Is Porter's diamond applicable to developing countries? A case study of the broiler industry in Uruguay

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Abstract

This study focuses on the analysis and assessment of competitiveness of the Uruguayan broiler industry within MERCOSUR union. Porter's (1990) 'national diamond' was selected as the appropriate framework for analysis and was applied to the six major Uruguayan broiler firms. This research reveals that the unique characteristics of the Uruguayan broiler industry are successfully accommodated within the selected framework to explain the success of the broiler industry against other meat substitutes. These results are consistent with those found in the existing literature, lending support to the view that Porter's (1990) model seems to be applicable to developing countries such as Uruguay. However, some modifications of the model are required to fully explain the progress of this industry. This research project presents an adaptation of Porter's 'diamond' to the singularities of the firms investigated in this study.

Keywords: The broiler industry, Porter's diamond, MERCOSUR, Uruguay

Introduction

On March 26th 1991, following regional integration trends, four countries of South America: Argentina, Brazil, Paraguay, and Uruguay signed the Treaty of Asuncion which called for the creation of the Common Market of South America (MERCOSUR). The union aimed to remove all kinds of tariffs on the flow of goods and factors of production, implement a common external tariff, and coordinate macroeconomic and sectoral policies (Da Motta Veiga, 1992). MERCOSUR integration has its origins on several agreements that had started many years before between the two most developed countries of the organization (Brazil and Argentina) on important issues as capital goods, food, auto industries, energy supply, and nuclear energy (Kaltenthaler & Mora, 2002). It is worth noting that MERCOSUR members embarked on wider economic integration into the world economy during the last 20 years. Prior to this time MERCOSUR countries implemented a more closed-economy development strategy known as "industrialization via import substitution". Under that model the state acted as the larger investor in the economy and as the guide of the development process (Paiva & Gazel, 2003). In that scenario, those sectors which were thought to be relevant for the economy of the countries, enjoyed subsidies and protection against foreign competition.

These strategies resulted in inefficient and non-competitive economies that grew insulated from foreign competition. The new regionalism entails an opposite strategy that arose as part of the neoliberal economic model, with export-led growth as the main factor of development (Filho, 1999). The creation and integration process of the MERCOSUR idea has been driven by governance administrations (largely presidents) without popular participation. Presidents of the involved countries felt that an opening discussion of the merits of integration would have frozen the process of integration (Pena, 1996). Because of that, the private sector and in particularly business looked at the union with scepticism. The explanation of that position finds its origins in the disappointing experience with regional integration in Latin America and the fear of smaller countries, such as Uruguay, regarding the size and development of the Brazilian industry. Moreover, the Brazilian private sector was largely indifferent to the process that was going on. However, the business sector in general reacted very quickly to the new environment of opportunities. The rapid increase in trade and investment flows is the vivid proof of that reaction. Some industries, such as automobile, wine, broiler, and plastic, played an active role in order to put forward their vested interests in relation to the negotiation of the common external tariff and the list of exceptions to it (Foreign Trade Information System, 2002).

In theory trade transactions are carried out without adoption of any tariff system within the MERCOSUR trade block. However, this regime is not actually implemented. The member states of MERCOSUR negotiated what has come to be called an "Adaptation Regime" by which some products (integrating the most sensitive sectors) traded among the four countries will, for a time, continue to pay duties. In addition non-tariff barriers have protected some industries from competition. For example, at the moment a non-tariff barrier protects the Uruguayan broiler industry. However, the goal is to eliminate -in the short term- all tariff and non-tariff barriers among the countries of the union (Comisec, 2008).

Competition in regional trade agreements has been widely studied in many parts of the world. However, there is not much research about how competition may affect agribusiness industries belonging to trade agreements in a customs union where all participants are developing countries as in MERCOSUR union. In order to fulfil the need of studying the impact that MERCOSUR union may have on the competitiveness of the Uruguayan broiler industry, next section critically reviews some of the relevant theories on international trade and competitive advantage to have been developed to date. From that review, Porter's (1990) diamond system was selected as the most suitable framework to analyse the success of Uruguayan broiler firms over the industry's 42 years of history.

