation: The Rise of the *Nueva Industria* Amidst a Schizophrenic Domestic Policy (1955-90)**

##### **4.8.1 The Uruguayan Ownership Structure: Finding the 'Minimum Efficient Scale' Threshold in a Changing Policy Environment**

In the mid-1950s, the River Plate meat packing industry was suffering from a lack of cattle supply as well as a number of disincentives to invest in cattle production. Meat packing plants were running with very high excess capacity and high labour costs, due to large their large unionised workforce. In Uruguay, the continuous decline in cattle supply for *frigoríficos*, which were already operating with largely idle capacity, forced the closure of all private *frigoríficos* in Montevideo. Large foreign meat packers were unable to reach 'minimum efficient scale' in their large plants because of their low capacity utilisation and fixed costs. Thus, they did not manage to generate significant economies of scale. As a result the Swift and Artigas companies stopped operating in Uruguay in 1957, followed by Castro. The Review of the River Plate reported:

"The threatened closing down of the Artigas and Swift *frigoríficos* in Uruguay became effective on December 20 (1957) as a result of labour troubles and insufficient cattle supplies ... but apparently the latter will not involve any reduction in Uruguay's beef exporting capacity, since the remaining packing plants are fully capable of dealing with the present reduced volume of shipments, and, indeed, should now operate on a more economic basis."<sup>275</sup>

<sup>275</sup> "Uruguayan 'Frigoríficos' Close Down", The Review of the River Plate, Volume CXXII, No. 3312, December 31, 1957, p. 24.

As The Review of the River Plate indicated, the efficiency and profitability of *frigoríficos* would have increased if excess capacity would have been reduced through the total closure of the American *frigoríficos* and the Castro. However, in order to safeguard over 6000 jobs, the ownership of the former private *frigoríficos* was transferred to the employees, under a new umbrella organisation called EFCSA (*Establecimientos Frigoríficos del Cerro S.A.*).<sup>276</sup> The only foreign *frigorífico* still operating in Uruguay was the Anglo (Vesteys) located in Fray Bentos, in the west of Uruguay. The industry thus continued operating at a very high cost.

In 1959 with a new Blanco government in power, traditionally a strong defender of cattle producer's interests, a new monetary and exchange reform law was passed.<sup>277</sup> This legislation provided the basis for a more favourable exchange rate policy to encourage exports of agricultural and cattle products. An additional step taken by the government was to end the monopoly of the Frigorífico Nacional for the supply of the city of Montevideo. Nevertheless, authorised meat suppliers, the *permisarios*, officially still had to use the Frigorífico Nacional to slaughter their cattle.<sup>278</sup> The Frigorífico Nacional suffered a severe decline in its Montevideo meat supply market share from 1958-64, due to the 'free' supply policy. Thereafter, the Frigorífico Nacional was once again given the supply monopoly for the city of Montevideo.<sup>279</sup>

Throughout the 1950-70s, the Frigorífico Nacional as well as the EFCSA plants remained highly inefficient, due to a combination of high personnel costs, idle capacity,

<sup>276</sup> Muñoz Duran, R., "El Mercado de Carnes del Río de la Plata", Banco de la República Oriental del Uruguay, Montevideo, 1966, p. 83.

<sup>277</sup> Caetano, G., Rilla J., Historia Contemporánea del Uruguay (Editorial Fin de Siglo, Montevideo, 1994), p. 210.

<sup>278</sup> Muñoz Duran, R., "Aspectos Básicos de la Industria de Carnes de Uruguay", Banco Central del Uruguay, Asesoria Económica y Estudios, Montevideo, 1974., pp. 42-43.

<sup>279</sup> Finch, H., A Political Economy of Uruguay Since 1870 (The MacMillan Press, London, 1981), p. 148.

as a consequence of the lack of cattle supplies, and outdated machinery. In addition, the plants of the traditional large *frigoríficos* were originally built in the early twentieth century to produce large quantities of chilled meat for export, which was now of secondary importance, rather than meat for the narrower domestic market. This led to the entrance of smaller, more efficient meat packers, some of which gradually became more sophisticated and started not only to produce for the local market, but also competing for the export business. The smaller *frigoríficos* were privately owned and many progressively developed from local slaughterhouses around Montevideo, which often supplied the illegitimate market, to fully integrated refrigerated meat packing plants. They became to be known as the *nueva industria* (new industry), which were lured to the meat packing business by the advantageous tax and exchange rate policies that the *frigoríficos* enjoyed. Indeed, the *nueva industria* benefited from legislation that was intended to make the high cost of the traditional *frigorífico* industry profitable.<sup>280</sup> Moreover, the *nueva industria* had a much lower cost base, due to their smaller plants, as well as less union pressure and thus reduced labour costs.<sup>281</sup> Their lower fixed cost and capacity enabled them to achieve 'minimum efficient scale' at a low production threshold. They were also not constricted geographically and could set up their plant in the interior of the country, as well as purchase cattle in any region. Indeed, the *nueva industria* had more flexibility when purchasing cattle and they often paid higher prices for livestock. These competitive advantages enabled them to obtain large quantities of cattle for slaughter and thus gain business from the traditional large *frigoríficos*, while increasing their economies of scale.

---

<sup>280</sup> Calloia, F., "La Industria de la Carne", Universidad de la Repùblica, Grupo Interdisciplinario, Instituto de Economía, March 1993, p. 7.

<sup>281</sup> Ibid.

However, until the mid-1960s, the *nueva industria* was highly fragmented. Although numerous slaughterhouses and *frigorificos* existed, it was necessary to "order the industrialisation and commercialisation of meats in order to safeguard the quality, healthiness and hygiene of meat exports."<sup>282</sup> This led to the passing of a 'meat exporters registry' law in 1966. In order to be registered and thus participate in the export trade, a meat packing plant had to fulfil a number sanitary, manufacturing and legal conditions. Not only was this necessary to organise and control the industry, but the registry was also a means to ensure that new stringent international sanitary restrictions were met. Many of the meat packers of the *nueva industria*, which started production in the 1960s, quickly became leading Uruguayan meat exporters, including *Frigorificos Canelones*, *Carrasco*, *Colonia* and *San Jacinto*.<sup>283</sup> In the 1960s and 1970s the *nueva industria* continued to increase their share of total slaughtering until they gained full control of the market in the late 1970s, as can be seen in table 4.5.

Table 4.5: % of Total Slaughters by Type of *Frigorifico* in Uruguay

<i>Frigorifico</i> Type	1953-57	1961	1970	1980
Traditional <i>Frigorificos</i>	100%	98%	33%	0%
<i>Nueva Industria</i>	0%	2%	67%	100%

Source: Calloia, F., "La Industria de la Carne", Universidad de la Republica, Grupo Interdisciplinario, Instituto de Economía, March 1993, p. 8.

The traditional *frigorificos* continued to lose importance in the 1960-70s, as their efficiency kept declining. Indeed, their plants and equipment became even more obsolete, their production and management techniques were mostly outdated and they continued to retain a large expensive workforce. In addition, the *nueva industria* was

<sup>282</sup> Muñoz Duran, R., "Aspectos Basicos de la Industria de Carnes de Uruguay", *Banco Central del Uruguay, Asesoria Economica y Estudios*, Montevideo, 1974., p. 47.

<sup>283</sup> Interview with Dr. Barrios Mariezcurrera, Director, *Frigorifico San Jacinto (Nirea)*, Montevideo, 2 April 1997.

absorbing ever more cattle, which continued to be in low supply. The last remaining foreign traditional *frigorifco* in Uruguay, namely the Anglo (Vestey), was closed in 1967 and the plant was first leased by the state and then expropriated.<sup>284</sup> In 1969, the monopoly supply of the Frigorifico Nacional for the city of Montevideo was again taken away and the EFCSA was seized by the government after a long strike.

The Instituto Nacional de Carne (INAC) was created in 1967 to organise the industry and export meat trade, as well as coordinate the domestic market.<sup>285</sup> In 1970, a modernisation programme started with strong state support and special Interamerican Development Bank credits for the *nueva industria*.<sup>286</sup> The objective of the programme was to improve the plant and machinery of the *nueva industria* further. However, the large investments left several *frigorificos*, many of which were already facing difficulties, in a delicate financial situation. This led to the intervention of the state in 1971, in which the government took over the financial obligations of *frigorificos* and administered the price of livestock, while ensuring that payments were made to suppliers and wage-earners.<sup>287</sup> Through this intervention the state had indirect control of almost half of all *frigorifco* capacity in Uruguay. This law remained in place until 1978, after which the industry was liberalised. In 1978 the Frigorifico Nacional was closed down by the state and the supply of meat was completely deregulated, including the city of Montevideo. *Frigorificos* that were in state hands were privatised and the state ceased interventions.

<sup>284</sup> Finch, H., *A Political Economy of Uruguay Since 1870* (The MacMillan Press, London, 1981), p. 149.

<sup>285</sup> Muñoz Duran, R., "Aspectos Basicos de la Industria de Carnes de Uruguay", *Banco Central del Uruguay, Asesoria Economica y Estudios*, Montevideo, 1974., p. 48.

<sup>286</sup> *Ibid.*, pp. 53-56.

<sup>287</sup> *Ibid.*, pp. 56-57.

The deregulation of the industry had a profound effect on the meat packing industry. Cattle prices were set free and *frigoríficos* were allowed to set up their plants in any part of the country without restrictions.<sup>288</sup> In addition, the gradual, yet complete closure of the traditional *frigoríficos* reduced the Uruguayan slaughtering capacity substantially. A *segunda nueva industria* (second new industry) emerged.<sup>289</sup> Although many of *frigoríficos* that started in the 1960s remained, albeit some with changed ownership, new meat packing plants were set up after the deregulation and many became important *frigoríficos*, both for local supply and the export market. By the late 1970s many *frigoríficos* had state of the art technology and adhered to stringent sanitary requirements. Despite improvements in technical and management methods, many *frigoríficos* still faced financial hardship, which often led to ownership changes and significant restructuring.<sup>290</sup> However, deregulation made the industry more efficient within an open market by the 1980s.

#### **4.8.2 The Changes in Argentina's Ownership Structure after the First Peron Government: Revised Capacity Requirements and the Growth of the Nueva Industria**

In Argentina, the ousting of Peron in 1955 led to a new orientation of the meat trade. Indeed, in 1956 Argentina returned broadly to the original livestock defence law (11747) through a new law (8509).<sup>291</sup> This legislation reestablished the National Meat Board, reintroduced private capital participation in the sector and reduced the cattle tax to 2.5% (of which 60% was allocated for the CAP).<sup>292</sup> Private capital participation was further encouraged in 1959, when the Frondizi administration decreed that the proportion of the

<sup>288</sup> Calloia, F., "La Industria de la Carne", Universidad de la Republica, Grupo Interdisciplinario, Instituto de Economía, March 1993, p. 8.

<sup>289</sup> Calloia, F., "La Industria de la Carne", Universidad de la Republica, Grupo Interdisciplinario, Instituto de Economía, March 1993, p. 8.

<sup>290</sup> Interview with Dr. Barrios Mariezcurrera, Director, Frigorífico San Jacinto (Nirea), Montevideo, 2 April 1997.

<sup>291</sup> Calvet, J., Un Siglo Frio en la Ganadería Argentina (CARBAP, Buenos Aires, 1977, p. 62).

cattle tax allocated to the CAP, which by then had ten plants and was benefiting from the continuous flow of tax revenue, could only be used for investments in plant and machinery.<sup>293</sup> The aim of the law was to encourage renewed investments in large private *frigoríficos*, who had been running their idle plants with only minimal capital expenditure, mainly for maintenance, since the outbreak of the Second World War. Investments were needed to adapt plants to stricter sanitary requirements as well as to improve production methods and enable new product manufacturing, such as cooked frozen meat. However, it continued to give the CAP a subsidy and thus an unfair advantage over other meat packers.

Despite the subsidies, numerous smaller *frigoríficos* started to compete successfully with the CAP. Indeed, just as in Uruguay, the structure of the Argentinian meat packing industry changed significantly in the late 1950s and 1960s. The large traditional *frigoríficos* were very inefficient, for similar reasons than in Uruguay, namely due to their large strongly unionised labour forces, lack of cattle supply and unused capacity.<sup>294</sup> They were unable to benefit from significant economies of scale, because they were not reaching 'minimum efficiency scale', due to overcapacity and high fixed costs. Thus, the *nueva industria* emerged, comprised of smaller *frigoríficos* which were more efficient, from a technical, administrative and managerial point of view.<sup>295</sup> The large traditional meat packers, which were not part of the CAP, had enormous difficulty in competing with the *nueva industria*. In addition to their 'operational' inefficiency, the large traditional *frigoríficos* also had outdated and often obsolete equipment and plants.

<sup>292</sup> Carreras de las, A., Legislacion y Politica de Carnes (Camara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 13.

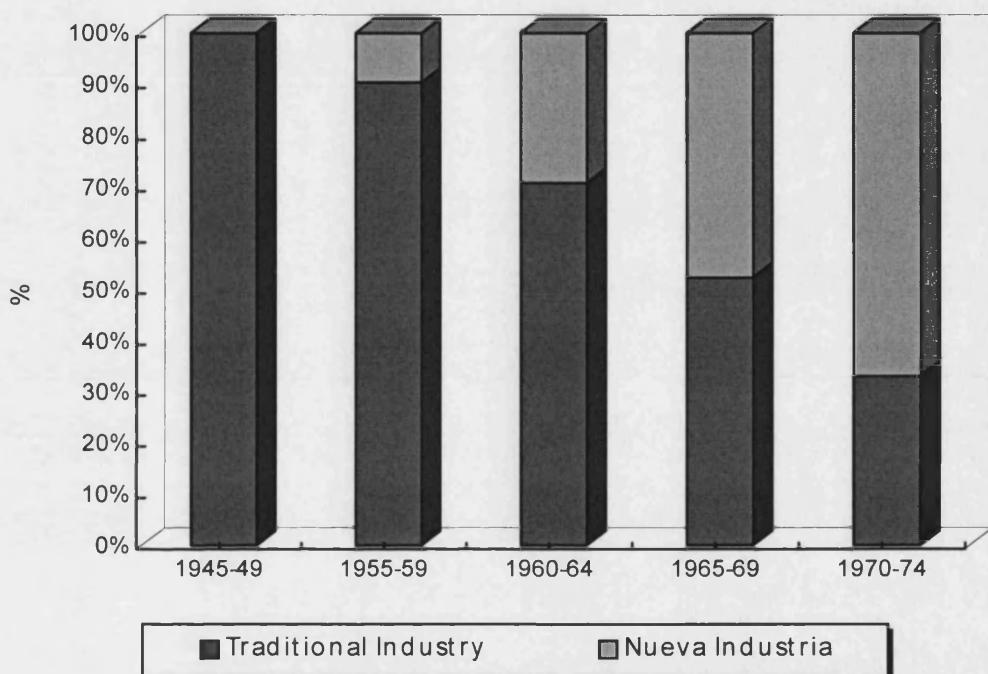
<sup>293</sup> Ibid.

<sup>294</sup> "Mercados y Precios del Ganado Vacuno", Banco Ganadero Argentino, Servicio de Investigaciones Economicas, Talleres Graficos Platt, Buenos Aires, 1966, pp. 37-38.

<sup>295</sup> Ibid.

Thus as the subsidy for large foreign *frigoríficos* ceased between 1957 and 1959, they were primarily left with an unremunerative business.<sup>296</sup> In the 1960s the *nueva industria* made increasing inroads into the traditional meat packers business until achieving leadership, as can be seen in chart 4.7.

Chart 4.7: % Of Bovine Meat Produced By Type of *Frigorífico* in Argentina (Volume)  
1945-1974



Source: Calculated with data from Buxedas, M., *La Industria Frigorífica en el Río de la Plata* (CLACSO, Buenos Aires, 1983), Table 52, p. 109. Does not include slaughterhouses producing for the domestic market.

In the 1960s, numerous traditional *frigoríficos* closed, namely La Blanca in 1963 and Armour de La Plata in 1969. These *frigoríficos* and Swift were taken over by DELTEC, an offshore holding company which was set up to proceed with an asset stripping operation.<sup>297</sup> Most of DELTEC's production was gradually switched to Swift.<sup>298</sup> The asset stripping exercise finished with the declared bankruptcy of Swift (DELTEC) in

<sup>296</sup> Buxedas, M., *La Industria Frigorífica en el Río de la Plata* (CLACSO, Buenos Aires, 1983), p. 108.

<sup>297</sup> Buxedas, M., *La Industria Frigorífica en el Río de la Plata* (CLACSO, Buenos Aires, 1983), p. 110.

<sup>298</sup> Lozada, S.M., *Swift, Deltec y Las Carnes Argentinas* (Editorial El Coloquio, Buenos Aires, 1974), p. 54.

1971.<sup>299</sup> This represented the end of the era of large foreign meat packing plants, most of which had started operations in the early twentieth century, with very large, integrated and highly sophisticated *frigoríficos*.<sup>300</sup> Nevertheless, the Frigorífico Swift continued its operations through the intervention of the CAP and FASA, while the Frigorífico Wilson was sold, generating large deficits and then being taken over by the state.<sup>301</sup>

The second Peron administration starting in 1973, proceeded to intervene in the meat packing industry. Once again the state was given the power to trade cattle, operate the industry and control foreign trade.<sup>302</sup> The state administered the old Swift plant, FASA and the CAP, through which it achieved significant control of the industry. Overall, state intervention reduced meat production of the administered traditional plants even further, primarily due to poor administration and increased labour costs. In addition, due to the world oil crisis in 1973 international demand for meat declined significantly. These factors combined with domestic political turmoil had a negative impact on meat exports and cattle prices.

Starting in March 1976, under the military government in Argentina, the state controlled *frigoríficos* were re-privatised, including Swift and FASA.<sup>303</sup> In 1979 the CAP was dissolved and sold to the private sector through public auction, while cattle taxes were reduced, first to 1.5% and then to 1% of domestic cattle prices.<sup>304</sup> This represented a major move away from interventionist policies and state administered *frigoríficos* and towards private capital in the meat packing industry.

<sup>299</sup> Ibid, pp. 12-42.

<sup>300</sup> Chapter 3 analyses the emergence of frigoríficos in the River Plate in the late nineteenth- and early twentieth- century.

<sup>301</sup> Buxedas, M., La Industria Frigorífica en el Río de la Plata (CLACSO, Buenos Aires, 1983), p. 110.

<sup>302</sup> Carreras de las, A., Legislación y Política de Carnes (Cámara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 14.

<sup>303</sup> Buxedas, M., La Industria Frigorífica en el Río de la Plata (CLACSO, Buenos Aires, 1983), p. 111.

#### **4.8.3 The Shift in the Ownership Structure, Policy Alternation and Variations in the Macro- /Micro-Environment: An Overall River Plate Perspective**

From the mid-1950s until the 1980s Argentinian and Uruguayan domestic policy alternated between state intervention and moderate market orientation. The frequent shifts in policy orientation can be traced to persistent government changes, in particular in Argentina, within an unsettled political environment driven by severe conflicts between various interest groups. Employment and labour relations often played a more important role than the efficiency of the meat packing industry. Despite the schizophrenic domestic policy alternating between various degrees of moderate market orientation to state intervention, the *nueva industria* managed to emerge in the 1960s and grow substantially in 1960-70s, while quickly overtaking the traditional industry and attaining a strong leadership position. Indeed, major changes occurred in the structure of the industry in 1950-70 both in Argentina and Uruguay.

The deregulation in the late 1970s, facilitated the further development of the *nueva industria* in a freer economic environment. Although financial difficulties in the *nueva industria* were still evident in the late 1970s and early 1980s, the deregulation brought about significant increases in production efficiency, better technology, as well as improved manufacturing and management methods. By the 1980s the schizophrenic domestic policy of switching between state intervention and moderate market orientation had come to an end. The full deregulation of the industry allowed meat packers and cattle producers to operate efficiently, and in a sector driven primarily by market forces.

---

<sup>304</sup> Carreras de las, A., Legislacion y Politica de Carnes (Camara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 14.

Modifications in the ownership structure of the meat packing industry in 1950-80 are traceable to numerous alterations in the macro- and micro-environment of firms, which in turn shaped the marketing mix and thus influenced the strategies of *frigoríficos*.<sup>305</sup> The macroenvironment in the River Plate changed significantly after the Second World War, thereby discouraging investment in the traditional industry and leading to the closure of the large foreign meat packers, as well as to the rise of the *nueva industria*. Firstly, the political / legal environment became inward looking, while there was a shift in domestic policy from free market orientation towards restriction, regulation and intervention. In addition, unions and work councils encouraged by the governments became more powerful, while workers demanded higher salaries and better working conditions. Additionally, the international trade regime was closed even further, especially after the late-1950s, leaving a limited export market, as will be analysed in chapter 5. Secondly, the economic / demographic environment changed. The aim was to extract the surplus of the export sector, in particular agricultural and livestock production to support ISI policies, leading to higher taxation, exchange-rate differentials and direct state control over exports. As a result the legitimate market became highly unprofitable and thus an illegitimate trade emerged. This led to the rise of numerous slaughterhouses that developed into leaner and lower cost producing *frigoríficos*, which became the *nueva industria*. Thirdly, the socio-cultural environment experienced an important transformation. As the proletariat gained more power and their purchasing capacity increased due to higher real wages, the local market for meat expanded dramatically. This combined with a limited export sector, due to surplus extraction and international market restrictions, forced *frigoríficos* to concentrate more on the domestic market and less on exports, which was the traditional stronghold of the large foreign

<sup>305</sup> See Section 4.1 for a detailed analysis of the marketing mix concept as well as an explanation of how changes in the

meat packers. The technological / physical environment was affected, as large *frigoríficos* did not have an incentive to invest in new technology, given that production for the local market required small and efficient packers rather than enormous plants primarily concentrating on exports. Large *frigoríficos* also did not have an incentive to invest given that they were operating at low capacity and with poor profitability, while they had negative future expectations. Strict hygiene regulations also emerged, which combined with new export products, such as frozen cooked meat, required investment in plant and equipment. In addition, the physical environment changed, as unremunerative cattle production for the legitimate sector forced producers to sell on the grey market and increasingly concentrate on more profitable agricultural production.

On the microenvironmental front, there were too many suppliers for the domestic market, while the export market was restricted by numerous tariff barriers designed to extract surplus as well as maintain low legitimate domestic prices. Competition from the *nueva industria* was severe, due to their smaller size, lower labour costs and flexibility. In contrast, larger *frigoríficos* were operating with enormous overheads, including expensive unionised labour. A new set of variables profoundly reshaped the marketing mix and thus the business and marketing strategy of meat packers. Large foreign *frigoríficos* were particularly affected by the changes in the macro- and micro-environment, which led to their withdrawal. In addition, many of the large traditional plants that remained were also gradually forced to cease operating. The *nueva industria* and especially the *segunda nueva industria* benefited from the modified macro- and micro-environmental factors, while utilising the reshaped marketing mix to formulate and implement a successful strategy.

#### **4.9 Renewed Foreign Capital Participation and Consolidation in the 1990s**

Starting in the 1990s, the River Plate meat packing industry experienced a significant shift towards consolidation and renewed interest of foreign capital in the sector. This occurred first in Uruguay and since the mid-1990s also in Argentina. The main factors that led to the return of foreign capital participation in the industry as well as to greater consolidation were (i) the liberalisation policies enacted in the 1980-90s, (ii) the eradication of Foot and Mouth Disease, (iii) the creation of Mercosur which encouraged regional meat exports, and (iv) improvements in tax collection and regulatory enforcement. Uruguay implemented policies regarding these measures before Argentina and thus benefited from the rewards earlier. Indeed, Uruguay introduced a series of measures, including the legalisation of cattle on the hoof exports, a significant reduction in subsidised credits and a crackdown on tax evasion. As a result, numerous *frigoríficos* were forced to close down, while some were temporarily taken over by the government and privatised soon thereafter. This reduced meat packers overcapacity significantly. In parallel, Uruguay managed to eradicate Foot and Mouth Disease (FMD), after a widespread vaccination programme, thus allowing Uruguayan meat to be exported to countries in the non-FMD circuit.<sup>306</sup> The eradication of FMD combined with the Uruguay Round (GATT) negotiations led to an important meat export quota for Uruguay in the U.S.A. Moreover, the formation of Mercosur fostered meat and cattle on the hoof exports to the regional market, in particular Brazil. Due to these developments, Uruguayan cattle producers, which for years had maintained and even reduced their cattle stock, started investing again in improved grazing fields and expanded their herds.<sup>307</sup> Cattle production increased, stock was replenished significantly and there were

<sup>306</sup> For a full analysis of changing international trade regimes in the 1990s see chapter 5.

<sup>307</sup> Some cattle producers started to use feedlots. Although the use of feedlots was growing in the mid-1990s, it represented a very small proportion of cattle sent to slaughter, especially in Uruguay. Productivity increases in cattle fattened per hectare were mainly due to improved grazing fields (*praderas mejoradas*).

large gains in yields per hectare. Additionally, cattle producers reduced their stock turnaround, thereby supplying younger animals to *frigoríficos* and maximising earnings per kilogram (carcass weight).

Importantly, the enlarged international market for Uruguayan meat, liberalisation policies and expectations of increased market access in the future, led to increasing interest by foreign capital in the industry. In Uruguay, three *frigoríficos* were acquired by foreign meat packers. Specifically, *Frigorífico Canelones* was bought by the Chicago based firm 'Land 'O' Frost', the *Frigorífico Colonia* was purchased by the Argentinian Quickfood/Paty meat packer and the *Frigorífico Montes* was bought by a Chilean group.<sup>308</sup> Despite these acquisitions and increasing foreign capital interest, in 1997 the meat packing industry was still overwhelmingly composed of family owned *frigoríficos*, with primarily local capital, albeit with a smaller number of larger plants.

In the mid-1990s there was significant concentration among exporting meat packers in Uruguay, with 10 *frigoríficos* accounting for over 80% of total meat exports.<sup>309</sup> However, this consolidation had not led to the establishment of pools or price fixing arrangements in the mid-1990s. Indeed, there were numerous obstacles that stood in the way of the formation of pools. To start with, the concentration of the industry had not reached oligopolistic proportions. It was difficult for *frigoríficos* to agree on pricing and allocations, given that there were too many 'players and personalities' among competing firms. In addition, the concentration took place between exporting *frigoríficos* that were authorised to export to the U.S.A. and / or the E.U. In the domestic and regional markets they faced strong competition from smaller *frigoríficos* and slaughterhouses

<sup>308</sup> Interview with Dr. Barrios Mariezcurrera, Director, Frigorífico San Jacinto (Nirea), Montevideo, 2 April 1997.

(*mataderos*), on top of cattle on the hoof exports, primarily to Brazil.<sup>310</sup> Thus the market remained very competitive and prices continued to be 'set by the market'.<sup>311</sup> Nevertheless, in 1997 exporting *frigoríficos* (E.U. / U.S.A. authorised) were gaining market share in the domestic and regional export markets. They benefited from higher meat prices in the E.U. and U.S. markets vs. lower domestic prices, and enjoyed larger economies of scale and scope. Indeed, they were better positioned to take advantage of by-products manufacturing and benefit from a reduction of cost per head slaughtered, providing that they could ensure a steady 'throughput'. Additionally, the majority of exporting *frigoríficos* had a well established domestic distribution system, in particular to supply the growing super- and hyper-market outlets.<sup>312</sup> Despite these advantages the E.U./ U.S.A. exporting *frigoríficos* were still unable to form pools in the mid-1990s due to the large number of plants operating in the market.

*Frígorficos* purchased most of their cattle directly from *estancias*, with or without *consignatarios* (middlemen), and often enjoyed a close relationship with certain fatteners. This was partly due to the sanitary regulations of the E.U., which did not allow purchases in cattle markets, in order to reduce the risk of the spread of diseases. In addition, *frigoríficos* also tried to ensure a steady flow of inputs (cattle) in order to have adequate 'throughput'. Despite their often good relationship with certain meat packers, producers were concerned about the consolidation of exporting *frigoríficos*. In early 1997, they strongly opposed a measure to allow *frigoríficos* to trade a proportion of their

<sup>309</sup> Data from Instituto Nacional de Carnes, Statistics, Montevideo, January / February 1997 vs. same period year ago.

<sup>310</sup> Calloia, F., "La Industria de la Carne", Universidad de la Republica, Grupo Interdisciplinario, Instituto de Economía, March 1993, p.24.

<sup>311</sup> Interview with Dr. Barrios Mariezcurrera, Director, Frigorífico San Jacinto (Nirea), Montevideo, 2 April 1997.

<sup>312</sup> This is the case in both Uruguay and Argentina. See Iriarte, I., "Comercialización de Ganados y Carnes", Camara Argentina de Consignatarios de Ganado, July 1995, pp. 52-53.

export quotas among themselves.<sup>313</sup> The meat packers argued that this would enable *frigoríficos* to specialise in certain types of meat and cuts for specific export markets, and that they would therefore benefit from larger economies of scale and scope. In contrast, the producers were concerned that the concentration of export quotas would be used to put pressure on cattle prices. After some confrontations between meat packers and cattle producers, the National Meat Institute (INAC) approved the trading of export quotas among *frigoríficos*, albeit with certain restrictions.<sup>314</sup>

In Argentina, foreign capital interest in meat packing and the consolidation of the industry began later than in Uruguay for two main reasons. Firstly, there was widespread tax evasion and it was only in 1996 that Argentina started a concerted effort to fight evasion by meat packers. Secondly, evidence of the eradication of FMD only emerged in the mid-1990s.

A major issue until mid-1996 was tax evasion in the Argentinian meat packing industry. Numerous plants were slaughtering most animals without trace - that is buying cattle, not declaring them and selling meat mainly in cash. Thereby the entire production and distribution chain avoided to pay VAT and other taxes, from the cattle producer to the *frigorífico* and even many butchers.<sup>315</sup> Other *frigoríficos* "rounded" the weight of animals downwards, in agreement with the producers, and thus declared a lower value for cattle purchased.<sup>316</sup> These "roundings" reached very high proportions as a percentage of the total real weight. Controls by the tax authorities were often avoided through payoffs and sometimes by resorting to violence. Tax inspectors often faced 'physical'

<sup>313</sup> *El País*, "INAC Autorizo Cesión de las Cuotas entre Frigoríficos", Edición Digital-Agro, <http://www.diarioelpais.com/agro.htm>, Year II, No. 368, Thursday 20 March 1997.

<sup>314</sup> *Ibid.*

resistance from *frigorifco* employees that wanted to avoid layoffs due to plant shutdowns.<sup>317</sup> Given the widespread tax evasion, *frigorifcos* which operated according to the law often faced bankruptcy or as a minimum a significant reduction in profitability. "The black market is large. Tax evasion is disloyal competition."<sup>318</sup> The complaints from legitimate *frigorifcos* increased in 1996-97.

One of the largest tax evaders among meat packers was Jose Alberto Samid, which the tax authorities in mid-1996 accused of evading over US\$ 88 million in taxes and being the head of an delinquent organisation that was set-up to keep 'fiscal resources' for themselves.<sup>319</sup> However, despite the threats J.A. Samid had still not been cited to appear in court by mid-1997.<sup>320</sup>

In mid-1996, a series of measures were introduced by the Argentinian government to try to reduce tax evasion and end the blatantly disloyal competition among *frigorifcos*. Specifically, the tax system was changed, whereby the tax burden was shifted from meat packers to cattle producers.

"Argentine Economy Minister Domingo Cavallo said changes in value-added tax on beef ... would wipe out tax evasion in the industry ... the burden of VAT collection now shifts from meat packers to cattlemen."<sup>321</sup>

The new laws were welcomed by cattle producers. "The president of Argentina's main lobby group (Rural Society) said (that) he supported the government's decision to shift

<sup>315</sup> Iriarte, I., "Comercializacion de Ganados y Carnes", Camara Argentina de Consignatarios de Ganado, July 1995, pp. 44-47.

<sup>316</sup> Ibid, p. 47.

<sup>317</sup> Iriarte, I., "Comercializacion de Ganados y Carnes", Camara Argentina de Consignatarios de Ganado, July 1995, p. 47.

<sup>318</sup> Interview with Luis Baumeule (nieto), Frigorifco Paty-Quickfood, Buenos Aires, 8 April 1997.

<sup>319</sup> "Samid La Justicia es lo Mas Grande que Hay", La Nacion, 12 July 1997, section 5, p.6.

<sup>320</sup> Ibid.

<sup>321</sup> Reuter News Service, Reuters Business Briefing, Buenos Aires, 21 May 1996.

the burden of VAT collection from meat packers to cattlemen."<sup>322</sup> To fight evasion and improve control, the government established a specialised office, the *Oficina Nacional de Control Comercial Agropecuario* in end-1996 with significant resources and political support.<sup>323</sup>

By early 1997 the outlook for the industry in Argentina looked promising, given that the new export quota to the U.S.A. was approved, although shipments were only expected to start in end-1997. In addition, the government had taken measures to tackle tax evasion by meat packers, thereby reducing disloyal competition among *frigoríficos*. Interest in the River Plate meat packing industry by foreign firms increased considerably and there were indications of heightened consolidation. Until then only one large *frigorífico* was in foreign hands, namely Swift, owned by the Campbell Soup Corporation of the U.S.A.<sup>324</sup> In mid-1997 negotiations were taking place between U.S. meat packing firms and Argentinian *frigoríficos*. Specifically, the acquisition of the Frigorífico Santa Elena by the American TMC Agroworld Corporation was imminent.<sup>325</sup> In addition, Frigorífico Vizental & Co. was in talks with foreign and domestic companies, in order to negotiate a potential association or outright sale of the meat packing firm.<sup>326</sup> The large domestic Macri Group was also considering the acquisition of Frigorífico Cocarsa in order to expand and diversify its food interests. Numerous other *frigoríficos* were said to be in negotiations with foreign meat packers. Many *frigoríficos* faced important financial constraints, especially in Argentina. Years

<sup>322</sup> "Argentina: Argentine Farm Group Hails Meat Tax Change", *Reuters News Service*, Reuters Business Briefing, Buenos Aires, 21 May 1996.

<sup>323</sup> *La Nación*, 12 July 1997, section 7, p. 7.

<sup>324</sup> Unilever (U.K.) also bought a brand of packed hamburgers, Goodmark, which was marketed primarily in the domestic market. However, Unilever did not acquire meat packing facilities. The production of the hamburgers was outsourced to an independent *frigorífico*.

<sup>325</sup> *La Nación*, "Hay Perspectivas de Nuevas Operaciones", Friday 20 June 1997, <http://www.lanacion.com.ar/97/06/20/e04.htm>.

<sup>326</sup> *Ibid.*

of battling against disloyal meat packers had placed a significant financial burden on legitimate *frigoríficos*. Foreign meat packers interest can be traced to the poor financial state of many *frigoríficos*, combined with a positive outlook for the industry, including expanded market access as well as significant possibilities to increase economies of scope and scale. Indeed, one of the 'scale and scope' opportunities was the export method of locally owned *frigoríficos*, particularly when dealing with far away markets. In the mid-1990s most *frigoríficos* exported meat on a FOB/CIF/CFR basis using a broker or trading house in foreign markets (i.e. an importing company or trading house in Germany and / or Holland for exports to the E.U.)<sup>327</sup> Export prices had large fluctuations between contracts, trading houses and countries, even if they were operating in the same 'quota area' (i.e. E.U. or U.S.A.) and with equal or similar cuts. The trading companies acted as intermediaries and sold meat to other importers, wholesalers, super- and hyper- market chains as well as restaurants. Most of the time, the 'mark-up' was not a fixed commission, but rather the highest possible price that the trading house could charge the next middleman, wholesaler, retailer or restaurant. Similarly, the trading house tried to obtain the lowest possible price from River Plate *frigoríficos*. Since every intermediary placed a significant mark-up on the original export meat price, the *frigoríficos* in Argentina or Uruguay were losing these major commissions. *Frigoríficos* would have been able to increase their margins significantly if they could have sold directly to super- and hyper-markets or restaurants in export markets.

Foreign meat packers could take advantage of 'scale and scope', because of their established distribution and marketing networks in their home markets (i.e. U.S. meat packers in the U.S.A.) Thus they could circumvent trading houses and middlemen. By

---

<sup>327</sup> Interview with Dr. Barrios Mariezcurrena, Director, Frigorífico San Jacinto (Nirea), Montevideo, 2 April 1997.

acquiring an Argentinian *frigorifco*, a U.S. meat packer could increase their profit margin to a much higher level than that of a locally owned *frigorifco* for exports to the U.S.A. One way around this for locally owned *frigorifcos* would have been to open sales and marketing offices in key foreign markets that would import and sell directly to retailers or restaurants. But the cost of running such an office could be prohibitive unless the *frigorifco* could sell a very large volume in the foreign market. Hence, this was only an option for domestically owned *frigorifcos* that could obtain a large share of the export quota for a country or region (i.e. E.U. /U.S.A.) In contrast, for a foreign meat packer (i.e. from the U.S.A.) any exports from a subsidiary in the River Plate to the U.S.A., represents additional volume on top of their domestic U.S. business. Therefore, foreign meat packers could take advantage of higher margins, even if the export volume from the River Plate was relatively small. River Plate *frigorifcos* were not restricted so much by their slaughtering capacity, but rather by the quotas imposed for exports to the important E.U. / U.S.A. markets. In the regional markets, which did not have quotas for River Plate meat (principally Brazil and Chile), opening import and sales offices was a profitable proposition. Indeed, Quickfood / Frigorifco San Jacinto (Argentina) opened offices in Santiago de Chile and Sao Paulo (Brazil).<sup>328</sup> Thus an acquisition of a *frigorifco* in the River Plate was a very good proposition for U.S. meat packers, given that they were able to take advantage of 'scale and scope', as long as they could obtain a sizeable share of the meat export tariff quota to the U.S.A.

In mid-1997 an acceleration of foreign joint ventures and acquisitions of Argentinian and Uruguayan *frigorifcos* was taking place. The increased foreign capital participation and important acquisitions led to a new wave of consolidation of the River Plate meat

<sup>328</sup> Interview with Luis Baumeule (nieto), Frigorifco Paty-Quickfood, Buenos Aires, 8 April 1997.

packing industry. Cattle producers were concerned that just like in the 1900-30s period, this consolidation would reduce their bargaining power and lead to a reduction in prices.

"Carpab (*Confederacion de Asociaciones Rurales de Buenos Aires y La Pampa*) is concerned that ... the opening of new markets will not reach cattle producers equitably and fear that a concentration of the industry in the hands of strong external investors will leave producers unprotected."<sup>329</sup>

Nevertheless, the cattle producers concerns did not result in any policy responses. Foreign investment and M&A activities in the River Plate meat packing industry were expected to continue. Therefore, a further concentration of meat exports among a reduced number of *frigorificos* seemed inevitable. As a result, a small number of meat packers, many of them with foreign capital participation, might be able to control a growing share of the export market and thus increase their bargaining power by the late 1990s. Whether the consolidation of the industry would reach oligopolistic proportions, with *frigorificos* setting up pools, while putting strong pressure on cattle prices, remained to be seen. From a mid-1997 perspective, such an extreme scenario seemed unlikely in the short or medium term.

#### **4.10 Conclusion**

The ownership structure of the River Plate meat packing industry underwent important modifications from the late nineteenth century until the 1990s. To start with, foreign capital involvement beginning in the late nineteenth century had a profound effect on the ownership structure of the industry. As *frigorificos* displaced *saladeros*, the industry switched from local to largely foreign hands. The most notable change was the entrance of the large American meat packing companies in the early twentieth century. Indeed, the shift to foreign ownership intensified as U.S. meat packers started to invest heavily

in the River Plate. The objective of the American meat packers was to achieve leadership and ultimately control of the River Plate meat packing industry, in order to maximise their 'scale and scope'. To achieve this objective, they expanded their market share rapidly through price wars. Specifically, in the 1910s the U.S. *frigoríficos* started a series of price wars by increasing cattle prices in the River Plate and reducing meat prices in the U.K. Through this expansive strategy they were able to obtain an ever increasing share of the meat export trade, at the expense of the Anglo-Argentinian *frigoríficos*. The American meat packers wanted to attain ever greater economies of scale and scope, as well as sufficient 'throughput' for their large *frigorífico* plants that they were setting up in the River Plate. Importantly, the American meat packers had superior technology and knowhow than their Anglo-Argentinian counterparts, at least until the 1920s, in terms of improved production and management techniques. They had significant first mover advantages, which they acquired through their extensive experience in the large domestic U.S. market and their meat export business to the U.K. As such they were the first large scale producers and exporters chilled beef, while they continued the enlargement of by-products in the River Plate. The U.S. meat packers (i) enjoyed technological advantages, (ii) were more efficient, (iii) possessed better production and logistics knowhow, (iv) exported a larger range of quality products and thus benefited from larger economies of scope, and (v) gained from economies of scale generated by the significant increase in their export volume. However, they also had vast international resources at their disposal. They could draw funds from their strong U.S. businesses to invest heavily in the River Plate and finance expensive leadership battles. Indeed, their strong financial base enabled them to fund price wars and if necessary sell at or below costs. During price wars, U.S. meat packers in the River Plate were able to

---

<sup>329</sup> *La Nación Line*, "Hay Perspectivas de Nuevas Operaciones", Friday 20 June 1997,

endure much lower margins and even a lack of profitability, while Anglo-Argentinian *frigoríficos* often were forced to suffer severe losses. Therefore, the Anglo-Argentinian *frigoríficos* were in a difficult position and needed support to counterbalance the strong technical and principally capital resources of the American meat packers. Although they requested assistance from the River Plate and U.K. governments in times of price wars, none offered significant support. Indeed, Britain was concerned that higher meat prices could trigger inflationary pressures in the U.K., while the Argentinian and Uruguayan governments, which defended the cattle producers interests, were content with cattle price increases during meat wars.

Price wars were resolved through pool arrangements, which divided meat export shares by *frigoríficos*. Pool agreements were a cartel system, in that they confined the supply of River Plate meat by allocating refrigerated shipment space by *frigorífico*, thereby ensuring high meat prices in Britain. Most importantly, pools were a supply control system set-up by meat packers that clearly replaced the 'invisible hand' of market forces with the visible hand of management. Although the market generated the demand for meat, the meat packers took control of the supply (production and distribution). They not only arranged the shipment of meat to Europe, but also coordinated the purchases of cattle in the River Plate.

In periods of price wars, meat was dumped on the U.K. market, in particular during the 1913 price war, consequently reducing meat prices in Britain and increasing cattle prices in the River Plate. In each renewed pool agreement, which followed an intense price war, the U.S. meat packers managed to obtain a larger share of meat exports. While the

American meat packers utilised meat wars to expand their share of the export market, the Anglo-Argentinian *frigoríficos* resorted to pool agreements to "freeze" the advance of the U.S. competitors and regain profitability, at least temporarily. The Anglo-Argentinian resistance ensured that the Chicago trust would not obtain full control of the River Plate meat packing industry, while the pool agreements typified an oligopoly rather than a sole monopoly of the U.S. *frigoríficos*.

The aggressive expansion of the American meat packers in the River Plate represented a defence strategy, given that their meat exports from North America to the key U.K. market were declining sharply and the opening of the meat trade to the U.S.A. was thought to be imminent in the late 1900s, whereas free access for imported meat was granted in 1913. The opening of the U.S. market exemplified a modification in the political / legal macroenvironment, while the reduction in cattle production in the U.S.A. depicted an amendment in the technological / physical macroenvironment. The American meat packing plants did not want to lose their lucrative export business to the U.K. market, as demand increasingly outstripped supply in the U.S.A., thereby severely constricting production for export. In addition, they planned to take advantage of the potentially growing River Plate meat exports to the U.S.A., while shielding it from their Anglo-Argentinian competitors. Therefore, the macroenvironmental changes encouraged the American meat packers to amend their marketing mix, especially their pricing strategy, resulting in intense price wars. As a result, the Anglo-Argentinian *frigoríficos* were severely restricted and were unable to benefit from surplus resources of their River Plate and British operations.

Rivalry among *frigoríficos* contributed to the increasing centralisation of the River Plate meat packing industry, given that first *saladeros* and then smaller *frigoríficos* could not compete with the large meat packers, in particular in times of meat wars. Thus *saladeros* and 'peripheral' *frigoríficos* were increasingly superseded and displaced by large meat packers. Indeed, *saladeros* and marginal *frigoríficos* were often acquired by or merged with the larger *frigoríficos*, while thereafter they were closed down or integrated, thereby further extending the centralisation of the industry. This consolidation enabled the large meat packers to expand their economies of scale and scope, while ensuring sufficient 'throughput' for their extensive plants. Through the concentration of the industry, via acquisitions of *frigoríficos* and their subsequent integration or closure, the plants of the large meat packers managed to operate at their 'minimum efficient scale', which gave them a significant cost advantage over smaller *frigoríficos*. This in turn forced other *frigoríficos* to close or sell their plants, which led to a further concentration of the industry in the hands of the larger meat packers. The amalgamation of *frigoríficos* and the subsequent consolidation continued throughout the 1910s-20s, resulting in a handful of foreign meat packers controlling the industry.

During the First World War prices of meat and cattle increased sharply due to the large food requirements for the war effort. Indeed, the First World War was a period of extreme prosperity for all cattle producers, while meat packers profited proportionally even more, given that they only passed on some of the increase in meat prices to cattle producers, thereby enjoying higher margins. Cattle producers invested heavily to increase their production capacity, especially breeders, with the expectation of continued high cattle prices and strong exports. By the end of the war, the River Plate meat packing industry had experienced two decades of exceptional growth with a constantly

increasing trend in cattle prices and increasing meat exports, both in value and volume. Although conflicts between cattle producers and meat packing plants had occurred, especially in periods when cattle prices declined temporarily, overall these were resolved quickly and did not result in any major action against *frigoríficos* until the 1920s.

After the First World War the demand for meat contracted and as a result cattle prices tumbled, while exports declined sharply. As Europe returned to peacetime activities, it entered into a severe post-war recession, while the consumer purchasing power declined. In addition, large stocks of frozen and canned meat in the U.K. further restricted the demand for imported meat. The post war recession exemplified a turning point and represented a clear discontinuity of the rising trend in cattle prices and augmenting exports since the early twentieth century. Cattle producers were extremely dissatisfied with the reduction in prices and demanded major action from governments. Both the Argentinian and Uruguayan governments enacted laws to counteract the power of the increasingly centralised meat packing industry, in particular anti-trust legislation, the establishments of state-run *frigoríficos* and the minimum price bill passed by Argentina. However, the minimum price law backfired as foreign meat packers closed their plants in protest. As a result minimum prices were abolished, which demonstrated the power of the few foreign *frigoríficos*, which controlled the industry and thus the production as well as distribution of meat. Nevertheless, cattle producer dissatisfaction declined after 1924 as prices improved due to a resurgence in European demand.

A significant power shift took place within the River Plate meat packing industry after the First World War. Indeed, the American meat packers were faced with the Union

Cold Storage Company (Vestey), a British concern, which had emerged as an important global competitor. Hence, the U.S. meat packers goal of ultimate command of the industry faded away, while the leadership battle was not fought any longer between the Anglo-Argentinian and American meat packers, but rather between the large and small *frigoríficos*. The Union Cold Storage Company had achieved such 'scale and scope' that it was able to compete at least on the same or even a superior basis with its American counterparts. The 1925 price war confirmed the power switch within the industry, given that it was started because both the large British Vestey and American Swift concerns wanted to increase their meat export share allocation to utilise their newly expanded production capacity. Vestey and Swift wanted their new plants to operate at 'minimum capacity scale', while ensuring significant 'throughput'. As a result of the 1925 price war, a number of 'marginal' *frigoríficos* closed down or reduced their production and distribution, while others were incorporated into the larger meat packers. Thus the main beneficiaries of the renewed pool agreement of 1927 were the large meat packers at the expense of the smaller *frigoríficos*. In 1927, five main meat packers remained in Argentina and three in Uruguay (all of which also operated in Argentina). In order to counterbalance the power of the very few foreign meat packers in Uruguay, the government decided to establish the Frigorífico Nacional in 1928. The aim was to reduce the dominance of foreign *frigoríficos* and ensure higher prices for cattle.

Whereas the renewed pool agreement in 1927 was not welcomed by cattle producers, major conflicts did not take place, given that producers were concerned with the overall decline of the export market. By the late 1920s several countries had banned River Plate meat imports altogether or established significant protectionist policies. Following the Ottawa Conference in 1932, even the U.K. placed strict quotas on River Plate meat

exports to Britain. The Roca-Runciman agreement managed to avoid a further significant decline in the export quotas, but meat exports to the important British market were limited to a fixed low amount. In addition, the reduction in demand following the Great Depression had reduced meat and cattle prices considerably. This had severe consequences for River Plate meat packers and cattle producers, given that animal stocks were high and the production capacity was based on the strong volume of the 1920s.

The lower meat export volumes which led to depressed cattle prices, generated severe discontent among cattle producers, in particular breeders. Specifically, breeders were suffering from extremely low prices, given that first meat packers and then fattener increased their margins, at the expense of breeders, in order to maintain their overall profitability with lower prices. Notwithstanding the depressed prices and export volumes, *frigoríficos* continued to benefit from strong profitability. Given that the British Board of Trade started administering the meat import licences in the U.K., further price wars were adverted. Indeed, the Ottawa Conference had institutionalised the meat packing pool. As a result, meat packers could put significant pressure on cattle prices to maximise their returns within their export quota. As the breeder and small fattener prices did not recover significantly in the mid-1930s, despite a considerable upturn in the British economy, an important dispute emerged. The De la Torre parliamentary debates were aimed at defending breeder interests and reducing meat packer and large fattener margins. Despite the tragic ending of the De la Torre frantic debacle, some concessions were achieved, in particular the Argentinian control of the export quotas and the formation of the CAP. Whereas cattle producers benefited from

higher prices and increased margins in the mid- to late- 1930s, the overall value and volume levels of meat remained constricted by export quotas.

During the Second World War Argentina and Uruguay managed to accumulate significant international reserves, as a result of the strong demand from war stricken Europe. Following the war, an extreme I.S.I. policy was implemented, financed by the accumulated reserves as well as through excessive surplus extraction from the meat and agricultural sectors. Importantly, the I.S.I. policy was taken to an extreme. Cattle producers were faced with extremely low prices and they did not have an incentive to produce, as their profitability declined and many had to face losses. Certain cattle producers started operating in the 'grey market' and others switched to more profitable crop production. Cattle stocks reached extremely low levels and meat production declined. Large foreign meat packing plants were operating with large excess capacity, an expensive workforce, and outdated plant and equipment. The lack of cattle and the large meat packers unremunerative operations led to their withdrawal first from Uruguay and then from Argentina. Moreover, *frigoríficos* were forced to contend with a schizophrenic domestic policy, which was alternating between state intervention and moderate market orientation. Amidst this chaotic domestic policy, *the nueva industria* emerged, which was comprised of small and efficient *frigoríficos*.