Theoretical framework

The reason why some firms belonging to certain nations are more competitive than others is a very complex topic. Nowadays most countries increasingly find themselves more integrated into the global economy (Young, 1985). In that scenario, the importance of competitive advantage is enormous as trade agreements have forced firms to face competition from domestic and global competitors (Requier-Desjardins et al., 2003). This is the situation that Uruguayan broiler firms might be likely to face in the short-term. In general, national macro-economic factors, such as government deficits, exchange rates, interest rates or currency strength, are pointed out by many theories as having a relevant role in competition (Smith, 1776; Ricardo, 1817). Nevertheless, there are examples of nations that have achieved international success in spite of adverse macro-economic conditions. The desire of individuals to maximize their profits, labour availability, and comparative cost advantage has also been identified as important factors in determining national and corporate competitiveness (Murphy, 2001). However, in some nations with short supply of labour and high wages, firms have been able to gain competitiveness through automatization and redistribution of processes.

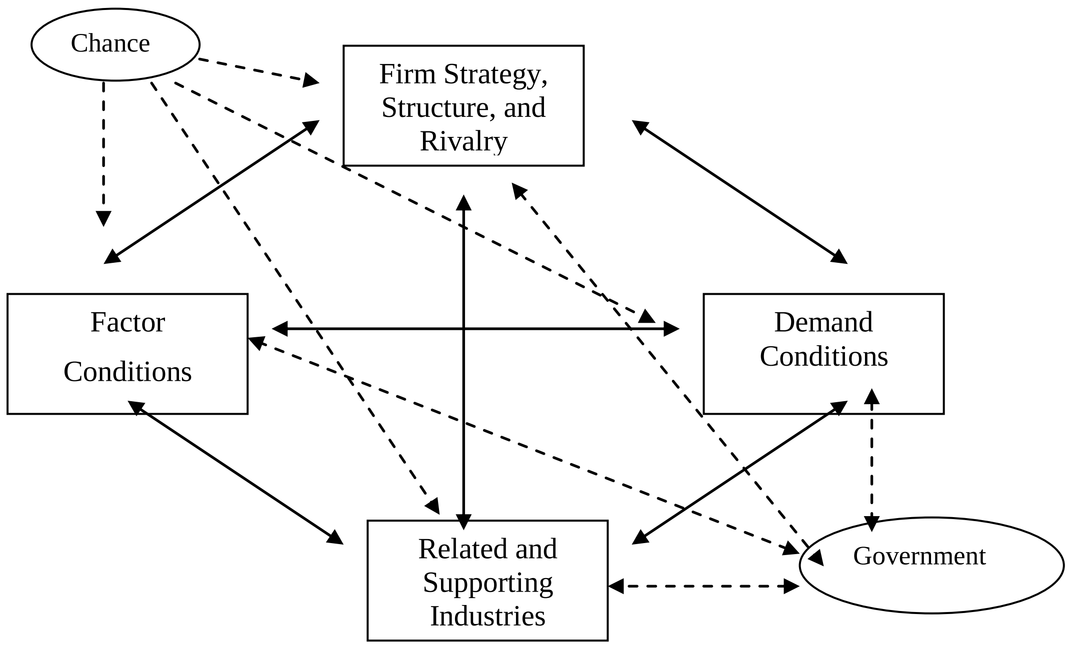
According to some theories, competitiveness depends on natural endowments. Therefore, nations rich in natural resources should gain competitiveness easier than those less fortunate on natural endowments (Heckscher, 1991). Yet, the lack of natural resources has not prevented firms from some nations such as Japan from achieving international competitiveness (Yoshitomi, 1991). Many scholars have pointed at government policy as the main factor responsible for achieving national prosperity (Dunning, 1995). Evidence suggests that economic success has been achieved by nations with either strong government control or limited government policy (Harling, 1989; Wint, 1998). Finally, business management practices are identified by some models as key determinants for competitive success. Some authors argue that it is unrealistic to draw generalizations out of management practices because the same management approach would have very different outcomes in different industries from different countries (Bloom and Van Reenen, 2007; Thang et al., 2007).Most traditional theories and models contain some 'truth'; however, they fail to account for many factors that are important to explain competitiveness in specific sectors (Deraniyagala and Fine, 2001).