Both the Argentinian and Uruguayan meat packing industry suffered significantly from severe state intervention and exaggerated 'surplus extraction' after the Second World War, particularly in the late 1940s, early 1950s and 1970s. Interventionist policies remained in place throughout the period until the late 1970s, albeit with intervals of

greater market orientation. These enabled the rise of the *nueva industria*, especially in the late 1950s and 1960s.

As a whole, the industry moved from large meat packers operated by TNCs, which gradually reduced their operations in the 1950s and ended up in the hands of the workers and the state, to small efficient *frigoríficos* that by the 1970s produced the overwhelming majority of meat among industrial plants. Efficiency improvements occurred with the rise of the *nueva industria* in the 1960s. The *nueva industria* gradually increased their share of the market, while the traditional, large and inefficient meat packing plants share declined. Indeed, the *nueva industria* took advantage of the inefficiency of the traditional *frigoríficos*. Large meat packers were far away from operating at their 'minimum efficient scale' because of their low capacity utilisation and fixed costs. As a result, they did not manage to generate significant economies of scale and scope, while they had low 'throughput'. In contrast, the *nueva industria* had smaller plants and thus much lower fixed costs, which enabled them to achieve 'minimum efficient scale' at a low production threshold. By the 1970s, the *segunda nueva industria* had overtaken the traditional meat packers and was leading the market, after a short period of state intervention. Following a full liberalisation programme, by the 1980s efficient *frigoríficos* were operating in an economic environment driven by market forces.

The shift from traditional *frigoríficos* to the *nueva industria* can be attributed to various changes in the macro- and micro- environment, that formed the marketing mix and the strategies of meat packers. Following the Second World War, the considerable macroenvironmental changes that took place led to the departure of the large foreign

meat packers and fostered the ascend of the *nueva industria*. Firstly, the political / legal environment became inward looking and domestic policy moved away from a free market orientation, and towards intervention and control. Moreover, the power of the unions increased, thus employment and worker demands became priorities in policy formulation, often superseding any regards for market forces and efficiency. Importantly, the international trade regime was closed even more, particularly after the 1950s, thereby reducing market access and thus limiting the export market further. Secondly, the economic / demographic environment changed. The I.S.I. policy of extreme surplus extraction, which reduced and even eliminated incentives for cattle production in the legitimate sector, led to the emergence of a 'grey' market. This encouraged the proliferation of numerous lower cost producing slaughterhouses, which eventually became the *nueva industria*. Thirdly, the socio-cultural environment experienced an important transformation. The local market for meat expanded significantly, as the proletariat gained strength and the rising wages of workers translated into stronger purchasing power. Given that the export sector was restricted due to surplus extraction and foreign market access limitations, *frigoríficos* were obliged to shift focus from the limited export market, which was the traditional stronghold of the foreign meat packers, towards the domestic market. Fourthly, the technological / physical environment changed, given that the large meat packers were discouraged to invest because of their low capacity utilisation and poor profitability. Indeed, the domestic market demanded small and efficient *frigoríficos* instead of large plants for exports. Moreover, stringent hygiene regulations also emerged that in addition to new export products, like frozen cooked meat, required investment in plant and equipment. Finally, the physical environment changed, given that the poor profitability

achieved in the legitimate sector encouraged cattle producers to supply the 'grey' market, while also shifting into more advantageous agricultural production.

From a microenvironmental point of view, the domestic market had too many suppliers and the export market was restrained through high tariff barriers, which were devised to extract surplus and sustain low legitimate domestic meat prices. The *nueva industria* represented severe competition for the traditional *frigoríficos*, given that it had lower labour and fixed costs vs. the large overheads and expensive unionised labour of the large packers. The marketing mix and therefore the business and marketing strategies of meat packers were profoundly reshaped by changes in the micro- and macro-environment. The foreign meat packers were affected the most by the significant changes in the environmental variables, which led to their subsequent withdrawal from the River Plate. Even the traditional *frigoríficos* that remained, gradually stopped operating. The *nueva industria* and the *segunda nueva industria* benefited from the changes in the micro- and macro- environment, and managed to compose and implement advantageous strategies as part of a reformulated marketing mix.

In the 1990s there was renewed foreign capital participation and heightened ownership concentration in the meat packing industry. This can be traced to the following factors. Firstly, the liberalisation policies enacted in the 1980-90s enabled the industry to function primarily based on market forces. Secondly, the eradication of FMD opened the non-FMD circuit for River Plate meat exports, especially the North American and Asian markets. Thirdly, the creation of Mercosur fostered regional meat exports, primarily to Brazil and Chile. Finally, the improvements in tax and regulatory enforcement encouraged operations in the legitimate sector. As a result, the market became 'freer'

and 'ordered', which combined with larger volumes and reduced capacity, enabled meat packers to benefit from economies of scale and scope. This was one of the driving forces behind the consolidation of the industry in the 1990s, especially in Uruguay. The 'scale and scope' opportunities also attracted heightened foreign capital interest. Specifically, one of the advantages for foreign meat packers is that they can benefit from additional volume, especially for exports to their home market, without the intermediaries high commissions that local *frigoríficos* usually have to face. From a mid-1997 perspective, further consolidation seemed inevitable in the late 1990s, while increased foreign capital participation was also likely, especially if the fundamental micro- and macro- environmental parameters remained in place. However, whether the consolidation of the industry would reach oligopolistic proportions and this would translate into strong pressure on cattle prices remained to be seen, but seemed unlikely in the short- to medium- term.

Overall, in the twentieth century, a 'full circle' has taken place in the ownership structure of the River Plate meat packing industry. Specifically, the industry shifted from local ownership until the 1900s to primarily foreign ownership from the 1900s until the Second World War. Then the industry went through a period of intervention and state control after the Second World War. The large foreign meat packers left the industry, while in parallel smaller locally owned *frigoríficos* started to emerge. The *nueva industria* gradually achieved leadership until taking over command in the late 1970s, leaving the industry in the hands of overwhelmingly domestic capital. In the 1990s, renewed foreign investment has been taking place, albeit slowly, which indicates that there is a shift towards greater foreign capital participation in the industry once again.

## **5. CHANGING INTERNATIONAL TRADE REGIMES AND THE DOMESTIC POLICY REACTION**

### **5.1 Introduction**

So far in the thesis we have seen how two main factors, namely technological innovation and modifications in the ownership structure, have contributed significantly to the growth of the River Plate meat packing industry, particularly until the end of the Second World War. However, the expansion of the industry would not have been possible without 'free' trade. Indeed, until the 1920s most markets for River Plate meat remained open, with the exception of the U.S.A., and meat exports did not face major trade restrictions. Most importantly, Great Britain, the largest importer of meat in the world at the time, maintained an open trade policy throughout the expansionary period of the River Plate meat packing industry. 'Free' trade represented a crucial precondition for the continuous growth of the industry. However, in the late 1920s significant trade restrictions regarding meat imports started to emerge throughout Continental Europe, which mainly limited the amount of meat that could be imported. The movement towards protectionism intensified and in the early 1930s, following the Great Depression, even the United Kingdom started imposing significant restrictions on River Plate meat imports. This marked the end of an era for River Plate meat, given that 'free' trade was the main pillar in order for the meat packing industry to prosper. It also represented a shift in trade regimes in the 1930s, from open markets and the 'free' movement of goods, towards 'bilateralism and control'. In this context, the chapter will analyse the following main themes, (i) the effect of the new trade regime on the River Plate meat packing industry and its development, (ii) the reaction of domestic policymakers and cattle producers, (iii) attempts to liberalise trade policy and (iv)

whether and to what extent trade regimes have shifted back towards 'free trade' in the 1990s. In order to enhance the analysis of the impact of changing international trade regimes, the chapter will make use of the staple theory, and of P.R. Krugman's and J.A. Brander's writings on trade strategy, in particular the 'new thinking' about trade policy. The staple theory has been applied in chapter 3 to analyse the rise as well as phenomenal expansion of the River Plate meat packing industry in the late nineteenth- and early twentieth- century. In this chapter, through the staple theory the thesis will assess whether the River Plate meat packing industry entered into a 'staple trap' starting in the late 1920s.<sup>330</sup> To recapitulate, the staple theory has a dynamic component, by which alterations in the environment can reduce the significance of the staple. The staple could be depleted if it was a limited resource or new products could make it redundant. Moreover, domestic policy and variations in international markets might diminish the significance of the staple. As such, shifts in trade regimes or changes in demand could affect the growth of the staple. Additionally, institutional changes and the ability of landowners to influence policy could also determine the viability and strength of a staple.

The analysis of changing international trade regimes, as well as the establishment and consolidation of the 'staple trap' can be sub-divided into five distinctive periods, namely (i) first signs of the 'staple trap' (1920s), (ii) bilateralism and control: the establishment of the 'staple trap' (1930-1939), (iii) emergence of I.S.I. and inward looking policies: the consolidation of the 'staple trap' (1940-55), (iv) renewed trade barriers (1955-1990), and (v) growth and export expansion (1990s).

Along with the staple theory, P.R. Krugman's and J.A. Brander's 'new thinking' regarding trade policy will be applied to the analysis. In addition, the chapter will draw on their discussions about the strategic trade game played by national governments, as well as the interaction and retaliation between states or state groupings.<sup>331</sup> Paul R. Krugman has written extensively about trade policy in many publications.<sup>332</sup> Krugman's 'new thinking' about trade policy is based on the overall assumption that "the economic analysis on which the classical case for free trade was based is beginning to look increasingly unrealistic."<sup>333</sup> According to Krugman, this is due to the increasing complexity of markets, in particular trade between international markets. In addition, he insists that the understanding and analysis of how markets operate has become more sophisticated. He identifies three factors that explain a current shift in trade policy analysis.

To start with, he points to the growing importance of international trade. The expansion in trade has led to interrelated international markets and global competitors. In this respect, two key issues have arisen, namely 'market power and excessive rates of return' as well as the importance of 'innovation and technological change' in trade policy analysis and formulation.<sup>334</sup> One of the concerns is that many industries have

<sup>330</sup> See chapter 3, section 3.1 for a detailed analysis and explanation of the staple theory and the 'staple trap'.

<sup>331</sup> Krugman, P.R., "New Thinking about Trade Policy" and Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" and in Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), pp. 1-45 and pp. 257-281. In addition, see Krugman, P.R., "Free Trade and Protectionism" in The Age of Diminished Expectations (The MIT Press, Cambridge, Massachusetts, 1994, pp. 123-135 and "The Political Economy of Trade Policy" in Krugman's textbook International Economics - Theory and Policy (Harper Collins, New York, New York, 1994), especially pp. 238-241.

<sup>332</sup> P.R. Krugman's publications about trade policy include: (ed.) Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), Rethinking International Trade (The MIT Press, Cambridge, Massachusetts, 1990), the chapter on "Free Trade and Protectionism" in The Age of Diminished Expectations (The MIT Press, Cambridge, Massachusetts, 1994, pp. 123-135, the chapters "Does Third World Growth Hurt First World Prosperity" and "The Illusion of Conflict in International Trade" in Pop Internationalism (The MIT Press, Cambridge Massachusetts, 1996), pp. 49-84, and a general chapter on "The Political Economy of Trade Policy" in Krugman's textbook International Economics - Theory and Policy (Harper Collins, New York, New York, 1994), pp. 227-274.

<sup>333</sup> Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 3.

<sup>334</sup> *Ibid.*, p. 6.

consolidated internationally and often a handful of corporations control certain industries or even full sectors of the economy. Thus these few corporations could become excessively dominant and could increase prices as well as generate extremely high profits. Krugman's main point is that governments could use trade policies 'to promote their firms in these industries' so that they could then compete in the international market.<sup>335</sup> Another important element is innovation and technological spillovers, which might occur from certain industries or sectors to others. If foreign governments would protect or subsidise industries, in which the technological 'spillover' effect is significant, then local firms might suffer due to a reduction in the 'spillover' effect in the domestic market.

A second factor is the change in the character of trade, which defies classical trade theory. Specifically, classical theory considers that nations can benefit from their differences and utilise their comparative advantage in the production of certain goods that are most suitable to their specific characteristics. Thus countries can trade primarily in goods in which they have particular advantages or strengths. However, Krugman argues that since the Second World War an increasing number of goods traded do not reflect comparative advantages, but rather are due to "arbitrary and temporary advantages resulting from economies of scale, shifting leads in close technological races ... (and) cumulative advantages of experience."<sup>336</sup> Indeed, Krugman emphasises that a large part of international trade is due to 'national advantages that are created by

<sup>335</sup> Krugman, P.R. (ed.), *Strategic Trade Policy and New International Economics* (The MIT Press, Cambridge, Massachusetts, 1992), p. 6.

<sup>336</sup> *Ibid*, pp. 7-8.

historical circumstance' and large scale production, in addition to technological changes and innovation.<sup>337</sup>

Finally, the third factor relates to new tools in economic analysis coming from other fields of economics that have modified the classical assumptions regarding trade policy. In particular, the traditional viewpoint that markets are close to being 'perfectly competitive'. Many industries are composed of a few powerful firms which form international oligopolies, thus operating in 'imperfectly competitive markets'.<sup>338</sup> Overall, trade policy analysis has become more sophisticated, while international trade has clearly turned more complex.

Krugman points out that the market provides a decentralised method of allocating resources and that most economists are confident that this decentralised system is very effective. Classical theory regards domestic and international markets as similar and thus encourages the application of *laissez faire* economics to both. Even if certain nations do not practice 'free trade' conventional theory would still emphasise that other countries would adjust production accordingly. If for example a country subsidises exports of a certain commodity, then world prices for that product would fall and this in turn would encourage less production of that commodity in the 'free trade' countries. Thus, conventional theory supports 'free trade', even when other nations do not have 'free trade'.

<sup>337</sup> Krugman, P.R., "Free Trade and Protectionism" in Pop Internationalism (The MIT Press, Cambridge Massachusetts, 1996), p.131. Also see Krugman, P.R., Rethinking International Trade (The MIT Press, Cambridge, Massachusetts, 1990), pp. 1-22 and 93-105.

<sup>338</sup> Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 9.

"The combination of a changing character of trade and a growing sophistication of theory undercuts this way of justifying free trade. We are forced to recognize that industries that account for much of world trade are not at all well described by the supply and demand analysis that lies behind the assertion that markets are best left to themselves. As we have seen, much of trade appears to require an explanation in terms of economies of scale, learning curves, and the dynamics of innovation - all phenomena incompatible with the kind of idealizations under which free trade is always the best policy. Economists refer to such phenomena as "market imperfections", a term that in itself conveys the presumption that these are marginal to a system that approaches ideal performance fairly closely. In reality, however, it may be that imperfections are the rule rather than the exception."<sup>339</sup>

### 5.1.1 Towards an Activist Trade Policy

Krugman suggests some new approaches to trade policy. In Particular, he encourages an 'activist' trade policy, by which governments might favour certain strategic industries or sectors. By applying an 'activist' trade policy, a nation could benefit from a greater share of "rent" and larger "external economies". Krugman's definition of 'rent' is a "payment to an input higher than what that input could earn in an alternative use."<sup>340</sup> For example, "rent" could be larger profits in an industry or sector vs. others with the same level of risk, or better salaries that labour with similar skills would attain in a particular industry or sector in comparison with others.<sup>341</sup> Krugman argues that governments can raise national income, as long as trade policy is used to foster any sectors that offer significant "rents", which in turn would increase the share of "rent" of a particular country. He emphasises that key trading sectors often benefit from economies of scale and significant experience, thereby making it very difficult for new entrants to reduce the large "rents" of these sectors.

"Once we begin to believe that substantial amounts of rent are really out there, it becomes possible at least in principle for trade policy to be used as a way to secure more rent for a country ... subsidies or protection can in fact be used to increase a country's share of rent in a way that it raises national income at other countries' expense."<sup>342</sup>

<sup>339</sup> Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 12.

<sup>340</sup> Ibid.

<sup>341</sup> Ibid.

An ‘activist’ trade policy could also generate significant “external economies”. Many corporations or even entire industries might benefit from the activities of other firms, even if they operate in other industries. Cross-fertilisation could occur, such as the dissemination of know-how or the transfer of trained management or newly skilled labour from one industry to another. External economies have become particularly important to trade policy, because of the increasing role played by technological innovation in international competitiveness. Thus, “external economies” in addition to “rents” could be used as rationales to support certain industries or sectors over others.

Krugman argues that a government can use protection, subsidies or fiscal incentives to favour and encourage certain industries or sectors in order to maximise the share of “rent” and “external economies” for the nation.

Whereas he recognises that various industries compete for resources within countries and that promoting specific sectors will often undermine other ones, he points out that this is not important if the promotion or protection of certain sectors can increase national income. In addition, he is highly sceptical regarding the classical viewpoint that strategic sectors cannot exist, at least not for a long time, because the higher yield would be competed away quickly. On the contrary, Krugman emphasises that “there may be ‘strategic’ sectors after all ... (and that) the extreme pro-free-trade position ... has become untenable.”<sup>343</sup>

---

<sup>342</sup> Ibid, p. 13.

### 5.1.2. Problems and Limitations of Strategic Trade Policy

Although in principle the ‘new thinking’ about trade policy seems to be a valid contribution and presents a good argument for policy ‘targeting’ towards certain ‘high yielding’ sectors, it also has serious limitations, especially regarding the difficulty in identifying strategic sectors as well as potential ‘distortions’ in the implementation process. Krugman acknowledges that numerous “questions” remain to be answered and that strategic trade policy might be difficult to implement. “There is ... a large gap between showing that free trade is not perfect and arguing for any particular alternative.”<sup>344</sup>

Krugman’s first concern is whether strategic sectors can be identified. Although the concepts of “rent” and “external economies” can be applied and they are conceptually straight forward, they remain difficult to measure. To start with, “rent” can often be confused with quality differences. For example, if sectors that require highly skilled labour are promoted and then grow, “without increasing the number of highly skilled workers (then it) can lead to increased unemployment among the less skilled ... (Furthermore) proposals for a national policy of targeting sectors that yield high value-added per worker ... are misguided when ... high-value simply reflects high input.”<sup>345</sup>

In addition, there could be a measurement error when calculating the rates of return of highly yielding industries, because only the successful companies are taken into consideration and the failures might be ignored. Similarly, only existing companies might benefit from a ‘windfall’ due to a sudden increase in demand or technological

---

<sup>343</sup> Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 15.

innovation in a particular industry, while newcomers to the industry might not be able to share the higher yield. When it comes to “external economies”, Krugman points out that it is very difficult to measure ‘spillovers’ between companies or industries.

Nevertheless, Krugman insists that despite these ‘measurement shortcomings’ strategic sectors can still be identified, but he remains vague about the selection process.

“The point is ... that identifying strategic sectors is not a simple matter of looking at profit rates and wage rates over the past five years, it instead requires careful and detailed analysis ... What we need for trade policy of course is forward-looking assessments ... At this point the only way to make such assessments is to combine detailed knowledge of the industries with heavy reliance on guesswork ... What we have to conclude, then, is that identifying strategic sectors is not something we know how to do with any confidence.”<sup>346</sup>

Even if a government can identify strategic industries or sectors, then there is the problem of pursuing the right policy to foster these sectors. Given that the ‘strategic sectors’ are often competing with other industries for limited resources, it might be that by fostering one sector, others will suffer. For example, subsidies to one sector might have to be paid out of the ‘surplus’ of another, through higher taxes or they might drive salaries up, especially of skilled workers due to the greater available resources to the strategic sector, which might be expanding. Furthermore, it is difficult to forecast the reaction of global competition. A subsidy in one country for a sector might trigger a worldwide price war and thus reduce the profitability for the sector or it could induce a reduction in production in international markets, which could then increase the profitability of the sector.<sup>347</sup>

“It is very difficult to determine on purely theoretical grounds which outcome will actually occur ... new theoretical arguments do not ... provide straightforward guidelines for policy.”<sup>348</sup>

<sup>344</sup> Ibid.

<sup>345</sup> Ibid, p.16.

<sup>346</sup> Ibid, pp.15-16.

<sup>347</sup> Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p.18.

<sup>348</sup> Ibid.

Finally, there is the problem of objectivity and the response from other governments. Krugman points out that interest groups might be tempted to use the ‘new thinking’ about trade policy as a means to lobby for protectionism, subsidies or more funding for the sectors they are supporting, even if objectively governments would not have identified those sectors as ‘strategic’.<sup>349</sup> Additionally, other governments might respond to protectionist measures or subsidies to strategic sectors. Indeed, depending on the position of a country a ‘strategic trade policy’ might strengthen or weaken the bargaining power in the international markets.

### **5.1.3 James Brander’s Rationales for Strategic Trade Policy**

James Brander builds on Paul Krugman’s “new thinking” about trade policy and actually proposes bullish rationales in favour of strategic trade policy.<sup>350</sup> Although, overall, his proposals are similar to those put forward by Krugman, Brander clearly advocates an interventionist trade policy, albeit only under specific circumstances. Just like Krugman, Brander insists that it is utopian to view all markets as perfectly competitive and that there are numerous industries which generate extremely high profits due to their oligopolistic nature. These ‘above-normal’ or excess profits or “rents” are significantly over what the company owners would need as a minimum incentive to continue running the business.<sup>351</sup> In addition, “rents” can also accrue to the company’s employees, through high salaries, which are much greater than what the minimum necessary payment would be to ensure that they stay with the company. Brander argues that as the economic objective of trade policy should be to maximise

---

<sup>349</sup> P.R. Krugman also emphasises the dangers of interest group politics impacting trade policy, in particular the encouragement of protectionism in his ‘Free Trade and Protectionism’ chapter in *The Age of Diminished Expectations* (The MIT Press, Cambridge, Massachusetts, 1994, pp. 123 and 134).

national welfare, it is in a government's best interest to try to grab as much of these profits as possible, by supporting domestic firms to obtain a larger proportion of the international "rents", through the implementation of a favourable trade policy.

To achieve the goal of global profit or "rent" share maximisation, he proposes to use 'profit shifting subsidies' and protectionist measures (primarily import duties and quotas) for certain 'selected' industries.

Firstly, Brander suggests that through subsidies international profits can be shifted from foreign to domestic companies. His arguments rely mostly on highly debatable expectations regarding the response of foreign firms to subsidies for domestic companies. He states that it is highly probable that foreign firms will contract their output if faced with the threat of subsidies, primarily because they increase the domestic firm's "rent".

"... There are two effects of the subsidy. One effect is the apparent cost saving, which is really just a transfer ... the second effect ... because subsidised costs make it credible or believable (to the rival) that the domestic firm will expand, the rival's best response is to contract and this in itself raises the domestic firm's profit by an additional amount. This second effect is sometimes called the "strategic" effect because it owes its existence to the nature of the strategic game played by firms. It implies that profits to the domestic firm rise by more than the amount of the subsidy."<sup>352</sup>

However, responses from foreign firms to subsidies for domestic companies are usually unpredictable and vary enormously between companies and industries, as well as on the domestic firm's use of the subsidy, in addition to the potentially retaliatory responses from foreign governments. Brander recognises some of the limitations of his rational for

<sup>350</sup> Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), *Strategic Trade Policy and New International Economics* (The MIT Press, Cambridge, Massachusetts, 1992), pp. 23-46. For perspective, Brander was one of the pioneers of the new school of strategic trade thinkers, which advocates a novel approach to tackling trade policy.

<sup>351</sup> *Ibid*, p. 26.

<sup>352</sup> *Ibid*, p. 29.

subsidies and that the responses from foreign rivals and governments might be unpredictable.

"As is normally the case with economic theory, the simplified environment that is assured in order to make an argument clear or to isolate a particular economic effect is not the environment encountered by real policymakers. The real environment is much more complicated ... The point is that government action can alter the strategic game played by foreign and domestic firms. In profitable markets domestic firms are made better off if foreign firms can be induced to contract (or expand more slowly) than they otherwise would."<sup>353</sup>

Secondly and in addition to subsidies, Brander points out that protectionist policies (mainly import duties and quotas) can also lead to a higher share of global "rent" for domestic firms operating in strategic sectors. Although protectionism is often concerned with import-competing industries and is often used to protect infant industries, it can also be applied as a tool to promote exports.<sup>354</sup> Brander argues that protectionism can help domestic industries by providing larger economies of scale (especially if the domestic market is large) and enable companies to 'learn by doing' while 'moving down the learning curve'.<sup>355</sup> These companies can also export their products thereby gaining further economies of scale and generating more profits. However, he also recognises that protectionism can be very negative for consumers because they tend to have a less competitive domestic market. Furthermore, protectionism might make local companies inefficient and uncompetitive in the world market. This could in the long term be detrimental in obtaining a larger scale of international "rents".

Although Brander's argument for 'profit-shifting subsidies' and protection for certain industries seem to have some foundation, they also have numerous limitations. Not least, the difficulty in selecting the 'targeted' industries for the strategic trade policy and

<sup>353</sup> Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 30.

<sup>354</sup> Ibid, p. 31.

the unpredictable responses of foreign governments. Both Krugman and Brander recognise some of the limitations of the ‘new thinking’ about trade policy. However, despite these shortcomings, the “new thinking” school has a plausible argument, which is that in imperfectly competitive industries, subsidies and protectionist measures might help increase the share of worldwide “rent” for certain industries. Thus in specific cases, the classical trade theory should be reassessed and the orthodox ‘total free trade’ argument questioned.

#### **5.1.4. The ‘Interaction & Retaliation’ Process of Governments**

One of the most important factors in the potential success of strategic trade theory is the reaction of foreign governments to national subsidies or protectionist measures. Brander analyses the interaction and retaliation process of governments in respect to trade policy by utilising numerous elements of game theory.

Governments are unlikely to be mere observers and not react to any changes in trade policy in other countries. Indeed, governments tend to play a ‘strategic game’ to try to maximise their country’s welfare. Each country or game player may influence the outcome of trade policy depending on their and the rival government’s action. There are mainly three possible policy outcomes, namely (i) that one nation protects or subsidises the home market and the other countries do not retaliate, thereby enabling the firms of that nation to have a competitive advantage, (ii) that all nations protect or subsidise the home market and therefore most companies are not very successful in export markets, and (iii) that nations reach an agreement to avoid protectionist measures or subsidies

---

<sup>355</sup> Ibid, p. 33.

and thus the countries all gain from export markets, which enables all of them to be better off, than if they all protected their home market.<sup>356</sup>

Brander proposes a theoretical structure to show the outcomes that varying trade policy scenarios might have on national welfare. He illustrates the different scenarios through a 'payoff matrix', shown below.

Table 5.1: Payoff Matrix of Different Trade Policy Scenarios

		Cooperate	Defect
		A 400 , E 400	A 50 , E 500
Cooperate	Defect	A 500 , E 50	A 100 , E 100

Source: Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 37.

"Suppose that there are two countries called ... A and E. Each country has access to an interventionist policy that is in the national interest but that reduces the welfare of the other country. Cooperating means refraining from using the policy, defecting means adopting the policy ... The first element in each small box represents the payoff to country A, the second element represents the payoff to E. Along the top, country E's strategies are listed. Thus if both countries defect from the cooperative noninterventionist policy, each country gets a return of 100. If country A defects, and the other country does not, then A gets a return of 500 and country E gets only a small net benefit of 50 from this industry. If neither country defects, each country gets a net benefit of 400 ... The actual numbers are not important. What is important are the relative magnitudes. These relative magnitudes reflect a common situation in international policy making. Unilateral predatory policy is attractive if the other country is passive, but mutual nonintervention would give the highest combined return, in this case 800."<sup>357</sup>

Based on the theoretical structure shown above, it is highly likely that governments would both decide to intervene if they were only able to take a decision once. Then they would be faced with what in game theory is known as the "prisoner's dilemma".<sup>358</sup>

Although both countries would gain more by keeping their markets open, it would be difficult to find a solution to the gridlock. "The problem of choosing subsidy levels in the profit-shifting context has a structure similar to the prisoner's dilemma. It really

<sup>356</sup> Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 37.

<sup>357</sup> Ibid, pp. 37-38.

does not matter whether the other country has a strategic subsidy or not, the best response for either country is to use a subsidy also.”<sup>359</sup> The gains are substantially greater if the other country does not have a subsidy. However, trade policy is not set in stone. Negotiations between countries occur again and again. “In effect the prisoner’s dilemma game is repeated indefinitely. Repetitions of the decisions make the game much more complicated in that relatively complex strategies become possible.”<sup>360</sup> A country could use different strategies, either always cooperate or never cooperate or only cooperate if the rival cooperated last time.<sup>361</sup> The latter is what is referred to as the “tit for tat” strategy. “Tit for tat” strategies have been very successful, given that they punish rivals if they do not cooperate.<sup>362</sup> There are two main inherent problems with “tit for tat” strategies. Firstly, the issue of complex negotiations in various policy areas, which often provide a blurry picture of trade policy, given that countries might “offset” a subsidy or protection in one sector for another or exchange one favourable policy (i.e. better conditions for a foreign country’s firm(s) in the domestic market) for another. Thus, for a “tit for tat” strategy to be successful it must be clear which policy corresponds to “tit” and which one to “tat”. Secondly “tit for tat” strategies work primarily in a unilateral context. It is particularly difficult to utilise “tit-for-tat” strategies in a multilateral context, unless dealing with negotiations between trading blocks, in which case each trading block would be the equivalent to a country, but only if the trading blocks act unilaterally. Finally, Brander concludes that the “tit-for-tat” policies are successful in bilateral negotiations and that they should be used in retaliation for a rival’s failure to cooperate.

<sup>358</sup> Ibid, p. 38.

<sup>359</sup> Ibid.

<sup>360</sup> Ibid, p. 39.

<sup>361</sup> Ibid.

"My only point is that it is at least possible to put forward a sensible case for interventionist policy in a world of policy interaction between governments. Furthermore, such a policy should shy away from predatory first strikes but might reasonably have a retaliatory role."<sup>363</sup>

However, in an ever more complex international trade environment, where unilateral and multilateral negotiations occur between countries, trading blocks and within the framework of international organisations (i.e. the W.T.O.), all of which sometimes overlap, it can be difficult to elaborate and decipher "tit for tat" strategies. Nevertheless, if 'transparent' strategies can be devised, Brander's approach of using "tit for tat" as a retaliatory tool could prove useful.

Overall, the chapter will utilise the 'new thinking' about trade policy put forward by Krugman and Brander, to examine whether the governments of Argentina and Uruguay have adopted an 'activist trade policy' for the River Plate meat packing industry, and their attempts to maintain or increase the international 'rent' and 'external economies' derived from the industry, particularly in the 1990s. In addition, the thesis will analyse the interaction and retaliation process between governments in regards to the River Plate meat packing industry, concentrating on identifying broad shifts between 'cooperative' vs. 'non-cooperative' stands, as well as prolonged periods when governments were faced with a 'prisoner's dilemma'. As such, the analysis is not interested in specific 'tit-for-tat' strategies, but rather in examining general trends and periods of cooperation or defection between the Argentinian and Uruguayan governments, and their trading partners.

---

<sup>362</sup> Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), p. 41.

## 5.2 The Emergence of Protectionism in the 1920s: 'The First Signs of a 'Staple Trap'

Throughout the nineteenth century until the 1920s, the River Plate meat packing industry benefited from a 'free' trade regime. River Plate meat could be exported without major restrictions to markets around the world, with the exception of the U.S.A. Importantly, the U.K. market, which imported the overwhelming majority of world meat exports remained 'open'. However, by the 1920s numerous countries began imposing restrictions on River Plate meat. This symbolised the beginning of a protectionist wave, which would have severe consequences for the River Plate meat packing industry.

To start with, continental European markets, which had begun to purchase River Plate meat in larger quantities in the 1920s, particularly Belgium, France, Germany, Holland and Italy, imposed increased tariff and non-tariff barriers, thereby reducing this small but significant outlet for Argentinian and Uruguayan meat exports substantially. In 1924 the German government passed a bill which restricted the imports of frozen meat to 120,000 tons per year.<sup>364</sup> Germany limited trade further in 1928 by reducing meat imports first to 100,000 and later to 50,000 tons.<sup>365</sup> Additionally, in 1927 France started imposing a duty of 59½ centimes per kilo (up from a low 25 centimes) on imported frozen meat from countries that had a commercial treaty with France, which included Argentina and Uruguay.<sup>366</sup> In 1928, France's duty was increased further, thereby forcing the already falling frozen meat imports due to the 1927 tariff to decline to insignificant

<sup>363</sup> Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992), pp. 44-45.

<sup>364</sup> Review of the Frozen Meat Trade, Weddel & Co., London, No. 38, 1925, pp. 12-13.

<sup>365</sup> The Review of the River Plate, Buenos Aires, No. 1895, March 30, 1928, p. 17.

<sup>366</sup> Review of the Chilled and Frozen Meat Trade, Weddel & Co., London, No.39, 1926, p. 14 and No. 40, 1927, p. 7.

levels.<sup>367</sup> Italy introduced severe restrictions on frozen meat in 1927, which included strict sanitary inspections and regulations that classified frozen meat, while not allowing retail outlets to sell both fresh and frozen meat together, thereby rigorously constraining its trade.<sup>368</sup> In 1926 Holland imposed a 5 cents (Dutch) per kilo duty on frozen meat imports.<sup>369</sup> The U.S.A., a growing market for meat, imposed significant tariff barriers for meat already in the early 1920s and prohibited River Plate chilled and frozen meat imports in 1926 claiming to fear that Foot and Mouth Disease would be introduced to the U.S.A., through potentially contaminated meats.<sup>370</sup> For perspective, in 1913 the Underwood Tariff Act eliminated U.S. import duties for meat and by 1915 a small, yet growing River Plate meat import business had developed, but it was interrupted by the First World War.<sup>371</sup> While Argentina and Uruguay expected to export substantially more meat to the U.S.A. after the war, the potentially favourable prospects were obstructed by the Fordney-McCumber tariff of 1922 that re-established customs duties.<sup>372</sup> Most importantly, the meat import ban in 1926 put an end to any remaining expectations of exporting River Plate meat to the promising U.S. market. The embargo was strongly favoured by American cattle producers, concerned that River Plate imports might reduce U.S. meat prices. Nevertheless, Australia, New Zealand and Canada remained outside of the embargo, given that they were Foot and Mouth Disease free, which led to increased Australasian meat exports to the U.S.A. thereafter.<sup>373</sup> This occurred although Australasian meat was less price competitive. The Review of the River Plate characterised the trade restrictions that the meat packing industry faced as follows:

<sup>367</sup> The Review of the River Plate, Buenos Aires, No. 1895, March 30, 1928, p. 17.

<sup>368</sup> Review of the Chilled and Frozen Meat Trade, Weddel & Co., London, No. 40, 1927, p. 8.

<sup>369</sup> Review of the Chilled and Frozen Meat Trade, Weddel & Co., London, No.39, 1926, p. 14.

<sup>370</sup> Peterson, H.F., Argentina and the United States 1810-1960 (State University of New York, University Publishers, New York, 1964), p. 352.

<sup>371</sup> Peffer, E.L., 'Foot-and-Mouth Disease in United States Policy', Food Research Institute Studies, Stanford, California, Vol. III, No. 2, May 1962, p. 142.

<sup>372</sup> *Ibid.*

"Germany, France, Italy, and even Belgium, far from offering hopes of wider markets, are, through one cause or another, tending rather to limit meat imports than to increase them, while the United States, which is nowadays admitted to be Argentina's greatest potential market, gives every sign of wishing to enforce heavy protective discrimination against Argentine as compared with home-fed meat."<sup>374</sup>

The increasing market access restrictions in continental Europe and the U.S.A. reduced the ability of the River Plate to diversify its export markets for meat and increased its dependence on the declining British market in the mid- to late- 1920s. This represented an early sign of the development of the staple trap as well as a major threat to cattle producers and the entire River Plate meat packing industry.<sup>375</sup>

Even the important 'free' trade status with the British market was under threat in the mid-1920s, given that the U.K. government was being pressured by British farmers and the Empire, in particular Australia and New Zealand, to reduce meat imports from the River Plate. In addition, the British government was investigating the implications of imported meat from Foot and Mouth Disease infected countries, which included Argentina and Uruguay, and was debating whether to levy import duties for River Plate meat.<sup>376</sup> Furthermore, in the context of the U.S. import ban, the main concern of River Plate cattle producers was that the U.K. would follow suit and impose severe restrictions on Argentinian and Uruguayan meat, in particular strict sanitary regulations in regards to

<sup>373</sup> New Zealand Meat Producers Board, Sixth Annual Report and Statement of Accounts, Wellington, 1928, pp. 19-20.

<sup>374</sup> The Review of the River Plate, Buenos Aires, No. 1895, March 30, 1928, p. 7.

<sup>375</sup> See chapter 3, section 3.1 for a definition and application of the staple theory, as well as section 5.1 for an explanation of the 'staple trap'. As explained, the staple theory has a dynamic aspect, in that amendments in the environment can reduce the importance of a staple, thus epitomising a 'staple trap'. Some reasons which can trigger a 'staple trap' are: (a) that the staple becomes obsolete due to new technology, (b) that international demand declines or supply increases, (c) that changes occur in the international trade regime or (d) that the cost of production abroad decreases.

<sup>376</sup> Liceaga, J., Las Carnes en la Economía Argentina (Editorial Raigal, Buenos Aires, 1952), p. 107-108. Moreover, in 1925 a British Parliamentary Report was commissioned in light of an outbreak of Foot and Mouth Disease in the U.K., which also analysed general movement restrictions and precautions against introduction of disease, including the importation of animals, hay and straw as well as animal products. Report of the Departmental Committee appointed to consider the Outbreak of Foot and Mouth Disease which occurred in 1923-24, presented to Parliament, Cd. 2350, London, 1925, pp. 57- 65.

Foot and Mouth Disease.<sup>377</sup> The U.K. remained the main market for meat, which bought the overwhelming majority of River Plate meat exports.

### **5.2.1 The Response of Cattle Producers to the Advent of Changing International Trade Regimes (1920s)**

In order to promote trade openness and avoid meat import restrictions in Britain, the Rural Society started a campaign in favour of British trade that consisted in encouraging the purchase of imported goods from those countries that were buyers of Argentinian exports. The newly adopted slogan of the Rural Society, namely 'buy from those who buy from us', was aimed at improving commercial relations with Britain.<sup>378</sup> Specifically, during the First World War River Plate trade with the United States increased, as war stricken Europe was unable to provide the necessary manufactured goods that Argentina and Uruguay needed. After the First World War, British exports endured a marked and persistent decline in their competitiveness, thereby increasing the unbalanced trade relationship with the U.K.<sup>379</sup> Indeed, the River Plate was purchasing ever more industrial products from the U.S.A., while exporting most of its primary goods to the U.K. Hence, a triangular trade relationship developed which continued throughout the 1920s. Thus the new campaign had the objective to correct this unbalanced trade relationship by purchasing more manufactured goods from Britain and thereby encourage stronger ties as well as continued free trade with the U.K. Most importantly, the underlining implication of the slogan was that Argentina would create a strong and

<sup>377</sup> The concern regarding potential meat import restrictions to the key British market due to Foot and Mouth Disease sanitary regulations led to a strong debate in the U.K. among the various interest groups, in particular British farmers and the Argentinian government, representing River Plate cattle producers interests. J.E. Richelet defended the Argentinian position, while emphasising the important role that British capital played in the River Plate and arguing in favour of free trade as well as minimum sanitary restrictions based on scientific evidence, in his book The Argentine Meat Trade (Ste. Industrielle d'Imprimerie, Paris, 1929), pp. 37-58 and 151-287.

<sup>378</sup> Richelet, J.E., The Argentine Meat Trade (Ste. Industrielle d'Imprimerie, Paris, 1929), pp. 57-58.

<sup>379</sup> Tulchin, J.S., Argentina and the United States - A Conflicted Relationship (Twayne Publishers, Boston, 1990), pp. 47-50.

closed economic link with Britain, while alienating the U.S.A.<sup>380</sup> Moreover, the motto was also developed to decrease the potentially detrimental impact of the Foot and Mouth Disease debate in Britain, while expressing the Argentinian cattle producers resentment with the U.S. ban. In 1929, the D'Abernon Pact was signed to ensure improved collaboration with the U.K. The accord established reciprocal credits of one hundred million pesos, by which Argentina would buy railroad equipment from Britain, while the U.K. would purchase cereals as well as other products from Argentina.<sup>381</sup> However, the D'Abernon Pact was favourable to Britain, given that the goods acquired by the U.K. were included in existing trade, while the products bought by Argentina were incremental to existing trade.<sup>382</sup> Thus the agreement was devised to reduce the British trade deficit with Argentina, while partly balancing the triangular trade relationship, which was favouring the U.S.A. Indeed, Britain was losing significant 'rent' from the trade triangle that had developed, while the U.S.A. was gaining from this relationship. Argentina was eager to ensure that the U.K. government maintain a 'cooperative' stand, to safeguard the British market from potential closure or restrictions for River Plate meat, that would in turn reduce Argentina's 'rent'. Therefore, Argentina also 'cooperated', even though the agreement benefited Britain. River Plate meat exports remained dependent on the declining British market, due to increasing market access restrictions in the continental Europe and the meat import ban in the U.S.A.

### **5.2.2 Other Factors That Exemplified the First Signs of the 'Staple Trap'**

Although the gradual shift in the international trade regime away from 'free' trade starting in the mid-1920s, combined with a decrease in meat prices per ton and the

<sup>380</sup> Roca, E., *Julio A. Roca (h)* (Imprenta de los Buenos Ayres, Buenos Aires, 1995), p. 50.

<sup>381</sup> *The Review of the River Plate*, Buenos Aires, No. 1971, September 13, 1929, pp. 13-15.

overall decline of the British economy, epitomised early signs of a staple trap, other factors that followed the post-First World War recession also reflected the reduced attractiveness of meat as a staple in the River Plate. To start with, the 'multiplier accelerator mechanism' reached a saturation point in the 1920s, as the forward, backward and fiscal linkages derived from the meat staple in the River Plate approached maturity.<sup>383</sup> Specifically, forward linkages reached their peak with the production of premium chilled meat. Whereas chilled beef exemplified the height of meat quality once its production process was perfected, it also represented the apogee of a series of successive value added improvements in finished goods derived from the meat staple. Hence, the value added augmentation series reached a high point, while the meat product improvement chain approached a plateau in the 1920s. Indeed, the product could hardly be improved further and if so only through marginal advancements in the production, handling and refrigeration process, which would lead to just minor improvements in the appearance and taste of meat.<sup>384</sup> In addition, the by-product range and quality was maximised, while the animal was being utilised to the fullest. Similarly, the efficiency of production, marketing and distribution was fully developed in the mid-1920s, given that the exceptional management know-how of the large transnational meat packing corporations, in particular the large U.S. firms and the Vestey's concern, could only be minimally bettered through minor improvements vs. the very significant advances experienced in the 1900-20 period. Likewise, backward linkages gained from the meat staple also achieved maturity. Most land in Argentina and Uruguay was being utilised, while further production capacity growth through expanded land availability

<sup>382</sup> Gravil, R., *The Anglo-Argentine Connection, 1900-39* (Westview Press, Boulder, 1985), pp. 166-167.

<sup>383</sup> See chapter 3, section 3.1 for an analysis of the staple theory and the 'multiplier accelerator mechanism'.

<sup>384</sup> The maximisation of efficiency in production, distribution, marketing and logistics of the *frigoríficos* in the 1920s is analysed in a series of articles in *The Review of the River Plate*, Buenos Aires, No. 1738, March 27, 1925, pp. 13-43. In particular, the report on The Smithfield and Argentine Meat Company entitled 'A Brief History of the Zarate Works - Now

was minimal.<sup>385</sup> Similarly, the railway network connections within the region had expanded substantially by the mid-1920s. Therefore, increasing production and efficiency gains from further railway expansion were limited, when compared with the enormous gains that it provided in the late nineteenth- and early-twentieth century. Indeed, the railways experienced strong growth from the late nineteenth century until the First World War. Although the war temporarily hindered its extension, the railways expanded much slower in the 1920-30s, as can be seen in Table 5.2.

Table 5.2: Length of Railway Lines in Argentina (in Km) 1896-1936

Year	1896	1910	1914	1925	1936
Km	14462	27714	34534	35753	41000

Source: Cuccorese, H. J., Historia de los Ferrocarriles en la Argentina (Ediciones Macchi, Buenos Aires, 1969), pp. 132-139.

As the railway transportation system kept expanding further into the interior of Argentina and Uruguay in the early twentieth century, it furnished an ever increasing network to supply cattle in a fast and efficient manner from remote areas to the urban centres. This provided *frigoríficos* with a constantly increasing supply and thus encouraged the growth of the industry. Moreover, as the amounts of cattle supplied to *frigoríficos* increased so did their output, thereby encouraging an important linkage, namely the expansion of refrigerated shipping lines, in particular from the River Plate to the U.K. Although these 'transportation' linkages grew and helped develop the meat

a Model of Efficiency in Food Animal Utilization' examines the 'maximum efficiency' levels achieved by this major meat packing plant.

<sup>385</sup>

See section 3.4 for an analysis of the vent-for-surplus attained in the River Plate and its implications for the meat packing industry, in particular in the late nineteenth century. For perspective, vent-for-surplus is applied in this thesis in the context of H. Myint's theory of international trade and growth in the Third World, evaluated in his book The Economics of the Developing Countries (Hutchinson, London, 1984), pp. 32-56, as well as in his article entitled 'The "Classical Theory" of International Trade and the Underdeveloped Countries' in The Economic Journal, June 1958, Vol. LXVIII, No. 270, pp. 317-337. In addition, a further examination of the theory is provided in R. Findlay's and M. Lundahl's paper 'Natural Resources, "Vent for Surplus" and the Staple Theory: Trade and Growth with an Endogenous Land Frontier', Columbia University, Department of Economics, New York, January 1992, Discussion Paper Series No. 585, pp. 5-11 and 22-36.

packing industry, their expansion slowed in the 1920s, as the railway covered an ever increasing interior network and shipping lines expanded their journeys to the River Plate. Furthermore, by the mid-1920s the vast majority of cattle were of superior breed and their quality could hardly be improved further. Indeed, the strong demand for the highly valued 'chilled steers', that were fat cattle and ideally suited for chilled meat production, encouraged extensive cross-breeding, displacing the traditional *criollo* animal. Given that animals could hardly be bettered further, the backward linkages related to widespread breeding improvements were exhausted. Thus the supply and demand side responses became weaker and the 'multiplier accelerator mechanism' reached saturation in the mid-1920s. This represented yet another sign of the development of a 'staple trap'.

Moreover, the comparative locational advantage that the River Plate had enjoyed vs. Australasia eroded, given that technological innovation enabled the shipment of chilled beef from Australia and New Zealand to the U.K. market. Specifically, Australia and New Zealand had been unable to ship chilled meat to Britain because of the long journey to the important U.K. market, which did not allow chilled meat to arrive in time for consumption. Therefore both countries exported mainly frozen meat. However, in the mid-1920s through the utilisation of faster refrigerated vessels chilled meat could arrive in Britain in time for consumption.<sup>386</sup> The Imperial Economic Committee sustained that the greater prices obtained in the U.K. for chilled rather than frozen meat might be sufficient to cover the additional expenses for the higher transportation costs

---

<sup>386</sup>

The British Chamber of Commerce Monthly Journal, 'Fast Transport of Australian Chilled Beef', The British Chamber of Commerce in the Argentine Republic, Buenos Aires, Vol. VII, No. 2, 26 November 1926, pp. 20-21.

from Australia and New Zealand.<sup>387</sup> Nevertheless, due to the additional shipping costs combined with the lack of quality bred cattle in Australia and New Zealand, large scale chilled meat exports did not materialise in the 1920s. However, the comparative advantage had declined in the long term. This exemplified an additional indication of a 'staple trap' development.

Overall, despite the record volume of River Plate meat exports achieved in the mid- to late- 1920s, the first signs of a 'staple trap' were already apparent starting in the early 1920s, while they gradually increased until the late 1920s. By 1929 the 'staple trap' intensified further, as Argentina and Uruguay entered the Great Depression early and the already low meat prices declined even more.

### **5.3 Bilateralism and Control: The Establishment of the Staple Trap (1930-1939)**

#### **5.3.1 The Impact of the Ottawa Conference and the Roca-Runciman Agreement**

The Great Depression came early to the River Plate and in the beginning of the 1930s the already low meat and cattle prices continued their declining trend. This combined with increased protectionism in Europe had a strong effect on meat exports and represented the beginning of a strong crisis in accessing international markets for the River Plate meat packing industry. Most importantly and in addition to the severe restrictions in Continental European countries, the U.K. also started to impose trade barriers on River Plate meat after the Ottawa Conference in 1932. Indeed, following the Ottawa Conference, River Plate meat exports were maintained at the very low post Great Depression levels, due to strict quantity quotas.

<sup>387</sup> Report of the Imperial Economic Committee on Marketing and Preparing for Market of Foodstuffs Produced in the Overseas Parts of the Empire, Second Report - Meat, presented to Parliament, Cd. 2499, London, 1925, pp. 31-32.

Meat packers and cattle ranchers were threatened by the market access limitations that the Ottawa Conference placed on Argentina and Uruguay. The conference was designed to create a type of common market between the Commonwealth countries and Britain. Specifically, in the Ottawa Conference, Britain's objective was to create a joint market between United Kingdom and the Dominions, while establishing strong trade barriers to the outside world. Indeed, the general concept was that the U.K. would import primary products principally from the Commonwealth and in return the Commonwealth states would buy manufactured goods from Britain. Importantly, the promise made to Australia, Canada and New Zealand, was that Britain would place strict quotas on non-Commonwealth countries and only buy meat from Argentina and Uruguay at their mid-1931 to mid-1932 volume base. This represented a major threat to Argentina and Uruguay, given that the 1931-32 figures were the lowest export volumes that they had experienced in almost a decade. Specifically, Argentina's meat producers had seen their volume drop over 25% from 1929 to 1932, due to lower world demand for beef, which also reduced prices. This also lowered the net peso sales of *estancieros*, which declined by up to 40% between 1929 and 1932.<sup>388</sup> Similarly, in Uruguay chilled exports declined 40% between 1930 and 1932.<sup>389</sup> Furthermore, restrictions on frozen beef, an export stronghold of Australia, were constrained even further. Specifically, in regards to frozen meat, the Ottawa agreement required that every three months only a certain percentage of the amount supplied in the equivalent quarter of the base year could be exported. Indeed, a gradual declining quota scale was introduced, which eventually only represented 65% of the already low base level for frozen meat.<sup>390</sup> However, chilled beef would remain at 100% of the base year. The base year percentage of the respective

<sup>388</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p.139.