The few models that take into consideration the firm's dynamics tend to oversimplify the process by which a firm achieves competitiveness. The new strategic trade theory has tried to amend some of the flaws of traditional theories introducing the concepts of economies of scale, product differentiation, and imperfect competition. In spite of addressing some of the flaws of former theories the new strategic trade theory is still imbued with many limitations of the old theory (Bhattacharjea, 2004). Among management theories, Porter's (1990) framework and the Resource Based View (RBV) have been recognized as the most influential perspectives to explain competitive advantage and why some firms succeed where others fail (Abbott and Bredahl, 1994; Powell, 2001). The debate should look then at the real differences among these two models. The RBV theory has been supported by those scholars who believe that competitive advantage is associated with firms' specific resources (Wernefelt, 1984; Foss, 1997). Supporters of this theory claim that the management of firms' specific resources is the main determinant of differential performances between companies (Barney, 2001). They argue that those companies capable of developing rare and non-substitutable resources and capabilities such as technical know-how, managerial ability, and organizational capabilities (routines and interactions), will achieve competitive advantage over competing firms (Wernerfelt, 1984; Barney, 1991).

Porter (1990) with his work ‘The Competitive Advantage of Nations’ has been the main contributor to the development of a framework that explains those factors responsible for the success or failure of a firm. ‘The Competitive Advantage of Nations’ discusses the role that the nation’s environment and governmental policies has on a firm’s competitiveness. Porter (1990) maintains that a nation succeeds where the country’s environment helps to develop the ‘proper’ strategy for a particular industry or segment. National factors affecting the possibility of pursuing a particular strategy include: norms of behaviour that shape the way firms are managed, the availability of skilled labour, the nature of home demand, and the goals of local investors. Porter’s (1990) main objective is to explain the way in which a firm’s domestic environment shapes its competitive success over time and why some nation’s industries and firms succeed at international trade where others fail.Porter (1990) emphasises that developing a competitive advantage in industries demands continuous improvement and innovation. According to him, nations succeed where the local environment pushes firms to take risks and to invest in new strategies for competing.

To pursue this kind of strategy demands having sophisticated technology, skills, and the financial resources to continuously invest. When these sources are present nations will succeed in pursuing the right strategy. Nations will also succeed in industries where their home base advantages are valuable in the international arena. According to Porter (1990) the nation’s ‘right’ environment, that supports the creation of competitive advantage, is based on the attributes included in a national ‘diamond’ model based on certain determinants. Even though Porter’s approach uses the firm as the centre of analysis he also takes into account the role that exogenous factors have on firm’s competitiveness (van Duren, Martin & Westgren, 1994). The main determinants embraced by Porter’s (1990) ‘diamond’ are: factor conditions; demand conditions; related and supporting industries; and firm strategy, structure and rivalry. This model is then expanded with the inclusion of another two determinants (the role of government and chance) that address exogenous forces.

Figure 1: The complete system



Source: Adapted from Porter (1990)

Porter (1990) claims that the success or failure of a specific industry is a result of the interaction among all ‘diamond’ determinants and that each determinant can be influenced and influences the conditions of chance and government policy. As in his previous work, Porter (1990) stresses the importance of competition as firms benefit from having aggressive home-based suppliers, strong domestic rivals, and demanding local customers. The theory suggests that firms would gain competitive advantage if their nation supports the accumulation of specialized assets and skills, if they have access to ongoing information, and if the goals of their personnel support intense commitment and sustained investment. The dynamic of a nation’s environment is also an important factor in encouraging firms to upgrade and widen their advantages over time. Porter (1990) argues that competitive advantages that are based on lower-order advantages are possible when the industry succeeds only in one or two determinants. This kind of advantage is difficult to sustain because it may shift rapidly and global competitors can circumvent it. Conversely, higher-order advantages are created throughout the ‘diamond’ and are very difficult for foreign rivals to nullify or replicate (Porter, 1990).

Porter's theory has the ability to acknowledge the impact of the industry without forgetting the role played by operational activities at the firm level (Grant, 1991). Therefore, Porter's model seems to provide a better framework than the RBV for understanding the competitiveness of the Uruguayan broiler industry, as well as the firm's activities that have contributed to the development of this industry. The benefit of Porter's theory is that it is not only about the analysis of industries and competitors but also about the activities within the firm (O' Shaughnessy, 1996). By concentrating only on the firm, the RBV forgets to consider important industry factors that may affect the acquisition of resources to develop competitive advantage (van Duren et al., 1994; Barney, 2001). The model to be employed in this research must be able to overcome the constraints of traditional theories. The selected framework must be capable of explaining the success of industries from specific nations when competing locally and internationally. In spite of its limitations, Porter's (1990) model of competitive advantage is the one that best meets these requirements.

Porter's (1990) national 'diamond' is a comprehensive model that has the ability to incorporate concepts from traditional trade theory, new strategic trade theory, the Resource Based View, and the role of innovation introduced by Schumpeter (1934). The application of the diamond framework to any industry allows identifying the most relevant variables that impact on industry competition and it is the only model that has successfully addressed three levels of aggregation: the firm, the industry, and the nation (Grant, 1991). There are some studies that have used Porter's (1990) theory/model to analyse the competitiveness of industries and segments in different countries. However, in spite of Porter's (1990) theory being generally recognized there are very few studies that have tested the concept of national competitiveness based on the model. In light of this fact this study will test Porter's model of The Competitive Advantage of Nations in Uruguay.

Methodology

This study aimed to understand the motivations and actions that have lead key decision makers from the Uruguayan broiler industry to certain patterns of behaviour. It was also relevant to unveil how the people involved in the industry understand competitiveness and strategy within the context of a more integrated MERCOSUR. Because ideas are subjective and very individually based, this study opted for a realism approach because of its explanatory power and adequacy to reveal the underlying causes of competitiveness within the targeted industry.Within a deductive approach, this research opted for an industry-level case study research strategy because it appears to be the best option to test an existing theory (Yin, 2003), as well as to collect the required data for understanding the impact of MERCOSUR upon the competitiveness of Uruguayan broiler companies. In order to get the most useful results from the study, the researcher tried to interview all legal companies within the broiler industry. This permitted collecting accurate data which represents the target population. The problem of representativeness was overcome by interviewing six out of the seven broiler firms in Uruguay. However, one of the firms (Avicola Frontini) refused to be interviewed on the basis of company policy rules.

The names of the legal companies in order of importance are:

i. Calprica
ii. Casa Quinta (Pollos Tenent)
iii. Avicola del Oeste
iv. Avicola San Bautista
v. Avesur
vi. Avicola del Remanso
vii. Avicola Frontini (Avicola Melilla)

Calprica and Casa Quinta, accounts for the 48% of Uruguayan broiler production. Avicola el Oeste, Avesur and Avicola San Bautista were all established in the early eighties. Quantitative data indicates that each company handles between 11% and 13% of the market share. The rest of the industry is composed of the two smallest firms (Avicola del Remanso and Avicola Frontini (Melilla) which were established in 1992 and 1994 respectively. At the time of the interview Avicola del Remanso controlled 9% of the market share and Avicola Frontini 7% of the market share.There is a difference in the educational background of the owners-directors. The owners of Calpryca and Pollos Tenent belong to a middle class and received better education than the owners of the rest of the firms, who were poultry farmers with poor academic education, but a lot of experience in the poultry sector. In this study the semi structured interview was the major data collection instrument. This method was selected because of its suitability to provide insights into and an understanding of the subject under study. Face to face interviews were considered the most appropriate method, as they allowed understanding of individual key actor's activities, opinions, attitudes, aspirations and strategies. A series of direct semi-structured questions were administered by personal interview with ten key-decision makers (owner-managers) and ten professionals (technicians and middle and junior managers) of each participating firm.

'Technicians' in this study will be referring to professionals with a University degree. In the six examined firms, all of the professionals were either agronomist or veterinaries who perform production, pathology, health, nutrition, and in some cases managerial activities. These interviews were supplemented with another eight interviews conducted with government employees to improve the validity content of qualitative data. All interviewees had experience within the poultry industry and they have been working in the same area for at least five years. Interviews were conducted in March/May 2009. In general, interviews lasted between one hour and one hour and a half and involved travelling to various locations within the city of Montevideo and the province of Canelones to meet the key actors to be questioned. A copy of the interview plan is included in appendix 1. Qualitative analysis of collected data was used to examine whether Porter's (1990) model of competitive advantage is an adequate conceptualization of success in the Uruguayan broiler industry. In order to test Porter's (1990) theory, this study used the illustrative method. This method was selected because it can be used to test, illustrate or anchor a theory (Neuman, 2006). The analysis of qualitative data followed a process of three steps involving: understanding of respondent's answers, analysis, and interpretation.

Results

Is Porter's diamond able to explain competitiveness in the Uruguayan broiler industry?