<sup>389</sup> Finch, H., *A Political Economy of Uruguay since 1870* (The MacMillan Press, London, 1981), p. 136.

quarters for frozen meat from 1933 to mid-1934 were divided into quotas as shown in table 5.3 This applied to both Argentina and Uruguay.

Table 5.3: Ottawa Conference Quota as a % of Base Year Quarter (Jan.1933-Jul.1934)

Quarters	Frozen Mutton and Lamb (%)	Frozen Beef in Carcasses and Boned Meat (%)	Chilled Beef (%)
1st Quarter 1933	90	90	100
2nd Quarter 1933	85	85	100
3rd Quarter 1933	80	80	100
4th Quarter 1933	75	75	100
1st Quarter 1934	70	70	100
2nd Quarter 1934	65	65	100

Source: *The Review of the River Plate*, Volume LXXIII, No. 2134, November 4, 1932, p.21.

As can be seen in table 5.4, the export volume of the full 1931-1932 period declined dramatically in comparison with 1926-30 average, particularly frozen bovine meat exports. This combined with gradually decreasing quotas in 1933-34 to 65% of the low base year for frozen ovine and bovine meat, placed a strong burden on the meat packing houses and cattle producers, as meat export volumes reached even lower levels.

Table 5.4: 1931-32 River Plate Meat Exports (F&C) Index vs. the 1926-30 Average

	1931-32 Export Volume Index vs. the 1926-30 Average [1926-30 = 100]		
	Argentina	Uruguay	Total River Plate
Frozen Ovine	99	55	89
Frozen Bovine	37	60	44
Chilled Bovine	91	103	92

Sources: See Appendixes 20-23.

<sup>390</sup>

Hanson, S., *Argentine Meat and the British Market* (Stanford University Press, California, 1938), p.267.

Importantly, the 1932 Ottawa conference exemplified one of the largest market access crises of the Argentinian and Uruguayan meat packing industry. Indeed, as the U.K. was the most important market for Argentinian meat exports, the Ottawa agreement represented a large risk of continued export reductions and therefore a further decline in foreign exchange reserves, while threatening to worsen the already negative River Plate balance of payments. Most importantly, although the Ottawa agreement translated into a significant reduction in ‘rent’ for Argentina and Uruguay, both countries maintained their ‘cooperative’ stand and tried to sustain quotas at their current level. Nevertheless, the Ottawa conference represented a change in British-River Plate trade relations, given that the U.K. started reducing her overall ‘cooperative’ stand, with the aim to maximise ‘rent’ within the confinements of Commonwealth states.

The Ottawa Conference quotas had a shock effect on meat packers and producers alike. Specifically, the production capacity levels were in line with the strong, albeit volatile, export volume levels experienced in the 1920s, cattle stocks were high, given that ranchers expected export volumes and prices to increase in a ‘free’ international trade environment. The strict Ottawa quotas, pushed animal prices down even further, as cattle were in oversupply and the export volume was limited due to the newly inflicted quotas. Specifically, cattle prices halved from their 1929 peak to the lowest point in early 1933.

Moreover, the decline in exports in the early 1930s combined with the introduction of quotas after the Ottawa Conference and the decrease in cattle producers margins, generated strong discontent among cattle producers, who once again voiced their

concern and anger in the Rural Society meetings and to the government. The Argentinian government was concerned due to the establishment of quotas for meat and was pressured to increase or at least maintain the export quotas at the levels agreed in the Ottawa Conference. This led to a long negotiation process between the British and Argentinian governments, which resulted in a special agreement known as the Roca-Runciman pact. In Uruguay, the Rural Federation also placed strong pressure on the government to keep export quotas. The dispositions of the Roca-Runciman pact in regards to export quotas also applied to Uruguay.

The Argentine Rural Society demanded immediate diplomatic action and urged the government to speed up negotiations with British authorities.<sup>391</sup> Following consultations, the government responded by sending a high level government team to the U.K. in order to attempt to obtain an agreement with the British government. The team of negotiators was headed by Vice-President Julio A. Roca, the son of a former President and a key member of the Rural Society. Roca had a clear agenda, which consisted of two main mandates.<sup>392</sup> To start with, he would attempt to maintain Argentina's share of the British market, by keeping chilled beef on the free list and ensure that restrictions in excess of those specified in the Ottawa Conference were not applied. The Argentinian government was well aware that it was extremely unlikely that the negotiations could modify the Ottawa Conference agreements, as expressed by the Argentinian Ambassador in London:

<sup>391</sup> "Rural Society Demands Action", *The Review of the River Plate*, Volume LXXIII, No. 2131, October 14. 1932, p. 9.

<sup>392</sup> Drosdoff, D., *El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman* (Ediciones La Bastilla, Buenos Aires, 1972), pp. 30-35.

"It is puerile to think that a negotiation of the Argeninian government will be able to alter the agreements of Ottawa. We must secure solutions and understandings within the latitude that these agreements allow."<sup>393</sup>

Roca's second priority was to reduce the control of foreign meat packing houses over the meat trade in Argentina. The British team of negotiators, headed by the president of the Board of Trade, Walter Runciman, had three main priorities towards Argentina. Their aim was to unblock £11 million which were held in Argentina, due to stringent exchange controls, while expanding the market for British manufactured products and at the same time try to protect British farmers, while staying within the Ottawa conference agreement. Additionally, Great Britain wanted to ensure Argentina would not default on their large foreign debt. Despite taking months to negotiate, a pact was finally signed in May 1933, which became known as the Roca-Runciman agreement. In the pact, Britain agreed to maintain the quotas allowed through the Ottawa conference and within it to permit a quota of 15% for domestic non-profit meat packing houses funded by the Argentine government.<sup>394</sup> However, two of the Argentinian meat packing plants were already incorporated in the quota, thereby leaving only 11% of the allotment to new plants.<sup>395</sup> The outcome of the Roca Runciman pact applied to Uruguay as well, which was included in the Argentine pact.<sup>396</sup> In a separate agreement the U.K. offered Argentina a £10 million credit, the Roca Funding Loan, to improve the Argentinean monetary structure, which contributed to the post-depression recovery. Specifically, the Roca Funding Loan enabled the remittance of British blocked funds and an orderly state debt-conversion programme through lower denominated bond issues, while this in turn

<sup>393</sup> Letter from Argentinian Ambassador Malbran in London to the Minister of Foreign Affairs, 10 October 1932, *Archive of the Argentinian Embassy in London*, Ministerio de Relaciones Exteriores y Culto, Letter Book 297, Notes from 15/3/1932 to 29/3/1933, London.

<sup>394</sup> Puiggros, R., *Libre Empresa o Nacionalizacion en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 112.

<sup>395</sup> Smith, P., *Politics and Beef in Argentina* (Columbia University Press, New York, 1969), p. 144.

<sup>396</sup> Finch, H., *Historia Economica del Uruguay Contemporaneo* (Ediciones de la Banda Oriental, Montevideo, 1980), p. 142.

strengthened the government's economic action plan (*plan de acción económica*).<sup>397</sup> The Roca-Runciman agreement was initially valid for three years, until 1936.

The negotiations achieved to maintain the River Plate meat quotas. Indeed, the export volumes of the Ottawa base year minus the lowering scale agreed for frozen ovine and bovine meat were sustained. Thus the agreement ensured that the quota for frozen bovine and ovine meat would not be reduced further. In addition, the Roca-Runciman agreement helped Argentinian monetary stability, supported by the Roca Funding Loan. Although the chilled beef quota was maintained at the Ottawa base year volume, Great Britain reserved the right to reduce this quota by a further 10%, as explained in the first article, clause 2 of the Roca-Runciman treaty:

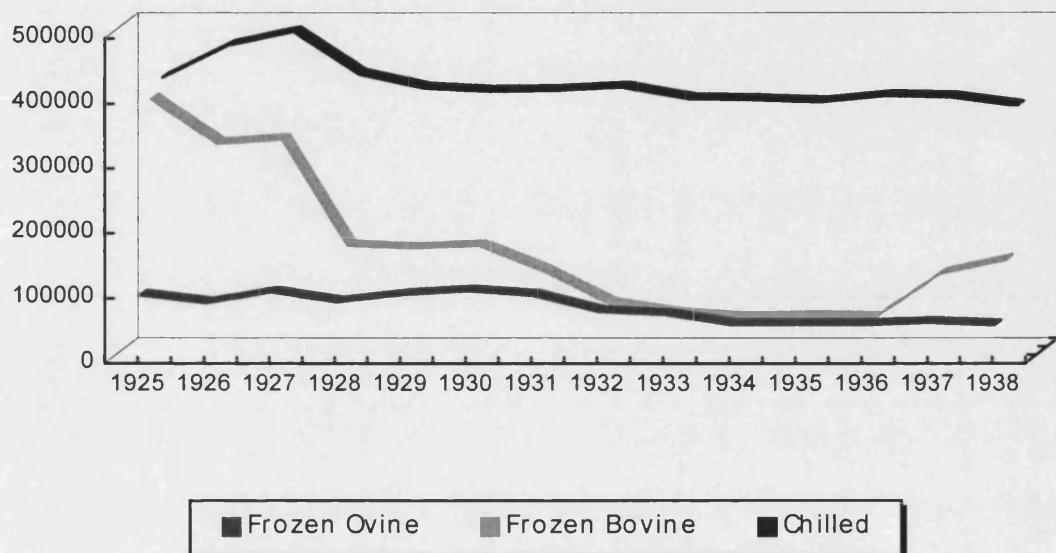
"The Government of the United Kingdom will not reduce the imports of chilled beef from Argentina to an amount more than ten per cent below the quantity imported during the year ended the thirtieth day of June, 1932, unless the imports of chilled beef (other than reasonable shipments of an experimental nature) or of frozen meat into the United Kingdom from all producing countries (including those which are part of the British Commonwealth of Nations) are also reduced by a percentage equal to the percentage of the reduction of Argentine chilled beef below 90 per cent of the quantity imported in the corresponding quarter of the year ended thirtieth day of June 1932."<sup>398</sup>

Whereas following the agreement chilled beef shipments were reduced by 10%, they remained stable thereafter on a high level, unlike frozen River Plate meat exports, in particular frozen beef. Frozen meat exports suffered a significant decrease in the late 1920s and again in the aftermath of the Great Depression, while they remained at a very low level until the late 1930s, due to the strict meat quotas imposed in the Ottawa Conference, as can be seen in chart 5.1. Furthermore, the allusion to experimental

<sup>397</sup> Alhadeff, P., Dependency Historiography and Objections to the Roca Pact in Abel, C. and Lewis, C. Latin America, Economic Imperialism and the State (The Athlone Press, London, 1985), pp. 368-377. Also see The British Chamber of Commerce in The Argentine Republic Journal, Volume XIII, No. 13, October 31, 1933, pp. 16-17.

shipments of chilled meat was intended as a means to continue developing and perfecting the technology to transport chilled beef from Australia to the U.K. market. Although potential Australasian chilled beef exports to Britain were seen as a strong competitive threat and became a concern to River Plate cattle producers, large scale chilled shipments from Australasia did not materialise.<sup>399</sup>

Chart 5.1: River Plate Meat Exports By Type in Tons (1925-1938)



Sources: See Appendixes 20-25.

Importantly, the Ottawa conference facilitated British control of River Plate meat export quotas, given that the U.K. Board of Trade started administering the import licences.<sup>400</sup> The British influence was further consolidated by the Roca-Runciman agreement, because it corroborated the control of the U.K. through the concurrence of the Argentinian government.

<sup>398</sup> "The New Anglo-Argentine Commercial Treaty", *The Review of the River Plate*, Volume LXXIV, No. 2160, May 5, 1933, p.17.

<sup>399</sup> Mariño, O., "Competencia Australiana a las Carnes Bovinas Argentinas", *Anales de la Sociedad Rural Argentina*, No. 4, April 1933, Buenos Aires, pp. 177-187.

### **5.3.2 Struggling with the New Trade Regime: Conflicts, Severe Discontent and a Fragmented Domestic Policy Response**

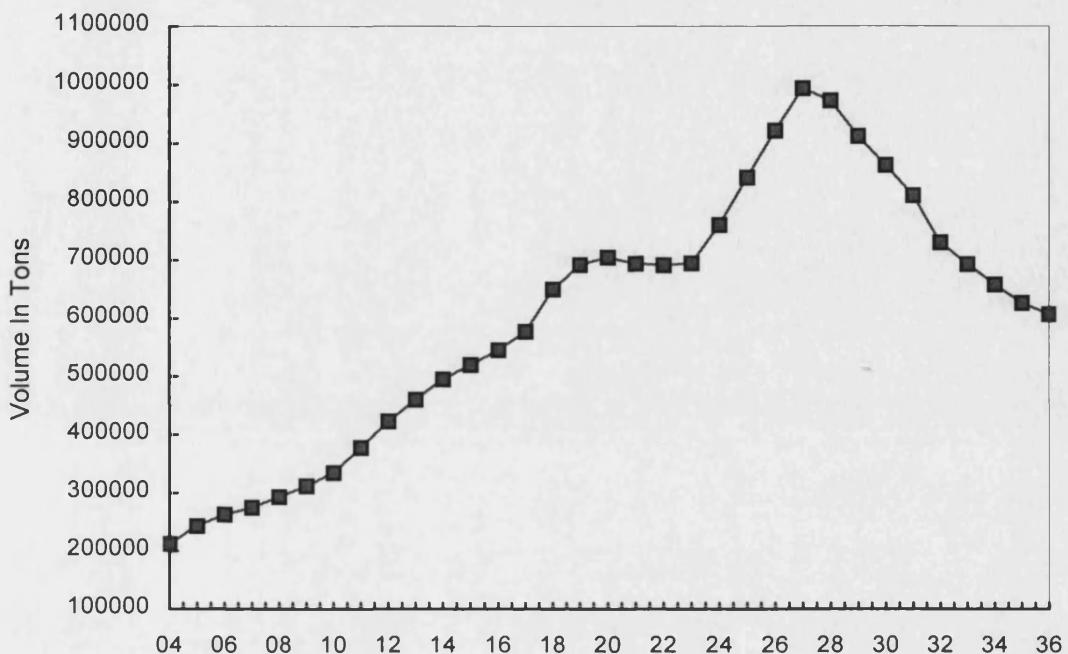
In the first three years after the Roca-Runciman agreement, cattle prices were low due to oversupply, despite stable exports of chilled meat. This is traceable to the production cycle, by which it took some years before the cattle supply could be reduced, especially since two successive events forced exports down, namely the Great Depression and shortly thereafter the Ottawa Conference. However, since 1930 the largest export decline was of frozen meat, especially frozen beef, which did not require high quality animals. In contrast, for chilled beef exports, meat packers needed superior cattle, which were produced by fatteners. Thus, cattle producers that supplied poorer quality animals endured losses, while fatteners which produced superior cattle for chilled beef business continued to benefit from a strong business.<sup>401</sup> Whereas the Rural Society represented all cattle producers, it was overwhelmingly controlled by the fatteners. To improve the balance of power, breeders created a series of alliances, mainly through the creation of associations. One of the largest and most active breeder groups was CARBAP, established in 1932, which incorporated numerous associations of the provinces of Buenos Aires and La Pampa.<sup>402</sup> CARBAP was often in conflict with the Rural Society and represented a strong force that defended breeders interests. As can be seen in chart 5.2 the River Plate meat export volume declined substantially in the early- to mid-1930s. This can be attributed to the effect of the Great Depression and especially to the Ottawa Conference after 1932.

<sup>400</sup> "Licencias de Importacion al Reino Unido" Anales de la Sociedad Rural Argentina, No. 10, October 1940, Buenos Aires, p. 785.

<sup>401</sup> Drosdoff, D., El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman (Ediciones La Bastilla, Buenos Aires, 1972), p.49.

<sup>402</sup> The breeders group was called the Confederation of Rural Associations of the Province of Buenos Aires and La Pampa (Confederacion de Asociaciones Rurales de Buenos Aires y La Pampa - CARBAP). Smith, P., Politics and Beef in Argentina (Columbia University Press, New York, 1969), p. 154.

**Chart 5.2: River Plate Meat Exports in Tons (5-Year Moving Averages)**  
**Bovine and Ovine Meat, Conserved Meat & Tongues and Meat Extract (1904-1936)**



Sources: See Appendixes 20-25.

### **5.3.3 Extended Trade Concessions and Restrictions: Their Benefits and Disadvantages**

In 1936 the Roca-Runciman agreement expired and it was replaced with the Le Breton-Eden pact. It represented almost a continuation of the Roca-Runciman agreement as the quotas were kept at circa identical levels. However, the new pact had two main amendments. Firstly, the Argentinian government was given full control of the export quotas and the National Meat Board was given the task of distributing the quotas.<sup>403</sup> Secondly, the United Kingdom introduced an import duty equivalent to \$33 Argentinian Paper Pesos for chilled meat, \$27.43 pesos for frozen meat and \$7.02 for conserved meat.<sup>404</sup> The new tax was equal to 21.5% of the product value.<sup>405</sup> In order to avoid cattle producer discontent, the import duty was split into three, 1/3 was paid by the cattle

<sup>403</sup> "Cuota de Exportacion" *Anales de la Sociedad Rural Argentina*, No. 10, October 1940, Buenos Aires, p. 783.

<sup>404</sup> Liceaga, J.V., *Las Carnes en la Economía Argentina* (Editorial Raigal, Buenos Aires, 1952), p. 189.

<sup>405</sup> Drosdoff, D., *El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman* (Ediciones La Bastilla, Buenos Aires, 1972), p. 91.

producers, 1/3 by the *frigoríficos* and 1/3 by the government. But higher prices helped in reducing complaints from cattle producers, as explained in The Economist:

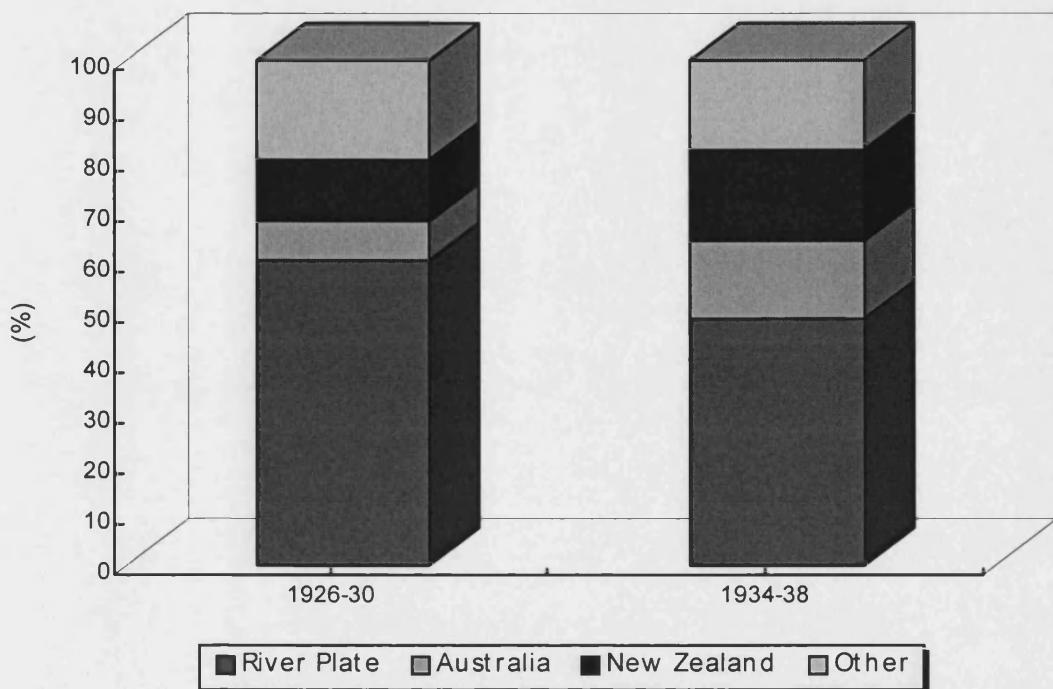
"The new Anglo-Argentinian Trade Treaty ... was received here with mixed feelings. The Argentine stockbreeders, as was expected, were particularly disappointed. The meat clauses were generally regretted as calculated to reduce mutual trade between the two countries ... The Treaty, while far from giving universal satisfaction, is felt to be much less unfavourable to Argentina than was expected. Had the Treaty been published six months ago when the Argentine economic outlook was dark and depressing, more complaints would probably been heard."<sup>406</sup>

As cattle prices continued at a high level in 1937 and the economy rebounded, the Argentinian payment of 1/3 of the British import duty was abolished. Similarly to Argentina, in Uruguay 'the general economic position continued to improve' in 1937 and 'the all-important livestock industry was in good condition'.<sup>407</sup> Despite the economic upsurge and a the temporary stabilisation of meat exports in the late 1930s, the Ottawa Conference had a significant negative impact on Argentinian and Uruguayan meat exports. The River Plate global meat export market share declined sharply in the 1930s, decreasing 11.6% points, from 60.5% in 1926-30 to 48.9% in 1934-38. Conversely, Australia and New Zealand augmented their global export market shares by 7.7% and 5.8% points to 15.5% and 17.9% respectively, in 1934-38 vs. 1926-30. Thus the Ottawa Conference objective of granting preferences to the Dominions in meat exports was clearly achieved. This is depicted in chart 5.3, which shows a sharp rise in the Australasian global meat export market shares, mainly at the expense of the River Plate, which suffered a severe decline.

<sup>406</sup> The Economist, Vol. CXXV, No. 4870, December 26, 1936, p. 636.

<sup>407</sup> The Economist, Trade Supplement, No.10, October 30, 1937, p.4.

**Chart 5.3: Meat Global Export Market Shares - By Country / Region (%)**  
 Beef and Sheepmeat - Average Yearly Periods Between 1926-30 and 1934-38



Sources: See Appendix 12 as well as Section 2.2 for calculation and estimation methods.

## 5.4 **Emergence of I.S.I. and Inward Looking Policies: The Consolidation of the 'Staple Trap' (1940-55)**

### 5.4.1 **The Impact of the Second World War on the River Plate Meat Packing Industry**

With the outbreak of the Second World War, the River Plate meat packing industry experienced strong growth, while cattle producers benefited from larger volumes and increased prices, as the war increased demand for meat products in Europe. The British government concluded a series of contracts with the Argentinian and Uruguayan governments for the supply of primarily conserved and canned meat, in addition to war rations for the Allied forces. Specifically, the first contracts were agreed with Argentina

and Uruguay shortly after Britain declared war to Germany in September 1939.<sup>408</sup> Contracts were of short duration, usually valid for one year, after which they were renewed. Meat war supplies needed to be preserved for a long time (i.e. several months), while cargo space needed to be minimised. Thus deboned frozen or conserved meat was preferred, as well as ready-to-eat rations. War rations were composed of a mix of meat, broth and vegetables.<sup>409</sup>

Argentina and Uruguay profited enormously during the war, by providing agricultural products at high prices. Additionally, manufactured goods were difficult to obtain, given that the key suppliers, the U.K. and the United States were producing for the war machine. Hence, Argentinian and Uruguayan income augmented, while little was being spent on manufactured products, thereby increasing reserves dramatically during the war. The strong reserves accumulated during the Second World War were crucial in financing the subsequent move towards import substitution industrialisation (I.S.I.). Throughout the war governmental contracts continued, while the upward trend in meat prices was sustained.

During the second world war the political power started shifting from the land owning elite to the control of an ever increasing autonomous state. In this context, there was a change in ideology, while a group of economists called for greater industrialisation, stronger protectionism and increased government control. Hence, a policy of state corporatism emerged, aimed at establishing self-sufficiency in the River Plate. The

<sup>408</sup> In Uruguay the first contract started in November 1939, as explained in Bernhard, G., *Comercio de Carnes en el Uruguay* (Editores Aguilar e Irazabal, Montevideo, 1958), pp. 36-37. In Argentina contracts were already agreed in September 1939, as analysed in Puiggros, R., *Libre Empresa o Nacionalizacion en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 182.

<sup>409</sup> Malagraba Elichiri, J.P., *Mi Vida - 68 Años en la Industria* (Impresos Vanni, Montevideo, 1993), p. 77.

beginning of this strategy can be traced to the Pinedo plan in Argentina, which was recommended in 1940 and outlined the creation of a small industrial base that would become a minor wheel of the economy.<sup>410</sup> Until the military coup of 1943, the large cattle producers lobbied the government to maintain only limited protectionism and succeeded in convincing the state to keep the industrialisation process to a minimum. However, after the 1943 coup, the role of the state passed from being a defender of the large land owners interests to becoming ever more autonomous. The government had the goal to establish a considerable industrial base and augment protectionism. A government entity called the *Consejo Nacional de Postguerra* (National Postwar Council), led by the then Vice-President Juan Peron, played a key role in formulating a post-war vision, which would prove to be key in the subsequent developments of the Peron government. The proposal outlined three main orientations for the Argentinian policy in the post-war years, namely: "a) to support those activities that are already consolidated, b) to suppress those which, at the end of the war, yield before a superior competition from abroad and c) to replace the latter with new industries that have reasonable prospects".<sup>411</sup>

When Peron came to power in 1946, he implemented the nationalistic and inward looking economic strategies, which had been increasingly vocalised since the early- to mid- 1940s. This led to a stringent import substitution industrialisation policy in Argentina in the late 1940s, which was also implemented later, albeit more moderately, in Uruguay. Importantly, import substitution was financed with the strong reserves accumulated during the Second World War in the beginning stages and through the

<sup>410</sup> Waisman, C.H., *Reversal of Development in Argentina* (Princeton University Press, New Jersey, 1987), p.131.

<sup>411</sup> *Ibid*, p. 134.

surplus of the agricultural sector. Hence, the import substitution industrialisation policies in the River Plate after the Second World War obstructed meat exports, due to the introduction of very high taxes, export duties and differentiating exchange rate schemes.

#### **5.4.2 Peron and British Post-War Economic Policy**

By the end of the Second World War, Great Britain had accumulated strong debts due to the expensive war effort. The United Kingdom needed to find means to deblock millions of pounds, which represented primarily Argentinian exports that had not been paid during the war. By 1946, the accumulated Sterling held on Argentine account amounted to £130 million.<sup>412</sup> In addition, the United Kingdom had to find a way to finance future purchases of much needed foodstuffs, in particular beef, from Argentina. After vigorous and difficult negotiations, a new pact was signed in September 1946, namely the Miranda-Eady agreement. In the pact, the United Kingdom agreed to "purchase the exportable surplus from Argentina for four years, after providing a reserve for sales by the Argentine Government to other markets."<sup>413</sup> Moreover, the agreement enabled Argentina to utilise part of the pounds accumulated in Great Britain to repatriate Argentine Sterling debt or to repay British investments in Argentina, in addition to cancelling a Sterling debt with Brazil.<sup>414</sup> However, the Sterling debt reduction was not a new phenomenon, given that Argentina had been decreasing her foreign debt since the early 1940s and thus the clause allowing gradual Sterling debt repatriation merely enabled further reductions.<sup>415</sup> The most important clause of the agreement, within the

<sup>412</sup> "Argentine's Sterling Balances", *The Economist*, Vol. CLI, No. 5378, September 21, 1946, p. 465.

<sup>413</sup> "Anglo-Argentine Agreement", *The Review of the River Plate*, Volume CI, No. 2858, September 20, 1946, p. 16.

<sup>414</sup> Idem.

<sup>415</sup> Puiggros, R., *Libre Empresa o Nacionalizacion en la Industria de la Carne* (Editorial Argumentos, Buenos Aires, 1957), p. 189.

provisions for the repayments of British investments, was the stipulation that an Argentine company, either controlled by the state or with private participation, would purchase the British owned railway companies in Argentina.<sup>416</sup> In February 1947, the Argentinian government purchased the assets of the British railways operating in Argentina for £150 million.<sup>417</sup> Although the acquisition of the railways did not represent an outstanding business proposition, it enabled Argentina to utilise the blocked Sterling funds. Britain, on the other hand, was eager to divest from the railways, as explained by J. Tulchin:

"The British saw the profitability of the railways declining and, with the impending expiration of the Mitre Law in 1947, which protected their interests, they were increasingly anxious to get rid of the properties. Sale to the Argentine government in return for blocked sterling deposits accumulated during the war seemed to the British to be a very good deal indeed."<sup>418</sup>

In Uruguay, the post war blocked Sterling credit with Britain was £18 million, and as in Argentina, the Uruguayan blocked funds were utilised to nationalise the railways in 1949.<sup>419</sup> Also in the Uruguayan case, the railway purchase was only beneficial because it allowed the utilisation of blocked Sterling, given that the railway equipment was mostly outdated and the business was declining.

A commercial agreement was signed with Great Britain in 1948, the Los Andes pact, in which the U.K. agreed to purchase fixed quantities of meat and agricultural goods, while Argentina would obtain various products, including coal and steel from Great Britain.<sup>420</sup> This was followed up by an important bilateral treaty with Great Britain in 1949, in which various products would be traded for five years. Specifically, meat and

<sup>416</sup> "Anglo-Argentine Agreement", *The Review of the River Plate*, Volume CI, No. 2858, September 20, 1946, pp. 16-17.

<sup>417</sup> "The Sale of the Railways", *The Review of the River Plate*, Volume CII, No. 2879, February 14, 1947, pp. 15-19.

<sup>418</sup> Tulchin, J. S., *Argentina and the United States - A Conflicted Relationship* (Twayne Publishers, Boston, 1990), p. 89.

<sup>419</sup> Caetano, G., Rilla, J., *Historia contemporanea del Uruguay* (Editorial Fin de Siglo, Montevideo, 1994), p. 174.

agricultural goods would be exchanged for fuel, iron, steel, chemical and industrial products for a total of £250 million.<sup>421</sup> Bilateralism with the U.K. continued throughout the Peron administration, until his overthrow in 1955.<sup>422</sup> By the early 1950s, the U.S.A. had emerged as an important meat export market for River Plate meat, while Britain's position as the predominant global meat importer was gradually diminishing. Although Harold Peterson exaggeratedly claims that 'by 1952 Americans were eating twice as much Argentine meat as the English', it is a fact that consumption of River Plate beef had increased substantially in the U.S.A.<sup>423</sup> Indeed, the U.K.'s worldwide meat import distribution shares had dropped from 82.2% in 1934-38 to 68.7% in 1948-52, while the North American shares increased from 3.4% to 10.3% in the same period.<sup>424</sup>

#### **5.4.3 The Peron Era: 'Killing the Milche Cow' Through Crippling I.S.I. Policies**

In 1947 Peron introduced a Trade Promotion Institute, the *Instituto Argentino de Promocion de Intercambio* (IAPI). The IAPI was a state organisation that monopolised the Argentinian foreign trade. Through the state control of foreign trade, the IAPI was able to absorb a 'rent differential' from the agricultural and cattle production sector, which in turn was instrumental in financing the industrialisation process.<sup>425</sup> The Peronists voiced their interest in the IAPI as follows: "These enormous sums of money ... which did not reach the coffers of the State, but were retained by important national and international firms, enjoying enormous profits out of commercial disposal of

<sup>420</sup> Conil Paz, A., Ferrari, G., *Argentina's Foreign Policy, 1930-1962* (University of Notre Dame Press, Notre Dame, Indiana, 1966), p. 161.

<sup>421</sup> Conil Paz, A., Ferrari, G., *Argentina's Foreign Policy, 1930-1962* (University of Notre Dame Press, Notre Dame, Indiana, 1966), p. 163.

<sup>422</sup> Drosdoff, D., *El Gobierno de las Vacas (1933-1956) Tratado Roca-Runciman* (Ediciones La Bastilla, Buenos Aires, 1972), p. 135.

<sup>423</sup> Peterson, H.F., *Argentina and the United States* (University Publishers, New York, 1964), p. 478.

<sup>424</sup> For sources see appendix 13 and see section 2.3 for calculation and estimation methods of worldwide meat import distribution shares.

<sup>425</sup> Sukup, V., *El Peronismo y la Economia Mundial* (Grupo Editor Latinoamericano, Buenos Aires, 1992), p.52.

exportable farm products, are today resources of the State and will serve in great measure to finance the undertakings of the Five-Year (Peronist) Plan."<sup>426</sup>

Peron's import substitution industrialisation policy was financed through the reserves accumulated during the Second World War and by extracting surplus from the agricultural and livestock sectors. In the early 1950s, the Peron administration started to run out of reserves. In order to enlarge the funds extracted from the livestock sector, the government took a further step and started intervening directly in meat packing and cattle production. For this purpose the National Meat Board was renamed *Instituto Ganadero Argentino* and given the power to establish meat packing companies and trade cattle. In addition, taxes were increased further. As a result, cattle producer discontent increased and severe conflicts arose with the government, in addition to divisions within the government itself.<sup>427</sup> By 1952 cattle production had decreased to alarmingly low levels, due to state intervention as well as a drought.<sup>428</sup> Although intervention declined moderately in 1952, it was only in 1954 that the National Meat Board was finally moved to the Ministry of Commerce, which also assumed the IAPI foreign trade functions.<sup>429</sup>

Despite these changes, Peron's policies had severely crippled the meat sector and further consolidated the staple trap in the 1950s. Meat exports declined substantially, while the continuous surplus extraction from livestock left Argentina with too little cattle to supply export markets. As pointed out by Louise Peffer:

<sup>426</sup> "I.A.P.I. and the Plan", *The Review of the River Plate*, Volume CII, No. 2879, February 14, 1947, pp. 9-11.

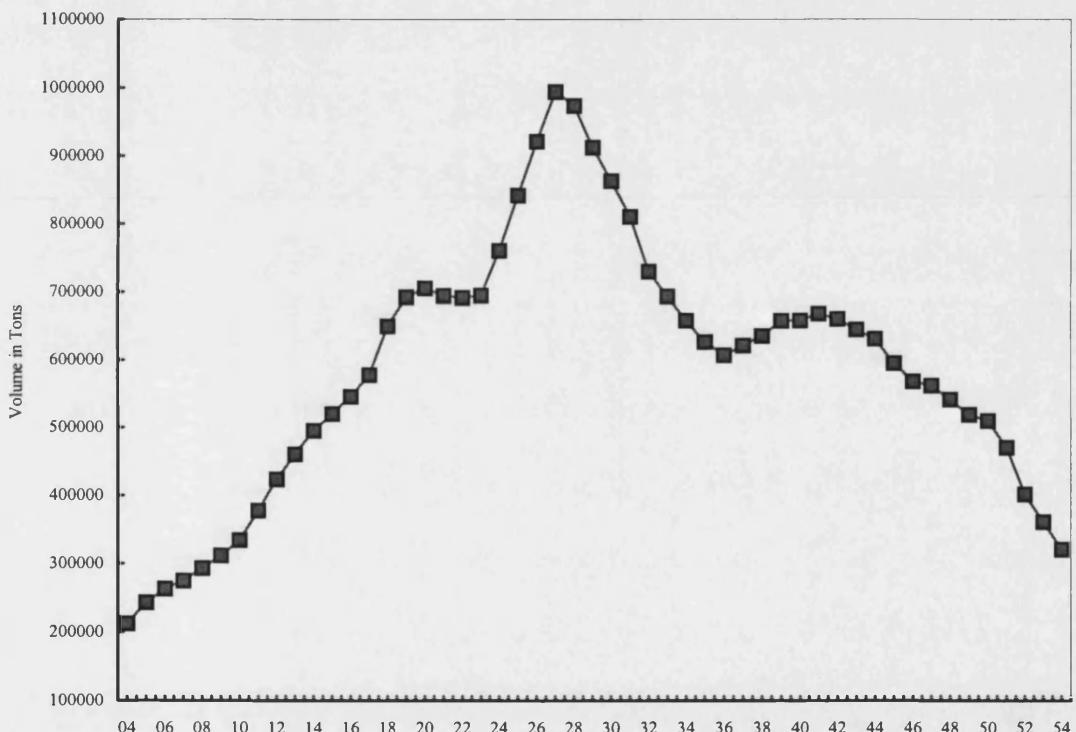
<sup>427</sup> Carreras de las, A., *Legislacion y Politica de Carnes* (Camara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 13.

<sup>428</sup> Calvet, J., *Un Siglo Frio en la Ganaderia Argentina* (CARBAP, Buenos Aires, 1977), p. 60.

"Beginning with 1950, Argentina's meat problem was not the absence of market outlets but a shortage of meat. The cause of the shortage was a combination of drought and producer resistance to the Peron plan to make the agricultural and livestock sectors of the economy pay for an ambitious program of industrialisation".<sup>430</sup>

Total River Plate meat exports decreased further in the early 1950s, reaching levels below the expansionary phase of the meat sector in the first decade of the twentieth century, as can be seen in chart 5.4. This evidenced the consolidation of the staple trap.

**Chart 5.4: River Plate Meat Exports in Tons (5-Year Moving Averages)**  
(1900-1954) Bovine and Ovine Meat, Conserved Meat & Tongues and Meat Extract



Sources: See Appendixes 20-23.

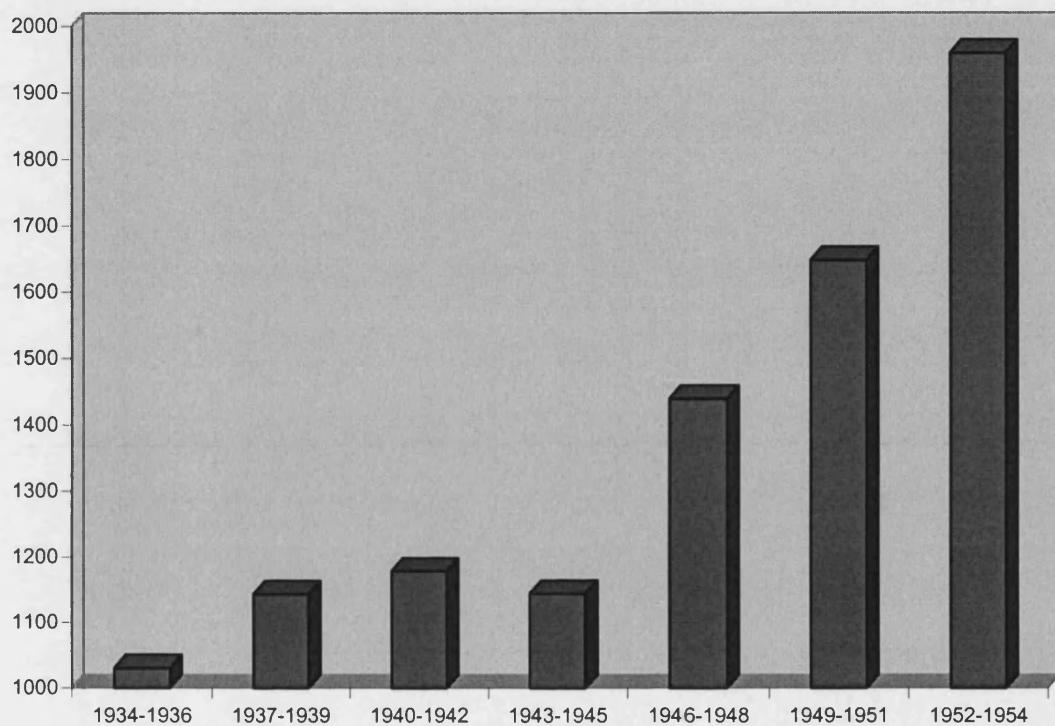
Linkages derived from the livestock sector had occurred to the rest of the economy, in particular the industrial sector. In addition, final demand linkages also took place,

<sup>429</sup> Carreras de las, A., *Legislacion y Politica de Carnes* (Camara Argentina de Consignatarios de Ganado, Buenos Aires, 1989), p. 13.

<sup>430</sup> Peffer, E. L., "Foot-and- Mouth Disease in United States Policy", *Food Research Institute Studies*, Vol. III, No. 2, Stanford, May 1962, p. 168.

through increased domestic meat consumption, driven by rising real wages, especially of the working classes. Specifically, the amount of beef consumed domestically augmented dramatically during the Peron administration, as can be seen in chart 5.5.

Chart 5.5: Argentinian Bovine Meat Produced for Domestic Consumption  
In Thousands of Tons (1934-1954)

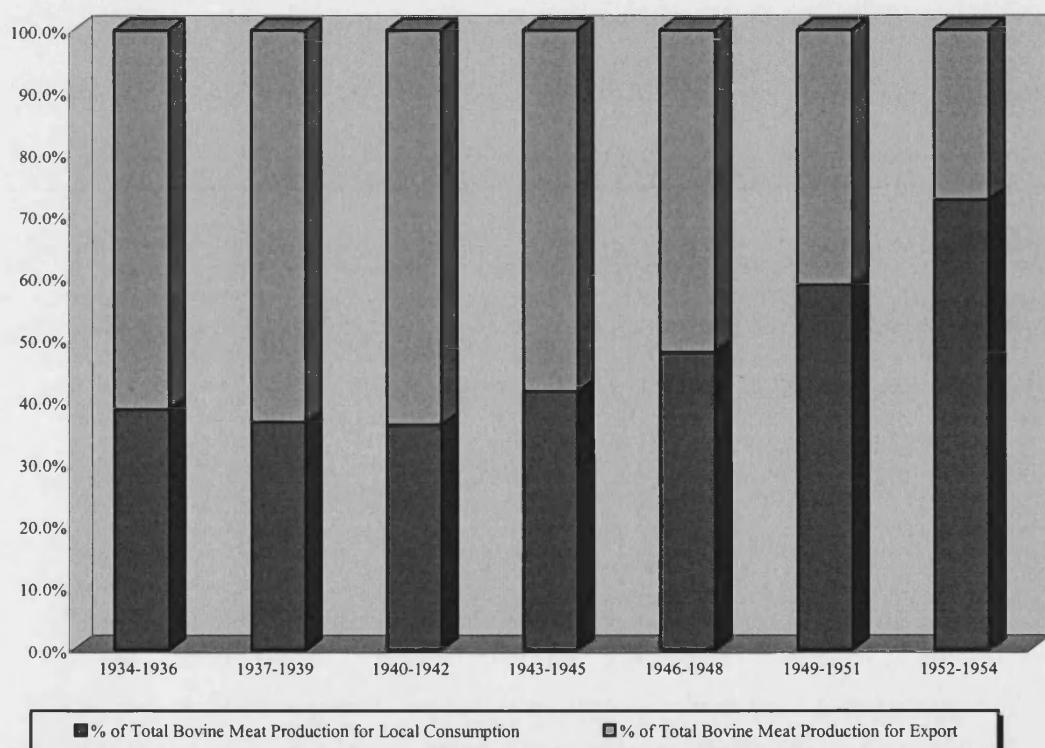


Source: Boletin Mensual de Estadística, Republica Argentina, Dirección Nacional de Estadística y Censos, Buenos Aires, January 1956, p. 18 and 1949-1950, p. 165. Excluding meat for industrial use (not fit for human consumption).

Although linkages had occurred to other sectors, this was done at a huge long-term expense, which in turn caused the further consolidation of the 'staple trap'. Indeed, an extreme financial burden was placed on the livestock sector, through very high taxation and export duties, varying exchange rate policies, as well as due to inefficient and costly state intervention. Indeed, the Peron administration had extracted so much surplus from the livestock sector, that instead of 'the milche cow' it was starting to 'kill the milking cow'. In the long term, the implications were severe. The incentive to produce cattle had

been eroded by a sharp decline in producers margins. Moreover, there was a strong disincentive to export, due to high duties, unfavourable intervened exchange rates and state trade control. This also represented an indirect subsidy for domestic consumers, as it maintained meat prices lower within the domestic market, thereby reducing inflationary pressures. Specifically the export discouragement ensured that an ever greater proportion of meat production was diverted for domestic consumption, as can be seen in chart 5.6.

**Chart 5.6: % of Argentinian Meat Production for Domestic Consumption and for Export**  
Bovine Meat (1934-1954)



Source: Calculated with data from Boletin Mensual de Estadistica, Republica Argentina, Direccion Nacional de Estadistica y Censos, Buenos Aires, January 1956, p. 18 and 1949-1950, p. 165.

#### **5.4.4 The Overall Repercussions of Post-Second World War Domestic Policies and Its Long-Term Effect on the River Plate Meat Packing Industry**

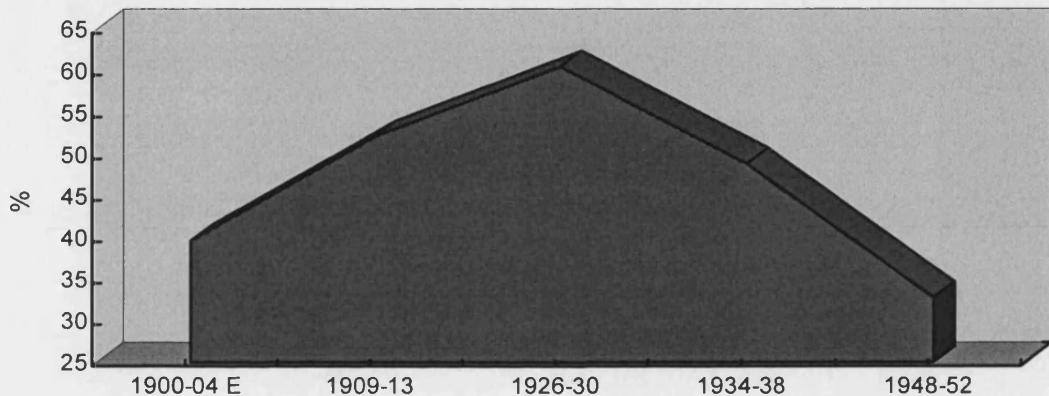
Despite having a fairly open international meat export market in the late 1940s and early 1950s, Argentina and Uruguay stifled cattle and meat producers due to severe state

intervention and strict fiscal burdens. Although Uruguay attempted to maintain remunerative cattle prices for the livestock sector with subsidies, it still failed in augmenting production considerably for export, due to severely distorting policies, which hindered market forces. More attractive substitutes, such as wheat production, smuggling or operating in the black market, reduced cattle stocks for *frigoríficos* in both Argentina and Uruguay. Government controls and severe intervention rather than encouraging production, fostered destocking and illegitimate trade. Meat exports, which had experienced a significant decline after the Great Depression, because of trade restrictions and quotas, decreased further in the mid-1950s due to the government's mismanagement of the meat sector.

The import substitution industrialisation policies, which started to be voiced in the 1930s and were implemented in the 1940s, represented a clear overreaction to the market access restrictions. Indeed, Argentina and Uruguay responded to changing international trade regimes by shifting the emphasis of traditional exports, including meat, to a strategy that emphasised development within their respective countries. The policy change neglected exports, while it 'over-extracted' surplus from the export sector. This overreaction is traceable to the fear of renewed export restrictions after the end of World War II and the lack of industrial goods availability during the war. However, the severe I.S.I. policy was taken to an extreme and had a large negative effect on the meat packing industry in the long-term. Investment in the industry declined substantially, thereby neglecting improvements needed in outdated plant and machinery. Indeed, by maximising the surplus derived from traditional exports, governments failed to let meat packers and cattle producers obtain enough returns in order to ensure significant

investment in the export sector. So much surplus was extracted from livestock and meat production, that it became unremunerative to produce in the legitimately meat sector, while state intervention reduced profitability and increased inefficiency. As a result the River Plate global meat market share decreased further, reaching its lowest level since the late nineteenth century, as can be seen in chart 5.7.

**Chart 5.7: River Plate Meat Export Market Share (Volume - %)**  
Bovine and Ovine Meat - Average Periods (1900-1952)



For sources see Appendixes 1, 2, 4 and 5. For calculation and estimation methods see Section 2.3.

Most importantly, the policies that stifled the livestock and meat production sectors, including severe taxation, high export duties and varying exchange rate schemes, remained largely in place for over forty decades thereafter, as the program of import substitution industrialisation continued. Despite minor attempts to reduce the 'export extraction' from the livestock sector since the 1950s, it was only in the 1980s that a significant process of openness started to take place.<sup>431</sup>

When considering the 'new thinking' about trade policy, it is evident that I.S.I. was not aimed at increasing international 'rent' for certain strategic sectors as part of an activist trade policy. Rather the goal of the I.S.I. policy was to increase 'rent' and 'external economies' within the confinements of the domestic market for the entire industrial sector. Thus, the severe 'protectionist measures' were not enacted to provide certain domestic firms or industries with a competitive advantage in foreign markets, but to encourage overall import substitution and foster a broad range of industrial firms in the domestic market. As such the 'strategic trade policy' consisted in maximising the extraction of 'surplus' from the export sector to finance the growth of domestic industry, with the ultimate aim of becoming self-sufficient in industrial goods.

Until the mid-1940s, Argentina and Uruguay had benefited from trade with major international partners in a broadly 'outward looking' and 'cooperative' approach. However, following the implementation of I.S.I., trade played a diminishing role in an increasingly 'inward looking' and 'non-cooperative' policy formulation. Although the U.K., the U.S.A. and Continental European countries placed restrictions on River Plate meat imports starting in the 1920s, Argentina and Uruguay still had a sizeable meat export business in the 1930s, which grew significantly during the Second World War. Cooperation continued in the 1930-40s, in particular with the key U.K. market, although the 'rent' potential for Argentina and Uruguay had been reduced in the 1930s due to the Ottawa Conference quotas. The implementation of the extreme I.S.I. policy in the mid-1940s led to a 'non-cooperative' stand, while Argentina and Uruguay were increasingly faced with a 'prisoner's dilemma'. Whereas the I.S.I. measures can be attributed to an

---

<sup>431</sup> Bolsa de Comercio de Buenos Aires, "La Politica Arancelaria y el Comercio Exterior", Comercio Exterior, Ciclo de Conferencias, Buenos Aires, 1990.

over-reaction to the threat of renewed protectionism after the war and the lack of availability of industrial goods during the war, as has been analysed, the severe policy nevertheless resulted in a trade relations gridlock. Following the post-Second World War reconstruction, the gridlock became increasingly evident. Despite moderate efforts to find a solution to this overall 'prisoner's dilemma', it remained broadly in place, in parallel with the continued 'inward looking' I.S.I. policies, albeit with periods of limited trade liberalisation and some cooperation.