The qualitative methodology used to test Porter's model brought to light the main factors responsible for the success of the Uruguayan broiler industry against its domestic meat competitors. Table 1 and table 2 respectively provide a breakdown of the in-depth interviews with owner-directors and professionals within the analytical framework of Porter's (1990) model. Tables presented below depict the following symbols: ✓, x, x*, and PS. The meaning of these symbols is explained as follows:

✓ means that qualitative data supports Porter's (1990) hypothesis.

x means that qualitative data does not give support to Porter's (1990) arguments.

x* means that Porter's (1990) argument remains valid if the success of the Uruguayan poultry industry is assessed in a regional context.

PS means that Porter's (1990) hypothesis are only partially supported.

Table 1: Determinants of Competitiveness in Interviewed Firms (owner-directors) within the Analytical Framework of Porter's Model.

	Calpryca	Pollos Tenent	Avicola del Oeste	Avesur	Avicola San Bautista	Avicola del Remanso
Factor Conditions						
Human resources	✓	✓	✓	x	✓	✓
Physical resources	✓	✓	✓	✓	✓	✓
Knowledge resources	✓	✓	x *	x *	x *	x *
Location factors	✓	✓	✓	x	x	✓
Infrastructure resources	✓	✓	x	x	✓	✓
Demand Conditions						
Demanding customers	✓	✓	✓	✓	✓	✓
Large number of independent local customers	x	x	x	x	x	x
Building long relationships with key customers	✓	✓	✓	✓	✓	✓
Local demand anticipates buyer needs in other markets	x *	x *	x *	x *	x *	x *
Export markets	x	✓	x	x	x	x
Firm Strategy, Structure, and Rivalry						
Decision-makers with clear goals	✓	✓	✓	✓	✓	✓
Compete on cost	✓	✓	✓	✓	✓	✓
Compete on quality	✓	✓	✓	x	x	x
Motivated managers	✓	✓	✓	✓	✓	✓
National prestige	✓	✓	✓	✓	✓	✓
Professional technicians	✓	✓	X	✓	x	✓
Good work relationships	✓	✓	✓	✓	✓	✓
Ongoing investment to upgrade skills	x *	✓	x *	x *	x *	x *
Domestic competition	✓	✓	✓	✓	✓	✓
Competition with foreign firms	x *	x *	x *	x *	x *	x *

Related and Supporting Industries						
International competitive supplier firms	✓	✓	✓	x	x	x
Coordination between local suppliers and firms	✓	✓	✓	✓	✓	✓
Cluster of supporting industries	Partially supported (PS)	PS	PS	PS	PS	PS
Concentration of domestic rivals	✓	✓	✓	✓	✓	✓
Global successful related industries	x	x	x	x	x	x
Government Policy						
Business and technical advice	x *	x *	x *	x *	x *	x *
Tax measures	✓	✓	✓	✓	✓	✓
Government grants	x *	x *	x *	x *	x *	x *
Chance events						
Military conflicts	✓	✓	✓	✓	✓	✓
Sanitary events	✓	✓	✓	✓	✓	✓

x *: Porter's (1990) argument remains valid if the success of the Uruguayan poultry industry is assessed against its competitors from Brazil and Argentina.

The analysis of the collected data revealed that those 'factor conditions' that played a critical role for the success of Uruguayan broiler firms were: infrastructure resources including water, electricity, and transportation network, and the availability of local human resources (technicians) during the start-up phase of the business. The analysis revealed that the port structure of Montevideo's port is limiting a further development of the industry. It also identified that the lack of employees with the required qualifications to work in the broiler industry may also compromise the development of the industry in the near future. Being close to contract growers and the largest markets of consumption were also identified as determinants of success in all interviewed firms. Because of the fierce competition within the sector and the dynamism of a market with prices changing overnight, those broiler companies that tried to locate their businesses relatively far from the main centres of consumption went bankrupt after few months.

The main 'demand conditions' associated with the success of the firms targeted in this study were: demanding customers looking for cheaper and leaner sources of protein, and building long relationships with key customers. Price is the main driver for consumers' choice. It is relevant to keep in mind the characteristics of the Uruguayan market which is small, underdeveloped, and mainly integrated by low-income consumers. In this industry some demand condition aspects that Porter considers relevant for achieving competitiveness were not evident. For instance, there is no association between success and consumers who anticipate buyer needs in other markets. Another aspect not supported by this industry-case study was Porter's hypothesis that firms with a large number of independent local customers are more likely to be successful.From the analysis of in-depth interviews, 'firm strategy, structure, and rivalry' were very much a contributing factor to success in this industry, although, a few aspects that Porter claims to be important in facilitating success, such as ongoing investment to upgrade skills, or choosing between differentiation or a cost-based leadership strategy were not in evidence.