### **5.5 Renewed Trade Barriers: Restrictions, Quotas and Subsidies in Major World Markets (1955-90)**

In 1955-90, market access restrictions for River Plate meat increased in key international markets. Indeed, the U.S.A. maintained its ban on chilled and frozen meat from the River Plate, while even extending it temporarily to cooked beef, citing concerns regarding the spread of Foot and Mouth Disease. This had severe implications, given that the U.S. market had grown significantly and by the late 1950s had become an important importer of meat. Additionally, it also affected River Plate exports to other countries, as many followed the U.S. ban and adopted similar restrictions. The British market, which had been the major international buyer of River Plate meat, declined in importance. In parallel, the formation of the European Economic Community and subsequent creation of the Common Agricultural Policy, limited market access for River Plate meat, while also competing with subsidised meat exports in other international markets. The combination of these factors placed a notable strain on the River Plate meat packing industry.

### **5.5.1 The U.S. Foot and Mouth Disease Embargo and Strict Sanitary Constraints**

Foot and Mouth Disease or *aftosa*, as it is known in Spanish, is a contagious viral illness that affects cattle and other animals. Importantly, the Foot and Mouth Disease (F.M.D.) virus survives in the marrow of the bones, in the glands and in the blood of the large blood vessels of dead animals. Contrarily, the virus does not survive in the muscles, because they undergo acidification in the maturing process after slaughtering, which eliminates it. Additionally, the virus dies, when meat is cooked at temperatures above 80°C. Hence, only if the glands, bone marrow or large blood vessels are exported chilled from a region where F.M.D. exists to an area which is free of the disease, is there is a risk of spreading the virus. This is why many countries have strict sanitary regulations, when importing meat from F.M.D. infected countries. Until the early 1990s there were certain regions in the River Plate where F.M.D. existed.

Overall, there are two main import regimes that countries that have F.M.D. have been obliged to follow, namely the "zero risk" model and the "minimum risk" regime.<sup>330</sup> Specifically, the "zero risk" model requires that countries exporting from a Foot and Mouth Disease infected area, must cook meats to kill the virus before they are exported. The "minimum risk" model admits meats from Foot and Mouth Disease countries, as long as meat remains at temperatures just over freezing point 72 hours prior to deboning. This enables meat to undergo a self-acidification process prior to shipping the deboned meat. However, the "zero risk" model is really a misnomer, given that there is always a risk that the virus might enter a country in another manner than through the

---

<sup>330</sup> The 'minimum risk' and 'zero risk' hypothesis was formulated and put forward by Alberto de las Carreras in numerous publications and conference presentations. A. de las Carreras most comprehensive book regarding FMD is La Aftosa en la Argentina, Un Desafío Competitivo (Editorial Hemisferio Sur, Buenos Aires, 1993).

imported meat itself. Hence, the "zero risk" model can only hold true for actual meat imports, as the virus can come into a country by other means, such as for example the traffic of other imported goods, people and migrant birds.<sup>331</sup> Thus "zero risk" as such is not attainable, which suggests that this strict regime has been used mainly as a non-tariff barrier.

Trade restrictions due to Foot and Mouth Disease date back to 1900, when imports of live cattle from the River Plate were prohibited in the United Kingdom.<sup>332</sup> This, however, did not pose a major threat to the export of meat. On the contrary, it led to a faster development of meat packing plants in the River Plate area, which in turn increased productivity, augmented value added production and cut costs. In the late 1920s, the U.S.A. introduced new sanitary restrictions, which prohibited the import of River Plate meat to the U.S.A. However, as in the 1920s the major market for meat was the U.K., which absorbed almost all the world's meat exports, the U.S. embargo did not affect River Plate meat exports substantially at the time. Nevertheless, after the Second World War the purchasing power of the U.S. population increased considerably and with it meat consumption expanded, while by the mid- to late- 1950s the U.S.A. became an important market for meat. This led to a strong increase in U.S. meat imports, as local production did not manage to expand at the same rate as demand.

In the mid 1950s the River Plate cattle stocks began to be partly replenished, after a severe decline in the early 1950s, due to interventionist policies coupled with an extreme drought, as analysed in the previous section. Indeed, in the mid-1950s,

<sup>331</sup> Carreras de las, A., "La Fiebre Aftosa y el Comercio Mundial de Carnes", Organizacion Panamericana de la Salud: Reunion Hemisferica de Animales y Productos de Origen Animal, F. 3, Buenos Aires, October 16, 1978, p. 6.

increasing quantities of cured beef started being exported to the growing U.S. market. Cured meat portions were beef cuts of around a pound of weight to which 4% salt was added and they were ripened for three days at 4°C.<sup>333</sup> By 1958 cured beef exports began to represent an important business for the River Plate meat packing industry. However, in 1959 the U.S.A. banned cured beef imports from the River Plate, citing concerns of a potential F.M.D. contamination risk. As explained by E. Louise Peffer:

"The U.S. Department of Agriculture undertook a study of the survival of the F.M.D. virus in cured meat ... Tests demonstrated that infective F.M.D. virus survived in the lymph nodes of salt-cured meat for at least 50 days when the meat was prepared in a manner similar to that used for the imported cured meat ... Argentine scientists were invited to Plum Island to see the experiments and the methods by which they were conducted. The report of technicians upon their return was that the experiments had not been made in accordance with practices followed by Argentina and hence did not represent Argentine conditions."<sup>334</sup>

Although River Plate cured beef was banned in the U.S.A., corned beef and canned meat exports were still allowed. However, the value of corned beef and canned meat was much lower and the market for these products was small. The River Plate meat packing industry and the governments of Argentina and Uruguay were very concerned about the F.M.D. embargo, given that cured beef exports had been a significant business.<sup>335</sup> The Argentinian authorities claimed that the U.S. government was placing non-tariff barriers on River Plate meat exports. Importantly, they argued that cooked meats could be imported into the U.S.A. without risk, in addition to fresh and cured meat from vaccinated animals and ovine meat from Tierra del Fuego.<sup>336</sup>

<sup>332</sup> Liceaga, J., Las Carnes en la Economía Argentina (Editorial Raigal, Buenos Aires, 1952), p. 22.

<sup>333</sup> Peffer, E. L., "Foot-and- Mouth Disease in United States Policy", Food Research Institute Studies, Vol. III, No. 2, Stanford, May 1962, p. 168.

<sup>334</sup> Plum Island was a U.S. laboratory that studied foreign animal diseases. *Ibid*, pp. 169-170.

<sup>335</sup> The Review of the River Plate, Buenos Aires, No. 3364, June 9, 1959, p. 18.

<sup>336</sup> Alemann, R.T., Recordando a Kennedy (Editorial Sudamericana, Buenos Aires, 1996), p. 44.

It was not until a meeting between the Argentinian Economic Minister, Dr. Roberto T. Alemann and the President of the U.S.A., John F. Kennedy took place in May 1961, that the dispute over cooked meat imports started to be resolved. The meeting had a profound effect on U.S. - Argentinian relations and led to an agreement regarding the partial lifting of the U.S. meat ban, as reported in the Review of the River Plate:

"What appears to be a new development is indicated in the press reports of the Minister of Economy's meeting with Mr. Kennedy where it is mentioned that the President had listened sympathetically to a statement of the Argentine case for the lifting of the U.S. ban on imports of salted beef from this country. The ban, it will be recalled, was imposed two years ago on the grounds that the product might be a source of foot-and-mouth infection; its effect was to cut Argentina off from a market which was said to be building up to a total of some 60m. Dollars per year. It should not be difficult to devise and enforce a set of regulations that would give the U.S. sanitary authorities the assurance they are entitled to regarding the condition of the salted beef shipped from this end, and so prepare the way for a resumption of the trade."<sup>337</sup>

Indeed, Dr. Alemann had requested that a commission study the risk of F.M.D. and that any trade restrictions be based on scientific evidence. The goal was to remove the issue from the political sphere and obtain an objective analysis. Dr. Roberto T. Alemann gave the following account of his successful meeting with John F. Kennedy:

"(The President) aware of my request, invited me to create a special commission, led by a scientist to study the problem of the transmission of F.M.D. in cooked meats, which we disputed, and they included in their 'zero risk' sanitary policy for meat imports from countries with F.M.D.. Kennedy indicated to Goodwin (the President's assistant) in our presence that he should form a commission with representatives of the White House, the State Department and the U.S. Departments of Agriculture and Commerce to find a scientific solution to the dispute. Impossible to imagine a more expeditious procedure to guide a solution that came to an end after arduous negotiations and scientific investigations. Its consequence was that Argentinian *frigoríficos* were able to place cooked meats without a second cooking in the United States, which would have removed all selling possibilities. Since 1963 (to 1996) more than one thousand seven hundred million dollars of cooked meats have been exported to the United States, at the same time Brazil and Uruguay have joined the business with equal conditions and won over other markets."<sup>338</sup>

The matter was passed on to a joint scientific committee, which discovered that the F.M.D. virus dies when meat is cooked. Indeed, through scientific investigation a

<sup>337</sup> The Review of the River Plate, Buenos Aires, No. 3424, May 31, 1961, p. 7.

solution was found that enabled River Plate cooked meats to be exported to the U.S.A. In October 1962, the U.S. Department of Agriculture officially approved cooked meat imports from F.M.D. affected regions. This ruling has remained in place since then and has enabled countries with F.M.D. to export cooked meats to the U.S. market. After the ruling, Argentina and to a lesser extent Uruguay, produced and exported large quantities of cooked meats to the U.S.A. Nevertheless, chilled meat, which has superior taste and texture than cooked meat was still not permitted into the U.S.A. from countries with F.M.D. Numerous other countries followed the U.S. "zero risk" policy, in particular Canada and Japan, and only widened their imports from F.M.D. countries to cooked meats.

Hence the River Plate had a major competitive disadvantage when accessing the large and growing North American market. In contrast, Australia and New Zealand benefited strongly from the increasing demand in the U.S.A., given that they were F.M.D. free. In the United Kingdom, which was the major market for River Plate meat exports, demand started to decline. Consequently, in the 1950s-60s, Australia and New Zealand increased their meat exports considerably, due to their access to the growing U.S. market, while exports of Argentina and Uruguay declined, given that import demand in the U.K. decreased. In addition to having access to the U.S.A. market with chilled and frozen meat, Australia and New Zealand also exported to the European Community, especially the U.K., which was in the F.M.D. area. As a result, they were also able to benefit from the declining, yet important British market, on top of the growing U.S. business.

---

<sup>338</sup> Alemann, R.T., Recordando a Kennedy (Editorial Sudamericana, Buenos Aires, 1996), pp. 45-46. Translated from Spanish.

The trade barriers imposed by the U.S.A. had devastating consequences for River Plate meat. Although following stringent negotiations cooked meat exports to the U.S.A. were allowed once again, starting in the early 1960s, high value chilled and frozen meat exports were still banned. As the American market was growing, the restrictions in the U.S.A. constrained Argentinian and Uruguayan meat exports significantly throughout 1960s-80s. Another important factor that limited the growth of the River Plate meat packing industry was the formation of the European Economic Community and the establishment of the Common Agricultural Policy.

### **5.5.2 European Economic Community Production, Export Subsidies and Import Quotas**

In 1957 the formation of the European Economic Community (E.C.C.) and the subsequent creation of the Common Agricultural Policy (C.A.P.), had a very negative impact on River Plate meat exports.<sup>339</sup> Through the C.A.P. farmers obtained ever increasing production subsidies for the majority of the agricultural goods and livestock production. In the early 1960s, the Argentinian and Uruguayan governments were concerned that River Plate meat exports to the E.E.C. would decline, due to increased production in the countries of the E.E.C. Already in 1962, a significant decline was predicted, given that production would be stimulated in the E.E.C. by the establishment of meat prices that would be 'well above world prices'.<sup>340</sup> However, during the 1960s, E.C.C. countries experienced strong economic growth, which in turn led to an expansion of food imports and especially meat, as living standards increased and demand for meat augmented. By the end of the 1960s the then six members, imported

<sup>339</sup> Muñoz Duran, R., "Aspectos Basicos de la Industria de Carnes de Uruguay", Banco Central del Uruguay, Asesoria Economica y Estudios, Montevideo, 1974., pp. 84-91.

<sup>340</sup> The Review of the River Plate, Buenos Aires, No. 3480, December 21, 1961, pp. 445-446.

roughly as much meat as the U.S.A. This short period of strong European demand for meat imports benefited the River Plate. However, by the end of the 1960s the E.E.C. became a meat exporter, thanks to high agricultural protectionism and subsidies.<sup>341</sup>

In 1967, the U.K. prohibited meat imports, after a F.M.D. outbreak. This had serious repercussions for the River Plate, as the U.K. still represented an important, albeit declining, market for meat exports. In 1968 Britain allowed meat imports again, but imposed stricter hygiene controls and regulations. The regulations were broadly as follows: (i) only boneless chilled bovine meat would be allowed to be imported from F.M.D. infected countries, with the exception of giblets which had to be cooked, (ii) imports of ovine meat from countries with endemic F.M.D. were prohibited and (iii) nations with sporadic outbreaks of F.M.D. could continue to import meat in accordance with previous conditions.<sup>342</sup> These hygienic regulations ensured safe imports of meat from F.M.D. areas, based on sound scientific findings. In 1977, the E.E.C. adopted similar sanitary and hygiene regulations for meat imports. Thus the British / E.E.C. sanitary regulations corresponded to the "minimum risk" model. For perspective, since 1968 the United Kingdom has been buying meat from F.M.D. infected countries, under the "minimum risk" regime. From 1968 to 1992 more than half a million tons of South American beef have been imported by Britain and since 1968 Foot and Mouth Disease has not been imported into the U.K.<sup>343</sup>

The E.E.C. policy became increasingly protectionist and in 1964 started regulating meat imports, while after the energy crisis in 1972 meat imports were restricted even further

<sup>341</sup> Carreras de las, A., "Past, Present and Future of the International Meat Trade", American Meat Science Association, Reciprocal Meat Conference Proceedings, Volume 42, 1989, p. 120.

and the E.E.C. began exporting subsidised meat.<sup>344</sup> Hence, starting in the early 1970s the E.E.C. was not only subsidising livestock and agricultural production, but also exporting subsidised meats. Additionally, strict import quotas were placed on meat from outside the E.E.C. In 1972 the E.E.C. was enlarged to nine members, also incorporating the important British market as well as Denmark and Ireland. Most importantly, subsidised meat exports grew to such levels that the E.E.C. became the largest meat exporter in the world in the 1970s and this leadership was expanded further in the 1980s-90s. The E.E.C. / E.U. global meat market share increased from a high 33.1% in 1968-72 to an even higher 46.3% in 1988-92, as shown in chart 5.8 on the next page.

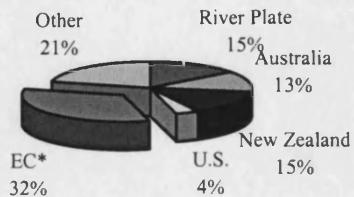
<sup>342</sup> Idem, p. 22.

<sup>343</sup> Carreras de las, A., "International Trade Update", AMI Convention, Orlando, 9 October, 1992, p. 2.

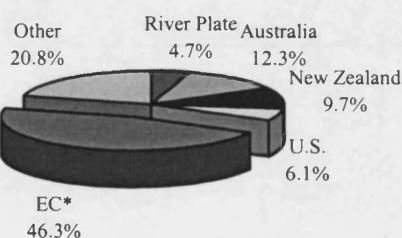
<sup>344</sup> Carreras de las, A., El Comercio de Ganados y Carnes en Argentina (Editorial Hemisferio Sur, Buenos Aires, 1986), p. 114.

**Chart 5.8: Meat Global Export Volume Market Share - By Country / Region (%)**  
 Beef and Sheepmeat - Average Yearly Periods 1968-72 and 1988-92

1968-72



1988-92



Sources: See Appendix 12 as well as Section 2.3 for calculation and estimation methods.

However, exports from the E.E.C. / E.U. meat were only possible thanks to subsidies.<sup>345</sup>

This is why when the supply of Latin American meat increased in countries which were traditional buyers of E.U. meat, such as the North African and the Middle Eastern nations, subsidies were augmented to ensure that the E.U. production could be placed at lower prices, which in turn distorted the world market.<sup>346</sup> These 'subsidy driven' price distortions occurred especially in the late 1980s and early 1990s. As a result of the

<sup>345</sup> Calloia, F., "La Industria de la Carne", Grupo Interdisciplinario de Economía de la Energía (Instituto de Economía, Universidad de la República, Montevideo, March 1993), p. 28.

<sup>346</sup> Ibid.

strong subsidies, the cost of the C.A.P. continued to rise throughout the 1970s-80s and even in the early 1990s. Specifically, the C.A.P. budgetary expenditure reached over 73 Billion ECU in 1994, as can be seen in table 5.5.

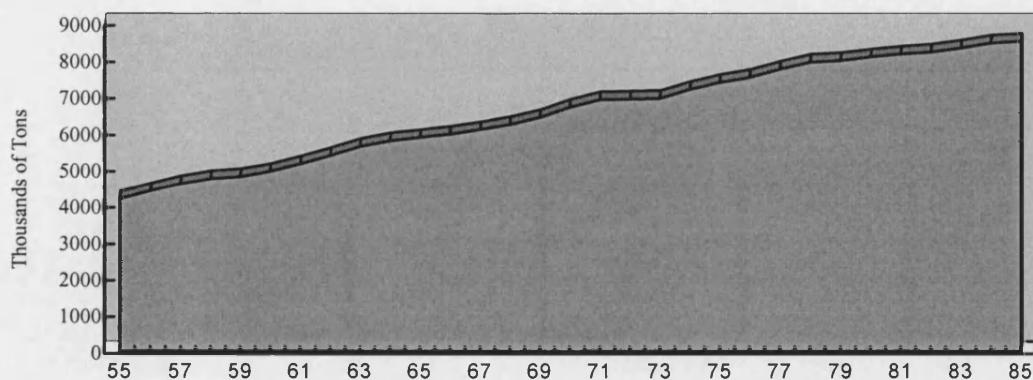
Table 5.5: Budgetary Expenditure on the E.U. Common Agricultural Policy, 1991-94

Year	1991	1992	1993	1994
E.U. Budget (in ECU Millions)	53,823.1	58,857.0	65,522.6	73,303.0
Net Cost of the C.A.P. per head in the E.U. (in ECU)	92.4	95.2	103.3	106.5

Source: European Commission, "The Agricultural Situation in the Community" (Office for Official Publications of the EC, Brussels, 1994), p. T/88.

Overall, the E.E.C. ovine and bovine meat production augmented significantly since the creation of the C.A.P. Indeed, extremely high farming and export subsidies helped the E.E.C. to achieve phenomenal growth in meat production in the 1950-80s, as can be seen in chart 5.9.

Chart 5.9: E.E.C. (12) Production of Beef and Sheepmeat  
5-Year Moving Averages (1951-1985)



Sources: Please see Appendix 31.

Not only did the E.E.C. / E.U. subsidised production epitomise an unfair competitive advantage for European producers, but in addition it distorted prices in the world market. Moreover and most importantly, export subsidies put strong downward pressure on River Plate meat export prices and volume, given that the E.C. / E.U. was competing with Argentina and Uruguay as well as other countries with F.M.D. in many international markets. Indeed, two price corridors existed, one for meat exports from countries with F.M.D. and one for nations without F.M.D.

### **5.5.3 The General Consequences of the U.S. and E.E.C. / E.U. Trade Restrictions**

The F.M.D. restrictions in the U.S.A. led to the development of two price areas in the 1950s: (i) the F.M.D. block, comprising the U.S., Canada, Australia, New Zealand and Japan, and (ii) the non-F.M.D. block, including South American and European countries. Significant price differences developed between the two blocks, especially in the mid- to late-1960s when prices were 25% higher in the first block than the second.<sup>347</sup> Price differences between the two blocks continued to be high and were significantly in favour of the non-F.M.D. circuit throughout the 1970-90s. Even in 1992 major price differentials still remained in favour of the non-F.M.D. circuit, as shown in table 5.6.

---

<sup>347</sup> Carreras de las, A., *La Aftosa en la Argentina, Un Desafío Competitivo* (Editorial Hemisferio Sur, Buenos Aires, 1993), p. 12.

Table 5.6: Prices of Beef Cuts in the F.M.D. and non-F.M.D. Circuits (US\$ - 1992)

Price Ranges	F.M.D. Circuit			Non-F.M.D. Circuit			Index of Avg. Prices F.M.D.=100
	High	Low	Average	High	Low	Average	
Bovine Deboned Meat (Industrial)	1800	1400	1600	3000	2700	2850	178
Six Cuts of Frozen Backsides	2900	2700	2800	7000	6500	6750	241
Hilton (Chilled) vs. U.S. Chilled*			8600			10000	116

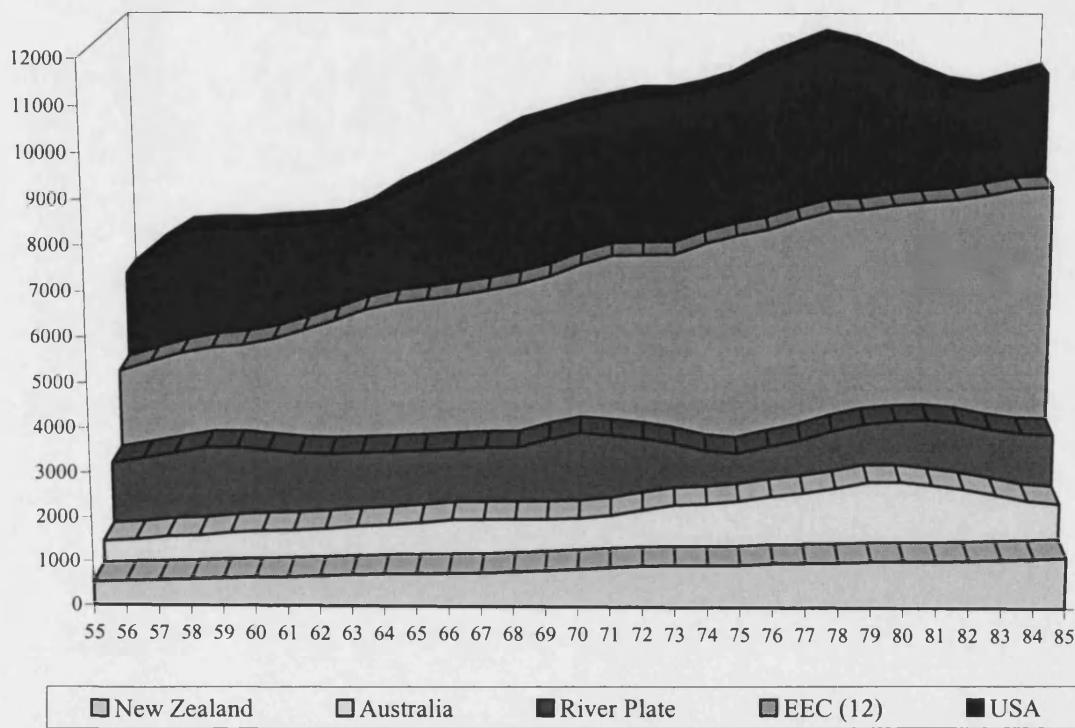
Source: Muñoz Duran, R., "Mercado Aftosico Versus Mercado No Aftosico", Seminar Proceedings, COSALFA International Seminar, Montevideo, March 18, 1993. (\*) Hilton cuts do not exist in the non-F.M.D. circuit. Chilled cuts from cattle fed on grain in the U.S.A. are used as a proxy: prices are above US\$ 10.000.

The higher prices for the non-F.M.D. block are traceable to the increase in demand in the U.S., Canadian and lately the Japanese markets, as the supply of chilled meat remained limited to countries without F.M.D., primarily Australia and New Zealand. In contrast, the F.M.D. circuit lower prices can be attributed to the increase in production and subsidised exports from the E.E.C. / E.U. to other key markets, which forced prices lower.

From the 1950s to the 1980s the E.E.C., U.S.A., Australia and New Zealand increased meat production substantially, while River Plate production remained flat, as can be seen in chart 5.10. Whereas the increase in the E.E.C. reflects the significant rise in production and export subsidies, the augmentation in Australia, New Zealand and the U.S.A. is traceable to their protective non-F.M.D. zone, which maintained higher prices.

Chart 5.10: Meat Production in the EEC, USA, Australia, N.Z. and the River Plate

Beef and Sheepmeat in Thousands of Tons - 5 Year Moving Averages (1951-1985)



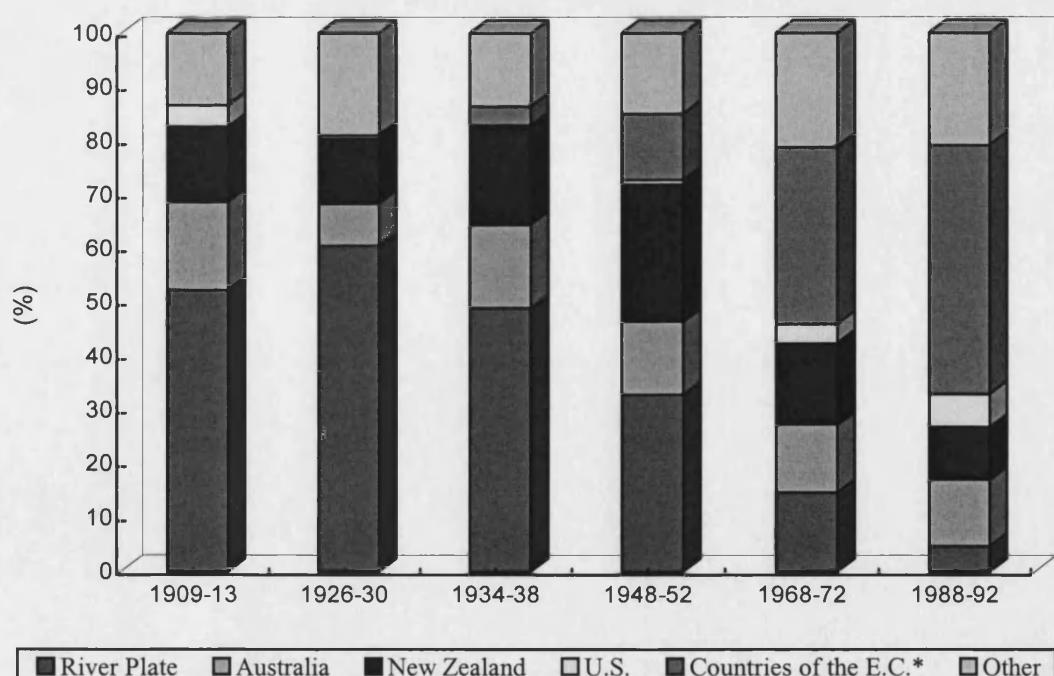
Sources: Please see Appendix 31.

In addition to artificial price corridors generated by very high E.E.C. / E.U. subsidies and F.M.D. sanitary restrictions in U.S.A., Argentinian and Uruguayan meat exports were also strongly hindered by other non-tariff barriers. Although, non-tariff barriers for meat exports include voluntary restrictions, subsidies and anti-dumping policies, as well as sanitary regulations, quotas were the main constraint for the River Plate meat industry, as they restricted the import quantities into key markets. In the early 1990s there were three quotas for meat exports to the E.U., namely the G.A.T.T., Hilton and the manufacturing quota. Specifically, the G.A.T.T. quota covered 53.000 tons of frozen ovine meat only, while it only had an import duty of 20% and was exonerated of internal taxes.<sup>348</sup> However, signatory countries competed for this quota. The Hilton quota consisted of different quantities for the U.S.A., Argentina, Australia, Brazil, Canada,

New Zealand and Uruguay, while Argentina had a total of 28.000 tons.<sup>349</sup> The Hilton quota was the most important, as it was composed primarily of quality meats cuts of high value. Furthermore, the manufacturing quotas covered exports for industrial use and quantities varied from year to year. However, some countries were compensated with an additional Hilton quota if they did not utilise the manufacturing quota.

The effect of the increase in tariff and non-tariff barriers, combined with strict sanitary restrictions had a strong impact on River Plate meat exports. This combined with higher production in Australasia, the E.E.C. / E.U. and the U.S.A. pushed the global meat export market share of the River Plate down sharply, as can be seen in chart 5.11. In contrast, the E.E.C. / E.U. increased their export market share at the expense of the River Plate.

Chart 5.11: Meat Global Export Volume Market Share - By Country / Region (%)  
Beef and Sheepmeat - Average Yearly Periods Between 1909-1992



Sources: See Appendix 12 as well as Section 2.3 for calculation and estimation methods.

<sup>348</sup> Baumeule, L., "El Proteccionismo Agrícola y el GATT: Incidencias en el Comercio Exterior de Carnes Argentinas" (Thesis, Universidad de San Andrés, Buenos Aires, 1994), p. 11.

<sup>349</sup> Ibid, pp. 11-12.

Overall, regarding the ‘new thinking’ about trade policy, the renewed trade restrictions imposed by the U.S.A. and E.E.C. / E.U. for River Plate meat exports in the 1955-90, can be partially explained by a general ‘prisoner’s dilemma’, which remained broadly in place after the 1950s, despite periods of moderate liberalisation and some cooperation. Indeed, Argentina and Uruguay continued their I.S.I. policies, thereby restricting imports, especially industrial goods from their key trading partners. Although the E.E.C. and the U.S.A. both had strong farming lobbies, and the E.E.C. wanted to be increasingly self-sufficient in agricultural and livestock products, the fact that Argentina and Uruguay hindered industrial product imports did not help to support the easing of restrictions for River Plate meat exports to the E.E.C. and U.S.A. Indeed, the River Plate and the countries of the E.E.C. as well as the U.S.A. were reluctant to cooperate to open their respective markets and thus increase trade among themselves. This resulted in a general ‘inward looking’ and ‘non-cooperative’ stand, and represented a continuation of an overall gridlock that had started in the aftermath of the Second World War. This broad ‘prisoner’s dilemma’ remained in place until the 1990s, when increased ‘cooperation’ and negotiations, as part of the G.A.T.T. Uruguay Round, led to a renewed openness in trade relations.

## **5.6 Renewed Growth and Export Expansion in the 1990s**

Since the early 1990s a clear shift has occurred in international trade regimes towards greater openness and a reduction in market access restrictions. This has marked the beginning of a new era, with declining trade barriers for River Plate meat and significant export growth. Indeed, River Plate meat exports rose strongly in the early to mid-1990s, particularly in Uruguay, and were expected to continue on this growing trend. There are

three main factors that have driven the export expansion. Firstly and most importantly, the results of the G.A.T.T. Uruguay Round and the subsequent formation of the W.T.O. as well as the Agreement on Sanitary and Phytosanitary Measures. Secondly, the eradication of Foot-and-Mouth Disease in Uruguay and more recently in Argentina. Thirdly, the formation of Mercosur, which facilitates meat exports to regional markets without trade restrictions. The combination of these elements has been instrumental in generating strong export growth and in giving a new impetus to the River Plate meat packing industry.

#### **5.6.1 The G.A.T.T. Uruguay Round , the S.P.S. and the Establishment of the W.T.O.: Crucial World Trade Changes to Relaunch the River Plate Meat Packing Industry**

The G.A.T.T. Uruguay Round has led to a renewed openness in international trade, albeit with gradual and modest concessions.<sup>350</sup> Following prolonged negotiations during the G.A.T.T. Uruguay Round from 1986 to 1993, a number of specific agreements were reached to liberalise international trade. This was considered by many as the last attempt to try to reach widespread multilateral accords to reduce trade restrictions, as well as to revive the ailing and increasingly impotent G.A.T.T. In addition, the aim was to ensure that the agreements reached would be honoured. Thus the Uruguay Round also called for a new organisation to succeed the G.A.T.T., which would have more powers to enforce trade agreements and settle international disputes. The G.A.T.T. Uruguay Round had a large geographical spread. It included a much greater number of countries with a significantly higher representation from developing nations than previous G.A.T.T. rounds.

---

<sup>350</sup> For a comprehensive history of the GATT rounds and a in-depth examination of the Uruguay Round and its impact on River Plate exports see Carrier, E., La Rueda Uruguay del GATT (Bolsa de Comercio de Buenos Aires, Buenos Aires, 1994), pp. 15-39.

In regards to the liberalisation of the international meat trade, the Uruguay Round negotiations resulted in several multilateral agreements to reduce trade barriers, which industrialised countries must implement over a six year period ending in the years 2000/2001 and developing countries over ten years.<sup>351</sup> To start with, countries that participated in the Uruguay Round will have to change non-tariff barriers into tariff measures - mainly import duties.<sup>352</sup> Thus quantity quotas and other forms of non-tariff barriers, such as minimum import prices and discriminatory import licensing will be eliminated, among member states.<sup>353</sup> However, tariff quotas are permitted, by which a limited quantity of meat imported by a particular country has lower duties. As part of the Uruguay Round agreements, the tariff barriers on agricultural products were agreed to be reduced by an average of 36% for developed countries and 24% for developing countries.<sup>354</sup> Although meat exports over the tariff quota are allowed, the import duties outside of the tariff quota remain stubbornly high. Nevertheless, signatory countries are committed to increasing tariff quotas and to reducing import duties over time. In markets, such as the U.S.A., where the 'out of tariff quota' duties are not prohibitively high, River Plate meat exports over the tariff quota are already taking place - mainly from Uruguay.

Moreover, in the Uruguay Round, countries agreed to reduce meat export subsidies.<sup>355</sup> The E.U., by far the largest exporter of subsidised beef, has committed itself to restructuring the Common Agricultural Policy (C.A.P.), which should also lead to a

<sup>351</sup> Muñoz Duran, R., Resultados en el Sector Carne Bovina de la Ronda Uruguay del GATT (Comision Sectorial para el Mercosur, Montevideo, April 1995), p.7.

<sup>352</sup> World Trade Organization, "Summary of the Results of the Uruguay Round in the Meat Sector", WTO, Geneva, February 1995, pp. 6-10. Also see GATT Multilateral Trade Negotiations: The Uruguay Round, "Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh" (GATT, Geneva, 1994), p.46.

<sup>353</sup> *Ibid.*

<sup>354</sup> "Uruguay Round of Multilateral Trade Negotiations", G.A.T.T. Newsletter (NUR 080, Geneva, 14 Dec. 1993), p. 8.

drop in producer subsidies and intervention stock levels. Whereas the C.A.P. reforms have already led to a decline in E.U. subsidised exports and intervention stocks, efforts have been hindered lately by the B.S.E. crisis.<sup>356</sup>

Another important outcome of the G.A.T.T. Uruguay Round is the Agreement on Sanitary and Phytosanitary Measures (S.P.S.), which is aimed at avoiding the use of unjustified sanitary restrictions for protectionist purposes. The S.P.S. provides a multilateral forum that can be called upon to settle arbitrary sanitary measures, especially those that lack a strong scientific basis.<sup>357</sup>

"Because sanitary and phytosanitary measures can easily restrict trade, G.A.T.T. member governments have long been concerned about the need for clearer rules regarding their use. As the results of the Uruguay Round will reduce the incidence of other barriers to trade, governments have become more concerned that sanitary and phytosanitary measures might increasingly be used for protectionist purposes. The S.P.S. Agreement closes this potential loophole. It sets out clearer and more detailed rights and obligations for food safety and animal and plant health measures which affect trade. Countries will be permitted to impose only those requirements which are needed to protect health and which are based on scientific principles ... The S.P.S. Agreement allows countries to give food safety, animal and plant health priority over trade, provided there is a demonstrable scientific basis for their food safety and health requirement."<sup>358</sup>

The S.P.S. Agreement also accepts the concept of regionalisation when considering areas with diseases. Specifically, before the G.A.T.T. Uruguay Round, the political geographical borders of a country were used to determine whether that nation could export meat and under which conditions, regardless of the size - geographical extension - of the country. In many cases, a large region of a nation, which could easily fit into one or several smaller countries, was free of diseases, but meat exports from these areas

<sup>355</sup> Ibid, p.10. Also see World Trade Organization, "Summary of the Results of the Uruguay Round in the Meat Sector", WTO, Geneva, February 1995, p.11.

<sup>356</sup> For an analysis of the impact of the BSE crisis on the River Plate meat packing industry see section 5.X.

<sup>357</sup> Mision Permanente de la Republica Argentina, "La Argentina y La Ronda Uruguay", Geneva, April 1994, p.4.

<sup>358</sup> GATT, "Understanding the World Trade Organisation Agreement on Sanitary and Phytosanitary Measures", GATT Secretariat, Geneva, XI-1994), pp. 5 and 10. For an analysis of the SPS Agreement also see Carreras de las, Sanitary Barriers in International Trade of Animal Products (International Meat Secretariat, Paris, 1995, pp. 2-4).

were restricted because of an outbreak of a disease in another, often remote region within the same country. Under the new regulations, certain regions that are disease-free may export meat under the same sanitary conditions of disease-free nations, even if in another area of the same country the disease is still present. The S.P.S. Agreement has strong implications for countries with diseases such as F.M.D. Indeed, it enables them to challenge trade restrictions based on scientific evidence as well as export from certain regions within their country that are F.M.D. free.

"The implementation of the 'disease free zone' concept of the S.P.S. Agreement are likely, over time, to reduce the existing price differential between international prices in the F.M.D.-free (Pacific) region and those in the F.M.D.-affected (Atlantic) zone."<sup>359</sup>

Furthermore, as part of the G.A.T.T. Uruguay Round, member countries agreed to set-up a World Trade Organization (W.T.O.) starting operations in 1995. The aim was to establish an organisation with more powers that would be able to enforce the rules of the former G.A.T.T., in addition to the agreements reached in the Uruguay Round, including the S.P.S. For this purpose, the W.T.O. has much stronger 'trade dispute resolution procedures' than the G.A.T.T., while it is able to act as a type of impartial international court to solve disagreements and force member countries to comply with the W.T.O. rules and agreements reached.

"In case of a trade dispute, the W.T.O.'s dispute settlement procedures will encourage the governments involved to find a mutually acceptable bilateral solution. If the governments cannot solve their dispute, they can choose to follow any of several means of dispute settlement, including good offices, conciliation, mediation and arbitration. Alternatively, a government can request that an impartial panel of trade experts be established to hear all sides of the dispute and to make recommendations ... If the panel concludes that a country is violating its obligations under an agreement attached to the W.T.O. Agreement, normally it will recommend that the country take such action as necessary to bring its measure into conformity with its obligations ..." <sup>360</sup>

<sup>359</sup> World Trade Organization, "The International Markets for Meat 1995-96", WTO, Geneva, November 1996, p.26.

<sup>360</sup> GATT, "Understanding the World Trade Organisation Agreement on Sanitary and Phytosanitary Measures", GATT Secretariat, Geneva, XI-1994), p. 11.

The agreements reached during the G.A.T.T. Uruguay Round negotiations, including the S.P.S. and the establishment of the W.T.O., have already expanded market access and are bound to continue reducing trade barriers, albeit gradually.

### **5.6.2 The Importance of the F.M.D.-Free Status and the Contribution of Mercosur to the Expansion of River Plate Meat Exports**

Another key driving force that is contributing to the renewed export expansion, is the eradication of Foot and Mouth Disease (F.M.D.) from Uruguay and Argentina. A concerted effort started in 1987 to eliminate F.M.D. from Argentina and Uruguay, whose cornerstone was a widespread vaccination programme. Uruguay managed to eradicate F.M.D. in 1991.

“In Uruguay, F.M.D. was eliminated in 1991, but vaccination against the disease continued until June 1994. Since June 1995, following one year without an outbreak after vaccination ceased, Uruguay has been recognised as free of F.M.D.”<sup>361</sup>

In Argentina progress was also made, but F.M.D. was only eradicated nationally in 1994, although the Patagonia region had been F.M.D. free. Indeed, the last occurrence of F.M.D. in Argentina was in April 1994.<sup>362</sup> The elimination of the disease enables exports to the non-F.M.D. circuit.

The U.S.A. established a new import quota of 20,000 tons of fresh meat each for Argentina and Uruguay. Shipments of meat from Uruguay to the U.S. market started in November 1995.<sup>363</sup> Argentina is expected to commence meat exports to the U.S.A. in August 1997.<sup>364</sup> Although proportionately a 20,000 tons tariff quota is much more

<sup>361</sup> International Meat Secretariat, Newsletter No. 129, Paris, 29 September 1995, p. 3.

<sup>362</sup> The Economist Intelligence Unit, Argentina Country Report, 2nd Quarter 1995, p. 20.

<sup>363</sup> World Trade Organization, “The International Markets for Meat 1995-96”, WTO, Geneva, November 1996, p.26.

<sup>364</sup> La Nacion, 12 July 1997, section 2, p. 7.

significant for Uruguay, given its smaller size, than for Argentina, the mere authorisation to export to the U.S.A. provides two crucial export building possibilities. Firstly, it enables Argentina and Uruguay to export meat to the U.S.A. over the tariff quota. The out-of-quota tariff for beef imports to the U.S.A. is a relatively low 31.1% and will be gradually reduced to 26.4% by the year 2000/2001, in accordance with the U.S. commitments during the G.A.T.T. Uruguay Round negotiations.<sup>365</sup> Secondly, the U.S. meat import clearance for Argentina and Uruguay can also be used as a powerful negotiation tool with other important import markets in the F.M.D.-free circuit. Indeed, given that the U.S. sanitary regulations are among the most stringent in the world, other countries in the non-F.M.D. circuit will find it extremely difficult to justify import restrictions based on F.M.D. criteria, especially in light of the W.T.O. regulations. Negotiations are already taking place for meat exports to Japan, principally from Argentina. Moreover, Uruguay is in talks with Canada about a potential fresh meat import quota of 4,000 tons, which could even reach 10,000 tons in the medium term.<sup>366</sup> Other markets which are expected to start importing River Plate chilled and frozen meat include Mexico and South Korea. Thus well beyond the 20,000 tons tariff quota each for Argentina and Uruguay, the mere opening of the U.S. market represents a excellent growth opportunity for River Plate meat exports.

One of the limiting factors that could have a 'negative value effect' on River Plate meat exports to countries in the non-F.M.D. circuit is consumer taste differentiation. Specifically, the U.S. and Japanese consumers are accustomed to eating beef that comes from cattle fattened in feedlots and fed mainly on grains. U.S. beef is obtained primarily

<sup>365</sup> World Trade Organization, "Summary of the Results of the Uruguay Round in the Meat Sector", WTO, Geneva, February 1995, p. 25.

from animals fattened in feedlots. It has a greater grease content, as well as a different taste and texture - often referred to as 'marbleised' meat (*carne marmolada*) - than River Plate meat obtained from grass fed cattle. Japanese consumers also prefer the U.S. type beef and this facilitates meat imports from the U.S.A.<sup>367</sup> Nevertheless, the key question remains whether the meat preference is just a substitutable consumer habit or an unchangeable cultural taste differentiation. At the moment almost all River Plate fresh meat exported to the U.S.A. is not composed of high quality cuts, but mainly trimmings (about 80%). These are often used for the production of hamburgers and manufactured type meats. Thus meat exports to the U.S.A. command lower prices (up to two-thirds lower U.S. Dollar per ton prices) than the 'rump & loin' and other high quality meat cuts, which are exported to the E.U.<sup>368</sup> Australasia, which produces mainly grass fed meat, has been partially able to increase the export of better quality cuts to the U.S.A. and Asia, albeit in small quantities. This indicates that some substitution seems possible.

"... It is not to be excluded that substitution also exists at the high quality end of the market between grain fed cuts from the United States and grass fed cuts from Argentina and Uruguay ... In both countries there might be scope for the development of a feed lot industry, based on market requirements in North America and Japan."<sup>369</sup>

Cattle production in feed lots is starting in Argentina and to a lesser extend in Uruguay, but to date it remains small.<sup>370</sup> In addition to the agreements stemming from the G.A.T.T. Uruguay Round as well as the F.M.D. free status, another important factor that is contributing to export growth is the opening of regional markets. Specifically, the formation of Mercosur has facilitated meat exports from Argentina and Uruguay to

<sup>366</sup> Interview with Roberto Muñoz Duran, Montevideo, 1 April 1997.

<sup>367</sup> Muñoz Duran, R., Cambios en las Corrientes Comerciales de Carne Bovina en el Mercado Internacional para los Años 90" (Banco Central del Uruguay, Departamento de Investigaciones Económicas, Montevideo, April 1990), p.14.

<sup>368</sup> Interview with Dr. Barrios Mariezcurrena, Director, Frigorífico San Jacinto (Nirea), Montevideo, 2 April 1997.

<sup>369</sup> Boonekamp, L., "Implications for the World Beef Trade of the Changing Foot and Mouth Disease Status in Latin America", International Meat Secretariat Newsletter, No. 130, 14 October 1995, pp.2-3

neighbouring countries, primarily Brazil and Chile (the latter became an 'associate' member of Mercosur). In particular, buoyant demand in Brazil, following the implementation of the Real economic plan, has led to a significant rise in meat consumption, which in turn absorbed an increasing quantity of meat imports. However, Brazil is a very volatile market and radical changes in demand have often led to periods of overcapacity in the River Plate meat packing industry, particularly in times of economic contraction.<sup>371</sup> In any case, growing River Plate meat exports to other international markets are expected to more than offset any potential downturn in demand from Brazil.

### **5.6.3 The Combined Export Expansionary Effect and Positive Prospects**

Overall, the agreements reached as a result of the G.A.T.T. Uruguay Round negotiations, including the S.P.S. and the formation of the W.T.O., in addition to the eradication of F.M.D. and increased regional trade, have created a combined export expansionary effect. This expansionary effect has led to increased meat exports to markets other than the U.S.A., the E.U. and Mercosur, such as Israel. Indeed, exports have grown substantially, especially in Uruguay, as a result of the accumulated benefits of these factors, as can be seen in table 5.7.

<sup>370</sup> Iriarte, Ignacio, "Comercializacion de Ganados y Carnes", Camara Argentina de Consignatarios de Ganado, July 1995, pp. 70-72.

<sup>371</sup> Interview with Dr. Barrios Mariezcurrena, Director, Frigorifico San Jacinto (Nirea), Montevideo, 2 April 1997.

Table 5.7 : Argentinian and Uruguayan Bovine Meat Exports in Tons (1992-1997)

Year	Uruguay	Index 1992=100	Argentina	Index 1992=100
1992	71.321	100	296.407	100
1993	61.913	87	280.455	95
1994	96.124	135	376.187	127
1995	90.824	127	516.580	174
1996	140.031	196	466.379	157
1997*	189.410	266	398.100	134

\*Notes: The 1997 figure for Uruguay is annualised volume data from 01JAN97 to 13JUL97 only and for Argentina is annualised volume data from 01JAN97 to 31MAR97 only.

Data: Uruguayan figures are based on loaded freight weight in tons.

Argentinian figures are based on carcass weight with bone in tons.

Sources: Uruguay - Instituto Nacional de Carnes  
Argentina - Direccion de Mercados Ganaderos

Uruguay has achieved higher export growth than Argentina, primarily due to the earlier eradication of F.M.D. Importantly, Argentina is expected to follow suit and increase exports significantly with the start of fresh meat shipments to the U.S.A. in August 1997.

From a mid-1997 perspective, the prospects for River Plate meat export growth look positive, but the export expansion is expected to be gradual. The Asian markets are considered to be those with the greatest potential, in particular Japan and South Korea, which are expected to be 'opened' for River Plate meat due to the Argentinian and Uruguayan F.M.D. free status.<sup>372</sup> This despite sluggish overall demand in Japan reflecting stagnant economic conditions and a potential downturn in South Korea. In parallel, negotiations to increase the tariff quotas of the U.S.A. and the E.U. are expected to continue. However, the recent opening of the U.S. market and the B.S.E.

<sup>372</sup> Muñoz Duran, R., Resultados en el Sector Carne Bovina de la Ronda Uruguay del GATT (Comision Sectorial para el Mercosur, Montevideo, April 1995), p.17.

crisis affecting the E.U. are hindering further increases in tariff quotas in the short-term.<sup>373</sup> Nevertheless, the clearly growing trend in River Plate meat exports is expected to continue, and the outlook for further market access concessions, especially in the medium- and long- term, is positive.

Argentina and Uruguay might also benefit from a reduction in Australian and New Zealand exports. Indeed, River Plate meat competes mainly with Australasian exports in the non-F.M.D. circuit. Although cattle prices have declined substantially in Australia, this is not attributed yet to increasing River Plate exports, given that to date only Uruguay has exported to the F.M.D. free circuit and the volumes are small. Rather Australia has suffered from drought and an appreciating Australian Dollar, which led to a reduction in exports and cattle stocks.<sup>374</sup> Argentina and Uruguay are expected to be able to export over their quota to the U.S.A., to make up for the shortfall of meat exports from other countries, primarily Australia.<sup>375</sup> Therefore, the River Plate will take over, at least temporarily, some of the Australasian tariff quota allocation in the U.S.A. Thus, if the declining trend in Australasian exports continues, then the outlook for River Plate meat looks even more positive.<sup>376</sup>

“ ... The regionalization principle and on the sanitary and phytosanitary measures will be the catalyst for major changes in the structure of world beef trade in the years to come. The change is unlikely to be rapid, but over the medium term the inclusion in the dynamic Pacific beef market of major low cost beef producers from Latin America is going to change competitive positions. Beef producers in Australia and New Zealand, which produce a similar type of beef than do Latin American producers, will be hurt first ... Depending on the substitution possibilities between high quality grass fed beef from Latin America and grain fed beef from the United States, U.S. beef producers and exporters may also be affected.”<sup>377</sup>

<sup>373</sup> For an analysis of the effect of the BSE crisis on River Plate meat exports to the E.U., see section 5.X (next section).

<sup>374</sup> World Trade Organization, “The International Markets for Meat 1995-96”, WTO, Geneva, November 1996, p. 34.

<sup>375</sup> Reuter News Service, Reuter Business Briefing, Buenos Aires, 14 June 1996.

<sup>376</sup> Interview with Luis Baumeule (nieto), Frigorifico Paty-Quickfood, Buenos Aires, 8 April 1997.

<sup>377</sup> Boonekamp, L., “Implications for the World Beef Trade of the Changing Foot and Mouth Disease Status in Latin America”, International Meat Secretariat Newsletter, No. 130, 14 October 1995, pp.2-3

Argentinian government officials were euphoric about the prospects of meat exports. The Secretary of Agriculture, Felipe Sola, predicted a doubling of Argentinian meat exports by the year 2000, once 'access is gained to the Japanese and Korean markets'.<sup>378</sup> Whereas this target might be too aggressive, it still reflects a clear expectation of strong export growth. This positive outlook is shared in Uruguay. "We firmly believe that since last year (1994) we have entered into a stimulant phase for the bovine meat trade of Uruguay ... The prospects are positive."<sup>379</sup> Additionally, outside observers of the River Plate meat trade, such as the W.T.O. are also cautiously optimistic about the outlook of the Argentinian and Uruguayan meat exports.

"The Uruguayan beef industry is set on an expansion course for the years to come, mainly driven by favourable prospects on some export markets ... Argentina's export could increase significantly provided that other countries, particularly in Asia, follow suit in recognising Argentina as a F.M.D.-free region."<sup>380</sup>

Beyond any short-term export gains, the positive expectations reflect the perception of major change, which should result in sustained growth for the Argentinian and Uruguayan meat packing industry. Indeed, an important underlying shift has been occurring towards a new era of long-term trade 'openness' and significant expansion of River Plate meat exports, albeit gradually. This shift characterises a change in trade regimes towards freer trade. It supersedes an era of protectionism and major trade barriers for River Plate meat exports, which started in the late 1920s and consolidated in the aftermath of the Great Depression. Indeed, a full cycle has taken place, from 'free' trade until the 1930s, to 'bilateralism and control' (1930s-1990s) and to renewed 'free trade and liberalisation' in the 1990s.

<sup>378</sup> Reuter News Service, Reuter Business Briefing, Buenos Aires, 6 June 1996.

<sup>379</sup> Muñoz Duran, R., Resultados en el Sector Carne Bovina de la Ronda Uruguay del GATT (Comision Sectorial para el Mercosur, Montevideo, April 1995), p.1. (Translated from Spanish).

<sup>380</sup> World Trade Organization, "The International Markets for Meat 1995-96", WTO, Geneva, November 1996, pp. 22 and 26.

#### **5.6.4 The B.S.E. Crisis and Its Effect on River Plate Meat Exports**

Already in early 1994, there was growing concern among European consumers that B.S.E. (Bovine Spongiform Encephalopathy) or 'mad cow' disease, that affects cattle, could be transmitted to human beings. As a result, beef consumption decreased 11% in Britain and between 20-25% in Germany.<sup>381</sup> After a comprehensive public relations and advertising campaign, as well as new E.U. rulings on beef exports, consumption improved again in mid-1994. European demand increased in 1995 vs. the lower 1994 figures and was slightly higher when compared with 1993.<sup>382</sup> However, consumer confidence was shattered once again in March 1996 after the British government announced that there could be a link between B.S.E. and the human equivalent Creutzfeldt-Jakob disease.<sup>383</sup> After the announcement, consumption fell sharply, 26% in Britain, 15% in France, 35% in Germany and 45% in Italy (May 1996 figures vs. year ago).<sup>384</sup> This was one of the most severe periods of crisis of the European beef industry, with meat and cattle prices collapsing to extremely low levels. The crisis triggered a major increase in intervention purchases and led to much greater E.U. intervention stocks. As a result, it reverted the gains and important efforts made by the E.U. to reduce intervention stocks, which in 1995 had almost reached a level of zero.<sup>385</sup>

In the beginning of the B.S.E. crisis the River Plate meat packers were optimistic, given that they expected demand for 'B.S.E. free' and grass fed beef to increase significantly in Europe.<sup>386</sup> B.S.E. is linked to the use of animal waste, particularly meat and bone meal stemming from sheep with Scrapie (a similar disease that affects sheep, but that is

<sup>381</sup> World Trade Organization, "The International Markets for Meat 1994-95", WTO, Geneva, February 1995, pp. 17-18.

<sup>382</sup> *Ibid*, p. 19.

<sup>383</sup> World Trade Organization, "The International Markets for Meat 1995-96", WTO, Geneva, November 1996, p.13.

<sup>384</sup> *Ibid*.

<sup>385</sup> *Ibid*, pp. 4 and 14.

not believed to affect human beings directly), as well as cattle with B.S.E., in the production of concentrated feedstuffs for cattle. Thus, it was assumed that consumers would have preferred River Plate beef, which is derived primarily from extensively produced and grass fed cattle, and comes from a region which has never had a reported case of either Scrapie or B.S.E.<sup>387</sup> The River Plate meat packers expected that demand for 'free range, grass fed and B.S.E.-free beef' would increase and that this would have translated into higher prices. However, European consumers did not discriminate between the origin of beef. Rather they reduced their consumption across the board on all types of beef, due to a general decrease in consumer confidence. Thus prices of River Plate beef in the EU declined sharply. The high value Hilton quota prices, which is composed of exceptional quality meat cuts, decreased from around US\$10,000-11,000 to US\$ 6,000 per ton.<sup>388</sup>

The response of Argentina and Uruguay was to launch a strong public relations and advertising campaign in the E.U. Specifically, the Uruguayan President made a series of speeches in Europe, including a keynote address at the U.N. Food and Agriculture Organisation (F.A.O.) in Rome, in which he emphasised that Uruguay was free of B.S.E.<sup>389</sup> In parallel the 'Uruguay Natural Beef' advertising and promotional campaign was stepped up. Argentina launched a strong publicity campaign in Europe, concentrating efforts in Germany, which is the largest E.U. market for Argentinian beef.<sup>390</sup> The objective of the campaign was to:

<sup>386</sup> Interview with Dr. Barrios Mariezcurrena, Director, Frigorifico San Jacinto (Nirea), Montevideo, 2 April 1997.

<sup>387</sup> For an analysis of BSE risk factors in Argentina, see a comprehensive report by Dr. B. Cané, et al, "Argentina BSE Free" on the internet website: <http://www.mecon.ar/agricultura/azulcara.htm>.

<sup>388</sup> Interview with Dr. Barrios Mariezcurrena, Director, Frigorifico San Jacinto (Nirea), Montevideo, 2 April 1997. Also see World Trade Organization, "The International Markets for Meat 1995-96", WTO, Geneva, November 1996, p.22.

<sup>389</sup> Reuter News Service, Reuter Business Briefing, Rome, 27 May 1996.

<sup>390</sup> Reuter News Service, Reuter Business Briefing (AE London), 14 June 1996, from Agra Europe (London), 19 April 1996.

"... highlight that its cattle are free of disease and to persuade consumers to look for Argentine beef ... The campaign will also explain that Argentine cattle are range-free and do not consume animal entrails ... All Argentine beef and products entering Europe will now carry labels that state they are disease-free."<sup>391</sup>

In addition, Argentina created internet web-sites to promote Argentina 'B.S.E.-Free' beef and to electronically publish scientific reports that analysed the risk of B.S.E. in Argentina.<sup>392</sup> Moreover, due to the B.S.E. crisis, requests for enlargements of the Hilton quota for exports to the E.U. were postponed.

"Argentina, along with a number of other third countries, also concedes that with the declining sales of beef not only in the U.K. but in all of Europe, the time is, probably not ripe to seek immediate W.T.O. action or to press for an increase of its annual (Hilton) quota ... to the E.U."<sup>393</sup>

In late 1996, the B.S.E. crisis was gradually overcome. Demand for beef recuperated again, after a series of measures were enacted, including a British beef export ban to other E.U. countries, as well as a widespread initiative to slaughter and incinerate cattle from infected herds. Despite the measures, consumption remained about a tenth below the 1995 figures.<sup>394</sup> Although intervention purchases declined in the first half of 1997, intervention stocks were still significant, albeit declining in mid-1997. They were expected to continue on a downward trend. Hilton quota beef prices also recovered, increasing to around US\$8,000 per ton by end-1996, but were still below the pre-B.S.E. crisis levels.<sup>395</sup>

Although the worst of the B.S.E. crisis was over in 1997, it highlighted the importance for the River Plate meat packing industry to diversify exports to numerous markets.

<sup>391</sup> *Ibid.*

<sup>392</sup> See Internet web-sites: <http://www.mecon.ar/agricultura/azulcara.htm> and <http://www.mecon.ar/invest/beef/meata.htm>.

<sup>393</sup> Reuter News Service, Reuter Business Briefing (AE Brussels), 7 June 1996, from Agra Europe (London), 12 April 1996.

<sup>394</sup> World Trade Organization, "The International Markets for Meat 1995-96", WTO, Geneva, November 1996, p. 14 and 22. Also see Muñoz Duran, R., "Informe Sobre el Mercado de Carne Bovina de la Comunidad Europea en lo que Va del Año 1996", INAC, 11 November 1996, pp. 8-9.

Expected high value market 'openings' in Asia, particularly Japan, combined with pending approvals to export to Canada and Mexico, should enable Argentinian and Uruguayan meat packers to offset potential downfalls in the value of exports, through market diversification.

#### **5.6.5 Adopting an Activist Trade Policy for the River Plate Meat Packing Industry in the 1990s**

Both Argentina and Uruguay have identified the meat packing industry as a key sector for export growth. The respective governments have negotiated intensively, as part of the Uruguay Round, to reduce trade barriers for River Plate meat and discourage 'unfair' competition from subsidised exports. These negotiations, which started to gain momentum in the early 1990s are continuing, in order to ensure an ever increasing international market for River Plate meat. This is clearly part of a new 'activist' trade policy, whose objective is not only to 'open' new markets, such as Canada, Mexico and Japan, but also to gain further access for River Plate meat in the E.U. and the U.S.A., while continuing to insist on lower export and producer subsidies, primarily in the E.U.

The export sector, which had been neglected since the introduction of extreme I.S.I. measures by the Peron administration in the mid-1940s, has become of utmost importance again in the 1990s. Argentina and Uruguay underwent radical reforms in the early 1990s to open up the domestic market to foreign competition. Import duties were reduced significantly and anti-inflationary / currency stabilisation programmes enacted. The measures led to an influx of imported goods, particularly industrial products. As a result, local industry has suffered as domestic companies were often unable to compete

with larger foreign firms, given that many had become inefficient, their plants were outdated and their products were of a relatively poor quality. In synthesis, I.S.I. policies had shielded many of the domestic industrial firms from stringent global competition. Additionally, the stabilisation programmes led to a major increase in demand for foreign products. Consequently, imports rose drastically and the trade balance of Argentina and Uruguay deteriorated significantly in the early 1990s. Although Uruguay had a healthy balance of payments, mainly due to its relatively large financial services sector, the trade deficit remained stubbornly high. Thus, as a counterweight, it became important for Argentina and Uruguay to expand exports and to identify sectors for export development.

Overall, the strong liberalisation and stabilisation measures enacted in the early 1990s, represent a shift from an 'inward looking' policy, broadly based on an I.S.I. strategy since the mid-1940s, to an 'outward looking' policy that tries to incorporate Argentina and Uruguay into an increasingly globalised economy in the 1990s. Trade strategies play a growing role in the 'outward looking' policy formulation.

When considering Paul R. Krugman's 'new thinking' about trade policy and James Brander's rationales for strategic trade policy, it is evident that in the 1990s both the Argentinian and Uruguayan governments have formulated a strong activist trade policy, containing certain aspects of their theory. The thesis is not suggesting that Argentinian and Uruguayan policy makers were directly influenced by Krugman's and Brander's ideas, but rather that there are certain elements of their concepts that were incorporated in trade policy. For perspective, Krugman suggests that governments should favour

certain strategic industries, which might enable countries to benefit from a greater share of 'rent' and larger 'external economies', while Brander goes further and proposes that 'profit shifting subsidies' and 'protectionist measures' should be used as trade policy tools to achieve these goals.<sup>396</sup> In this respect, Argentina and Uruguay have identified the meat packing industry as a 'strategic' sector in which the international share of 'rent' can be expanded, albeit gradually. Additionally, the 'external economies' of the meat packing industry are large. They include the important generation of economies of scale and 'throughput' for *frigoríficos*, as analysed in chapter 4, and benefits related to cattle producers productivity gains. Indeed, cattle producers have been 'moving down the learning curve', while increasing yields per hectare and expanding feedlots.<sup>397</sup>

Importantly, 'protectionist measures' are in place in Argentina and Uruguay. Specifically, Argentina has a bound rate of duty of 35% on bovine and sheepmeat, while Uruguay has a 55% tariff on beef and 60% on sheepmeat, the latter will be gradually reduced to 35% by 2004.<sup>398</sup> The import duties are part of a strategic trade policy to enable the generation of economies of scale, 'throughput' and 'external economies' in the meat packing industry, by hindering potential imports of highly subsidised meat, such as E.U. beef. These 'protectionist measures' have been very effective, given that virtually no meat is imported to Argentina and Uruguay. On the subsidies front, Argentina and Uruguay agreed, as part of the G.A.T.T. Uruguay Round negotiations, not to use export subsidies.<sup>399</sup> As counterweight measures, the G.A.T.T. Uruguay Round agreements stipulate that developed countries, including the E.U., must at least reduce

<sup>396</sup> See section 5.1 for a comprehensive analysis of "new thinking" about international trade.

<sup>397</sup> Iriarte, Ignacio, "Comercializacion de Ganados y Carnes", Camara Argentina de Consignatarios de Ganado, July 1995, pp. 70-72.

<sup>398</sup> World Trade Organization, "Summary of the Results of the Uruguay Round in the Meat Sector", WTO, Geneva, February 1995, p. 27 and 30.

subsidised exports by 21% in volume and 36% in total budgetary outlays over 1995-2001, and that Australia and New Zealand will not be permitted to use export subsidies.<sup>400</sup>

Argentina and Uruguay faced the 'prisoner's dilemma' starting in the mid-1940s, as policies based on I.S.I. fostered strong protectionist measures and extreme surplus extraction from the export sector. This in turn led to a 'non-cooperative' stand and a broad 'prisoner's dilemma', which generally remained in place until the early 1990s, albeit with periods of limited trade liberalisation and some cooperation. From a 'strategic trade policy' point of view, the opening of the Argentinian and Uruguayan market marks a renewed willingness to cooperate with its international trading partners. It allows foreign countries access to the domestic market for their goods. Thus the 'prisoner's dilemma' which Argentina and Uruguay faced during the 'non-cooperative' period since the mid-1940s has turned into a 'cooperative' approach in the 1990s. This new 'cooperative' stand has resulted in concessions from key trading partners, including increased market access for River Plate meat. Indeed, since Argentina and Uruguay cooperated, the overall response of foreign countries has been to cooperate as well.

Although 'tit-for-tat' strategies have been used in the negotiations to seek cooperation from other countries, their importance in the 1990s has diminished for two main reasons. Firstly, after the G.A.T.T. Uruguay Round, country to country unilateral negotiations have become increasingly intermingled with multilateral talks, while some overlapping also occurs with negotiations between trade blocks. This has led to ever

<sup>399</sup> *Ibid.*, p.11.

<sup>400</sup> *Ibid.*

more complex trade negotiations and it has therefore become more difficult to implement and sometimes even identify 'tit-for-tat' strategies. Secondly and most importantly, the creation of the W.T.O. dispute resolution procedure, which acts as an independent 'international trade tribunal', has coerced many countries to cooperate. The mere threat of the potential to take a dispute to the W.T.O., often encourages agreements. Frequently, 'compensation exchanges' have been used to settle disputes, by which market access in one sector of a country has been exchanged as compensation for another in a different country or trade block. The Argentinian and Uruguayan government's new activist trade policy is concentrating on opening new markets by using the G.A.T.T. Uruguay Round agreements, including the S.P.S., as a basis for cooperative negotiations, while keeping the W.T.O. as a dispute resolution provider of last resort. Uruguay is in negotiations with Canada and Mexico, while Argentina is expected to enter the Japanese and Korean market in the short-term, as well as trying to 'open' China.<sup>401</sup> In addition, the pressure for more market access in the E.U. is continuing, although it has been temporarily put on hold, pending a further easing of the B.S.E. crisis.<sup>402</sup> Linked to this is the demand for further reductions or the elimination of subsidised meat exports, particularly from the E.U. This seems increasingly realistic given that E.U. intervention purchases renewed their declining trend. These combined negotiations coupled with an expected new round of multilateral W.T.O. sponsored agricultural talks in 1999/2000, are forecasted to continue expanding market access for River Plate meat. The activist trade policy to date has been successful, but additional market access and further cooperation will be needed to ensure a greater share of 'rent' for the River Plate meat packing industry in the longer-term.

<sup>401</sup> *La Nacion*, 12 July 1997, section 2, p. 7 and Interview with Roberto Muñoz Duran, Montevideo, 1 April 1997.

<sup>402</sup> Reuter News Service, Reuter Business Briefing (AE Brussels), 7 June 1996, from Agra Europe (London), 12 April 1996.

### **5.7 Conclusion**

Although the first signs of the ‘staple trap’ were already apparent in the 1920s, the conclusive establishment of the ‘staple trap’ occurred in the 1930s. Demand and supply side responses derived from the staple declined substantially after the Great Depression, while the Ottawa Conference worsened the downturn. Indeed, through bilateralism and control the already decreasing post-depression export volumes were fixed at a very low base, thereby severely limiting the strength of the staple. Given that the U.S. market was closed and the majority of the European countries had placed severe restrictions on meat imports, the River Plate was forced to manage with the limited export volume of the restricted, yet extremely important British market. The Ottawa Conference represented a modification in British-River Plate trade relations, as the U.K. began decreasing her general ‘cooperative’ position, while trying to enlarge ‘rent’ within the limitations of the Commonwealth states. Whereas the Ottawa Conference translated into a notable decline in ‘rent’, Argentina and Uruguay maintained a ‘cooperative’ stand, while trying to ‘freeze’ quotas. Indeed, the domestic policy concern was to ensure that the export quotas would not be limited further, which was broadly achieved through the Roca-Runciman agreement.

The Second World War brought a brief respite and strong demand from war stricken Europe ensured an increase in meat exports. However, these were confined by government contracts. After the war most international markets were willing to purchase River Plate meat. Yet, Argentina and Uruguay were unable to supply large quantities of meat. Not only had cattle stocks diminished, but the domestic market had also grown significantly. Indeed, through the implementation of an extreme I.S.I. policy, the state

extracted the surplus of the livestock and agricultural sectors to finance industrialisation, by levying very high taxes, export duties, utilising differentiating exchange rates and intervening directly in the trade of primary products as well as the meat packing industry. However, the I.S.I. policy was taken to an extreme, as the governments overreacted to trade restrictions prior to the war and lack of supplies of industrialised products during the war. Cattle producers did not have an incentive to produce, while they often suffered from a lack of profitability. As a result, some cattle producers started operating in the 'grey' market and many switched to more lucrative crop production. Thus the state was not milking the 'milche cow' in order to finance I.S.I., but was rather 'killing the milking cow'. Through this extreme domestic policy the 'staple trap' was consolidated. Although strong linkages to the industrial sector occurred, they were short-lived, as the export sector was unable to support such a strong surplus extraction in the long-term. The extreme I.S.I. policy was not part of an activist trade policy to enlarge the international 'rent' for specific strategic sectors. Instead the objective of the I.S.I. policy was to expand 'rent' and 'external economies' for all the industrial sector in the domestic economy. As such it was an 'inward looking' strategy that utilised the surplus extraction of the export sector to build a broadly based domestic industry. Indeed, the aim of the 'protectionist measures' was not to provide certain domestic firms or industries with a competitive advantage in foreign markets, but to encourage the development of the entire industrial sector, with the goal of becoming self-sufficient domestically. After the mid-1940s, Argentina and Uruguay were increasingly confronted with a 'prisoner's dilemma', given that the non-cooperative and 'inward looking' position led to a gridlock in trade relations.

In the mid- to late- 1950s, a moderate liberalisation programme, helped recuperate some lost ground, as production increased and meat exports to the U.S.A. and Europe expanded. However, in the late-1950s the U.S.A. placed renewed trade restrictions on River Plate meat based on F.M.D. sanitary controls. After intense negotiations, in particular by the Argentinian Minister of Economics at the time, Dr. Roberto Alemann, the U.S.A. partially lifted the embargo in the early 1960s and allowed salted meat exports. Nevertheless, chilled and frozen meat from the River Plate was still not allowed to be exported to the U.S.A. In addition to the F.M.D. constraints in the U.S. market, the formation of the European Community and particularly the Common Agricultural Policy (C.A.P.) led to more trade restrictions and lowered the value of River Plate meat exports. The C.A.P. started subsidising producers and E.E.C. meat exports, thereby putting severe pressure on meat prices and cannibalising the meat export business in traditional River Plate markets. Most importantly, River Plate meat exports to the E.E.C. were limited significantly through a quota system, while prices in the F.M.D. corridor declined sharply. River Plate meat exports continued to be restricted throughout the 1960-80s, through severe tariff and non-tariff barriers, including quotas, import duties and F.M.D. regulations.

Whereas there were some moderate attempts to search for a solution to the 'prisoner's dilemma', overall it remained in place in 1955-90, despite periods of increased liberalisation and cooperation. Argentina and Uruguay maintained their I.S.I. policies and thus impeded imports, particularly of industrial products. This in turn did not encourage trading partners to reduce barriers for River Plate meat. Indeed, in general terms, the River Plate as well as the E.E.C. and the U.S.A. were disinclined to cooperate

and to substantially diminish their respective trade restrictions in order to 'open' their markets and expand trade between themselves. The consequences of this 'non-cooperative' and 'inward-looking' position was that the gridlock in trade relations and thus the 'prisoner's dilemma' which had developed in the mid-1940s persisted in general terms until the early 1990s.

Since the early 1990s, a shift in international trade regimes has taken place towards increased trade 'openness'. It marks the beginning of a new era with greater market access for River Plate meat and significant export growth, while it supersedes an epoch of protectionism and major trade restrictions that commenced in the late 1920s. Most importantly, a full cycle has taken place, from 'free' trade until the 1920s, to 'bilateralism and control' (1930s-1990s), and back to renewed 'free trade and liberalisation' in the 1990s.

River Plate meat exports have increased sharply in the early- to mid-1990s, particularly in Uruguay, while they are predicted to expand further. The renewed meat export growth can be attributed to: (i) the outcome of the G.A.T.T. Uruguay Round negotiations and the creation of the W.T.O. as well as the S.P.S. agreement, (ii) the eradication of F.M.D., which enables exports to the non-F.M.D. circuit and (iii) the formation of Mercosur that has resulted in greater regional meat exports. The accumulated benefits of these factors have led to a combined expansionary effect. Indeed, River Plate meat exports have increased significantly, not just to the U.S.A., the E.U., albeit with temporary difficulties due to the B.S.E. crisis, and Mercosur, but also to other markets. As a result of the expanded number of markets, River Plate meat exports benefit from

greater diversification. This has proven to be of utmost importance in light of the significant decline in E.U. demand following the B.S.E. crisis.

Although the export sector had been neglected since the implementation of extreme I.S.I. policies in the aftermath of the Second World War, in the 1990s it has become of crucial significance again. Argentina and Uruguay enacted fundamental reforms which opened their market to foreign competition and liberalised their trade policy, while establishing anti-inflationary / currency stabilisation programmes. Thus, I.S.I. policies were faded out and import restrictions, primarily import duties, were reduced to a minimum. This represented a major change from an 'inward looking' policy with a broadly 'uncooperative' stand, characterised by I.S.I., to an 'outward looking' approach, that embraced the 'global economy' of the 1990s. In addition, it also demonstrated that Argentina and Uruguay were willing to 'cooperate' with their trading partners. The 'cooperative' position has led to major concessions from trading partners, not least greater market access for River Plate meat, as they have responded by cooperating as well. Consequently, they no longer face the 'prisoner's dilemma' as the gridlock in trade negotiations has faded, due to the broadly 'cooperative' and 'outward looking' stand.

Following the implementation of the reforms in the 1990s, Argentina and Uruguay needed to increase exports and recognise sectors that had potential for export expansion. In this respect, they have identified meat packing as a 'strategic sector' in which the international share of 'rent' can be increased, and have thus adopted an activist trade policy for the industry. Indeed, they have maintained 'protectionist measures' for the sector to impede imports of greatly subsidised meat and enable economies of scale and

'external economies'. Whereas Argentina and Uruguay agreed not to use subsidies following the G.A.T.T. Uruguay Round negotiations, as counterweight measures, the E.U. has committed to significantly reduce their high subsidies, while Australia and New Zealand will not be allowed to use subsidies either. In addition, as part of the new activist trade policy, the Argentinian and Uruguayan governments are seeking to 'open' new markets for River Plate meat, through 'cooperative' negotiations based on the G.A.T.T. Uruguay Round agreements, while the W.T.O. is utilised as a trade dispute resolution provider of last recourse. Both Argentina and Uruguay are expected to 'open' several new markets soon for River Plate meat. In addition, they continue to maintain the pressure to enlarge access in major markets and reduce subsidies, particularly in the E.U. From a mid-1997 point of view, the numerous negotiations taking place, in addition to a potential new round of W.T.O. agricultural talks in 1999/2000, are expected to enlarge market access for River Plate meat. Meanwhile, the River Plate meat packing industry's share of international 'rent' continues to grow. However, it remains to be seen whether further large gains in market access can be achieved in the longer-term.

## **6. CONCLUSION**

The thesis has analysed the impact of technological innovation, modifications in the ownership structure and changing international trade regimes on the River Plate meat packing industry. The combination of these factors as well as domestic policy were interrelated and jointly influenced the progression of the meat packing industry. Whereas the decline of the industry was principally due to changing international trade regimes, other factors also induced and affected the process, thereby accelerating the descent of the River Plate meat packing industry starting in the late 1920s. Similarly, the combined effect of these elements is also bringing about a move back towards renewed growth of the industry in the mid-1990s. As such, the rise, subsequent decline and latest expansion of the industry was driven by a series of factors and reasons that were interconnected, incited each other and ultimately influenced the development of the River Plate meat packing industry.

To start with, the rise of the industry was driven principally by technological innovation. However, other factors were also crucial in facilitating the expansion of the industry. In particular, domestic policy, an 'open' international trade regime, the modernisation of cattle production and foreign investment, played a major role in the growth of the industry. By applying the staple theory, the thesis has shown that numerous supply and demand side responses as well as spread effects occurred that enabled the rise of the industry. Some of these responses were related to technological innovation, while others were crucial effects, such as a supporting domestic policy environment.

The demand side responses included consequential forward and backward linkages. Specifically, the principal forward linkage was the progressive amelioration in production and conservation methods, which allowed successive improvements in the quality of meat and enabled the expansion of the byproduct range. The production technologies and facilities advanced, from the colonial *estancia*, to the *saladero*, to the Liebig plant, and finally to the *frigorífico*. Another forward linkage that was indispensable was the development of transatlantic shipping routes from the River Plate to exports markets. Moreover, the development of a transportation network in the River Plate, initially of waterways and then through the building of the railways, represented a significant backward linkage that greatly improved the movement of cattle from *estancias* to the meat packing plants. Finally, the export of high quality chilled meat required another major backward linkage, namely the breeding and refinement of cattle. In addition to the forward and backward linkages, there were some spread effects, which were fundamental for the rise of the industry, including crucial domestic policy and institutional factors. It would have been very difficult for the industry to develop without a proper legal framework and the establishment of property rights.

There were also vital supply side responses, such as the transfer of technology, capital and management know-how. Technology transfer was needed to produce meat extract as well as frozen and chilled meat. Moreover, management know-how was required, not just to operate complex machinery, but also in relation to logistics and marketing expertise. Finally, foreign capital was needed to finance the expensive extraction and refrigeration machinery.

Thus the rise of the industry can be ascribed to an aggregation of demand and supply side responses, as well as spread effects, which had an impact on each other and were interdependent. The accumulating and intensifying demand and supply side responses led to the development of a 'multiplier accelerator mechanism', whereby the more powerful the linkages, the more the industry would expand and this in turn would generate additional linkages. During this process, the value added of the meat staple grew, progressively shifting from sun dried meat, to *tasajo*, to meat extract and cooked packaged meat, to frozen mutton, to frozen beef and finally to chilled beef.

Increasing foreign capital participation in the meat packing industry brought about remarkable changes in the ownership structure. Whereas *frigoríficos* started to displace *saladeros* in the late nineteenth century, this process was significantly accelerated with the entrance of the large U.S. meat packers in the early twentieth century. The goal of the American meat packers was to increase their economies of scale and scope, by maximising their market share. Through a series of price wars they obtained an ever greater share of the market. This ultimately led to the U.S. packer's leadership and control of the industry. The greater share enabled them to generate abundant 'throughput' and surpass the 'minimum efficient scale' for their immense plants. Price wars were stopped through pool agreements, in which meat export shares were divided among *frigoríficos*. Through pools, meat packers took over the 'invisible hand' of market forces by controlling supply. Although the visible hand of management coordinated supply, numerous price wars disrupted the process. In each successive price war the U.S. meat packers gained market share and consolidated the industry further.

In the first phase of consolidation until the 1920s, the American packers gained share at the expense of Anglo-Argentinian *frigoríficos*. Until the 1920s, the Argentinian and Uruguayan governments were unwilling to take major action. Meat wars were not discouraged, as they resulted in higher cattle prices. It was only following the post First World War recession, that governments started to voice concern about the consolidation of the industry. Indeed, the post war recession typified a breaking point in the increasing trend of cattle prices and expanding exports since the early twentieth century. As a result, cattle producers urged the government to take action. Whereas domestic policy responded by passing numerous anti-trust laws and legislation to establish state run *frigoríficos*, these laws were not immediately implemented. Meat packers had developed a special relationship with fatteners, by providing higher prices for cattle and other advantages to them, while in return meat packers obtained a powerful voice in domestic policy. The meat packers were able to continue with the consolidation of the industry without major resistance and by the mid-1920s the industry had reached extreme oligopolistic dimensions.

Moreover, following the First World War an important alteration in the power struggle and rivalry between *frigoríficos* occurred. The ascent of the British Vestey group in the 1920s, which expanded into one of the largest global meat packers, represented a major challenge for the American *frigoríficos*. As a result, the leadership battle did not occur any longer between the American and Anglo-Argentinian meat packers. Instead, the battle took place between the large and small *frigoríficos*. Domestic policy in Uruguay reacted to the extreme consolidation of the industry by establishing the *Frigorífico Nacional*, a state run meat packing plant. The aim was to reduce the power of foreign meat packers and ensure higher prices for cattle producers. In Argentina, the alliance

with fatteners led to more political infighting, and public *frigoríficos* did not start functioning until the late 1930s.

Whereas the export volume of River Plate meat reached record levels in the late 1920s, the first signs of the 'staple trap' were evident. Notwithstanding the increase in volume, the actual value of exports declined significantly, while several European countries severely restricted River Plate meat imports in the mid to late 1920s. The combination of the reduction in the value of exports, increased protectionism and the outbreak of the Great Depression were detrimental for the industry. In the 1930s, the establishment of the 'staple trap' took place, when following the Ottawa Conference, Britain also imposed strict quotas for River Plate meat. As a result, the demand and supply side responses derived from the meat staple decreased significantly, while the 'multiplier accelerator mechanism' reached saturation. Although the Roca-Runciman agreement avoided a further substantial decline in quotas, it fixed meat exports at the low levels of the early 1930s. In general, the international trade regime shifted from 'free' trade to bilateralism and control in the 1930s. Moreover, the Ottawa Conference depicted an alteration in British and River Plate trade relations, given that Britain started reducing her overall 'cooperative' stand, while seeking to expand 'rent' inside the Empire. Yet, in the 1930s, Argentina and Uruguay retained their 'cooperative' position, despite the remarkable decline in 'rent' that they suffered.

The reduction in meat exports in the 1930s following the Great Depression and the Ottawa Conference, resulted in a sharp fall in cattle prices. However, in Argentina breeders suffered the most from the cattle price decline, because both meat packers and fatteners increased their margins to sustain their profitability, despite lower prices.

Whereas demand for meat in the major U.K. market recovered in the mid-1930s, breeders continued to suffer from low cattle prices. This led to the infamous De la Torre parliamentary debates, whose aim was to increase breeder prices. The intense and tragic De la Torre scuffles managed to weaken the alliance between meat packers and fatteners. The parliamentary debates ended with the creation of the C.A.P. public *frigoríficos*, combined with the control of export quotas by the Argentinian and Uruguayan governments. As a result, in the second half of the 1930s, cattle producers, especially breeders, enjoyed higher prices.

The Second World War represented a positive interval for the meat packing industry, given that demand for River Plate meat from war stricken Europe rose significantly. Argentina and Uruguay were able to accumulate substantial reserves. After the war, an extreme I.S.I. policy was implemented, funded through the reserves and exaggerated surplus extraction from the livestock sector. Whereas following the war, the major international markets were ready to buy from the River Plate, Argentina and Uruguay were incapable of providing large amounts of meat. This can be traced primarily to the decline in cattle stocks as a consequence of I.S.I. policies. Indeed, so much surplus was extracted from the livestock sector that it became unprofitable to produce cattle in the legitimate market. As a consequence of this extreme policy, the 'staple trap' was consolidated. Whereas strong linkages took place, especially to the industrial sector, they did not last, given that the excessive extraction from the export sector was not sustainable in the long run. As such, the extreme I.S.I. policy did not correspond to an activist trade policy to increase the international 'rent' for certain strategic sectors, but was a method of diverting large funds to rapidly build a domestic industrial apparatus.

This inward-looking and non-cooperative stand resulted in a gridlock in trade relations, and both Argentina and Uruguay encountered a ‘prisoner’s dilemma’.

Insufficient cattle stocks as well as state intervention and control, reduced the profitability of the large foreign meat packers substantially, given that they were operating with excess capacity and very high fixed costs. Furthermore, domestic policy became ‘schizophrenic’, varying between state intervention and moderate market orientation. In this intricate domestic policy environment, small and efficient meat packers surfaced, leading to the rise of the *nueva industria*.

Whereas state intervention was most notable in the late 1940s and early 1950s, overall ‘intervention and control’ policies continued until the late 1970s, albeit with intervals of increased market orientation. The ownership structure changed as the large foreign packers gradually ceased operating in the 1950s. Most of these plants were taken over by the workers and the state. As such, state intervention created substantial distortions, given that large outdated plants remained in operation despite being highly inefficient. In the 1960s smaller and leaner *frigoríficos* started to emerge, whose lower capacity threshold enabled them to make significant inroads into the traditional packers’ business. They were able to achieve ‘minimum efficient scale’ due to their small size, while also benefiting from lower labour and plant costs. The *nueva industria* progressively expanded their market share. Subsequently, the *segunda nueva industria* took over leadership in the 1970s.

Beginning in the late 1950s, the U.S.A. imposed even stricter F.M.D. sanitary restrictions on River Plate meat. It was only after arduous negotiations, that the embargo

was partially lifted and salted meat exports from the River Plate were permitted to the U.S.A. However, the ban for higher value chilled and frozen meat exports to the U.S. market continued. Moreover, the creation of the European Community as well as the Common Agricultural Policy also contributed to export hindrances. Specifically, the E.C. started to subsidise producers and meat exports, while it limited River Plate meat imports through strict quotas. In addition, the E.C. competed with River Plate exports to other international markets with subsidised meat. Consequently, meat prices in the F.M.D. corridor dropped significantly and River Plate exports declined in both volume and value terms.

Overall, the 'prisoner's dilemma' that had developed in the aftermath of the Second World War, prevailed until the 1990s. Given that Argentina and Uruguay retained their I.S.I. policies, they were restricting imports into their markets. Therefore, trading partners were also reluctant to reduce their trade barriers for River Plate meat. Thus overall the River Plate, the E.C. and the U.S.A. were hesitant to cooperate to open their respective markets. This non-cooperative and 'inward looking' stand led to a broad gridlock in trade relations.

In the 1990s, River Plate meat packing is experiencing a *renaissance*, as the industry is gradually entering a new era of growth. Indeed, meat exports have expanded substantially, especially in Uruguay, driven by increased trade openness, market liberalisation and disease control. Within this context, a number of elements have fostered renewed growth in the industry. Firstly, the G.A.T.T. Uruguay Round negotiations, the creation of the W.T.O. and the S.P.S. agreement contributed to 'freer' overall trade. Secondly, Argentina and Uruguay eradicated F.M.D., which enabled River

Plate meat exports to the non-F.M.D. circuit, especially to the U.S.A. and major Asian markets. This has led to the lifting of the U.S. embargo for chilled and frozen meat, as well as the establishment of a 20,000 tons quota for each Argentina and Uruguay. Thirdly, the establishment of Mercosur has fostered regional meat exports, particularly to Brazil and Chile. Fourthly, the liberalisation policies established in the 1980-90s encouraged the industry to function in an economic environment driven by market forces. Finally, the tax and regulatory enforcement has been improved, thereby encouraging legitimate market transactions. The accumulated advantages of these elements have led to a combined expansionary effect. River Plate meat exports have grown substantially to an enlarged number of markets. Therefore, exports have been diversified and the potential effect of a downturn in any particular market has been reduced. The B.S.E. crisis in Europe has shown how important diversification can be in order to counterbalance sudden downward demand fluctuations.

Within the freer and more ordered market environment of the 1990s, there is renewed foreign capital interest and consolidation in the industry. Meat packers are able to take advantage of economies of scale and scope in a liberalised market with higher volumes and lower capacity. As a result the industry is consolidating.

Following a considerable disregard for the export sector since the introduction of extreme I.S.I. policies in the mid-1940s, it has started to play a consequential role again in the 1990s. As part of a comprehensive liberalisation programme, both Argentina and Uruguay have abolished I.S.I. policies, decreased import duties substantially, opened their markets and implemented monetary stabilisation programmes. Thus Argentina and Uruguay have substantially modified their trade and economic policy, moving from an

inward looking and uncooperative approach, to an outward looking and cooperative position. This cooperative stand has brought about positive gestures and compromises from trading partners, including greater market access for Argentinian and Uruguayan meat. Given that the River Plate and the trading partners are cooperating, and have adopted an outward looking approach, the 'prisoner's dilemma' has languished.

Argentina and Uruguay have identified the meat packing industry as a strategic sector that has strong export growth potential, and in which the share of 'international rent' and 'external economies' can be enlarged. As such, they have adopted an 'activist trade policy' for the industry, while maintaining protectionist measures in order to prevent unfair competition from subsidised foreign meat in the domestic market and allow the sector to benefit from economies of scale. Moreover, Argentina and Uruguay are striving to increase access for River Plate meat in foreign markets, within a cooperative framework that utilises the G.A.T.T. Uruguay Round agreements as a basis for negotiations.

Overall, in the twentieth century, a full cycle has taken place in the River Plate meat packing industry, moving from a 'free' international trade regime until the late 1920s, to a period of 'bilateralism and control' and back to 'free trade and liberalisation' in the 1990s. Likewise, the ownership structure of the River Plate meat packing industry shifted from local ownership until the late nineteenth century to mainly foreign ownership from the 1900s until the mid-1940s. Thereafter, the foreign meat packers withdrew from the River Plate and large *frigoríficos* were taken over by the workers and the state. This led to a period of state intervention and control. With the emergence and growth of the *nueva industria* in the 1960-70s, the industry shifted back to local

ownership. In the 1990s, there is renewed foreign capital interest and participation in the industry. In parallel, domestic policy shifted, from *laissez faire* economic policies until the end of the Second World War, to import substitution industrialisation, combined with control and intervention from the mid-1940s until the late 1980s. In the 1990s, there is a return to market oriented policies and liberalisation.

The cycle is corroborated by the theories applied in the thesis. Firstly, through the staple theory, the thesis has shown how meat was key in generating important demand and supply side responses until the 1920s. Following the first signs of the 'staple trap' in the 1920s, it was established in the 1930s, while it consolidated in the 1940-60s. In the 1990s the meat packing industry is flourishing again. Similarly, Chandler's 'scale and scope' has demonstrated the importance of reaching 'minimum efficient scale' and significant 'throughput' in order to benefit from economies of scale and scope. This was achieved until the 1940s, but then the capacity threshold declined, and more efficient plants became the driving force of the industry. Indeed, economies of scale and scope were less important within an industry that had large overcapacity, substantial market distortions and reduced export volumes, broadly from the mid-1940s until the 1980s. However, in the 1990s, 'scale and scope' has gained in relevance again, as liberalisation policies and a 'freer' international trade regime enables the industry to operate in an environment driven by market forces, and market access to foreign markets is expanding. Finally, when considering the 'new thinking' about trade policy, Argentina and Uruguay maintained a broadly cooperative and outward looking position until the mid-1940s. Thereafter, the implementation of I.S.I. policies led to an inward looking and non-cooperative stand, and they faced a broad 'prisoner's dilemma' until the 1990s. After enacting a widespread trade liberalisation programme and opening up their

markets to foreign competition in the 1990s, they no longer face the 'prisoner's dilemma', as the renewed outward looking and cooperative approach has led to concessions from trading partners, including greater market access for meat. In addition, Argentina and Uruguay have established an 'activist trade policy' for the meat packing industry.

As a whole, the connections between the factors that impacted the River Plate meat packing industry are evidenced by similar trends and their resembling cycles in the evolution of the industry, which demonstrates their closely knight interrelations. Indeed, technological innovation, modifications in the ownership structure and changing international trade regimes, as well as domestic policy factors, influenced and drove each other into certain directions, that in turn determined the fate of the River Plate meat packing industry.

Growth prospects look promising for the River Plate meat packing industry from a mid-1997 perspective. Domestic policy is predicted to remain favourable to the industry and liberalisation is likely to continue, while tax and regulatory enforcement is expected to be strengthened further. Whereas consolidation is inevitable, it seems unlikely that the ownership structure of the industry will reach extreme oligopolistic proportions in the short- to medium- term, that would put significant downward pressure on prices. From a trade standpoint, Argentina and Uruguay are foreseen to 'open' several markets for River Plate meat and to continue insisting on lower subsidies in the E.U., as well as greater quotas in North America and Europe. However, it is not clear whether substantial increases in market access can be obtained in the long-run. If the W.T.O. agricultural talks proceed as expected in 1999/2000 and are successful, they could act as

a springboard for further significant reductions in trade barriers in the new millennium. The outcome will depend primarily on whether the 'freer' international trade regime and the pace of trade liberalisation can be maintained in the years to come.

## **7. BIBLIOGRAPHY**

### **7.1 PARLIAMENTARY AND FOREIGN OFFICE REPORTS**

British Parliamentary Report, Report of the Departmental Committee appointed to inquire into combinations in the meat trade, presented to both houses of Parliament, Cd. 4643, Minutes of Evidence, Questions 292-293, George Goodsir, Esq. (Messrs. Weddel & Co.) examined, London, 1909.

British Parliamentary Report, Report of the Departmental Committee appointed to inquire into combinations in the meat trade, presented to both houses of Parliament, Cd. 4643, London, 1909.

British Confidential Report from the Foreign Office, from Sir Reginald Tower, British Minister in Buenos Aires, to Sir Edward Grey, Annual Report on Argentine Republic for the Year 1913, Doc. 53-54, 3563, received January 26, in Bourne, K., Watt, D.C., (gen. eds.), 'British Documents on Foreign Affairs: Reports and Papers from the Foreign Office Confidential Print', Latin America 1845-1914, Part I, Series D, Volume 9.

British Parliamentary Report, Report of the Departmental Committee appointed to consider the Outbreak of Foot and Mouth Disease which occurred in 1923-24, presented to Parliament, Cd. 2350, London, 1925.

British Parliamentary Report, Report of the Imperial Economic Committee on Marketing and Preparing for Market of Foodstuffs Produced in the Overseas Parts of the Empire, Second Report - Meat, presented to Parliament, Cd. 2499, London, 1925.

Argentinian Embassy in London, Letter from Argentinian Ambassador Malbran in London to the Minister of Foreign Affairs, 10 October 1932, Archive of the Argentinian Embassy in London, Ministerio de Relaciones Exteriores y Culto, Letter Book 297, London, Notes from 15/3/1932 to 29/3/1933.

Argentinian Parliamentary Report, 'Nueva Ley de Carnes - Presentacion de las Empresas Frigorificas ante el Congreso de la Nacion', Report to the Argentinian Senate, Buenos Aires, 6 September 1933.

### **7.2 GOVERNMENT, NON-GOVERNMENT AND INTERNATIONAL ORGANISATIONS ARTICLES, AND CONFERENCE PROCEEDINGS / THESES**

Baumeule, L., "El Proteccionismo Agricola y el GATT: Incidencias en el Comercio Exterior de Carnes Argentinas", Thesis Universidad de San Andres, Buenos Aires, 1994.

Boonekamp, L., "Implications for the World Beef Trade of the Changing Foot and Mouth Disease Status in Latin America", International Meat Secretariat Newsletter, No. 130, Paris, 14 October 1995.

Calloia, F., "La Industria de la Carne", Instituto de Economia, Universidad de la Republica, Grupo Interdisciplinario, Montevideo, March 1993.

Carreras de las, A., "International Trade Update", AMI Convention, Orlando, 9 October 1992.

Carreras de las, A., "La Fiebre Aftosa y el Comercio Mundial de Carnes", Organizacion Panamericana de la Salud: Reunion Hemisferica de Animales y Productos de Origen Animal, Conference Proceedings, Buenos Aires, 16 October 1978.

Carreras de las, A., "Past, Present and Future of the International Meat Trade", American Meat Science Association, Reciprocal Meat Conference Proceedings, Volume 42, 1989.

Iriarte, Ignacio, "Comercializacion de Ganados y Carnes", Camara Argentina de Consignatarios de Ganado, Buenos Aires, July 1995.

Mariño, O., "Competencia Australiana a las Carnes Bovinas Argentinas", Anales de la Sociedad Rural Argentina, No. 4, Buenos Aires, April 1933.

Muñoz Duran, R., "Aspectos Basicos de la Industria de Carnes de Uruguay", Banco Central del Uruguay, Asesoria Economica y Estudios, Montevideo, 1974.

Muñoz Duran, R., "Cambios en las Corrientes Comerciales de Carne Bovina en el Mercado Internacional para los Anos 90", Banco Central del Uruguay, Departamento de Investigaciones Economicas, Montevideo, April 1990.

Muñoz Duran, R., "El Mercado de Carnes del Rio de la Plata", Banco de la Republica Oriental del Uruguay, Montevideo, 1966.

Muñoz Duran, R., "Informe Sobre el Mercado de Carne Bovina de la Comunidad Europea en lo que Va del Ano 1996", I.N.A.C., 11 November 1996.

Muñoz Duran, R., "Resultados en el Sector Carne Bovina de la Ronda Uruguay del GATT", Comision Sectorial para el Mercosur, Montevideo, April 1995.

Torres, G., "Funcion Social de la Ley de Carnes", Colegio Libre de Estudios Superiores, Conference Proceedings, Buenos Aires, 16 July 1940.

### **7.3 REPORTS FROM INTERNATIONAL ORGANISATIONS AND FOREIGN MISSIONS**

World Trade Organization, "Summary of the Results of the Uruguay Round in the Meat Sector", WTO, Geneva, February 1995.

GATT Multilateral Trade Negotiations: The Uruguay Round, "Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh" (GATT, Geneva, 1994).

"Uruguay Round of Multilateral Trade Negotiations", G.A.T.T. Newsletter (NUR 080, Geneva, 14 Dec. 1993).

Mision Permanente de la Republica Argentina, "La Argentina y La Ronda Uruguay", Geneva, April 1994.

GATT, "Understanding the World Trade Organization Agreement on Sanitary and Phytosanitary Measures", GATT Secretariat, Geneva, XI-1994).

International Meat Secretariat, Newsletter No. 129, Paris, 29 September 1995.

World Trade Organization, "The International Markets for Meat 1994-95", WTO, Geneva, February 1995.

World Trade Organization, "The International Markets for Meat 1995-96", WTO, Geneva, November 1996.

### **7.4 COMPANY ANNUAL REPORTS AND MEMORANDUMS TO SHAREHOLDERS**

Argentine Land and Investment, Report of the Directors and Statement of Accounts, year ending 30 June 1920 (London, 1920).

British and Argentine Meat Company, Report of the Directors and Statement of Account, years ending 31 December 1917 (London, 1918) and 31 December 1919 (London, 1920).

James, Nelson & Sons, Report of the Directors and Statement of Account, years ending 28 December 1901 (London, 1902), 28 December 1912 (London, 1913) and 27 December 1913 (London, 1914).

James Nelson & Sons, P. Holmes, Memorandum sent to Shareholders (London, 22 January 1914).

River Plate Fresh Meat Company, Reports of the Directors and Statement of Account, years ending 30 April 1902 (London, 1902), 30 April 1903 (London, 1903), 31 December 1910 (London, 1911) and 31 December 1911 (London, 1912).

River Plate Fresh Meat Company, S. Young, Memorandum sent to Shareholders (London, 28 March 1914).

Sansinena Frozen Meat Company (Compania Sansinena de Carnes Congeladas), Report of the Directors and Statement of Account, years ending 31 December 1902 (Buenos Aires, 1903), 31 December 1910 (Buenos Aires, 1911), 31 December 1911 (Buenos Aires, 1912), 31 December 1912 (Buenos Aires 1913), 31 December 1913 (Buenos Aires, 1914), 31 December 1917 (Buenos Aires, 1918), 31 December 1919 (Buenos Aires, 1920), and 31 December 1922 (Buenos Aires, 1923).

Smithfield & Argentine Meat Company, Report of the Directors and Statement of Account, years ending 31 December 1913 (London, 1914), 31 December, 1917 (London, 1918) and 31 December 1922 (London, 1923).

The Union Cold Storage Company, Report of the Proceedings years 1913 (London, 1914), 1918 (London, 1919), 1922 (London, 1923) and 1925 (London, 1926).

The Union Cold Storage Company, Memorandum to Shareholders (London, 3 July 1923).

## **7.5 INTERVIEWS**

Dr. Roberto Alemann, leading Economist, former Argentinian Economy Minister (on two occasions) and Ambassador in Washington, Buenos Aires, December 1994, May 1995 and April 1997.

Mr. Luis Baumeule (nieto), director of *Frigorifico Quickfood* (Paty), Argentina's third largest meat packing company, Buenos Aires, April 1997.

Dr. Miguel Berthet, Ambassador of the Uruguayan Permanent Representation to the W.T.O. and the U.N., Geneva, December 1996.

Ec. Fernando Calloia from the Uruguayan Central Bank, prepared study of the River Plate meat packing industry in the 1960-80s, Montevideo, December 1994.

Ing. Alberto de las Carreras, prominent writer on the River Plate meat packing industry, former Argentinian Secretary of Commerce, Buenos Aires, December 1994 and May 1995.

Mr. João Magalhães, Counsellor of the Agriculture and Commodities Division at the W.T.O., Geneva, March 1995, December 1995 and December 1996.

Dr. Barrios Mariezcurrena, Director, Frigorifico San Jacinto-Nirea, Uruguay's second largest meat packing plant, Montevideo, April 1997.

Ing. Roberto Muñoz Duran, consultant and former director of I.N.A.C. and the Uruguayan Central Bank, Montevideo, April 1997.

Mr. Riaboi, the Minister from the Argentinian Mission to the W.T.O. and the U.N., Geneva, December 1996.

#### **7.6 NEWSPAPERS, REVIEWS, CHAMBERS OF COMMERCE, NEWS AGENCIES AND MEAT BOARDS / SOCIETIES ARTICLES**

Anales de la Sociedad Rural Argentina, "Licencias de Importacion al Reino Unido" and "Examen de las Propuestas de Compra", Buenos Aires, November 1933 and October 1940.