The key elements associated with success in the interviewed firms were: owners' and professionals' ability to adapt foreign technological packages and machinery to the conditions and particularities of the national environment; the motivations of owner-directors; key decision-makers with clear goals; price competition; national prestige; highly qualified technicians at the start-up phase of the business; and strong and fierce competition. The fierce competition among broiler firms has been one of the relevant factors in shaping the success of this industry as Porter would have suggested. The component of 'related and supporting industries' in Porter's 'diamond' was partially supported by the findings of this study. The key 'related and supporting industries' themes that were to some extent associated with the progress of Uruguayan broiler firms were: close working relations and ongoing coordination with home-based suppliers, concentration of domestic rivals, and to be physically close to their customers. On the other hand, the presence of international competitive supplier industries, and local clustering of domestic suppliers were factors not associated with the development of the industry under study. The analysis of the data suggests that there is a weak association between the success of the Uruguayan broiler industry and the themes termed by Porter in its 'government policy' component.

Table 2: Determinants of Competitiveness in Interviewed Firms (middle and junior managers) within the Analytical Framework of Porter's Model.

	Calpryca	Pollos Tenent	Avicola del Oeste	Avesur	Avicola San Bautista	Avicola del Remanso
Factor Conditions						
Human resources	✓	✓	✓	✓	✓	✓
Physical resources	✓	✓	✓	✓	✓	✓
Knowledge resources	✓	✓	x *	x *	x *	✓
Location factors	x	✓	✓	✓	✓	x
Infrastructure resources	✓	✓	x	x	✓	✓
Demand Conditions						
Demanding customers	✓	✓	✓	✓	✓	✓
Large number of independent local customers	x	x	x	x	x	x
Building long relationships with key customers	✓	✓	✓	✓	✓	x
Local demand anticipates buyer needs in other markets	x *	x *	x *	x *	x *	x *
Export markets	x	✓	x	x	x	x
Firm Strategy, Structure, and Rivalry						
Decision-makers with clear goals	x	✓	x	x	x	✓
Compete on cost	✓	✓	✓	✓	✓	✓
Compete on quality	✓	✓	✓	x	x	x
Motivated managers	✓	✓	✓	x	✓	x
National prestige	✓	✓	✓	✓	✓	✓
Professional technicians	✓	✓	✓	✓	✓	✓
Good work relationships	x	✓	x	x	x	x
Ongoing investment to upgrade skills	x *	x *	x *	x *	x *	x *
Domestic competition	✓	✓	✓	✓	✓	✓
Competition with foreign firms	x *	x *	x *	x *	x *	x *
Related and Supporting Industries						
International competitive supplier firms	✓	✓	✓	x	x	x
Coordination between local suppliers and firms	x	✓	✓	✓	✓	✓
Cluster of supporting industries	Partially supported (PS)	PS	PS	PS	PS	PS
Concentration of domestic rivals	✓	✓	✓	✓	✓	✓
Global successful related industries	x	x	x	x	x	x
Government Policy						
Business and technical advice	x *	x *	x *	x *	x *	x *
Tax measures	✓	✓	✓	✓	✓	✓
Government grants	x *	x *	x *	x *	x *	x *
Chance events						
Military conflicts	✓	✓	✓	✓	✓	✓
Sanitary events	✓	✓	✓	✓	✓	✓

x *: Porter's (1990) argument remains valid if the success of the Uruguayan poultry industry is assessed against its competitors from Brazil and Argentina.

Porter's argues that the government should create the appropriate environment for companies to succeed concentrating on those areas such as, education, research, infrastructure development, and trade policy.
The Uruguayan government has not been involved in any of the areas mentioned by Porter. In fact the Uruguayan government was involved in the creation of a protection barrier which according to Porter is an unsuccessful measure to foster competitiveness. However, the lack of competitiveness of Uruguayan broiler firms against international or regional poultry firms seems to support Porter's claim that a protection barrier is an unsuccessful measure in trying to create competitive industries. Even though Uruguayan broiler firms are successful in the local market their presence in international markets is insignificant. From qualitative analysis, the 'chance events' component of Porter's framework, was an important contributing factor to success in this industry. The three 'chance events' determinants for the success of interviewed firms were: the impacts of military conflicts on international beef price; the declaration of Uruguay as a country free of foot and mouth disease in 1995; and bird-flu. All these factors helped the Uruguayan broiler industry to become more competitive against its meat rivals.