Banco Ganadero Argentino, "Mercados y Precios del Ganado Vacuno", Servicio de Investigaciones Economicas, Talleres Graficos Platt, Buenos Aires, 1966.

The British Chamber of Commerce Monthly Journal, The British Chamber of Commerce in the Argentine Republic, Buenos Aires, Vol. VII, No. 2, 26 November 1926, pp. 20-21 and pp. 25-26, Vol. XIII, No. 13, October 31, 1933, p. 16.

El País, "INAC Autorizo Cesión de las Cuotas entre Frigoríficos", Edición Digital-Agro, <http://www.diarioelpais.com/agro.htm>, Year II, No. 368, Montevideo, Thursday 20 March 1997.

La Nación, Section 5 and 7, Buenos Aires, 12 July 1997, pp. 6-7.

La Nación Line, <http://www.lanacion.com.ar/97/06/20/e04.htm>, Buenos Aires, Friday 20 June 1997.

The Economist, London, Vol. LXXVII, No. 3647, July 19, 1913, p. 119, Vol. LXXVII, No. 3670, December 27, 1913, p. 1402, Vol. XCVI, No. 4149, March 3, 1923, p. 489, Vol. XCVI, No. 4163, June 9, 1923, p. 1293, Vol. CXXI, No. 4815, December 7, 1935, p. 1127, Vol. CXXXIII, No. 4965, October 22, 1938, pp. 162-163, Vol. CXXV, No. 4870, December 26, 1936, p. 636, Trade Supplement, No. 10, October 30, 1937, p. 4, and Vol. CLI, No. 5378 and September 21, 1946, p. 465.

Reuter News Service, Reuters Business Briefing, Buenos Aires, 21 May 1996, Rome, 27 May 1996, Buenos Aires, 6 June 1996, Buenos Aires, 14 June 1996, AE London, 12 April 1996, AE London, 19 April 1996 and Buenos Aires, 21 May 1996.

Review of the Chilled and Frozen Meat Trade, Weddel & Co., London, No. 39, 1926, p. 14 and No. 40, 1927, p. 7, No. 40, 1927, p. 8, No. 26, 1913, p. 3 and 10, No. 38, 1925, pp. 12-13.

The Review of the River Plate, Buenos Aires, No. 1664, October 26, 1923, p. 971, No. 1666, November 9, 1923, pp. 1089-1097, No. 1739, April 3, 1925, p. 38, No. 1745, May 15, 1925, p. 27-29, Volume LXXVIV, No. 2276, July 26, 1935, p. 7 and p. 19, No. 1895, March 30, 1928, p. 17, No. 1895, March 30, 1928, p. 7, No. 1971, September 13, 1929, pp. 13-15, No. 1738, March 27, 1925, pp. 13-43, Volume LXXIII, No. 2131, October 14, 1932, p. 9, Volume LXXIV, No. 2160, May 5, 1933, p. 17, Volume CI, No. 2858, September 20, 1946, p. 16, Volume CII, No. 2879, February 14, 1947, pp. 15-19, Volume CII, No. 2879, February 14, 1947, pp. 9-11, Volume CXXII, No. 3312, December 31, 1957, p. 24, No. 3364, June 9, 1959, p. 18, No. 3424, May 31, 1961, p. 7, No. 3480 and December 21, 1961, pp. 445-446.

Sociedad Rural Argentina - Boletin de Divulgacion, "Ejecucion del Plan Organico de Defensa Ganadera", Buenos Aires, 1932, pp. 5-13 and 20-37.

The South American Journal, London, Volume LXIV, No. 6, February 8, 1908, p. 149 and Volume LIII, No. 10, September 6, 1902, p. 255.

The Times, London, November 26, 1910, p. 19, col. 3, September 9, 1913, p. 11, col. 5, July 4, 1913, p. 17, col. 4, July 18, 1914, p. 17, col. 4, March 16, 1927, p. 15, col. 5, July 17, 1927, p. 22, col. 4 and January 21, 1925, p. 13, col. 1-2.

## 7.7 JOURNAL ARTICLES

Chandler, A., "The Beginnings of 'Big Business' in American Industry", Business History Review, Volume XXXIII, Number 1, Spring 1959.

Chandler, A., "The Enduring Logic of Industrial Success", Harvard Business Review, Number 2, March-April 1990.

Chandler, A., "The Emergence of Managerial Capitalism", Business History Review, Volume 58, Number 4, Winter 1984.

Chandler, A., Redlich, F., "Recent Developments in American Business Administration and their Conceptualization", Business History Review, Volume XXXV, Number 1, Spring 1961.

Eichner, A. S., "Book Review - The Visible Hand. The Managerial Revolution in American Business", Business History Review, Volume LII, Number 1, Spring 1978.

Findlay, R., Lundahl, M., 'Natural Resources, 'Vent for Surplus' and the Staple Theory: Trade and Growth with an Endogenous Land Frontier', Columbia University, Department of Economics, Discussion Paper Series, New York, No. 585, January 1992.

Greenhill, R., 'Shipping and the Refrigerated Meat Trade from the River Plate', International Journal of Maritime History, Vol. IV, No. 1, June 1992.

Harley, C., "British Shipbuilding and Merchant Shipping: 1850 - 1890", The Journal of Economic History, Volume XXX, Number 1, March 1970.

Jones, E. G., 'The Argentine Refrigerated Meat Industry', Economica, London, No. 26, June 1929.

Loosli, C. E., 'Brot- und Fleischpreise in Grossbritannien und der Versuch, Angemessene Lebensmittelpreise Durchzusetzen', Weltwirtschaftliches Archiv - Chronik und Archivalien, Kiel, 23. Band, 1926.

Myint, H., 'The 'Classical Theory' of International Trade and the Underdeveloped Countries', The Economic Journal, Vol. LXVIII, No. 270, June 1958.

Peffer, E.L., 'Foot-and-Mouth Disease in United States Policy', Food Research Institute Studies, Stanford, California, Vol. III, No. 2, May 1962.

Schedvin, C.B., "Staples and Regions of Pax Britannica", Economic History Review, Vol. XLIII, No. 4, November 1990.

Watkins, M., "A Staple Theory of Economic Growth", The Canadian Journal of Economics and Political Science, Vol. XXIX, No. 2, May 1963.

## 7.8 BOOKS

### 7.8.1 THEORETICAL WORKS

Borden, N., The Concept of the Marketing Mix in Enis. B., Cox, K., Marketing Classics - A Selection of Influential Articles (Allyn and Bacon, Massachusetts, 1988).

Brander, J.A., "Rationales for Strategic Trade and Industrial Policy" in Krugman, P.R. (ed), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992).

Chandler, A., Scale and Scope - The Dynamics of Industrial Capitalism (Harvard University Press, Cambridge, Massachusetts, 1990).

Chandler, A., The Visible Hand - The Managerial Revolution in American Business (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1978).

Drache, D., ed., Staples, Markets, and Cultural Change - Selected Essays of Harold Innis (McGill-Queen's University Press, Montreal, 1995).

Fine, S. H., The Marketing of Ideas and Social Issues (Praeger, New York, 1981).

Hirschman, A. O., A Generalized Linkage Approach to Development, with Special Reference to Staples in Nash, M., Essays on Economic Development and Cultural

Change in Honor of Bert F. Hoselitz (Economic Development and Cultural Change, Volume 25, Supplement, 1977).

Hirschman, A., The Strategy of Economic Development (Westview Press, London, 1988).

Innis, H.A., Essays in Political Economy (The University of Toronto Press, Toronto, 1938).

Innis, H.A., The Cod Fisheries: The History of an International Economy (The Ryerson Press, Toronto, 1940).

Innis, H.A., The Fur Trade in Canada: An Introduction to Canadian Economic History (University of Toronto Press, Toronto, 1956).

Kotler, P., Marketing Management - Analysis, Planning, Implementation and Control (Prentice-Hall, New Jersey, 1991).

Kotler, P., Roberto, E. L., Social Marketing: Strategies for Changing Public Behaviour (The Free Press, New York, 1989).

Krugman, P.R., International Economics - Theory and Policy (Harper Collins, New York, New York, 1994).

Krugman, P.R., Pop Internationalism (The MIT Press, Cambridge Massachusetts, 1996).

Krugman, P.R., Rethinking International Trade (The MIT Press, Cambridge, Massachusetts, 1990).

Krugman, P.R. (ed.), Strategic Trade Policy and New International Economics (The MIT Press, Cambridge, Massachusetts, 1992).

Krugman, P.R., The Age of Diminished Expectations (The MIT Press, Cambridge, Massachusetts, 1994).

Myint, H., The Economics of the Developing Countries (Hutchinson, London, 1984).

Mamalakis, M., Reynolds, C., Essays on the Chilean Economy (Richard D. Irwin, Homewood, Illinois, 1965).

Mauser, G. A., Political Marketing: An Approach to Campaign Strategy (Praeger, New York, 1983).

Thorp, R., Bertram G., Peru 1890-1977: Growth and Policy in an Open Economy (Columbia University Press, New York, 1978).

Viner, J., Dumping: A Problem in International Trade (The University of Chicago Press, Chicago, 1923).

### **7.8.2 STUDIES ON THE MEAT SECTOR**

Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno (Ediciones de la Banda Oriental, Montevideo, Vol. 1/1, 1967, Vol. 2, 1971, Vol. 3, 1973).

Barran, J.P., Nahum, B., La Civilizacion Ganadera Bajo Battle (1905-1914) (Historia Rural del Uruguay Moderno, Ediciones de la Banda Oriental, Volume VI, Montevideo, 1977).

Bernhard, G., Comercio de Carnes en el Uruguay (Editores Aguilar e Irazabal, Montevideo, 1958).

Bernhard, G., Los Monopolios y la Industria Frigorifica (Ediciones de la Banda Oriental, Montevideo, 1970).

Buxedas, M., La Industria Frigorifica en el Rio de la Plata (CLACSO, Buenos Aires, 1983).

Calvet, J., Un Siglo Frio en la Ganaderia Argentina (Carbap, Buenos Aires, 1977).

Capdevila, P., La Estancia Argentina (Editorial Plus Ultra, Buenos Aires, 1978).

Carreras de las, A., El Comercio de Ganados y Carnes en la Argentina (Editorial Hemisferio Sur, Buenos Aires, 1986).

Carreras de las, A., La Aftosa en la Argentina, Un Desafio Competitivo (Editorial Hemisferio Sur, Buenos Aires, 1993).

Carreras de las, A., Legislacion y Politica de Carnes (Camara Argentina de Consignatarios de Ganado, Buenos Aires, 1989).

Carreras de las, Sanitary Barriers in International Trade of Animal Products (International Meat Secretariat, Paris, 1995).

Castellanos, A., Breve Historia de la Ganaderia en el Uruguay (Banco de Credito, Montevideo, 1973).

Cibils, F.R., La Ganaderia Nacional y la Evolucion Frigorifica (Tailhade & Rosselli, Buenos Aires, 1902).

Coni, E., Historia de las Vaquerias del Rio de la Plata (Editorial Devenir, Buenos Aires, 1956).

Critchell, J. T., A History of the Frozen Meat Trade (Constable & Co., London, 1912).

Giberti, H., Historia Economica de la Ganaderia Argentina (Ediciones Solar / Hachette, Buenos Aires, 1961).

Gibson, H., Informe sobre la Exportacion de Ganado en Pie (Talleres de Publicaciones del Museo, La Plata, 1896).

Hanson, S., Argentine Meat and the British Market (Stanford University Press, California, 1938).

Liceaga, J., Las Carnes en la Economia Argentina (Editorial Raigal, Buenos Aires, 1952).

Lozada, S.M., Swift, Deltec y Las Carnes Argentinas (Editorial El Coloquio, Buenos Aires, 1974).

Malagraba Elichiri, J.P., Mi Vida - 68 Años Ininterrumpidos en la Industria (Impresos Vanni, Montevideo, 1993).

Montoya, A. J., Historia de los Saladeros Argentinos (Editorial Raigal, Buenos Aires, 1956).

Olariaga de, N., El Ruralismo Argentino - Economia Ganadera (Editorial El Ateneo, Buenos Aires, 1943).

Puiggros, R., Libre Empresa o Nacionalizacion en la Industria de la Carne (Editorial Argumentos, Buenos Aires, 1957).

Putnam, G. E., Supplying Britain's Meat (George G. Harrap & Co., London, 1923).

Richelet, J., L'Industrie de la Viande en Republique Argentine (Societe Industrielle D'Imprimerie, Paris, 1928).

Richelet, J.E., The Argentine Meat Trade (Ste. Industrielle d'Imprimerie, Paris, 1929).

Ruano Fournier, A., Estudio Economico de la Produccion de las Carnes del Rio de la Plata (Pena y Cia Impresores, Montevideo, 1936).

Scarborough, C., ... About Oxo - In its Golden Jubilee year 1965 (Spectator Publications, London, 1965).

Seoane, P., La Industria de las Carnes en el Uruguay (Montevideo, 1928).

Smith, P.H., Politics and Beef in Argentina (Columbia University Press, New York, 1969).

Torre de la, L., Las Carnes Argentinas y el Monopolio Extranjero (Artes Graficas, Buenos Aires, 1947).

Williams Alzaga, O., Evolucion Historica de la Explotacion del Ganado Vacuno en Buenos Aires (Imprenta Ferrari, Buenos Aires, 1943).

Yeager, M., Competition and Regulation: The Development of Oligopoly in the Meat Packing Industry (Jai Press, Greenwich, Connecticut, 1981).

### **7.8.3 RELATED AND BACKGROUND TEXTS**

Alemany, R.T., Recordando a Kennedy (Editorial Sudamericana, Buenos Aires, 1996).

Alhadeff, P., Dependency Historiography and Objections to the Roca Pact in Abel, C. and Lewis, C. Latin America, Economic Imperialism and the State (The Athlone Press, London, 1985).

Anderson, O.E., Refrigeration in America (Princeton university Press, New Jersey, 1953).

Archivo Nacional, El Libro del Centenario del Uruguay (Montevideo, 1925).

Burnett, J., Plenty and Want - A Social History of Diet in England from 1815 to the Present Day (Scolar Press, London, 1979).

Caetano, G., Rilla, J., Historia Contemporanea del Uruguay (Editorial Fin de Siglo, Montevideo, 1994).

Carrier, E., La Rueda Uruguay del GATT (Bolsa de Comercio de Buenos Aires, Buenos Aires, 1994).

Conil Paz, A., Ferrari, G., Argentina's Foreign Policy, 1930-1962 (University of Notre Dame Press, Notre Dame, Indiana, 1966).

Dintenfass, M., The Decline of Industrial Britain, 1870-1980 (Routledge, London, 1932).

Drosdoff, D., El Gobierno de las Vacas (Ediciones La Bastilla, Buenos Aires, 1972).

Duncan, T., Fogarty J., Australia and Argentina - On Parallel Paths (Melbourne University Press, Melbourne, 1984).

Edgerton, D.E.H., Science, Technology and the British Industrial 'Decline' 1870-1970 (Cambridge University Press, Cambridge, 1996).

Feavearyear, Albert Sir, The Pound Sterling - A History of English Money (Clarendon Press, Oxford, 1963).

Finch, M.H.J., A Political Economy of Uruguay since 1870 (The Macmillan Press, 1981).

Finch, H., Historia Economica del Uruguay Contemporaneo (Ediciones de la Banda Oriental, Montevideo, 1980).

Gallo E., Argentina: Society and Politics, 1800-1916 in Bethell, L., ed., The Cambridge History of Latin America (Volume V, Cambridge University Press, Cambridge, 1985).

Gamble, A., Britain in Decline (MacMillan, London, 1990).

Giedion, S., Mechanization Takes Command (W.W. Norton & Company, New York, 1969).

Gravil, R., The Anglo-Argentine Connection, 1900-39 (Westview Press, Boulder, 1985).

Heim, C.E., 'Interwar Responses to Regional Decline' in Elbaum, B. and Lazonick, W., The Decline of the British Economy (Clarendon Press, Oxford, 1986).

Kirby, M.W., The Decline of British Economic Power since 1870 (George Allen & Unwin, London, 1981).

Kroeber, C. B. The Growth of the Shipping Industry in the Rio de la Plata Region 1794-1860 (The University of Wisconsin Press, Madison, 1957).

Lewis, C., British Railways in Argentina 1857-1914 (The Athlone Press, London, 1983).

Lynch, J., The River Plate Republics from Independence to the Paraguay War in Bethell, L., ed., The Cambridge History of Latin America (Volume III, Cambridge University Press, Cambridge, 1985).

Morris, A. S., Latin America: Economic Developments and Regional Differentiation (Hutchinson, London, 1981).

Nahum, B., La Epoca Batllista 1905-1929 (Historia Uruguaya, Ediciones de la Banda Oriental, Tomo 6, Montevideo, 1986).

Oddone, J. A., The Formation of Modern Uruguay in Bethell, L., ed., The Cambridge History of Latin America (Volume V, Cambridge University Press, Cambridge, 1985).

Peterson, H.F., Argentina and the United States 1810-1960 (State University of New York, University Publishers, New York, 1964).

Richardson, H.W., 'The Role of Consumption in Interwar Fluctuations' in Aldcroft, D.H. and Fearon, P., British Economic Fluctuations 1790-1939 (Macmillan Press, London, 1972).

Roca J.A., Eduardo Roca (Consejo Argentino para las Relaciones Internacionales, Imprenta de los Buenos Ayres, Buenos Aires, 1995).

Shenstone, W. A., Justus von Liebig - His Life and Work (Cassell and Co., London, 1895).

Sukup, V., El Peronismo y la Economia Mundial (Grupo Editor Latinoamericano, Buenos Aires, 1992).

Tellier, C., Histoire D'une Invention Moderne - Le Frigorifique (Ch. Delagrave, Paris, 1910).

Thévenot, R., A History of Refrigeration Throughout the World (International Institute of Refrigeration, Paris, 1979).

Tulchin, J.S., Argentina and the United States - A Conflicted Relationship (Twayne Publishers, Boston, 1990).

Waisman, C.H., Reversal of Development in Argentina (Princeton University Press, New Jersey, 1987).

Williman, J. C., Historia Economica del Uruguay (Vol. II, Editorial Fin de Siglo, Montevideo, 1994).

Woolrich, W.R., The Men Who Created Cold (Exposition Press, New York, 1967).

## 7.9 OTHERS

Dr. B. Cané, et al, "Argentina BSE Free" on: <http://www.mecon.ar/agricultura/azulcara.htm> and <http://www.mecon.ar/invest/beef/meata.htm>.

'Registro de Marcas de Ganado', (Archivo Nacional, No. 930, Montevideo, 1874-1876).

Bolsa de Comercio de Buenos Aires, "La Politica Arancelaria y el Comercio Exterior", Comercio Exterior, Ciclo de Conferencias, Buenos Aires, 1990.

The Economist Intelligence Unit, Argentina and Uruguay Country Reports, 1994-97.

New Zealand Meat Producers Board, Sixth Annual Report and Accounts, Wellington, 1928.

William Walker Accounts, Nineteenth century estate papers, Di Tella University, Buenos Aires.

### **7.10 STATISTICS**

See Appendixes 1 to 31 for specific lists of statistical sources.

## LIST OF APPENDIXES

Appendix 1 : River Plate and World Meat Exports Volume (In 000's tons) Average Yearly Periods between 1909-1994

Appendix 2 : River Plate and World Meat Exports Market Share (%) Average Yearly Periods between 1909-1994

Appendix 3 : River Plate Meat Exports (In Tons) 1875-1914

Appendix 4 : British Meat Imports by Type 1890-1894 and 1900-1904

Appendix 5 : River Plate Global Meat Market Share Estimates In Tons 1890-1894 and 1900-1904

Appendix 6 : British Meat Imports by Type (Value £) 1890-1894 and 1900-1904

Appendix 7 : River Plate Meat Exports (Value £) 1890-1894 and 1900-1904

Appendix 8 : River Plate Global Meat Market Share Estimates (Value £) 1890-94 and 1900-1904

Appendix 9 : British Meat Imports from the River Plate (Value £) & Global Value Share 1909-1938

Appendix 10 : British Meat Imports from the River Plate (Value £) & Global Value Share 1948-1952

Appendix 11 : River Plate and World Meat Exports Value (Thousands of USD) & Global Value Share 1968-72 and 1988-92

Appendix 12 : Meat Export Volumes (In 000's tons) and Global Meat Export Market Shares (%) Average Yearly Periods between 1909-1992

Appendix 13 : Meat Import Distribution Volumes (In 000's tons) and Global Meat Import Distribution Shares (%) Average Yearly Periods between 1909-92

Appendix 14 : Picture of Expanded By-Products

Appendix 15 : Argentine Meat Exports By Type 1875-1914 (5 Year Periods) in Tons

Appendix 16 : Uruguay Meat Exports By Type 1875-1914 (5 Year Periods) in Tons

Appendix 17 : Argentine Meat Exports by Destination In Value 1906-1910

Appendix 18 : Uruguayan Meat Exports by Destination In Value 1906-1910

Appendix 19 : World Import Distribution Shares (%) Bovine and Ovine Meat  
(In Volume) 1909-1913

Appendix 20 : Uruguayan Meat Exports (Volume in Tons) 1900-1929

Appendix 21 : Uruguayan Meat Exports (Volume in Tons) 1930-1954

Appendix 22 : Argentinian Meat Exports (Volume in Tons) 1900-1929

Appendix 23 : Argentinian Meat Exports (Volume in Tons) 1930-1954

Appendix 24 : River Plate Meat Exports (Volume in Tons) 1900-1929

Appendix 25 : River Plate Meat Exports (Volume in Tons) 1930-1954

Appendix 26 : Uruguayan Meat Exports (Value Pesos \$) 1900-1931

Appendix 27 : Argentinian Meat Exports (Value Gold Pesos \$) 1900-1931

Appendix 28 : Value of River Plate Meat Exports (In Argentinian Pesos) 1900-1932

Appendix 29 : Uruguayan Meat Exports (5-Year Moving Averages) 1900-1954  
Volume in Tons

Appendix 30 : Argentinian Meat Exports (5-Year Moving Averages) 1900-1954  
Volume in Tons

Appendix 31 : Production of Beef and Sheepmeat 1951-1985 (In Thousands of Tons)

#### Notice in Regards to Appendixes

Please note that some differences may exist between meat exports from the River Plate and import figures in the U.K. This reflects different accounting procedures, variations in types of classification, transfer pricing as well as exchange rate differentials and fluctuations.

Years (Average)	1909-1913	Index vs. Base Period <sup>a</sup>	BASE 1926-30	Index. vs. Prev. Period <sup>b</sup>	1934-38	Index. vs. Prev. Period <sup>b</sup>	1948-52	Index. vs. Prev. Period <sup>b</sup>	1968-72	Index. vs. Prev. Period <sup>b</sup>	1988-92	Index. vs. Prev. Period <sup>b</sup>	1993	Index. vs. Prev. Period <sup>b</sup>	1994	Index. vs. Prev. Period <sup>b</sup>	Index. vs. Base Period <sup>b</sup>
<b>ARGENTINA</b>																	
Chilled Beef	16.8	(4)	396.8	(2358)													
Frozen Beef	280.4	(173)	161.7	(58)													
Total Chilled and Frozen Beef	297.3	(53)	558.5	(188)	408.9	(73)	195.0	(48)	(35)	325.2	(167)	(58)	98.4	(30)	(18)	67.8	(69)
Chilled Sheepmeat	0.0	0.0															
Frozen Sheepmeat	68.7	(88)	77.8	(113)	49.5	(64)	51.5	(104)	(66)	27.4	(53)	(35)	6.3	(23)	(8)	2.4	(38)
Total Chilled and Frozen Sheepmeat	68.7	(88)	77.8	(113)													1.9
Other Prepared (b)	22.1	(479)	4.6	(21)	5.5	(119)	19.4	(353)	(420)	2.1	(11)	(46)	0.0			0.0	
Canned (b)	0.0	(0)	64.2		70.3	(110)	69.2	(98)	(108)	111.9	(162)	(174)	98.6			106.2	
Total Other Prepared and Canned (b)	22.1	(32)	68.8	(311)	75.8	(110)	88.6	(117)	(129)	114.0	(129)	(166)	118.2	(104)	(172)	98.6	106.2
Total C.&F. Beef, O. Prep. and Canned (c)	319.4	(51)	627.3	(196)	484.7	(77)	283.6	(59)	(45)	439.2	(155)	(70)	216.6	(49)	(35)	166.3	(77)
<b>TOTAL</b>	<b>388.1</b>	<b>(55)</b>	<b>705.0</b>	<b>(182)</b>	<b>534.2</b>	<b>(76)</b>	<b>335.1</b>	<b>(63)</b>	<b>(48)</b>	<b>466.6</b>	<b>(139)</b>	<b>(66)</b>	<b>222.9</b>	<b>(48)</b>	<b>(32)</b>	<b>168.8</b>	<b>(76)</b>
<b>URUGUAY (a)</b>																	
Chilled Beef	0.0	32.2															
Frozen Beef	21.8	(32)	67.2	(309)	54.4	(55)	53.5	(98)	(54)	102.0	(191)	(103)	90.0	(88)	(90)	54.3	(60)
Total Chilled and Frozen Beef	21.8	(22)	99.5	(457)													89.4
Chilled Sheepmeat	0.0	0.0															
Frozen Sheepmeat	2.7	(12)	22.2	(823)	7.7	(35)	8.0	(104)	(36)	11.8	(147)	(53)	14.8	(126)	(67)	10.9	(74)
Total Chilled and Frozen Sheepmeat	2.7	(12)	22.2	(823)													10.9
Other Prepared (b)	42.3	(367)	11.5	(27)	6.7	(58)	2.9	(43)	(25)	0.3	(10)	(3)	1.6			0.4	
Canned (b)	4.6	(18)	25.4	(557)	32.8	(129)	15.8	(48)	(62)	5.1	(32)	(20)					
Total Other and Canned (b)	46.9	(127)	36.9	(79)	39.5	(107)	18.7	(47)	(51)	5.4	(29)	(15)	10.0	(186)	(27)	12.5	(125)
Total C.&F. Beef, O. Prep. and Canned (c)	68.6	(50)	136.3	(199)	93.9	(69)	72.2	(77)	(53)	107.4	(149)	(79)	100.0	(93)	(73)	66.8	(67)
<b>TOTAL</b>	<b>71.3</b>	<b>(45)</b>	<b>158.6</b>	<b>(222)</b>	<b>101.6</b>	<b>(64)</b>	<b>80.2</b>	<b>(79)</b>	<b>(51)</b>	<b>119.2</b>	<b>(149)</b>	<b>(75)</b>	<b>114.8</b>	<b>(96)</b>	<b>(72)</b>	<b>77.7</b>	<b>(68)</b>
<b>RIVER PLATE</b>																	
Chilled Beef	16.8	(4)	429.0	(2549)													
Frozen Beef	302.2	(132)	228.9	(76)													
Total Chilled and Frozen Beef	319.0	(48)	657.9	(206)	463.3	(70)	248.5	(54)	(38)	427.2	(172)	(65)	188.4	(44)	(29)	122.1	(65)
Chilled Sheepmeat	0.0	0.0			0.0												
Frozen Sheepmeat	71.4	(71)	100.0	(140)	0.0												
Total Chilled and Frozen Sheepmeat	71.4	(71)	100.0	(140)	57.2	(57)	59.5	(104)	(60)	39.2	(66)	(39)	21.1	(54)	(21)	13.3	(63)
Other Prepared (b)	64.5	(399)	16.2	(25)	12.2	(76)	22.3	(183)	(138)	2.4	(11)	(15)					
Canned (b)	4.6	(5)	89.5	(1968)	103.1	(115)	85.0	(82)	(95)	117.0	(138)	(131)					
Total Other Prepared and Canned (b)	69.0	(65)	105.7	(153)	115.3	(109)	107.3	(93)	(102)	119.4	(111)	(113)	128.2	(107)	(121)	111.0	(87)
Total C.&F. Beef, O. Prep. and Canned (c)	388.0	(51)	763.6	(197)	578.6	(76)	355.8	(61)	(47)	546.6	(154)	(72)	316.6	(58)	(41)	233.2	(74)
<b>TOTAL</b>	<b>459.4</b>	<b>(53)</b>	<b>863.6</b>	<b>(188)</b>	<b>635.8</b>	<b>(74)</b>	<b>415.3</b>	<b>(65)</b>	<b>(48)</b>	<b>585.8</b>	<b>(141)</b>	<b>(68)</b>	<b>337.7</b>	<b>(58)</b>	<b>(39)</b>	<b>246.5</b>	<b>(73)</b>
<b>WORLD EXPORTS (c)</b>																	
Total Chilled and Frozen Beef (c)	621.0	(55)	1130.0	(182)	730.0	(65)	510.0	(70)	(45)	2029.6	(398)	(180)	4526.6	(223)	(401)	4686.9	(104)
Total Chilled and Frozen Sheep (c)	258.4	(87)	297.5	(115)	350.0	(118)	376.0	(107)	(126)	717.8	(191)	(241)	866.2	(121)	(291)	858.2	(99)
Total Other Prepared and Canned (d)	(d)		(d)		(d)		220.0			380.0	(173)		1256.7	(331)		1743.2	(139)
Total C.&F. Beef, O. Prep. and Canned (c)	621.0	(55)	1130.0	(182)	950.0	(84)	890.0	(94)	(79)	3286.3	(369)	(291)	6269.9	(191)	(555)	6616.4	(106)
<b>TOTAL</b>	<b>879.4</b>	<b>(62)</b>	<b>1427.5</b>	<b>(162)</b>	<b>1300.0</b>	<b>(91)</b>	<b>1266.0</b>	<b>(97)</b>	<b>(89)</b>	<b>4004.1</b>	<b>(316)</b>	<b>(281)</b>	<b>7136.1</b>	<b>(178)</b>	<b>(500)</b>	<b>7474.6</b>	<b>(105)</b>
																	<b>7798.9</b>
																	<b>(104)</b>
																	<b>(546)</b>

## Source:

1909-13: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1929, tables 139-140, pp. 416-425.

1926-30: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1947, tables 70-71, pp. 460-479.

1934-38 and 1948-52: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1959, tables 7-8 and 12-13, pp. 52-55 and 63-66.

1958-72: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1972, tables 9-10, 16 and 19, pp. 36-33, 51-54 and 63-67.

1988-92: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1990, tables 13-14, 20 and 23, pp. 60-64, 75-76 and 81-83.

1991-92: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1993, tables 13-14, 20 and 23, pp. 30-34, 45-46 and 51-53.

1993-94: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1994, tables 13-14, 20 and 23, pp. 30-34, 45-46 and 51-53.

## Notes:

(a) For Uruguay the 1909-13 period is an average of only 1910-13.

(b) In 1909-13 and 1926-30 'Other Prepared and Canned' River Plate exports are mostly beef, while sheepmeat is insignificant. Thereafter it includes all meats.

(c) In 1909-72, 1988-92, 1993 &amp; 1994 'Other Prepared' are 'Meat, dried, salted or smoked, whether or not in slight containers'.

(d) Includes 'Other Prepared and Canned' in 1909-13 and 1926-30.

(e) In 1909-13, 1926-30 and the 1994 Estimate 'Other Prepared and Canned' are included into the 'Chilled and Frozen' categories.

(f) 'Chilled and Frozen Beef' plus 'Total Other Prepared and Canned' is used as a proxy for total beef exports.

**Appendix 2 - River Plate and World Meat Exports Market Share (%) Average Yearly Periods between 1909-1994**

P. 350

Years (Average)	1909-1913	(+/-% Pts. vs. Base Period)	BASE 1926-30	(+/-% Pts. vs. Prev. Period)	1934-38	(+/-% Pts. vs. Prev. Period)	1948-52	(+/-% Pts. vs. Prev. Period)	1968-72	(+/-% Pts. vs. Prev. Period)	1988-92	(+/-% Pts. vs. Prev. Period)	1993	(+/-% Pts. vs. Prev. Period)	(+/-% Pts. vs. Base Period)	1994	(+/-% Pts. vs. Prev. Period)	(+/-% Pts. vs. Base Period)
<b>ARGENTINA</b>																		
Total Chilled and Frozen Beef (c)	51.4%	-4.1%	55.5%	4.1%	56.0%	0.5%	38.2%	-17.8%	-17.3%	16.0%	-22.2%	-39.5%	2.2%	-13.8%	-53.3%	1.4%	-0.7%	-54.1%
Total Chilled and Frozen Sheep (c)	26.6%	0.5%	26.1%	-0.5%	14.1%	-12.0%	13.7%	-0.4%	-12.4%	3.8%	-9.9%	-22.3%	0.7%	-3.1%	-25.4%	0.3%	-0.4%	-25.9%
Total Other Prepared and Canned (d)	(d)		(d)		34.5%	34.5%	23.3%	-11.1%	23.3%	9.1%	-14.2%	9.1%	6.8%	-2.3%	6.8%	0.0%	-6.8%	0.0%
Total C.&F. Beef, O. Prep. and Canned (e)	51.4%	-4.1%	55.5%	4.1%	51.0%	-4.5%	31.9%	-19.2%	-23.6%	13.4%	-18.5%	-42.1%	3.5%	-9.9%	-52.1%	2.5%	-0.9%	-53.0%
<b>TOTAL</b>	<b>44.1%</b>	<b>-5.3%</b>	<b>49.4%</b>	<b>5.3%</b>	<b>41.1%</b>	<b>-8.3%</b>	<b>26.5%</b>	<b>-14.6%</b>	<b>-22.9%</b>	<b>11.7%</b>	<b>-14.8%</b>	<b>-37.7%</b>	<b>3.1%</b>	<b>-8.5%</b>	<b>-46.3%</b>	<b>2.3%</b>	<b>-0.9%</b>	<b>-47.1%</b>
<b>URUGUAY (a)</b>																		
Total Chilled and Frozen Beef (c)	11.1%	-1.0%	12.1%	1.0%	7.5%	-4.6%	10.5%	3.0%	-1.6%	5.0%	-5.5%	-7.0%	2.0%	-3.0%	-10.1%	1.2%	-0.8%	-10.9%
Total Chilled and Frozen Sheepmeat (c)	1.0%	-6.4%	7.5%	6.4%	2.2%	-5.3%	2.1%	-0.1%	-5.3%	1.6%	-0.5%	-5.8%	1.7%	0.1%	-5.8%	1.3%	-0.4%	-6.2%
Total Other Prepared and Canned (d)	(d)		(d)		18.0%	18.0%	4.9%	-13.0%	4.9%	0.4%	-4.5%	0.4%	0.6%	0.1%	0.6%	0.6%	0.1%	0.6%
Total C.&F. Beef, O. Prep. and Canned (e)	11.1%	-1.0%	12.1%	1.0%	9.9%	-2.2%	8.1%	-1.8%	-4.0%	3.3%	-4.8%	-8.8%	1.6%	-1.7%	-10.5%	1.0%	-0.6%	-11.1%
<b>TOTAL</b>	<b>8.1%</b>	<b>-3.0%</b>	<b>11.1%</b>	<b>3.0%</b>	<b>7.8%</b>	<b>-3.3%</b>	<b>6.3%</b>	<b>-1.5%</b>	<b>-4.8%</b>	<b>3.0%</b>	<b>-3.4%</b>	<b>-8.1%</b>	<b>1.6%</b>	<b>-1.4%</b>	<b>-9.5%</b>	<b>1.0%</b>	<b>-0.6%</b>	<b>-10.1%</b>
<b>RIVER PLATE</b>																		
Total Chilled and Frozen Beef (c)	62.5%	-5.1%	67.6%	5.1%	63.5%	-4.1%	48.7%	-14.7%	-18.9%	21.0%	-27.7%	-46.5%	4.2%	-16.9%	-63.4%	2.6%	-1.6%	-65.0%
Total Chilled and Frozen Sheep (c)	27.6%	-6.0%	33.6%	6.0%	16.3%	-17.3%	15.8%	-0.5%	-17.8%	5.5%	-10.4%	-28.2%	2.4%	-3.0%	-31.2%	1.6%	-0.9%	-32.1%
Total Other Prepared and Canned (d)	(d)		(d)		52.4%	52.4%	28.2%	-24.2%	28.2%	9.5%	-18.7%	9.5%	7.4%	-2.1%	7.4%	5.8%	-1.6%	5.8%
Total C.&F. Beef, O. Prep. and Canned (e)	62.5%	-5.1%	67.6%	5.1%	60.9%	-6.7%	40.0%	-20.9%	-27.6%	16.6%	-23.3%	-50.9%	5.0%	-11.6%	-62.5%	3.5%	-1.5%	-64.1%
<b>TOTAL</b>	<b>52.2%</b>	<b>-8.3%</b>	<b>60.5%</b>	<b>8.3%</b>	<b>48.9%</b>	<b>-11.6%</b>	<b>32.8%</b>	<b>-16.1%</b>	<b>-27.7%</b>	<b>14.6%</b>	<b>-18.2%</b>	<b>-45.9%</b>	<b>4.7%</b>	<b>-9.9%</b>	<b>-55.8%</b>	<b>3.3%</b>	<b>-1.4%</b>	<b>-57.2%</b>
<b>1.3% -55.9%</b>																		

**Sources:**

1909-13: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1929, tables 139-140, pp. 416-425.  
 1926-30: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1947, tables 70-71, pp. 460-479.  
 1934-38 and 1948-52: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1959, tables 7-8 and 12-13, pp. 52-55 and 62-66.  
 1968-72: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1972, tables 9-10, 16 and 19, pp. 26-33, 31-54 and 63-67.  
 1988-90: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1990, tables 13-14, 20 and 23, pp. 60-64, 75-76 and 81-83.  
 1991-92: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1993, tables 13-14, 20 and 23, pp. 30-34, 45-46 and 51-53.  
 1993-94: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1994, tables 13-14, 20 and 23, pp. 30-34, 45-46 and 51-53.

**Notes:**

(a) For Uruguay the 1909-13 period is an average of only 1910-13.  
 (b) In 1909-13 and 1926-30 'Other Prepared and Canned' River Plate exports are mostly beef, while sheepmeat is insignificant. Thereafter it includes all meats.  
 In 1968-72, 1988-92, 1993 & 1994 'Other Prepared' are 'Meat, dried, salted or smoked, whether or not in airtight containers'.  
 (c) Includes 'Other Prepared and Canned' in 1909-13 and 1926-30.  
 (d) In 1909-13, 1926-30 and the 1994 Estimate 'Other Prepared and Canned' are included into the 'Chilled and Frozen' categories.  
 (e) 'Chilled and Frozen Beef' plus 'Total Other Prepared and Canned' is used as a proxy for total beef exports.

**Appendix 3 - River Plate Meat Exports (In Tons) 1875-1914**

P. 351

	1875	1876	1877	1878	1879	1875-79	1880	1881	1882	1883	1884	1880-84	1885	1886	1887	1888	1889	1885-89	1890	1891	1892	1893	1894	1890-94
<b>URUGUAY</b>																								
<i>Tasajo</i>	22552		22728	32965	23449	101694	33073	27852	34026	34793	45760	175504	32332	43038	28576	49506	38077	191529	38268	33599	39807	43876	55813	211363
Conserved Meat*	1675		2744	516	880	5815	3608	5864	4615	2415	16502	2649	3607	371	330	185	7142	184	132	147	22	485		
Meat Extract*		372	431	369	1172	469	336	564	498	464	2331	619	621	447	576	550	2813	821	712	523	487	649	3192	
Conserved Tongues*																								
Frozen Ovine Meat																								
Frozen Bovine Meat																								
Chilled Bovine Meat																								
<b>TOTAL MEAT URUGUAY</b>	<b>24227</b>	<b>0</b>	<b>25844</b>	<b>33912</b>	<b>24698</b>	<b>108681</b>	<b>37150</b>	<b>34052</b>	<b>39205</b>	<b>35291</b>	<b>48639</b>	<b>194337</b>	<b>35600</b>	<b>47266</b>	<b>29394</b>	<b>50412</b>	<b>38812</b>	<b>201484</b>	<b>39273</b>	<b>34311</b>	<b>40462</b>	<b>44510</b>	<b>56484</b>	<b>215040</b>
<b>ARGENTINA</b>																								
<i>Tasajo</i>	34130	29666	38733	33600	32336	168465	26109	22399	26997	21545	18870	115920	32056	37388	23984	26449	41768	161645	43481	39635	44699	41151	42838	211804
Conserved Meat																								
Meat Extract																								
Conserved Tongues																								
Frozen Ovine Meat																								
Frozen Bovine Meat																								
Chilled Bovine Meat																								
<b>TOTAL MEAT ARGENTINA</b>	<b>34130</b>	<b>29666</b>	<b>38733</b>	<b>33600</b>	<b>32336</b>	<b>168465</b>	<b>26109</b>	<b>22399</b>	<b>26997</b>	<b>21545</b>	<b>18870</b>	<b>115920</b>	<b>32056</b>	<b>37388</b>	<b>23984</b>	<b>26449</b>	<b>41768</b>	<b>161645</b>	<b>43481</b>	<b>39635</b>	<b>44699</b>	<b>41151</b>	<b>42838</b>	<b>211804</b>
<b>RIVER PLATE</b>																								
<i>Tasajo</i>	56682	29666	61461	66565	55785	270159	59182	50251	61023	56338	64630	291424	64388	80426	52560	75955	79845	353174	81749	73234	84506	85027	98651	423167
Conserved Meat	1675		2744	516	880	5815	3608	5864	4615	0	2415	16502	2649	3607	371	468	1315	8410	658	2877	7172	2326	680	13713
Meat Extract		372	431	369	1172	469	336	564	517	492	2378	619	874	485	640	603	3221	1009	907	783	586	734	4018	
Conserved Tongues																								
Frozen Ovine Meat																								
Frozen Bovine Meat																								
Chilled Bovine Meat																								
<b>TOTAL RIVER PLATE</b>	<b>58357</b>	<b>29666</b>	<b>64577</b>	<b>67512</b>	<b>57034</b>	<b>277146</b>	<b>63259</b>	<b>56451</b>	<b>66202</b>	<b>56855</b>	<b>67537</b>	<b>310304</b>	<b>70602</b>	<b>92785</b>	<b>65455</b>	<b>95353</b>	<b>99030</b>	<b>42325</b>	<b>104493</b>	<b>100370</b>	<b>118181</b>	<b>115758</b>	<b>137534</b>	<b>576336</b>
<b>URUGUAY</b>	<b>1895</b>	<b>1896</b>	<b>1897</b>	<b>1898</b>	<b>1899</b>	<b>1895-99</b>	<b>1900</b>	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1900-4</b>	<b>1905</b>	<b>1906</b>	<b>1907</b>	<b>1908</b>	<b>1909</b>	<b>1905-09</b>	<b>1910</b>	<b>1911</b>	<b>1912</b>	<b>1913</b>	<b>1914</b>	<b>1910-14</b>
<i>Tasajo</i>	55025	55294	45754	51065	58949	266087	57546	46599	42616	56981	59384	263126	43743	48751	45772	44948	48460	231674	52257	53305	38250	25554	11096	180462
Conserved Meat*	5	57	33	190	194	479	201	284	398	803	2909	4595	3067	2155	2155	2155	11687	2155	6880	6880	6880	6880	29675	
Meat Extract*	580	701	394	482	564	2721	579	678	790	709	759	3515	734	667	666	666	666	3399	666	281	281	281	281	1790
Conserved Tongues*																								
Frozen Ovine Meat																								
Frozen Bovine Meat																								
Chilled Bovine Meat																								
<b>TOTAL MEAT URUGUAY</b>	<b>55610</b>	<b>56052</b>	<b>46181</b>	<b>52401</b>	<b>60714</b>	<b>270958</b>	<b>59216</b>	<b>48372</b>	<b>44747</b>	<b>59232</b>	<b>63948</b>	<b>275515</b>	<b>51044</b>	<b>54147</b>	<b>58398</b>	<b>57827</b>	<b>62145</b>	<b>283561</b>	<b>68971</b>	<b>71561</b>	<b>67731</b>	<b>82756</b>	<b>90571</b>	<b>381590</b>
<b>ARGENTINA</b>																								
<i>Tasajo</i>	55089	45907	36238	22242	19164	178640	16449	24296	22304	12991	11726	87766	25288	4650	10649	6650	11622	58859	9442	12120	8824	3910	2377	36673
Conserved Meat	923	2043	1151	1623	1816	7556	1405	946	1644	3742	2429	10166	2488	1259	1595	1727	6390	13459	12082	15413	17699	12574	13087	70855
Meat Extract	149	488	184	303	383	1507	115	217	296	347	207	1182	435	421	896	690	1351	1794	1523	516	612	799	431	3881
Conserved Tongues	787	640	548	560	581	3115	681	679	554	473	631	3017	519	304	757	874	1201	3655	948	714	632	440	503	3237
Frozen Ovine Meat	41882	45105	50894	59833	56627	254341	56412	63013	80073	78149	88616	366263	78351	67388	69785	78846	66495	360865	75102	85916	70175	45928	58688	335809
Frozen Bovine Meat	1587	2997	4241	5867	9079	23771	24590	44904	70018	81520	97757	318789	152857	153809	138222	174563	209435	828886	245267	297738	317620	332054	328278	1520957
Chilled Bovine Meat																								
<b>TOTAL MEAT ARGENTINA</b>	<b>100417</b>	<b>97180</b>	<b>93256</b>	<b>90428</b>	<b>87649</b>	<b>468930</b>	<b>99652</b>	<b>134054</b>	<b>174889</b>	<b>177222</b>	<b>201353</b>	<b>787170</b>	<b>259938</b>	<b>227831</b>	<b>221904</b>	<b>269602</b>	<b>297717</b>	<b>1276992</b>	<b>352805</b>	<b>427512</b>	<b>440793</b>	<b>429880</b>	<b>444055</b>	<b>2095045</b>
<b>RIVER PLATE</b>																								
<i>Tasajo</i>	110114	101201	81992	73307	78113	44727	73995	70895	64920	69972	71110	350892	69031	53401	56421	51598	60082	290533	61699	65425	47074	29464	13473	217135
Conserved Meat	928	2100	1184	1813	2010	8035	1606	1230	2042	4545	5338	14761	5555	3414	3750	3882	8545	25146	14237	22293	24579	19454	19967	100530
Meat Extract	729	1189	578	785	947	4228	694	895	1086	1056	966	4697	1169	1088	1562	1356	2017	7193	2189	797	893	1080	712	5671
Conserved Tongues	787	640	548	1224	1588	4786	1571	1490	1497	1212	1514	7283	1328	1129	1581	1698	2025	7761	1772	1191	1109	917	980	5969
Frozen Ovine Meat	41882	45105	50894	59833	56627	254341	56412	63013	80073	78149	88616	366263	78642	68427	73294	81166	70854	372383	78772	88853	71676	45928	61117	346346
Frozen Bovine Meat	1587	2997	4241	5867	9079	23771	24590	44904	70018	81520	97757	318789	155257	154519	143694	181477	215116	850663	254666	305419	337962	381618	397686	1677351
Chilled Bovine Meat																								
<b>TOTAL RIVER PLATE</b>	<b>156027</b>	<b>153232</b>	<b>139437</b>	<b>142829</b>	<b>148363</b>	<b>739888</b>	<b>158868</b>	<b>182426</b>	<b>219636</b>	<b>236454</b>	<b>265301</b>	<b>1062685</b>	<b>310982</b>	<b>281978</b>	<b>280302</b>	<b>327429</b>	<b>359862</b>	<b>1560553</b>	<b>421776</b>	<b>499073</b>	<b>5</b>			

	British Meat Imports (in Cwt.)					
	1890	1891	1892	1893	1894	1890-94
Beef Salted	274726	247759	275394	200514	242311	1240704
- of which other than U.S.	11674	12691	7685	12587	7191	51828
Beef Fresh	1854593	1920511	2079637	1808051	2104094	9766886
Meat Unnumerated	103881	113357	150573	177509	189757	735077
Preserved Otherwise: Beef	551098	5267111	567991	385727	291056	2322583
Preserved Otherwise: Mutt	78409	92597	68412	83882	112928	436228
Mutton Fresh	1656419	1662994	1699966	1971500	2295065	9285944
- of which Argentina	435084	436358	471128	515611	585728	2443909
TOTAL	4519126	4563929	4841973	4627183	5235211	23787422

	British Meat Imports (in Tons)					
	1890	1891	1892	1893	1894	1890-94
Beef Salted Total	13957	12587	13991	10187	12310	63031
- of which other than U.S.	593	645	390	639	365	2633
Beef Fresh	94219	97567	105652	91854	106894	496186
Meat Unnumerated	5277	5759	7650	9018	9640	37344
Preserved Otherwise: Beef	27997	26758	28856	19596	14786	117994
Preserved Otherwise: Mutt	3983	4704	3476	4261	5737	22162
Mutton Fresh	84151	84485	86363	100158	116596	471753
- of which Argentina	22104	22168	23935	26195	29757	124158
TOTAL	229585	231861	245986	235074	265964	1208469

	British Meat Imports (in Cwt.)					
	1900	1901	1902	1903	1904	1900-04
Beef Salted	192934	204396	153574	178692	144304	873900
- of which other than U.S.	7605	12396	9680	8516	9024	47221
Beef Fresh	4128130	4508746	3707387	4159606	4367322	20871191
- of which Argentina	412262	771929	923748	1152211	1675271	4935421
Mutton Fresh	3392850	3608229	3659599	4016622	3494782	18172082
- of which Argentina	1114795	1271654	1352501	1485770	1422397	6647117
Meat Unnumerated	530688	610271	655023	663261	631012	3090255
Preserved Otherwise: Beef	518029	464727	577956	472615	556918	2590245
Preserved Otherwise: Mutt	64462	64884	85496	49154	37257	301253
TOTAL	8827093	9461253	8839035	9539950	9231595	45898926

	British Meat Imports (in Tons)					
	1900	1901	1902	1903	1904	1900-04
Beef Salted	9802	10384	7802	9078	7331	44397
- of which other than U.S.	386	630	492	433	458	2399
Beef Fresh	209721	229057	188346	211320	221872	1060316
- of which Argentina	20944	39216	46929	58536	85109	250734
Mutton Fresh	172367	183308	185918	204056	177545	923194
- of which Argentina	56635	64604	68711	75481	72262	337693
Meat Unnumerated	26960	31004	33277	33696	32057	156994
Preserved Otherwise: Beef	26317	23609	29362	24010	28293	131592
Preserved Otherwise: Mutt	3275	3296	4343	2497	1893	15305
TOTAL	448442	480659	449048	484657	468991	2331797.021

## Sources:

1890-91: Accounts Relating to Trade and Navigation of the U.K. (Eyre and Spottiswoode, London, December 1892), pp. 18-19.