Although government interviewees disagreed with few assertions of owner-directors and managers of broiler companies, the two groups disclosed more similarities than differences in their responses. Interviewees from the government disagreed with the owner-directors claim that in Uruguay are no incentives for production. They highlighted that there are available incentives for less developed provinces such as Rocha. Interviewees from the government also pointed to the fact that it was the government idea to negotiate a tariff barrier for the Uruguayan broiler industry. This suggests, according to interviewees, that government intervention has helped the development of the broiler industry. To summarize, analysed qualitatively, the Uruguayan broiler industry, reflects important aspects of Porter's 'diamond' in action. However, modifications of the model are required to fully explain the success of this industry.

Concluding remarks

An Adapted Model for Explaining the Success of Uruguayan broiler firms

The adapted model will only include those factors that have played an active role for the development of the firms targeted in this study. Porter's model provides a useful framework to analyse the competitiveness of firms in different industries but the components need to be looked at in detail because the reality of each firm/industry is unique. For Porter, human resources, knowledge resources, physical resources, capital and infrastructure are the main factors of production influencing the competitiveness of firms in any industry. Among the variety of factor conditions identified by Porter, there were three factors that the Uruguayan market supplied and influenced the competitiveness of broiler firms. These three factors were: infrastructure (electricity, water, and a well-developed network of roads), human resources (qualified veterinaries and agronomists), and location (being close to the larger centres of consumption). The adjusted model takes into consideration these particular factor conditions. Applying Porter's framework to the Uruguayan broiler sector, it seems that the 'firm strategy, structure, and rivalry' component is too broad and it lacks focus to what are the driving forces in determining the success of Uruguayan firms in the selected industry.