1892-94: Accounts Relating to Trade and Navigation of the U.K. (Eyre and Spottiswoode, London, December 1894), pp. 18-19.

1900-01: Accounts Relating to Trade and Navigation of the U.K. (Wyman and Sons, London, December 1902), pp. 18-23.

1902-04: Accounts Relating to Trade and Navigation of the U.K. (Wyman and Sons, London, December 1904), pp. 34-39.

Calculation of Tons based on Weights and Measures in Inglis, R.M.G., The Express Universal Decimal Coinage Reckoner (The University Press, Glasgow, 1969).

**Appendix 5 - River Plate Global Meat Market Share Estimates (1890-94 and 1900-1904) - Tons**

P. 353

	<u>1890-94</u>	<u>1900-04</u>	<u>Sources</u>
U.K. Salted Beef Imports - of which other than U.S.	63031 2633	44397 2399	(i) (i)
Total U.K. Meat Imports	1208469	2331797	(i)
Total U.K. Meat Imports Minus U.K. Beef Salted Imports other than U.S. (A)	1205835.989	2329398	
Total River Plate Tasajo Exports (B)	423167	350892	(ii)
(A)+(B)	1629002.989	2680290	
Total River Plate Exports (C)	576336	1062685	(ii)
River Plate Global Meat Market Share (Volume) (C) / [(A) + (B)]	35.4%	39.6%	Sources: (i) See Appendix 4 (ii) See Appendix 3

	<u>1890</u>	<u>1891</u>	<u>1892</u>	<u>1893</u>	<u>1894</u>	<u>1890-94</u>
Beef Salted	381734	356022	388588	278997	342814	1748155
- of which other than U.S.	22822	21204	12641	22253	10071	88991
Beef Fresh	3923015	4038487	4413148	3830596	4213671	20418917
Meat Unnumerated	227572	255898	344945	399912	410724	1639051
Preserved Otherwise: Beef	1424419	1210293	1339094	961731	813698	5749235
Preserved Otherwise: Mutton	181482	220737	139202	154818	195166	891405
Mutton Fresh	3447776	3282001	3447102	3873863	4341227	18391969
- of which Argentina	822486	791011	866581	959299	958649	4398026
<b>TOTAL</b>	<b>9585998</b>	<b>9363438</b>	<b>10072079</b>	<b>9499917</b>	<b>10317300</b>	<b>48838732</b>
	<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1900-04</u>
Beef Salted	256418	267356	244002	245605	187288	1200669
- of which other than U.S.	11597	20429	16719	13312	14190	76247
Beef Fresh	8162848	8906839	7905064	8366141	8080257	41421149
- of which Argentina	667298	1218246	1723652	2053669	2482704	8145569
Mutton Fresh	5841566	6598080	6914911	7826062	6861531	34042150
- of which Argentina	1689078	1950599	2273027	2603931	2491210	11007845
Meat Unnumerated	982169	1120447	1199110	1206052	1164012	5671790
Preserved Otherwise: Beef	1457322	1289893	1710383	1511846	1611693	7581137
Preserved Otherwise: Mutton	150973	168143	206562	106328	88708	720714
<b>TOTAL</b>	<b>16851296</b>	<b>18350758</b>	<b>18180032</b>	<b>19262034</b>	<b>17993489</b>	<b>90637609</b>

Sources:

1890-91: Accounts Relating to Trade and Navigation of the U.K. (Eyre and Spottiswoode, London, December 1892), pp. 18-19.

1892-94: Accounts Relating to Trade and Navigation of the U.K. (Eyre and Spottiswoode, London, December 1894), pp. 18-19.

1900-01: Accounts Relating to Trade and Navigation of the U.K. (Wyman and Sons, London, December 1902), pp. 18-23.

1902-04: Accounts Relating to Trade and Navigation of the U.K. (Wyman and Sons, London, December 1904), pp. 34-39.

**Appendix 7 - River Plate Meat Exports (Value - £)**

P. 355

	<b>1890</b>	<b>1891</b>	<b>1892</b>	<b>1893</b>	<b>1894</b>	<b>1890-94</b>	<b>1900</b>	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1900-04</b>
<b>URUGUAY</b>												
<i>Tasajo</i>	817872	744894	866170	1026809	1216809	4672553	1285532	1041064	1272979	1206170	744468	5550213
Conserved Meat	7872	0	6809	7447	851	22979	8511	12128	17021	34255	123830	195745
Meat Extract	356809	454255	391489	362979	483191	2048723	280638	259787	302553	271702	290638	1405319
Conserved Tongues							37872	34468	40213	31489	37660	181702
Frozen Ovine Meat												
Frozen Bovine Meat												
Chilled Bovine Meat												
<b>TOTAL MEAT URUGUAY</b>	<b>1182553</b>	<b>1199149</b>	<b>1264468</b>	<b>1397234</b>	<b>1700851</b>	<b>6744255</b>	<b>1612553</b>	<b>1347447</b>	<b>1632766</b>	<b>1543617</b>	<b>1196809</b>	<b>7333191</b>
<b>ARGENTINA</b>												
<i>Tasajo</i>	776449	707709	813589	816495	905644	4019886	392769	571320	525288	305956	276177	2071510
Conserved Meat	8464	51374	125714	38905	12948	237406	27873	18793	32620	74237	48187	201710
Meat Extract	74431	77273	103352	39300	26665	321020	45717	86030	117598	137535	82180	469060
Conserved Tongues					35537	35537	40510	40391	32969	28165	37557	179592
Frozen Ovine Meat	324029	369493	403750	397471	369863	1864606	895431	1000203	1270993	1240468	1406605	5813700
Frozen Bovine Meat	10522	1171	4503	44103	2460	62759	487888	890962	1389253	1617452	1939356	6324910
Chilled Bovine Meat												
<b>TOTAL MEAT ARGENTIN</b>	<b>1193895</b>	<b>1207020</b>	<b>1450908</b>	<b>1336273</b>	<b>1353118</b>	<b>6541214</b>	<b>1890189</b>	<b>2607699</b>	<b>3368720</b>	<b>3403812</b>	<b>3790061</b>	<b>15060481</b>
<b>RIVER PLATE</b>												
<i>Tasajo</i>	1594322	1452603	1679759	1843303	2122453	8692440	1678301	1612384	1798266	1512126	1020645	7621723
Conserved Meat	16337	51374	132523	46352	13799	260385	36384	30921	49641	108492	172016	397454
Meat Extract	431239	531528	494841	402278	509857	2369743	326356	345817	420152	409237	372818	1874379
Conserved Tongues					35537	35537	78382	74860	73182	59654	75216	361294
Frozen Ovine Meat	324029	369493	403750	397471	369863	1864606	895431	1000203	1270993	1240468	1406605	5813700
Frozen Bovine Meat	10522	1171	4503	44103	2460	62759	487888	890962	1389253	1617452	1939569	6325123
Chilled Bovine Meat												
<b>TOTAL RIVER PLATE</b>	<b>2376448</b>	<b>2406169</b>	<b>2715376</b>	<b>2733507</b>	<b>3053969</b>	<b>13285470</b>	<b>3502742</b>	<b>3955146</b>	<b>5001486</b>	<b>4947429</b>	<b>4986869</b>	<b>22393673</b>

Sources: Uruguay 1890-94: Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno 1886-94 (Volume 2, Ediciones de la Banda Oriental, Montevideo, 1968), Appendix Table No. 11.

Uruguay 1900-04: Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno 1895-1904 (Volume 3, Ediciones de la Banda Oriental, Montevideo, 1973), Appendix Table No. 11.

Argentina 1890-1904: Direccion General de Estadistica de la Nacion, Ministerio de Hacienda, Extracto Estadistico 1915 (Compania Sud-Americana de Billetes de Banco, Buenos Aires, 1916), pp. 58-73.

Exchange Rates: Argentina: £1 = 5.04 Gold Pesos

Uruguay: £1 = 4.70 Uruguayan Dollars

	<u>1890-94</u>	<u>1900-04</u>	<u>Sources</u>
U.K. Salted Beef Imports	1748155	1200669	(i)
- of which other than U.S.	88991	76274	(i)
Total U.K. Meat Imports	48838732	90637609	(i)
 Total U.K. Meat Imports Minus			
U.K. Beef Salted Imports other than U.S. (A)	48749741	90561335	
 Total River Plate Tasajo Exports (B)	8692440	7621723	(ii)
 (A)+(B)	57442181	98183058	
 Total River Plate Exports (C)	13285470	22393673	(ii)
 River Plate Global Meat Market Share (Value)			
(C) / [(A) + (B)]	23.1%	22.8%	

Sources: (i) See Appendix 6.

(ii) See Appendix 7.

**Appendix 9 - British Meat Imports from the River Plate (Value - £) & Global Value Share  
Chilled and Frozen Bovine and Ovine Meat**

P. 357

	1909	1910	1911	1912	1913	1909-13	1926	1927	1928	1929	1930	1926-30	1934	1935	1936	1937	1938	1934-38
<b>URUGUAY</b>																		
Beef Chilled	0	0	0	0	56064	56064	1531343	717738	1456834	2075707	2197906	7979528	937456	907452	839141	1046813	1046274	4777136
Beef Frozen	175149	202645	88543	323800	650752	1440889	615586	585486	498833	455945	746689	2902539	63800	78018	62610	94434	134511	433373
Total Beef	175149	202645	88543	323800	706816	1496953	2146929	1303224	1955667	2531652	2944595	10882067	1001256	985470	901751	1141247	1180785	5210509
Mutton Chilled and Frozen													23260	10635	13954	28128	43859	119836
Lamb Chilled and Frozen													311953	327257	316870	419469	411699	1787248
Total Mutton & Lamb	78573	141667	109724	89719	288793	708476	838462	811274	1102047	1060784	1185334	4997901	335213	337892	330824	447597	455558	1907084
<b>TOTAL URUGUAY</b>	<b>253722</b>	<b>344312</b>	<b>198267</b>	<b>413519</b>	<b>995609</b>	<b>2205429</b>	<b>2985391</b>	<b>2114498</b>	<b>3057714</b>	<b>3592436</b>	<b>4129929</b>	<b>15879968</b>	<b>1336469</b>	<b>1323362</b>	<b>1232575</b>	<b>1588844</b>	<b>1636343</b>	<b>7117593</b>
<b>ARGENTINA</b>																		
Beef Chilled	3351245	4950326	5902818	7280473	9729374	31214236	21091201	21893115	22260448	22275517	20253818	107774099	11695034	11529888	12001446	13449779	13772817	62448964
Beef Frozen	3382328	3306658	3339268	4164607	3085628	17278489	3363314	3462464	2034600	2417364	2072645	13350387	153758	159524	172338	199506	288742	973868
Total Beef	6733573	8256984	9242086	11445080	12815002	48492725	24454515	2535579	24295048	24692881	22326463	121124486	11848792	11689412	12173784	13649285	14061559	63422832
Mutton Chilled and Frozen													261398	223070	219406	202384	192276	1098534
Lamb Chilled and Frozen													2051554	1898688	2091387	2179470	2245353	10466452
Total Mutton & Lamb	2024889	2322454	2896589	2773005	1908225	11925162	3638362	4235364	4672781	4771176	4115597	21433280	2312952	2121758	2310793	2381854	2437629	11564986
<b>TOTAL ARGENTINA</b>	<b>8758462</b>	<b>10579438</b>	<b>12138675</b>	<b>14218085</b>	<b>14723227</b>	<b>60417887</b>	<b>28092877</b>	<b>29590943</b>	<b>28967829</b>	<b>29464057</b>	<b>26442060</b>	<b>14255766</b>	<b>14161744</b>	<b>13811170</b>	<b>14484577</b>	<b>16031139</b>	<b>16499188</b>	<b>74987818</b>
<b>RIVER PLATE</b>																		
Beef Chilled	3351245	4950326	5902818	7280473	9785438	31270300	22622544	22610853	23717282	24351224	22451724	115753627	12632490	12437340	12840587	14496592	14819091	67226100
Beef Frozen	3557477	3509303	3427811	4488407	3736380	18719378	3978900	4047950	2533433	2873309	2819334	16252926	217558	237542	234948	293940	423253	1407241
Total Beef	6908722	8459629	9330629	11768880	13521818	49989678	26601444	26658803	26250715	27224533	25271058	132006553	12850048	12674882	13075535	14790532	15242344	68633341
Mutton Chilled and Frozen													284658	233705	233360	230512	236135	1218370
Lamb Chilled and Frozen													2363507	2225945	2408257	2598939	2657052	12253700
Total Mutton & Lamb	2103462	2464121	3006313	2862724	2197018	12633638	4476824	5046638	5774828	5831960	5300931	26431181	2648165	2459650	2641617	2829451	2893187	13472070
<b>TOTAL RIVER PLATE</b>	<b>9012184</b>	<b>10923750</b>	<b>12336942</b>	<b>14631604</b>	<b>15718836</b>	<b>62623316</b>	<b>31078268</b>	<b>31705441</b>	<b>32025543</b>	<b>33056493</b>	<b>30571989</b>	<b>158437734</b>	<b>15498213</b>	<b>15134532</b>	<b>15717152</b>	<b>17619983</b>	<b>18135531</b>	<b>82105411</b>
<b>TOTAL U.K. IMPORTS</b>																		
Beef Chilled	5266327	6022798	6304482	7293473	9785438	34672518	22679943	22811949	24531574	25236627	23735409	118995502	13811605	13959754	14550882	17057627	17671681	77051549
Beef Frozen	4877074	5581198	4809097	6344963	6278793	27891125	7909208	6591282	6250278	6071478	6311992	33134238	2715936	2349045	1906076	2658831	2637889	12267777
Total Beef	10143401	11603996	11113579	13638436	16064231	62563643	30589151	29403231	30781852	31308105	30047401	152129740	16527541	16308799	16456958	19716458	20309570	89319326
Mutton Chilled and Frozen													3015003	2816143	2452758	2776393	2811171	13871468
Lamb Chilled and Frozen													14531451	14574185	14789833	16134916	16392997	76423382
Total Mutton & Lamb	7362894	9446176	9296767	9293512	10583930	45983279	17599297	17427077	19342428	18948964	19656081	92973847	17546454	17390328	17242591	18911309	19204168	90294850
<b>TOTAL U.K. IMPORTS*</b>	<b>17506295</b>	<b>21050172</b>	<b>20410346</b>	<b>22931948</b>	<b>26648161</b>	<b>108546922</b>	<b>48188448</b>	<b>46830308</b>	<b>50124280</b>	<b>50257069</b>	<b>49703482</b>	<b>245103587</b>	<b>34073995</b>	<b>33699127</b>	<b>33699549</b>	<b>38627767</b>	<b>39513738</b>	<b>179614176</b>
<b>RIVER PLATE SHARE (%)</b>																		
Beef Chilled	63.6%	82.2%	93.6%	99.8%	100.0%	90.2%	99.7%	99.1%	96.7%	96.5%	94.6%	97.3%	91.5%	89.1%	88.2%	85.0%	83.9%	87.2%
Beef Frozen	72.9%	62.9%	71.3%	70.7%	59.5%	67.1%	50.3%	61.4%	40.5%	47.3%	44.7%	49.1%	8.0%	10.1%	12.3%	11.1%	16.0%	11.5%
Total Beef	68.1%	72.9%	84.0%	86.3%	84.2%	79.9%	87.0%	90.7%	85.3%	87.0%	84.1%	86.8%	77.7%	77.7%	79.5%	75.0%	75.1%	76.8%
Mutton Chilled and Frozen													9.4%	8.3%	9.5%	8.3%	8.4%	8.8%
Lamb Chilled and Frozen													16.3%	15.3%	16.3%	16.1%	16.2%	16.0%
Total Mutton & Lamb	28.6%	26.1%	32.3%	30.8%	20.8%	27.5%	25.4%	29.0%	29.9%	30.8%	27.0%	28.4%	15.1%	14.1%	15.3%	15.0%	15.1%	14.9%
<b>TOTAL RIVER PLATE SHARE</b>	<b>51.5%</b>	<b>51.9%</b>	<b>60.4%</b>	<b>63.8%</b>	<b>59.0%</b>	<b>57.7%</b>	<b>64.5%</b>	<b>67.7%</b>	<b>63.9%</b>	<b>65.8%</b>	<b>61.5%</b>	<b>64.6%</b>	<b>45.5%</b>	<b>44.9%</b>	<b>46.6%</b>	<b>45.6%</b>	<b>45.9%</b>	<b>45.7%</b>

Sources: 1909-11: Accounts Relating to Trade and Navigation of the U.K. (Eyre and Spottiswoode, London, December 1911), pp. 34-43.  
1912-13: Accounts Relating to Trade and Navigation of the U.K. (Eyre and Spottiswoode, London, December 1914), pp. 34-43.  
1926-27: Accounts Relating to Trade and Navigation of the U.K. (His Majesty's Stationery Office, London, December 1928), pp. 12-15.  
1928-30: Accounts Relating to Trade and Navigation of the U.K. (His Majesty's Stationery Office, London, December 1930), pp. 11-14.  
1934-35: Accounts Relating to Trade and Navigation of the U.K. (His Majesty's Stationery Office, London, December 1936), pp. 15-20.  
1936-38: Accounts Relating to Trade and Navigation of the U.K. (His Majesty's Stationery Office, London, December 1938), pp. 15-20.

\* Chilled & Frozen Bovine and Ovine meat only.

	<b>1948</b>	<b>1949</b>	<b>1950</b>	<b>1951</b>	<b>1952</b>	<b>1948-52</b>
<b>URUGUAY</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
Beef Chilled*	872796	4236732	3973601	1406303	747463	11236895
Beef Frozen*	76887	30794	828879	697467	9511	1643538
Total Chilled and Frozen Beef	949683	4267526	4802480	2103770	756974	12880433
Mutton Chilled and Frozen ~						
Lamb Chilled and Frozen	114110	74265	530647	81454	80289	880765
Total Chil. & Froz. Mutton & Lamt	114110	74265	530647	81454	80289	880765
<b>TOTAL URUGUAY</b>	<b>1063793</b>	<b>4341791</b>	<b>5333127</b>	<b>2185224</b>	<b>837263</b>	<b>13761198</b>
<b>ARGENTINA</b>						
Beef Chilled*	11697257	19843614	15491035	6059931	7786943	60878780
Beef Frozen*	2013124	1532407	2095091	535262	274516	6450400
Total Chilled and Frozen Beef	13710381	21376021	17586126	6595193	8061459	67329180
Mutton Chilled and Frozen	684597	1060654	932931	382469	1633123	4693774
Lamb Chilled and Frozen	4745081	4804243	3717383	2178003	4183064	19627774
Total Chil. & Froz. Mutton & Lamt	5429678	5864897	4650314	2560472	5816187	24321548
<b>TOTAL ARGENTINA</b>	<b>19140059</b>	<b>27240918</b>	<b>22236440</b>	<b>9155665</b>	<b>13877646</b>	<b>91650728</b>
<b>TOTAL RIVER PLATE</b>						
Beef Chilled*	12570053	24080346	19464636	7466234	8534406	72115675
Beef Frozen*	2090011	1563201	2923970	1232729	284027	8093938
Total Chilled and Frozen Beef	14660064	25643547	22388606	8698963	8818433	80209613
Mutton Chilled and Frozen ~	684597	1060654	932931	382469	1633123	4693774
Lamb Chilled and Frozen	4859191	4878508	4248030	2259457	4263353	20508539
Total Chil. & Froz. Mutton & Lamt	5543788	5939162	5180961	2641926	5896476	25202313
<b>TOTAL RIVER PLATE</b>	<b>20203852</b>	<b>31582709</b>	<b>27569567</b>	<b>11340889</b>	<b>14714909</b>	<b>105411926</b>
<b>TOTAL U.K. IMPORTS</b>						
Beef Chilled*	21664655	30012473	26354867	13473890	13673498	105179383
Beef Frozen*	6262853	3152089	4890549	2890282	1000453	18196226
Total Chilled and Frozen Beef	27927508	33164562	31245416	16364172	14673951	123375609
Mutton Chilled and Frozen	5652277	6036698	8356976	3859932	8621950	32527833
Lamb Chilled and Frozen	28863279	30989257	33993547	26295861	36473586	156615530
Total Chil. & Froz. Mutton & Lamt	34515556	37025955	42350523	30155793	45095536	189143363
<b>TOTAL U.K. IMPORTS<sup>^</sup></b>	<b>62443064</b>	<b>70190517</b>	<b>73595939</b>	<b>46519965</b>	<b>59769487</b>	<b>312518972</b>
<b>RIVER PLATE VALUE SHARE (%)</b>						
Beef Chilled*	58.0%	80.2%	73.9%	55.4%	62.4%	68.6%
Beef Frozen*	33.4%	49.6%	59.8%	42.7%	28.4%	44.5%
Total Chilled and Frozen Beef	52.5%	77.3%	71.7%	53.2%	60.1%	65.0%
Mutton Chilled and Frozen ~	12.1%	17.6%	11.2%	9.9%	18.9%	14.4%
Lamb Chilled and Frozen	16.8%	15.7%	12.5%	8.6%	11.7%	13.1%
Total Chil. & Froz. Mutton & Lamt	16.1%	16.0%	12.2%	8.8%	13.1%	13.3%
<b>TOTAL RIVER PLATE SHARE</b>	<b>32.4%</b>	<b>45.0%</b>	<b>37.5%</b>	<b>24.4%</b>	<b>24.6%</b>	<b>33.7%</b>

Sources: 1948-50: Accounts Relating to Trade and Navigation of the U.K. (His Majesty's Stationery Office, London, December 1950), pp. 14-21.

1951-52: Accounts Relating to Trade and Navigation of the U.K. (His Majesty's Stationery Office, London, December 1953), pp. 15-22.

\* In 1948-52 divided into two frozen categories, namely: (i) fore and hind quarters [placed under chilled] and (ii) boned and boneless [placed under frozen] (Chilled excl ~ Excluding Uruguay in 1948-50.

<sup>^</sup> Chilled & Frozen Bovine and Ovine meat only.

**Chilled and Frozen Bovine and Ovine Meat**

	<b>1968</b>	<b>1969</b>	<b>1970</b>	<b>1971</b>	<b>1972</b>	<b>1968-72</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1988-92</b>
<b>URUGUAY</b>												
Total Chilled and Frozen Bovine Mea	45427	51826	71312	58195	97300	324060	133325	193182	224746	141823	152760	845836
Total Chilled and Frozen Ovine Meat	4612	3958	8083	6160	1025	23838	11345	25795	32899	20880	18662	109581
<b>TOTAL URUGUAY</b>	<b>50039</b>	<b>55784</b>	<b>79395</b>	<b>64355</b>	<b>98325</b>	<b>347898</b>	<b>144670</b>	<b>218977</b>	<b>257645</b>	<b>162703</b>	<b>171422</b>	<b>955417</b>
<b>ARGENTINA</b>												
Total Chilled and Frozen Bovine Mea	149895	235382	239658	235016	473650	1333601	288648	361083	400000	389443	337947	1777121
Total Chilled and Frozen Ovine Meat	13156	15113	14848	8727	10354	62198	7375	9550	13500	9863	8567	48855
<b>TOTAL ARGENTINA</b>	<b>163051</b>	<b>250495</b>	<b>254506</b>	<b>243743</b>	<b>484004</b>	<b>1395799</b>	<b>296023</b>	<b>370633</b>	<b>413500</b>	<b>399306</b>	<b>346514</b>	<b>1825976</b>
<b>TOTAL RIVER PLATE</b>												
Total Chilled and Frozen Bovine Mea	195322	287208	310970	293211	570950	1657661	421973	554265	624746	531266	490707	2622957
Total Chilled and Frozen Ovine Meat	17768	19071	22931	14887	11379	86036	18720	35345	46399	30743	27229	158436
<b>TOTAL RIVER PLATE</b>	<b>213090</b>	<b>306279</b>	<b>333901</b>	<b>308098</b>	<b>582329</b>	<b>1743697</b>	<b>440693</b>	<b>589610</b>	<b>671145</b>	<b>562009</b>	<b>517936</b>	<b>2781393</b>
<b>WORLD EXPORTS</b>												
Total Chilled and Frozen Bovine Mea	1423249	1623222	1881396	2087868	2935405	9951140	11339286	12351444	13428478	14164788	15028240	66312236
Total Chilled and Frozen Ovine Meat	296791	342147	399855	403222	473268	1915283	1569421	1638678	1770576	1802208	1968052	8748935
<b>TOTAL WORLD EXPORTS</b>	<b>1720040</b>	<b>1965369</b>	<b>2281251</b>	<b>2491090</b>	<b>3408673</b>	<b>11866423</b>	<b>12908707</b>	<b>13990122</b>	<b>15199054</b>	<b>15966996</b>	<b>16996292</b>	<b>75061171</b>
<b>RIVER PLATE VALUE SHARE (%)</b>												
Total Chilled and Frozen Bovine Mea	13.7%	17.7%	16.5%	14.0%	19.5%	16.7%	3.7%	4.5%	4.7%	3.8%	3.3%	4.0%
Total Chilled and Frozen Ovine Meat	6.0%	5.6%	5.7%	3.7%	2.4%	4.5%	1.2%	2.2%	2.6%	1.7%	1.4%	1.8%
<b>TOTAL RIVER PLATE SHARE</b>	<b>12.4%</b>	<b>15.6%</b>	<b>14.6%</b>	<b>12.4%</b>	<b>17.1%</b>	<b>14.7%</b>	<b>3.4%</b>	<b>4.2%</b>	<b>4.4%</b>	<b>3.5%</b>	<b>3.0%</b>	<b>3.7%</b>

**Sources:** 1968-72: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1973, tables 9-10.

1988-90: 'Trade ' 'The International Market for Meat', GATT, Geneva, 1994, tables 10-11.

1991-92: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1993, tables 13-14.

**Appendix 12 - Meat Export Volumes (In 000's tons) and  
Global Meat Export Market Shares (%) Average Yearly Periods between 1909-1992**

P. 360

	<b>1909-13</b>	<b>1926-30</b>	<b>1934-38</b>	<b>1948-52</b>	<b>1968-72</b>	<b>1988-92</b>
<b>Meat Exports ('000s Tons)</b>						
Argentina	388.1	705.0	534.2	335.1	468.5	222.9
Uruguay	71.3	158.6	101.6	80.2	119.2	114.8
River Plate	459.4	863.6	635.8	415.3	587.7	337.7
Australia	144.4	111.7	201.5	172.4	503.1	879.7
New Zealand	123.7	172.6	232.9	323.0	601.4	695.6
U.S.	35.0	9.3	7.5	10.3	141.3	433.6
World	879.4	1427.5	1300.0	1266.0	4004.1	7136.1
- of which the countries of the European Community*			46.4	155.6	1323.4	3302.4
<b>Global Meat Export Market Shares (%)</b>						
Argentina	44.1%	49.4%	41.1%	26.5%	11.7%	3.1%
Uruguay	8.1%	11.1%	7.8%	6.3%	3.0%	1.6%
River Plate	52.2%	60.5%	48.9%	32.8%	14.7%	4.7%
Australia	16.4%	7.8%	15.5%	13.6%	12.6%	12.3%
New Zealand	14.1%	12.1%	17.9%	25.5%	15.0%	9.7%
U.S.	4.0%	0.6%	0.6%	0.8%	3.5%	6.1%
Other	13.3%	18.9%	17.1%	27.3%	54.2%	67.1%
- of which the countries of the European Community*			3.6%	12.3%	33.1%	46.3%

**Sources:**

1909-13: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1929, tables 139-140, pp. 416-425.  
 1926-30: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1947, tables 70-71, pp. 460-479.  
 1934-38 and 1948-52: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1959, tables 7-8 and 12-13, pp. 52-55 and 62-66.  
 1968-72: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1972, tables 9-10, 16 and 19, pp. 26-33, 51-54 and 63-67.  
 1988-90: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1990, tables 13-14, 20 and 23, pp. 60-64, 75-76 and 81-83.  
 1991-92: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1993, tables 13-14, 20 and 23, pp. 30-34, 45-46 and 51-53.

**Notes:**

Beef and Sheepmeat only. For detailed notes please see Appendix 1 and 2.

\* Excludes Greece, Spain and Portugal. Excludes East Germany except in 1934-38 and 1991-92.

**Appendix 13 - Meat Import Distribution Volumes (In 000's tons) and  
Global Meat Import Distribution Shares (%) Average Yearly Periods between 1909-92**

P. 361

<u>Meat Imports ('000s Tons)</u>	<u>1909-13</u>	<u>1926-30</u>	<u>1934-38</u>	<u>1948-52</u>	<u>1968-72</u>	<u>1988-92</u>
U.K.	683.3	938.8	981.7	788.6	1192.9	772.6
France	4.1	54.1	27.8	14.5	127.1	578.4
Germany*	24.6	114.8	30.1	24.7	290.0	460.6
Italy	6.9	60.5	26.7	25.1	321.1	518.4
USA	16.5	44.9	35.0	111.8	774.2	924.6
Canada	3.7	2.4	5.3	6.7	96.6	174.2
Japan	0.0	18.8	13.4	0.9	160.3	482.7
Others	123.4	168.3	74.0	175.7	1020.8	3076.8
World	862.6	1402.7	1194.0	1148.0	3982.8	6988.3

<u>Global Meat Import Distribution Shares (%)</u>	<u>1909-13</u>	<u>1926-30</u>	<u>1934-38</u>	<u>1948-52</u>	<u>1968-72</u>	<u>1988-92</u>
U.K.	79.2%	66.9%	82.2%	68.7%	29.9%	11.1%
France	0.5%	3.9%	2.3%	1.3%	3.2%	8.3%
Germany*	2.9%	8.2%	2.5%	2.2%	7.3%	6.6%
Italy	0.8%	4.3%	2.2%	2.2%	8.1%	7.4%
USA	1.9%	3.2%	2.9%	9.7%	19.4%	13.2%
Canada	0.4%	0.2%	0.4%	0.6%	2.4%	2.5%
Japan	0.0%	1.3%	1.1%	0.1%	4.0%	6.9%
Others	14.3%	12.0%	6.2%	15.3%	25.6%	44.0%

**Sources:**

1909-13: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1929, tables 139-140, pp. 416-425.  
 1926-30: 'International Yearbook of Agricultural Statistics', Institute of Agriculture, Rome, 1947, tables 70-71, pp. 460-479.  
 1934-38 and 1948-52: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1959, tables 7-8 and 12-13, pp. 32-55 and 62-66.  
 1968-72: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1972, tables 9-10, 16 and 19, pp. 26-33, 51-54 and 63-67.  
 1988-90: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1990, tables 13-14, 20 and 23, pp. 60-64, 75-76 and 81-83.  
 1991-92: 'Trade Yearbook', Food and Agriculture Organization, Rome, 1993, tables 13-14, 20 and 23, pp. 30-34, 45-46 and 51-53.

**Notes:**

Beef and Sheepmeat only. For detailed notes please see Appendix 1 and 2.

\*Excludes East Germany except in 1934-38 and 1991-92.

## APPENDIX 14

P. 362

Productos resultantes de la industrialización de un bovino  
antes y después de 1903



Lo que se obtenia de la industrialización de un bovino, en el Uruguay, antes de 1903

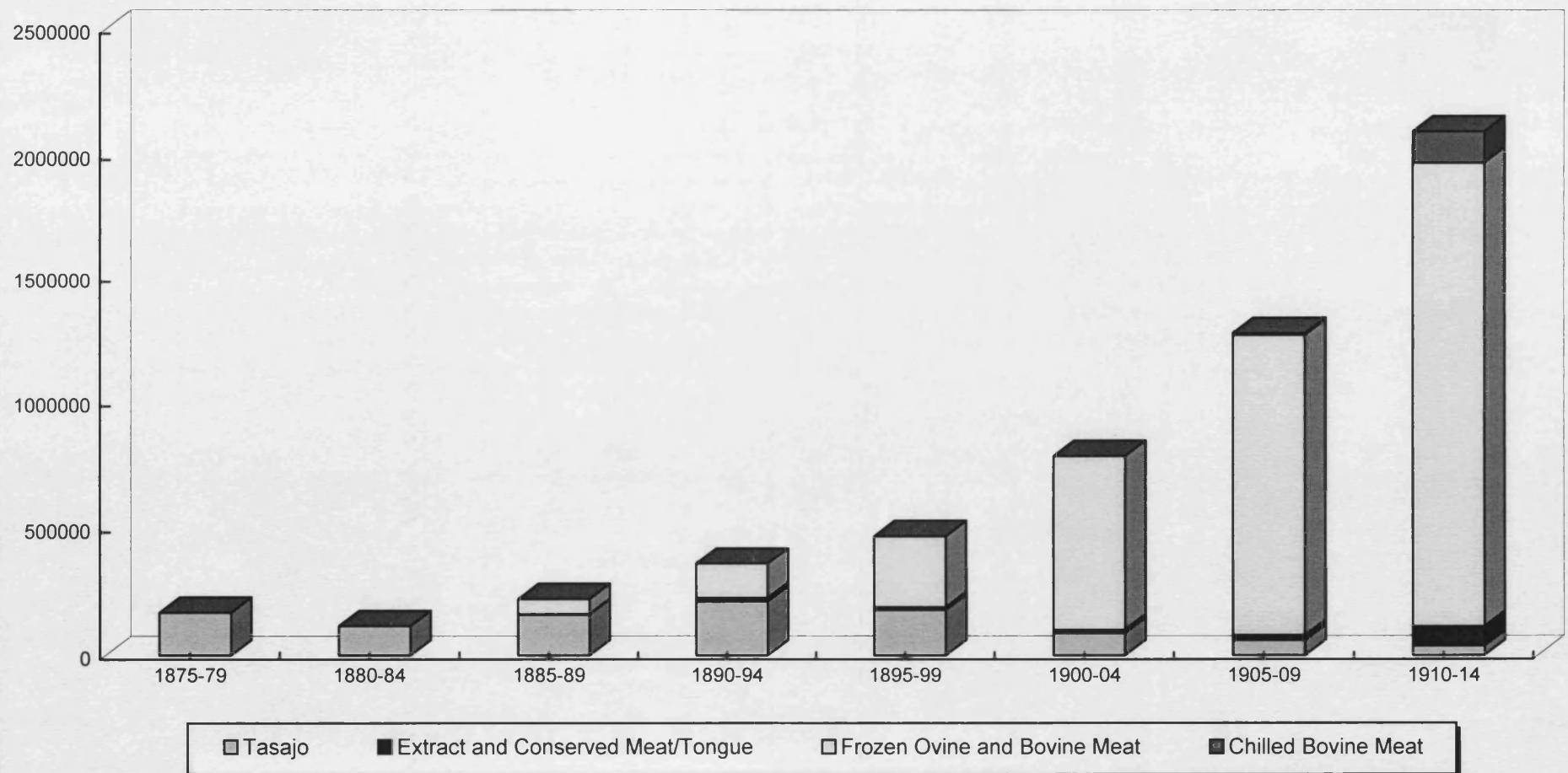


Lo que se obtiene de la industrialización de un bovino, en la actualidad

Seoane, P., La Industria de las Carnes en el Uruguay (Montevideo, 1928)

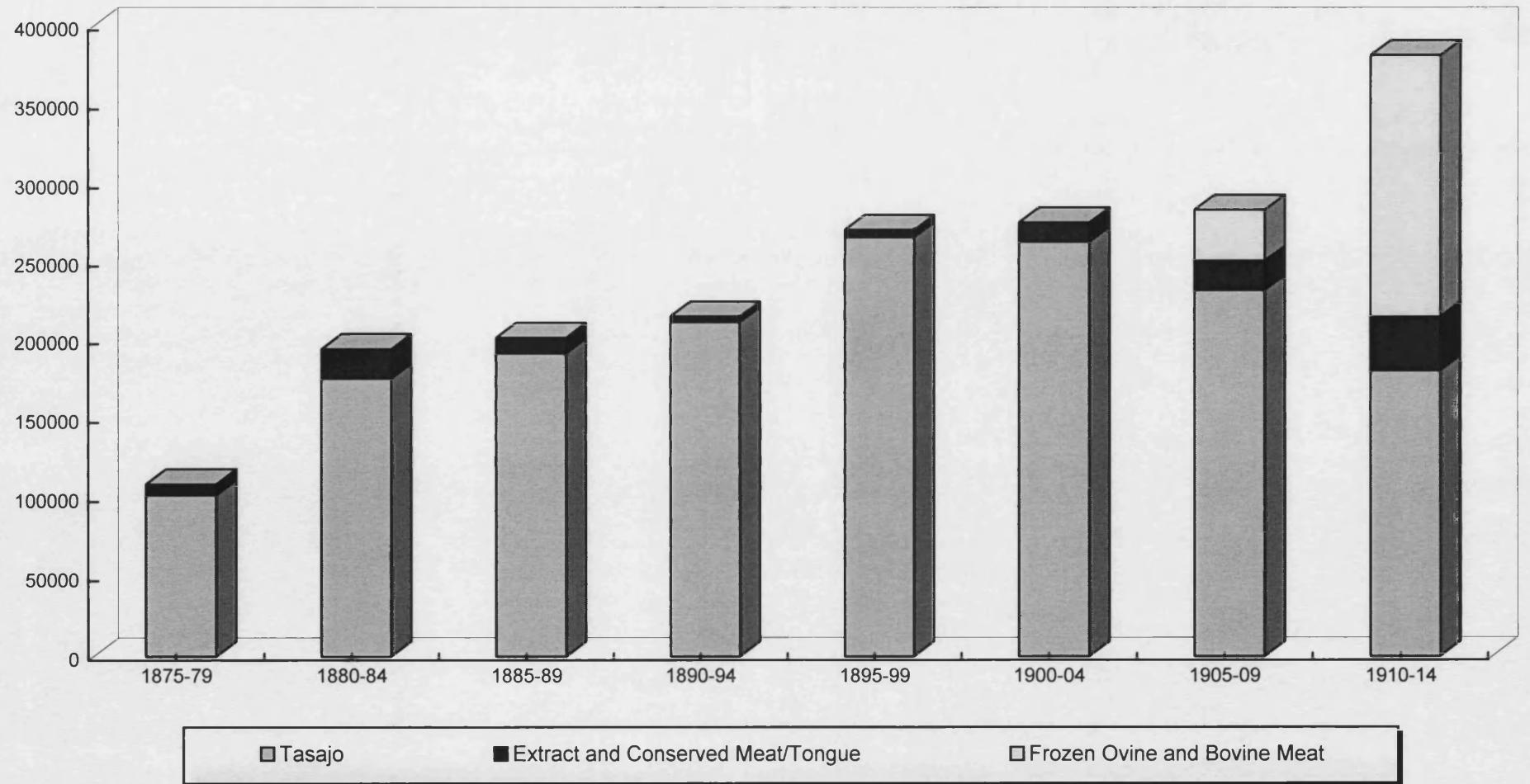
## Appendix 15: Argentine Meat Exports By Type 1875-1914 (5 Year Periods) in Tons

P. 363



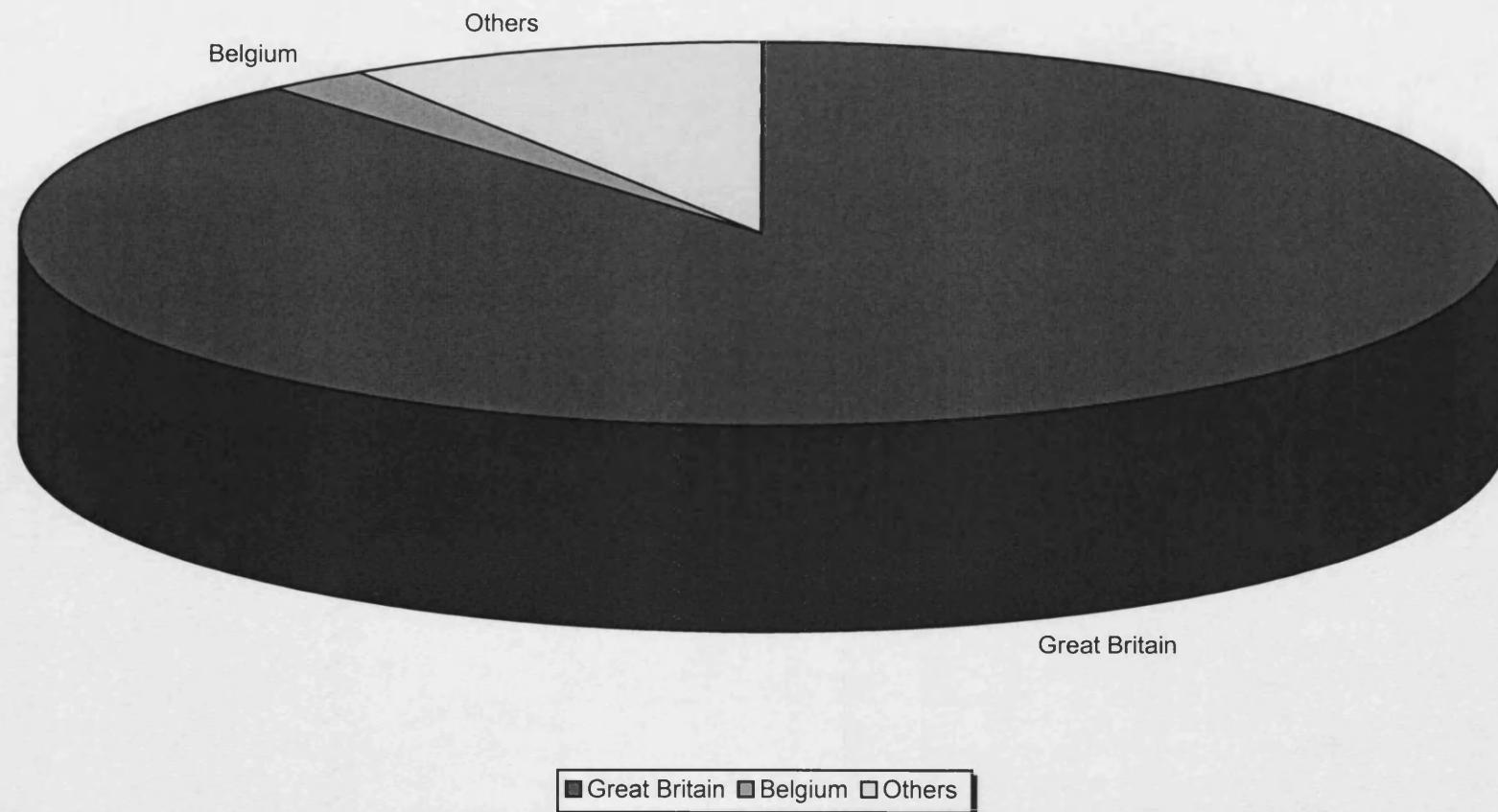
Appendix 16: Uruguay Meat Exports By Type  
1875-1914 (5 Year Periods) in Tons

P. 364



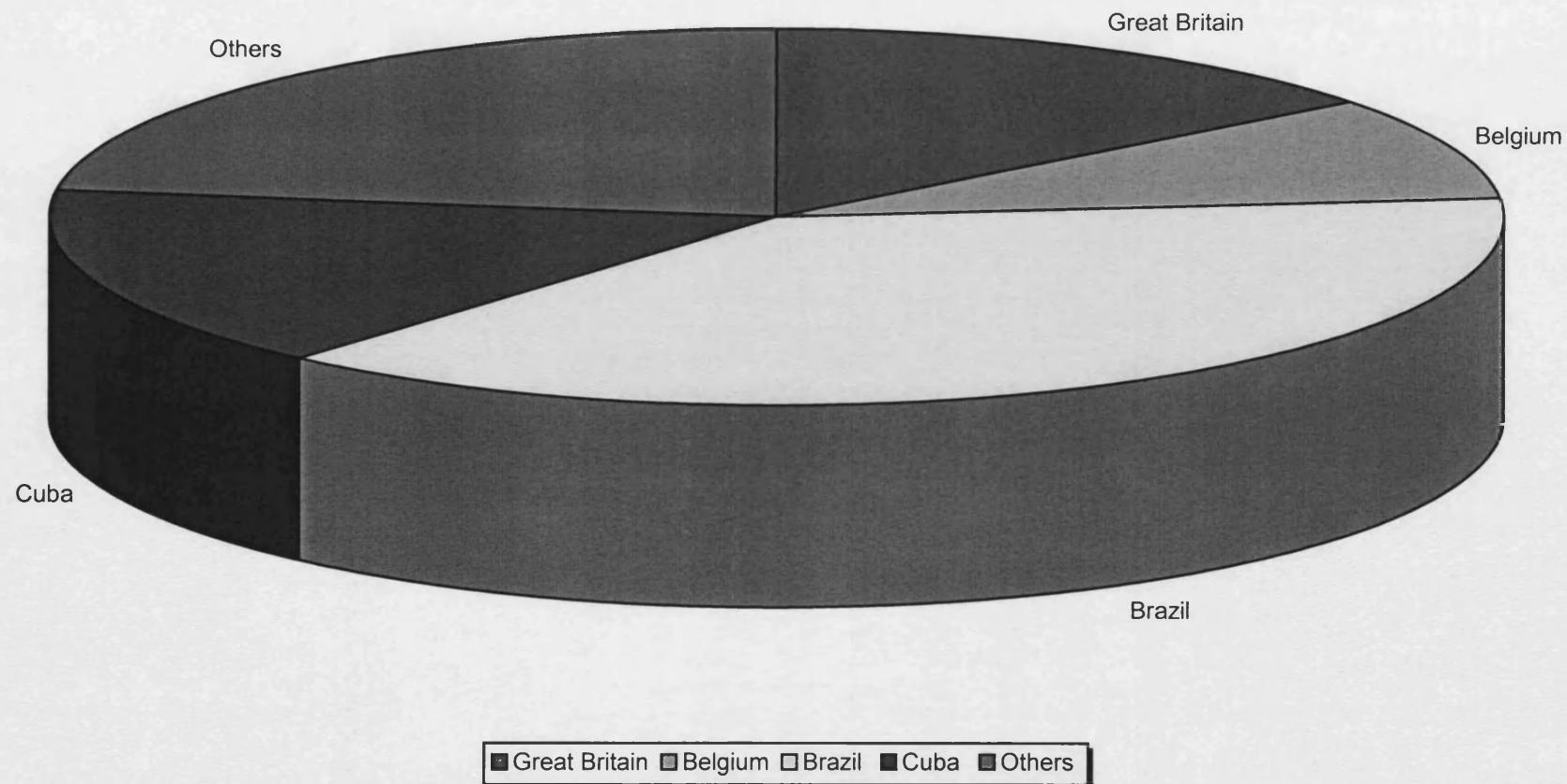
## Appendix 17: Argentine Meat Exports by Destination In Value (1906-10)

P. 365



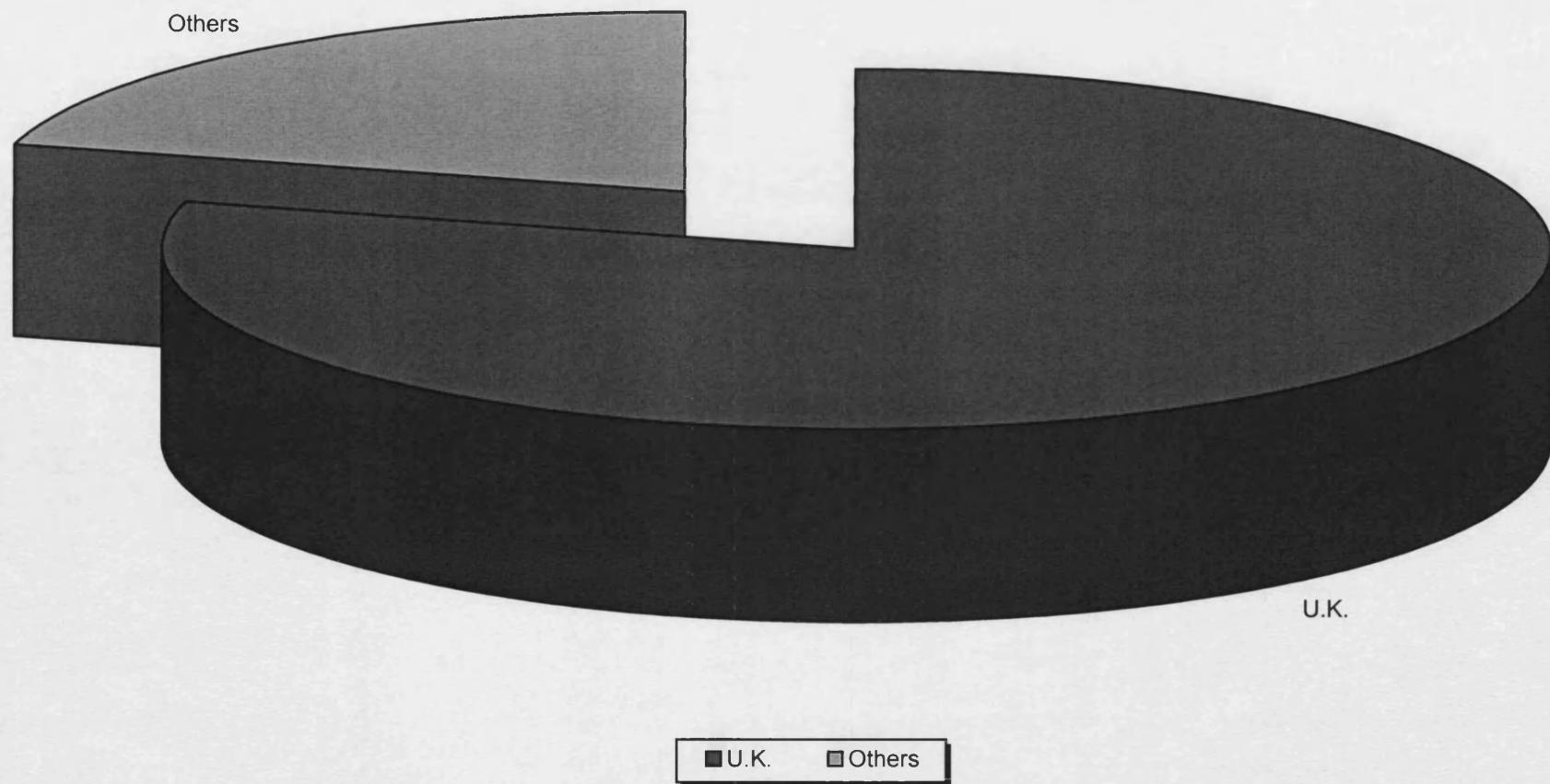
Appendix 18: Uruguayan Meat Exports by Destination  
In Value (1906-10)

P. 366



Appendix 19: World Import Distribution Shares (%)  
Bovine and Ovine Meat (In Volume) 1909-1913

P. 367



**Appendix 20 - Uruguayan Meat Exports (Volume in Tons) 1900-1929**

P. 368

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

URUGUAY	<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>
<i>Tasajo</i>	57546	46599	42616	56981	59384	43743	48751	45772	44948	48460
Conserved Meat*	201	284	398	803	2909	3067	2155	2155	2155	2155
Meat Extract*	579	678	790	709	759	734	667	666	666	666
Conserved Tongues*#	890	811	943	739	883	809	825	824	824	824
Frozen Ovine Meat					291	1039	3509	2320	4359	
Frozen Bovine Meat					13	2400	710	5472	6914	5681
Chilled Bovine Meat										
TOTAL URUGUAY	59216	48372	44747	59232	63948	51044	54147	58398	57827	62145
URUGUAY	<u>1910</u>	<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>
<i>Tasajo</i>	52257	53305	38250	25554	11096	5335	4180	7545	6786	7881
Conserved Meat*	2155	6880	6880	6880	6880	6880	20752	40804	71982	57064
Meat Extract*	666	281	281	281	281	281	210	436	680	735
Conserved Tongues*#	824	477	477	477	477	477	279	365	248	740
Frozen Ovine Meat	3670	2937	1501		2429	3541	3669	2082	2582	7909
Frozen Bovine Meat	9399	7681	20342	49564	69408	95248	63289	68276	48193	79837
Chilled Bovine Meat						2328	8183	3573		4
TOTAL URUGUAY	68971	71561	67731	82756	90571	114090	100562	123081	130471	154170
URUGUAY	<u>1920</u>	<u>1921</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>
<i>Tasajo</i>	12480	10680	22220	20371	14480	11897	10293	9970	10247	5158
Conserved Meat*	4765	4499	18368	20595	8158	12606	12812	20397	26475	32611
Meat Extract*	479	141	490	725	332	363	421	573	609	853
Conserved Tongues*#	350	304	507	573	442	721	449	478	534	556
Frozen Ovine Meat	3936	7332	8935	15653	15611	10278	22829	23631	14055	22292
Frozen Bovine Meat	95024	57921	34339	84403	90098	94613	96013	93045	40314	39598
Chilled Bovine Meat	2581	15333	40317	35769	30742	39551	30623	15135	33680	37126
TOTAL URUGUAY	119615	96210	125176	178089	159863	170029	173440	163229	125914	138194

**Sources:**

1853-1885: Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno 1851-1885 (Volume 1/2, Ediciones de la Banda Oriental, Montevideo, 1967), Appendix Table No. 9.

1886-1894: Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno 1886-94 (Volume 2, Ediciones de la Banda Oriental, Montevideo, 1968), Appendix Table No. 11.

1895-1904: Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno 1895-1904 (Volume 3, Ediciones de la Banda Oriental, Montevideo, 1973), Appendix Table No. 11.

1904-1914: Ruano Fournier, A., Estudio Economico de la Produccion de las Carnes del Rio de la Plata (Impresores Pena y Cia, Montevideo, 1936), pp. 368-372.

1905-1914 for items with (\*): Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1915 & 1916 (Imprenta Juan J. Dornaleche, Montevideo, 1918 and 1917), pp. 214-217 and 573-574.

1916: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1916 (Imprenta Juan J. Dornaleche, Montevideo, 1918), pp. 581-583.

1917-1919: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1919 (Imprenta Arduinottos, Montevideo, 1921), pp. 566-570.

1920-1921: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1921 (Imprenta Nacional, Montevideo, 1923), pp. 373-375.

1922-1924: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1924 (Imprenta Nacional, Montevideo, 1926), pp. 267-269.

1925-1929: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1929 (Imprenta Nacional, Montevideo, 1930), pp. 395-397.

\* 1905 calculated from 1901-05 average figures, while 1905-09 and 1910-14 are average yearly figures for the period.

# 'Conserved Tongues' do not include frozen tongues.

**Appendix 21 - Uruguayan Meat Exports (Volume in Tons) 1930-1954**

P. 369

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

URUGUAY	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>
<i>Tasajo</i>	3129	1500	228	590	1392	2010	154	26		2565
Conserved Meat	34438	28894	20148	27229	32138	43744	31705	34251	22244	23661
Meat Extract	947	925	658	658	786	1024	1536	609	810	670
Conserved Tongues	919	603	484	582	602	543	528	949	654	470
Frozen Ovine Meat	28261	18385	6176	9660	8099	7196	6708	8141	8582	11157
Frozen Bovine Meat	67168	42253	38917	29311	22855	26290	15365	30468	40640	35973
Chilled Bovine Meat	44582	39601	26583	29385	27855	25372	26076	31746	25337	18829
<b>TOTAL URUGUAY</b>	<b>179444</b>	<b>132161</b>	<b>93194</b>	<b>97415</b>	<b>93727</b>	<b>106179</b>	<b>82072</b>	<b>106190</b>	<b>98267</b>	<b>93325</b>

URUGUAY	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
<i>Tasajo</i>	1818	1566	654	1159	3121	5435	8398	6890	2704	1367
Conserved Meat	28635	34650	29325	36849	17904	12890	27184	16015	15914	15212
Meat Extract	550	1444	87	1617	790	1611	2997	1442	2546	386
Conserved Tongues#	445	394		634	1458	2021	2336	933	1414	2058
Frozen Ovine Meat	12987	6102	5038	10617	10819	7692	9685	5179	3354	6502
Frozen Bovine Meat	48861	46810	33296	25353	21185	27109	30869	6309	36252	65135
Conerves & Meat Stews			3079	25669	31084	31273	4690	182		1
Chilled Bovine Meat										
<b>TOTAL URUGUAY</b>	<b>93296</b>	<b>90966</b>	<b>71479</b>	<b>101898</b>	<b>86361</b>	<b>88031</b>	<b>86159</b>	<b>36950</b>	<b>62185</b>	<b>90660</b>

URUGUAY	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>
<i>Tasajo</i>	1155	1395	1032	1587	400
Conserved Meat	21771	12670	9265	13389	21930
Meat Extract	707	400	375	524	521
Conserved Tongues#	2602	3332	2395	1532	1193
Frozen Ovine Meat	13014	4857	12028	6517	6871
Frozen Bovine Meat	62429	62202	43311	42340	45120
Chilled Bovine Meat					
<b>TOTAL URUGUAY</b>	<b>101678</b>	<b>84856</b>	<b>68406</b>	<b>65889</b>	<b>76035</b>

**Sources:**

1930: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1930 (Imprenta Nacional, Montevideo, 1932), pp. 394-397.  
 1931-1932: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1931-32 and 1933 (Imprenta Nacional, Montevideo, 1935), pp. 500-503.  
 1933-1934: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1934 (Imprenta Nacional, Montevideo, 1936), pp. 374-375.  
 1935: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1935 (Imprenta Nacional, Montevideo, 1936), pp. 375-377.  
 1936-1939: Direccion General de Estadistica, Sintesis Estadistica, Republica Oriental del Uruguay 1940 (Imprenta Nacional, Montevideo, 1940), p. 128.  
 1940-1943: Direccion General de Estadistica, Anuario Estadistico de la Republica Oriental del Uruguay 1941-43 (Volume II, Imprenta Nacional, Montevideo, 1947), pp. 23-27 and 41-43.  
 1944-1954: Direccion General de Estadistica y Censos, Anuario Estadistico de la Republica Oriental del Uruguay 1950-1954 (Imprenta Nacional, Montevideo, 1954), p. H-4.  
 # 'Conserved Tongues' include frozen tongues after 1944.

**Appendix 22 - Argentinian Meat Exports (Volume in Tons) 1900-1929**

P. 370

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

ARGENTINA	<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>
Tasajo*	16449	24296	22304	12991	11726	25288	4650	10649	6650	11622
Conserved Meat	1405	946	1644	3742	2429	2488	1259	1595	1727	6390
Meat Extract	115	217	296	347	207	435	421	896	690	1351
Conserved Tongues	681	679	554	473	631	519	304	757	874	1201
Frozen Ovine Meat	56412	63013	80073	78149	88616	78351	67388	69785	78846	66495
Frozen Bovine Meat	24590	44904	70018	81520	97744	152857	153809	138222	174563	209435
Chilled Bovine Meat									6252	1222
<b>TOTAL ARGENTINA</b>	<b>99652</b>	<b>134054</b>	<b>174889</b>	<b>177222</b>	<b>201353</b>	<b>259938</b>	<b>227831</b>	<b>221904</b>	<b>269602</b>	<b>297717</b>
ARGENTINA	<u>1910</u>	<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>
Tasajo*	9442	12120	8824	3910	2377	213	1120	7613	2779	7984
Conserved Meat	12082	15413	17699	12574	13087	31944	44569	100784	191000	124276
Meat Extract	1523	516	612	799	431	372	653	640	1108	815
Conserved Tongues	948	714	632	440	503	570	628	1369	1787	1978
Frozen Ovine Meat	75102	85916	70175	45928	58688	35035	51318	39820	50415	56759
Frozen Bovine Meat	245267	297738	317620	332054	328278	351036	411547	355842	494069	398251
Chilled Bovine Meat	8441	15096	25231	34175	40690	11703	16153	38995	1545	2480
<b>TOTAL ARGENTINA</b>	<b>352805</b>	<b>427512</b>	<b>440793</b>	<b>429880</b>	<b>444055</b>	<b>430872</b>	<b>525988</b>	<b>545063</b>	<b>742703</b>	<b>592543</b>
ARGENTINA	<u>1920</u>	<u>1921</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>
Tasajo*	2529	2656	6063	4724	15565	13698	9474	8292	4858	343
Conserved Meat	14047	15920	36720	80123	81438	67381	61130	61504	66836	69072
Meat Extract	159	97	1071	1552	1601	1374	1117	1087	1281	1675
Conserved Tongues	1060	651	698	907	1250	815	521	665	473	423
Frozen Ovine Meat	55541	65825	81694	81096	83603	91888	67229	83126	77614	80548
Frozen Bovine Meat	365623	241372	158259	215315	368373	296635	226739	236420	124685	121711
Chilled Bovine Meat	50681	148386	246806	326888	364204	372473	430728	466669	383078	357960
<b>TOTAL ARGENTINA</b>	<b>489640</b>	<b>474907</b>	<b>531311</b>	<b>710605</b>	<b>916034</b>	<b>844264</b>	<b>796938</b>	<b>857763</b>	<b>658825</b>	<b>631732</b>

Sources:

1900-1915: Direccion General de Estadistica de la Nacion, Ministerio de Hacienda de la Republica Argentina, Extracto Estadistico de la Republica Argentina 1915 (Compania Sud-Americana de Billetes de Banco, Buenos Aires, 1916), pp. 58-73.

1916-1917: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1917 (Imprenta Mercatali, Buenos Aires, 1920), pp. 456-457 and 462-466.

1918-1920: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1918-1920 (L.J. Rosso y Cia, Buenos Aires, 1922), pp. 620-621 and 628-634.

1921-1923: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1921-1923 (G. Kraft, Buenos Aires, 1924), pp. 646-648 and 655-661.

1924-1926: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1926 (Jacobo Peuser, Buenos Aires, 1927), pp. 479-480 and 487-494.

1927-1929: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1929 (Jacobo Peuser, Buenos Aires, 1931), pp. 570-571 and 573-575.

\* 'Tasajo' include other salted meat (bovine and porcine) in 1916-1922.

**Appendix 23 - Argentinian Meat Exports (Volume in Tons) 1930-54**

P. 371

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

ARGENTINA	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
<i>Tasajo*</i>	155	25	4	1926	4394	5382	3831	5722	4878	4187
Conserved Meat	62420	55078	44175	54997	61056	67122	72508	76292	74254	82518
Meat Extract	1682	1197	1315	1660	1529	1756	2916	2190	1704	2271
Conserved Tongues	423	427	512	1402	1988	2163	2600	2428	2235	1857
Frozen Ovine Meat ~	80360	83043	70631	62649	48658	49881	50035	51661	47623	54772
Frozen Bovine Meat#	98748	83681	36660	31549	31584	30651	39651	92113	102731	464073
Chilled Bovine Meat	345525	352227	370634	350046	349644	348531	357473	349481	342426	
<b>TOTAL ARGENTINA</b>	<b>589313</b>	<b>575678</b>	<b>523931</b>	<b>504229</b>	<b>498853</b>	<b>505486</b>	<b>529014</b>	<b>579887</b>	<b>575851</b>	<b>609678</b>
ARGENTINA	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
<i>Tasajo*</i>	1829	1831	1492	1346	1287	1163	1219			
Conserved Meat	79908	133313	112840	94571	134667	65064	79122	101300	71900	44500
Meat Extract	2270	4567	2256	3232	3552	2539	3216	1700	1700	1600
Conserved Tongues	2609	2664	2648	3268	3072	2437	2141	3200	1000	300
Frozen Ovine Meat ~	61815	49845	80329	96646	108520	100918	125020	135500	79900	67000
Frozen Bovine Meat#	373534	376993	376007	296819	295737	176187	227024	338000	277400	317800
Chilled Bovine Meat										
<b>TOTAL ARGENTINA</b>	<b>521965</b>	<b>569213</b>	<b>575572</b>	<b>495882</b>	<b>546835</b>	<b>348308</b>	<b>437742</b>	<b>579700</b>	<b>431900</b>	<b>431200</b>
ARGENTINA	1950	1951	1952	1953	1954					
<i>Tasajo</i>		6391	5787	2234	2871					
Conserved Meat	73700	97831	56372	58293	73510					
Meat Extract	3900	2734	2003	1595	1510					
Conserved Tongues	200	79	225	16	632					
Frozen Ovine Meat	41300	24741	43983	50574	58737					
Frozen Bovine Meat#	170300	109857	96808	112771	104732					
Chilled Bovine Meat										
<b>TOTAL ARGENTINA^</b>	<b>289400</b>	<b>241633</b>	<b>205178</b>	<b>225483</b>	<b>241992</b>					

**Sources:**

1930-1932: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1932 (Jacobo Peuser, Buenos Aires, 1933), pp. 614-620.  
 1933-1935: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1935 (Jacobo Peuser, Buenos Aires, 1936), pp. 609-616.  
 1936: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1937 (Jacobo Peuser, Buenos Aires, 1938), pp. 610-620.  
 1937-1938: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1938 (Jacobo Peuser, Buenos Aires, 1939), pp. 386-393.  
 1939-1940: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1940 (Jacobo Peuser, Buenos Aires, 1941), pp. 361-370.  
 1941-1942: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1942 (Jacobo Peuser, Buenos Aires, 1943), pp. 347-357.  
 1943-1944: Ministerio del Interior, Consejo Nacional de Estadistica y Censos de la Nacion, El Comercio Exterior Argentino en 1944 y su comparacion con el de 1943, Informe No. 100 (Guillermo Kraft, Buenos Aires, 1945), pp. 59-60.  
 1945-1946: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1945-1946 (Jacobo Peuser, Buenos Aires, 1948), pp. 4-10.  
 1947-1950: Ministerio de Asuntos Tecnicos, Direccion General del Servicio Estadistico Nacional, Sintesis Estadistica Mensual de la Republica Argentina, Enero 1952 (Guillermo Kraft, Buenos Aires, 1952), p. 60.  
 1951-1954: Secretaria de Estado de Hacienda, Direccion Nacional de Estadistica y Censos, Comercio Exterior 1951-1954 (Guillermo Kraft, Buenos Aires, 1959).  
 Codes 14-1 to 19-3, 20-1 to 20-3, 23-1 to 23-2, 26-1 to 26-2, 26-5, 28-1 to 28-2, 28-4, 32-1 to 32-2, , pp. 3-18.  
 1947-1950 figures rounded to the hundredth ton (figure remains in tons).  
 # After 1939 'Frozen Bovine Meat' includes chilled bovine meat.  
 \* 'Tasajo' includes other salted bovine meat from 1932-1946 and 1951-54.  
 ^1951-1954 Excludes frozen meat for manufacture.  
 ~ After 1932 'Frozen Ovine Meat' also includes chilled ovine meat.

**Appendix 24 - River Plate Meat Exports (Volume in Tons) 1900-1929**

P. 372

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

RIVER PLATE	<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>
<i>Tasajo</i>	73995	70895	64920	69972	71110	69031	53401	56421	51598	60082
Conserved Meat	1606	1230	2042	4545	5338	5555	3414	3750	3882	8545
Meat Extract	694	895	1086	1056	966	1169	1088	1562	1356	2017
Conserved Tongues	1571	1490	1497	1212	1514	1328	1129	1581	1698	2025
Frozen Ovine Meat	56412	63013	80073	78149	88616	78642	68427	73294	81166	70854
Frozen Bovine Meat	24590	44904	70018	81520	97757	155257	154519	143694	181477	215116
Chilled Bovine Meat	0	0	0	0	0	0	0	0	6252	1222
<b>TOTAL RIVER PLATE</b>	<b>158868</b>	<b>182426</b>	<b>219636</b>	<b>236454</b>	<b>265301</b>	<b>310982</b>	<b>281978</b>	<b>280302</b>	<b>327429</b>	<b>359862</b>
RIVER PLATE	<u>1910</u>	<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>
<i>Tasajo</i>	61699	65425	47074	29464	13473	5548	5300	15158	9565	15865
Conserved Meat	14237	22293	24579	19454	19967	38824	65321	141588	262982	181340
Meat Extract	2189	797	893	1080	712	653	863	1076	1788	1550
Conserved Tongues	1772	1191	1109	917	980	1047	907	1734	2035	2718
Frozen Ovine Meat	78772	88853	71676	45928	61117	38576	54987	41902	52997	64668
Frozen Bovine Meat	254666	305419	337962	381618	397686	446284	474836	424118	542262	478088
Chilled Bovine Meat	8441	15096	25231	34175	40690	14031	24336	42568	1545	2484
<b>TOTAL RIVER PLATE</b>	<b>421776</b>	<b>499073</b>	<b>508524</b>	<b>512636</b>	<b>534626</b>	<b>544962</b>	<b>626550</b>	<b>668144</b>	<b>873174</b>	<b>746713</b>
RIVER PLATE	<u>1920</u>	<u>1921</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>
<i>Tasajo</i>	15009	13336	28283	25095	30045	25595	19767	18262	15105	5501
Conserved Meat	18812	20419	55088	100718	89596	79987	73942	81901	93311	101683
Meat Extract	638	238	1561	2277	1933	1737	1538	1660	1890	2528
Conserved Tongues	1410	955	1205	1480	1692	1536	970	1143	1007	979
Frozen Ovine Meat	59477	73157	90629	96749	99214	102166	90058	106757	91669	102840
Frozen Bovine Meat	460647	299293	192598	299718	458471	391248	322752	329465	164999	161309
Chilled Bovine Meat	53262	163719	287123	362657	394946	412024	461351	481804	416758	395086
<b>TOTAL RIVER PLATE</b>	<b>609255</b>	<b>571117</b>	<b>656487</b>	<b>888694</b>	<b>1075897</b>	<b>1014293</b>	<b>970378</b>	<b>1020992</b>	<b>784739</b>	<b>769926</b>

**Sources & Notes:**

See Appendixes 20 and 22.

**Appendix 25 - River Plate Meat Exports (Volume in Tons) 1930-54**

P. 373

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

RIVER PLATE	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>
<i>Tasajo</i>	3284	1525	232	2516	5786	7392	3985	5748	4878	6752
Conserved Meat	96858	83972	64323	82226	93194	110866	104213	110543	96498	106179
Meat Extract	2629	2122	1973	2318	2315	2780	4452	2799	2514	2941
Conserved Tongues	1342	1030	996	1984	2590	2706	3128	3377	2889	2327
Frozen Ovine Meat	108621	101428	76807	72309	56757	57077	56743	59802	56205	65929
Frozen Bovine Meat	165916	125934	75577	60860	54439	56941	55016	122581	143371	500046
Chilled Bovine Meat	390107	391828	397217	379431	377499	373903	383549	381227	367763	18829
TOTAL RIVER PLATE	768757	707839	617125	601644	592580	611665	611086	686077	674118	703003
RIVER PLATE	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
<i>Tasajo</i>	3647	3397	2146	2505	4408	6598	9617	6890	2704	1367
Conserved Meat	108543	167963	142165	131420	152571	77954	106306	117315	87814	59712
Meat Extract	2820	6011	2343	4849	4342	4150	6213	3142	4246	1986
Conserved Tongues	3054	3058	2648	3902	4530	4458	4477	4133	2414	2358
Frozen Ovine Meat	74802	55947	85367	107263	119339	108610	134705	140679	83254	73502
Frozen Bovine Meat	422395	423803	409303	322172	316922	203296	257893	344309	313652	382935
Conserves & Meat Stews*		0	3079	25669	31084	31273	4690	182	1	
Chilled Bovine Meat										
TOTAL RIVER PLATE	615261	660179	647051	597780	633196	436339	523901	616650	494085	521860
RIVER PLATE	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>					
<i>Tasajo</i>	1155	7786	6819	3821	3271					
Conserved Meat	95471	110501	65637	71682	95440					
Meat Extract	4607	3134	2378	2119	2031					
Conserved Tongues	2802	3411	2620	1548	1825					
Frozen Ovine Meat	54314	29598	56011	57091	65608					
Frozen Bovine Meat	232729	172059	140119	155111	149852					
Chilled Bovine Meat										
TOTAL RIVER PLATE	391078	326489	273584	291372	318027					

**Sources & Notes:**

See Appendix 21 & 23

\* Uruguay only

**Appendix 26 - Uruguayan Meat Exports (Value Pesos \$) 1900-1931**

**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

P. 374

URUGUAY	<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>	<u>1910</u>
<i>Tasajo</i>	6042	4893	4475	5983	5669	3499	3886	3662	3596	3877	4181
Conserved Meat	40	57	80	161	582	614	56	217	332	549	1001
Meat Extract	1319	1221	1422	1277	1366	1318	1720	1047	975	955	1289
Conserved Tongues#	178	162	189	148	177	162	189	141	132	147	215
Frozen Ovine Meat					1	144	103	328	415	341	564
Frozen Bovine Meat*											
Chilled Bovine Meat											
<b>TOTAL URUGUAY</b>	<b>7579</b>	<b>6333</b>	<b>6166</b>	<b>7569</b>	<b>7795</b>	<b>5737</b>	<b>5954</b>	<b>5395</b>	<b>5450</b>	<b>5869</b>	<b>7250</b>
URUGUAY	<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>	<u>1921</u>
<i>Tasajo</i>	4264	3050	2044	2663	1334	1045	1886	1697	1970	3120	2670
Conserved Meat	945	567	1126	1152	4791	5811	15505	27353	21684	1811	1709
Meat Extract	988	541	526	407	120	504	1046	1632	1765	1150	338
Conserved Tongues#	126	150	85	48	163	191	250	170	507	240	208
Frozen Ovine Meat	176	90		413	743	844	500	620	1898	945	1760
Frozen Bovine Meat	461	1220	2974	9023	21907	15189	12972	9157	15169	18055	11005
Chilled Bovine Meat					675	2291	714		1	516	3067
<b>TOTAL URUGUAY</b>	<b>6960</b>	<b>5618</b>	<b>6755</b>	<b>13706</b>	<b>29733</b>	<b>25875</b>	<b>32873</b>	<b>40629</b>	<b>42994</b>	<b>25837</b>	<b>20757</b>
URUGUAY	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	
<i>Tasajo</i>	5555	5093	3620	2974	2691	2429	2541	1339	782	375	
Conserved Meat	6980	7826	3100	4790	4888	4079	5295	6522	6892	5779	
Meat Extract	1178	1740	797	872	1058	1555	1556	2166	2289	2247	
Conserved Tongues#	347	392	302	443	303	528	432	450	745	489	
Frozen Ovine Meat	2144	3757	3747	2467	5164	3770	2642	4700	5844	4054	
Frozen Bovine Meat	6524	16306	17118	17976	16945	12298	6331	6524	11916	7427	
Chilled Bovine Meat	8063	7154	6148	7910	5842	2213	5360	6293	8038	7187	
<b>TOTAL URUGUAY</b>	<b>30791</b>	<b>42268</b>	<b>34832</b>	<b>37432</b>	<b>36891</b>	<b>26872</b>	<b>24157</b>	<b>27994</b>	<b>36506</b>	<b>27558</b>	

**Sources:**

1900: Barran, J.P. and Nahum, B., Historia Rural del Uruguay Moderno 1895-1904 (Volume 3, Ediciones de la Banda Oriental, Montevideo, 1973), Appendix Table No. 11.

1901-1910: Anuario Estadístico de la República Oriental del Uruguay 1909-1910 (Juan Dornaleche, 1914), pp.148-149.

1911-1912: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1913 & 1914 (Francisco Arduino, Montevideo, 1916), pp. 167-170.

1913-1914: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1915 (Francisco Arduino, Montevideo, 1917), pp. 213-216.

1915-1916: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1916 (Imprenta Juan J. Dornaleche, Montevideo, 1918), pp. 581-583.

1917-1919: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1919 (Imprenta Arduino, Montevideo, 1921), pp. 566-570.

1920-1921: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1921 (Imprenta Nacional, Montevideo, 1923), pp. 373-375.

1922-1924: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1924 (Imprenta Nacional, Montevideo, 1926), pp. 267-269.

1925-1929: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1929 (Imprenta Nacional, Montevideo, 1930), pp. 395-397.

1930: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1930 (Imprenta Nacional, Montevideo, 1932), pp. 394-397.

1931: Dirección General de Estadística, Anuario Estadístico de la República Oriental del Uruguay 1931-32 and 1933 (Imprenta Nacional, Montevideo, 1935), pp. 500-503.

\* Includes all types of frozen meats in 1904-10.

# 'Conserved Tongues' do not include frozen tongues.

**Appendix 27 - Argentinian Meat Exports (Value Gold Pesos \$) 1900-1931**  
**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

P. 375

ARGENTINA	<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>	<u>1910</u>
<i>Tasajo*</i>	1980	2879	2647	1542	1392	3738	597	1178	773	1325	1033
Conserved Meat	140	95	164	374	243	249	126	159	173	639	1208
Meat Extract	230	434	593	693	414	871	842	1792	1380	2703	3047
Conserved Tongues#	204	204	166	142	189	156	91	227	262	360	284
Frozen Ovine Meat	4513	5041	6406	6252	7089	6268	5391	5583	6308	5320	6008
Frozen Bovine Meat	2459	4490	7002	8152	9774	15286	15381	13822	17456	20943	24527
Chilled Bovine Meat									625	122	844
<b>TOTAL ARGENTINA</b>	<b>9526</b>	<b>13143</b>	<b>16978</b>	<b>17155</b>	<b>19101</b>	<b>26568</b>	<b>22428</b>	<b>22761</b>	<b>26977</b>	<b>31412</b>	<b>36951</b>
ARGENTINA	<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>	<u>1921</u>
<i>Tasajo*</i>	1662	1401	658	568	51	268	2108	963	2679	921	863
Conserved Meat	1541	1770	1257	1309	3194	4457	36681	92854	70168	5429	4524
Meat Extract	1031	1224	1598	863	743	1306	2496	2898	1447	185	117
Conserved Tongues#	214	189	132	151	171	119	956	863	1126	557	494
Frozen Ovine Meat	6873	5614	3674	4695	6306	9468	7834	12366	17149	14357	15853
Frozen Bovine Meat	29774	31762	33205	32828	73717	93010	77316	142110	145626	95684	60104
Chilled Bovine Meat	1509	2523	3417	4068	2458	3651	8940	370	854	13263	36148
<b>TOTAL ARGENTINA</b>	<b>42604</b>	<b>44483</b>	<b>43941</b>	<b>44482</b>	<b>86640</b>	<b>112279</b>	<b>136331</b>	<b>252424</b>	<b>239049</b>	<b>130396</b>	<b>118103</b>
ARGENTINA	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	
<i>Tasajo*</i>	1137	1181	4289	3660	2478	1818	1133	94	40	6	
Conserved Meat	10030	14199	21131	16536	14984	14631	15213	16493	16651	13545	
Meat Extract	1641	2642	2333	1708	1722	1577	2127	2550	2550	1813	
Conserved Tongues#	326	258	405	226	155	183	379	330	312	438	
Frozen Ovine Meat	9165	14702	19471	21399	10276	12743	14567	14090	14409	13859	
Frozen Bovine Meat	20692	31204	54824	47555	34331	30949	20139	21084	17713	13899	
Chilled Bovine Meat	32386	56044	61615	69843	71432	67895	71125	70118	70914	67535	
<b>TOTAL ARGENTINA</b>	<b>75377</b>	<b>120230</b>	<b>164068</b>	<b>160927</b>	<b>135378</b>	<b>129796</b>	<b>124683</b>	<b>124759</b>	<b>122589</b>	<b>111095</b>	

Sources:

1900-1915: Direccion General de Estadistica de la Nacion, Ministerio de Hacienda de la Republica Argentina, Extracto Estadistico de la Republica Argentina 1915 (Compania Sud-Americana de Billetes de Banco, Buenos Aires, 1916), pp. 58-73.

1916-1917: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1917 (Imprenta Mercatali, Buenos Aires, 1920), pp. 456-457 and 462-466.

1918-1920: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1918-1920 (L.J. Rosso y Cia, Buenos Aires, 1922), pp. 620-621 and 628-634.

1921-1923: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1921-1923 (G. Kraft, Buenos Aires, 1924), pp. 646-648 and 655-661.

1924-1926: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1926 (Jacob Peuser, Buenos Aires, 1927), pp. 479-480 and 487-494.

1927-1929: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1929 (Jacob Peuser, Buenos Aires, 1931), pp. 570-571 and 573-575.

1930-1931: Direccion General de Estadistica de la Nacion, Anuario del Comercio Exterior de la Republica Argentina 1932 (Jacob Peuser, Buenos Aires, 1933), pp. 614-620.

# 'Conserved Tongues' do not include frozen tongues.

\* 'Tasajo' includes other salted meat (bovine and porcine) in 1916-1922.

**Appendix 28 - Value of River Plate Meat Exports (In Argentinian Pesos) 1900-1932**

P. 376

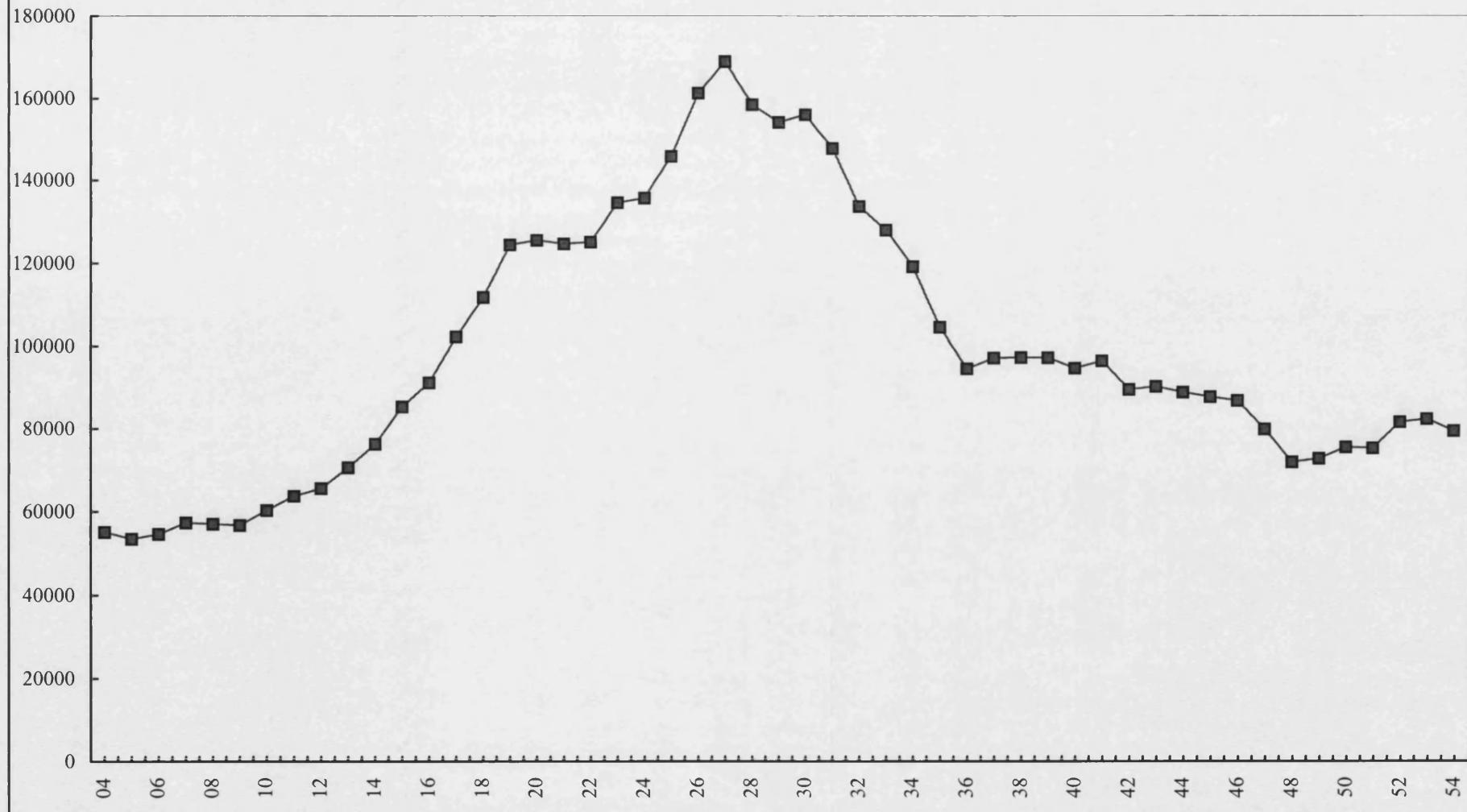
VALUE OF EXPORTS		1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Argentina	Argentinian \$ Gold	9526	13143	16978	17155	19101	26568	22428	22761	26977	31412	36951
		<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>	<u>1910</u>
Uruguay	Uruguayan \$	7579	6333	6166	7569	7795	5737	5954	5395	5450	5869	7250
	Conversion Rate (Uru.\$ per Arg. \$ Gold)	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
	Value in Argentinian \$ Gold	7048	5890	5734	7039	7249	5335	5537	5017	5069	5458	6743
	5 Year Moving Average	0	0	0	0	6592	6250	6179	6036	5642	5283	5565
		<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>	<u>1910</u>
River Plate	Total River Plate Exports i	16574	19033	22712	24194	26350	31903	27965	27778	32046	36870	43694
	Argentinian \$ Gold											
	5 Year Moving Average	0	0	0	0	21773	24839	26625	27638	29209	31313	33671
EXPORTS (VOLUME)		<u>1900</u>	<u>1901</u>	<u>1902</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>	<u>1910</u>
Argentina	Volume (Tons)	99652	134054	174889	177222	201353	259938	227831	221904	269602	297717	352805
Uruguay	Volume (Tons)	59216	48372	44747	59232	63948	51044	54147	58398	57827	62145	68971
River Plate	Volume (Tons)	158868	182426	219636	236454	265301	310982	281978	280302	327429	359862	421776
	5 Year Moving Average	0	0	0	0	212537	242960	262870	275003	293198	312111	334269
VALUE OF EXPORTS		1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Argentina	Argentinian \$ Gold	42604	44483	43941	44482	86640	112279	136331	252424	239049	130396	118103
		<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>	<u>1921</u>
Uruguay	Uruguayan \$	6960	5618	6755	13706	29733	25875	32873	40629	42994	25837	20757
	Conversion Rate (Uru.\$ per Arg. \$ Gold)	0.93	0.93	0.93	0.93	0.93	0.81	0.81	0.81	0.81	0.81	1.05
	Value in Argentinian \$ Gold	6473	5225	6282	12747	27652	20959	26627	32909	34825	20928	21795
	5 Year Moving Average	5752	5793	6036	7494	11676	14573	18853	24179	28594	27250	27417
		<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>	<u>1921</u>
River Plate	Total River Plate Exports i	49077	49708	50223	57229	114292	133238	162958	285333	273874	151324	139898
	Argentinian \$ Gold											
	5 Year Moving Average	37893	42279	45914	49986	64106	80938	103588	150610	193939	201345	202678
EXPORTS (VOLUME)		<u>1911</u>	<u>1912</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>	<u>1921</u>
Argentina	Volume (Tons)	427512	440793	429880	444055	430872	525988	545063	742703	592543	489640	474907
Uruguay	Volume (Tons)	71561	67731	82756	90571	114090	100562	123081	130471	154170	119615	96210
River Plate	Volume (Tons)	499073	508524	512636	534626	544962	626550	668144	873174	746713	609255	571117
	5 Year Moving Average	377688	423333	460374	495327	519964	545460	577384	649491	691909	704767	693681
VALUE OF EXPORTS		1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Argentina	Argentinian \$ Gold	75377	120230	164068	160927	135378	129796	124683	124759	122589	111095	77437
		<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>
Uruguay	Uruguayan \$	30791	42268	34832	37432	36891	26872	24157	27994	36506	27558	17850
	Conversion Rate (Uru.\$ per Arg. \$ Gold)	1.05	1.05	1.05	1.05	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	Value in Argentinian \$ Gold	32331	44381	36574	39304	36522	26603	23915	27714	36141	27282	17672
	5 Year Moving Average	28558	30852	31202	34877	37822	36677	32584	30812	30179	28331	26545
		<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>
River Plate	Total River Plate Exports i	107708	164611	200642	200231	171900	156399	148598	152473	158730	138377	95109
	Argentinian \$ Gold											
	5 Year Moving Average	191627	167483	152836	162618	169018	178757	175554	165920	157620	150916	138657
EXPORTS (VOLUME)		<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>
Argentina	Volume (Tons)	531311	710605	916034	844264	796938	857763	658825	631732	589313	575678	523931
Uruguay	Volume (Tons)	125176	178089	159863	170029	173440	163229	125914	138194	179444	132161	93194
River Plate	Volume (Tons)	656487	888694	1075897	1014293	970378	1020992	784739	769926	768757	707839	617125
	5 Year Moving Average	691349	694453	760290	841298	921150	994051	973260	912066	862958	810451	729677

Exchange Rates: Argentina: £1 = 5.04 Gold Pesos  
Uruguay: £1 = 4.70 Uruguayan Dollars  
£1 5.04 Arg. \$ Gold Pesos  
£1 4.7 Uruguayan Dollars based on \$4.7 per £ (Gold Parity)  
1 Arg. \$ Gol 0.93 Uruguayan Dollars  
Uru. \$ per £ Uru. \$ per Arg. \$  
1911-15 4.7 0.93 (\$4.7 from 1890-1916)  
1916-20 4.09 0.81  
1921-25 5.31 1.05  
1926-30 5.01 0.99

Sources: Uruguayan Exchange Rate Rial Roade, J., Estadísticas Históricas de Uruguay 1850-1930 (Cuaderno 40, CIESU, Montevideo, 1980), Table 4, p. 102  
Data: See Appendixes 26 and 27.

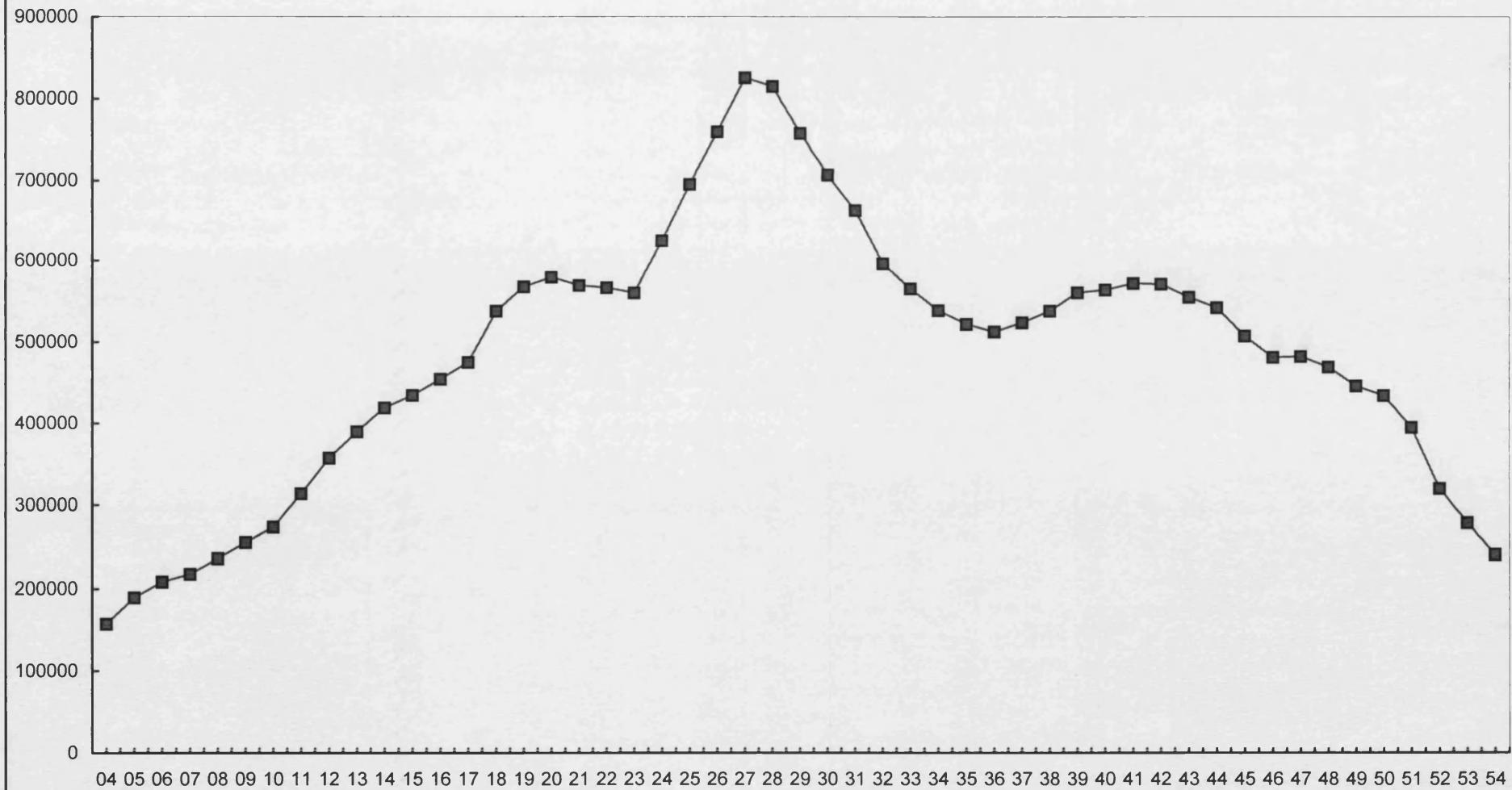
**Appendix 29: Uruguayan Meat Exports (5-Year Moving Averages) 1900-1954 Volume in Tons**  
**Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

P. 377



**Appendix 30: Argentinian Meat Exports (5-Year Moving Averages) 1900-1954**  
**Volume in Tons - Bovine & Ovine Meat, Conserved Meat & Tongues and Meat Extract**

P. 378



## APPENDIX 31: PRODUCTION OF BEEF AND SHEEPMEAT 1951-1985 (In Thousands of Tons)

Bovine Meat ~	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Argentina	1879	1788	1766	1815	2147	2476	2459	2541	1944	1893	2145	2379	2605	2019	1995	2321	2522	2561
Uruguay	317	302	325	271	254	272	278	215	218	249	271	268	290	308	310	253	252	339
River Plate	2196	2090	2091	2086	2401	2748	2737	2756	2162	2142	2416	2647	2895	2327	2305	2574	2774	2900
EEC (12)	3195	3302	3617	4105	4075	4133	4245	4260	4339	4640	5078	5318	5396	5094	5042	5490	5886	6051
Canada	406	437	507	549	560	600	632	610	578	631	655	665	703	778	867	859	846	892
USA	4489	4907	6329	6627	6870	7300	7134	6584	6617	7183	7426	7411	7886	8831	8957	9360	9530	9804
Australia	662	591	686	716	731	763	828	804	921	764	643	804	929	1001	1026	946	879	904
New Zealand	180	195	185	202	229	265	271	273	238	240	237	282	293	287	271	287	297	339
World	19804	20487	22400	23422	24264	25759	26074	26135	26370	27075	27730	29205	30847	31197	31854	33555	35265	36975
Ovine Meat *	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Argentina	154	192	192	206	199	185	163	171	164	169	177	176	161	145	173	198	214	219
Uruguay	51	62	64	58	67	64	56	62	59	56	56	58	52	53	58	66	52	67
River Plate	205	254	256	264	266	249	219	233	223	225	233	234	213	198	231	264	266	286
EEC (12)	450	525	532	584	552	578	595	577	664	677	689	690	670	705	711	746	742	720
Canada	12	14	14	14	14	15	15	14	14	14	16	14	14	14	11	10	10	9
USA	236	294	331	333	344	336	321	312	335	348	377	367	349	324	295	295	293	273
Australia	279	287	401	371	394	386	373	428	500	582	584	596	603	595	594	608	596	664
New Zealand	297	353	338	333	351	357	341	358	431	449	458	473	464	490	477	474	513	558
World	4295	4860	5079	5144	5333	5391	5329	5509	5981	6098	6133	6264	6256	6270	6316	6383	6567	6742
Total Bovine & Ovine Meat	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Argentina	2033	1980	1958	2021	2346	2661	2622	2712	2108	2062	2322	2555	2766	2164	2168	2519	2736	2780
Uruguay	368	364	389	329	321	336	334	277	277	305	327	326	342	361	368	319	304	406
River Plate	2401	2344	2347	2350	2667	2997	2956	2989	2385	2367	2649	2881	3108	2525	2536	2838	3040	3186
EEC (12)	3645	3827	4149	4689	4627	4711	4840	4837	5003	5317	5767	6008	6066	5799	5753	6236	6628	6771
Canada	418	451	521	563	574	615	647	624	592	645	671	679	717	792	878	869	856	901
USA	4725	5201	6660	6960	7214	7636	7455	6896	6952	7531	7803	7778	8235	9155	9252	9655	9823	10077
Australia	941	878	1087	1087	1125	1149	1201	1232	1421	1346	1227	1400	1532	1596	1620	1554	1475	1568
New Zealand	477	548	523	535	580	622	612	631	669	689	695	755	757	777	748	761	810	897
World	24099	25347	27479	28566	29597	31150	31403	31644	32351	33173	33863	35469	37103	37467	38170	39938	41832	43717

## APPENDIX 31: PRODUCTION OF BEEF AND SHEEPMEAT 1951-1985 (In Thousands of Tons)

P. 380

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<b>Bovine Meat ~</b>																	
Argentina	2883	2624	2001	2191	2149	2163	2439	2811	2914	3193	3020	2839	2939	2551	2384	2548	2740
Uruguay	345	379	289	287	330	345	403	342	314	270	336	407	383	412	313	328	
River Plate	3228	3003	2290	2478	2446	2493	2784	3214	3256	3507	3290	3175	3346	2934	2796	2861	3068
EEC (12)	6066	6428	6518	5969	6096	7212	7266	7130	7004	6992	7392	7668	7463	7210	7465	8002	7891
Canada	846	851	896	898	906	953	1088	1166	1142	1063	947	971	1016	1032	1035	997	1035
USA	9902	10103	10182	10374	9813	10716	11271	12166	11845	11282	9925	9999	10353	10425	10748	10928	10996
Australia	935	1010	1047	1164	1438	1322	1547	1840	1988	2184	2018	1564	1467	1576	1543	1344	1310
New Zealand	371	387	393	410	446	405	508	628	558	562	512	496	498	516	512	433	487
World	37951	38439	38123	38592	38864	41923	43809	45831	46404	46580	45061	44643	44938	45029	46030	46872	47681
<b>Ovine Meat*</b>	<b>1969</b>	<b>1970</b>	<b>1971</b>	<b>1972</b>	<b>1973</b>	<b>1974</b>	<b>1975</b>	<b>1976</b>	<b>1977</b>	<b>1978</b>	<b>1979</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>
Argentina	204	187	186	143	138	121	131	135	140	137	137	118	120	117	117	109	104
Uruguay	59	87	70	67	48	52	42	38	39	38	30	28	47	49	50	41	41
River Plate	263	274	256	210	186	173	173	173	179	175	167	146	167	166	167	150	145
EEC (12)	690	727	745	740	761	812	826	825	815	825	835	914	880	894	909	913	925
Canada	8	7	8	8	9	7	8	7	6	5	5	5	7	8	9	9	9
USA	249	250	252	246	233	211	186	168	159	140	133	144	153	166	171	172	162
Australia	680	755	825	956	713	467	527	588	549	514	491	549	578	511	530	465	515
New Zealand	555	555	565	576	558	499	492	514	498	502	515	561	627	624	681	669	730
World	6721	6906	7025	7088	6871	6658	6870	6900	6944	7106	7120	7480	7747	7771	7989	8050	8259
<b>Total Bovine &amp; Ovine Meat</b>	<b>1969</b>	<b>1970</b>	<b>1971</b>	<b>1972</b>	<b>1973</b>	<b>1974</b>	<b>1975</b>	<b>1976</b>	<b>1977</b>	<b>1978</b>	<b>1979</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>
Argentina	3087	2811	2187	2334	2287	2284	2570	2946	3054	3330	3157	2957	3059	2668	2501	2657	2844
Uruguay	404	466	359	354	345	382	387	441	381	352	300	364	454	432	462	354	369
River Plate	3491	3277	2546	2688	2632	2666	2957	3387	3435	3682	3457	3321	3513	3100	2963	3011	3213
EEC (12)	6756	7155	7263	6709	6857	8024	8092	7955	7819	7817	8227	8582	8343	8104	8374	8915	8816
Canada	854	858	904	906	915	960	1096	1173	1148	1068	952	976	1023	1040	1044	1006	1044
USA	10151	10353	10434	10620	10046	10927	11457	12334	12004	11422	10058	10143	10506	10591	10919	11100	11158
Australia	1615	1765	1872	2120	2151	1789	2074	2428	2537	2698	2509	2113	2045	2087	2073	1809	1825
New Zealand	926	942	958	986	1004	904	1000	1142	1056	1064	1027	1057	1125	1140	1193	1102	1217
World	44672	45345	45148	45680	45735	48581	50679	52731	53348	53686	52181	52123	52685	52800	54019	54922	55940

## Source:

FAO, World Crop and Livestock Statistics, 1948-1985, Rome, 1987, Tables 94 and 95, pp. 698-709.

## Notes:

~ Includes Buffalo Meat

\* Includes Goat Meat