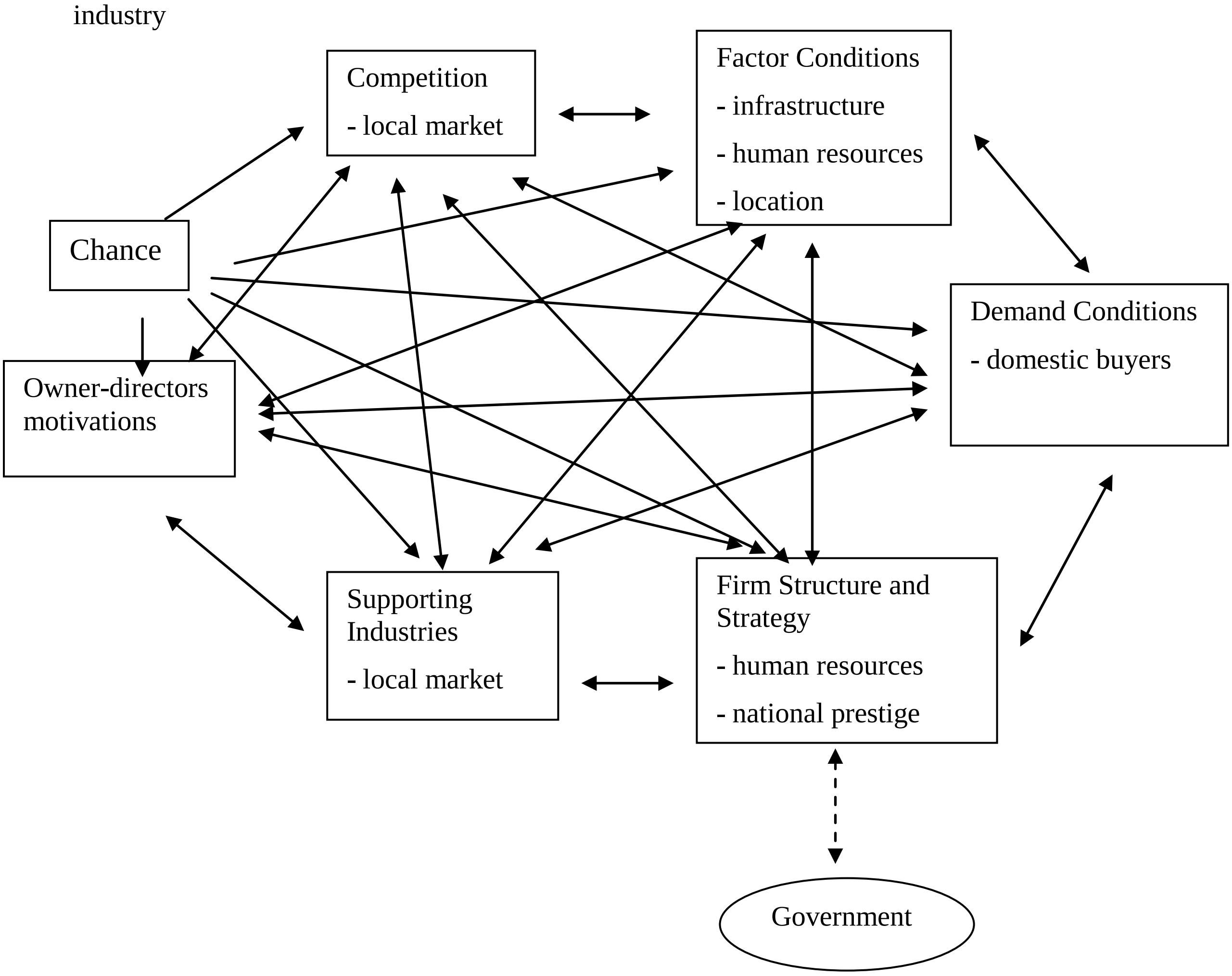
The adapted model places more importance on the role of rivalry and therefore, it is considered as an independent determinant factor. Fierce and strong competition has played a critical role in the development of the Uruguayan broiler firms. Consequently, it should be included in the model as a distinct factor from the 'firm strategy, structure, and rivalry' determinant in Porter's model. The findings show that competing on price was the main factor in shaping the development of the broiler industry. Fierce competition, along with supermarkets increasing power of negotiation, has forced broiler companies to become more cost efficient. This has been translated into a reduction of prices to consumers. As chicken prices have become more competitive, the industry has been able to gain new customers from other meat chains, which have not been able to reach the same level of development. For these reasons, competition is considered as a separate factor in the adapted model. The model refers to domestic competition because the industry has not received competition from other markets due to the protection of a sanitary barrier. The model should be revised when the protection barrier falls.

Similarly, the owner-directors motivations were detected as a factor playing an important role for the progress of the interviewed firms. Therefore, it will be considered as an independent determinant of competitiveness in its own right. The fact that all family assets are invested in the company has motivated key decision-makers to continually improve. Motivation in its own does not create competitive advantage. However, the interaction between motivation and other identified determinants of competitive advantage has created the right environment for Uruguayan broiler companies to continually gain a market share where other meat chains such as pork or fish have failed. Demand conditions were a large contributor of success in the targeted industry as Porter's diamond would have predicted.

Uruguayan demanding consumers, looking for cheap sources of protein, have stimulated domestic broiler firms to improve their production efficiency. As there are no multinational local buyers, the model only includes domestic buyers under the demand conditions factor. The qualitative analysis did not support the importance that Porter's 'diamond' gives to the role of government policy. For the Uruguayan broiler firms the role played by the government was irrelevant with a minimum influence on firm strategy and structure. Two-way arrows are put between government policy and firm strategy and structure because firms have lobbied the government to keep the sanitary barrier in place. The adapted model represents this reality. There are no arrows connecting the government with the other determinants of competitive advantage, because the government has not played any role in key areas such as human resource development, knowledge, infrastructure, research, and the other determinants of competitiveness.

Close working relationships and ongoing coordination with home-based suppliers and firms were factors partially associated with the success of the sector. They are represented in the model as supporting industries within the local market. However, relationships with other related firms were not associated with firm's competitiveness and therefore, they are not included in the adapted model. Chance events have played a larger role in the development of Uruguayan broiler companies' competitiveness than Porter's framework would have suggested. Because of that, the adjusted model will include chance events as a main determinant of competitiveness. Within the model, continuous arrow lines reflect this reality. Chance events are connected with other determinants of competitiveness with one arrow ends. The model did not depict two arrow ends, because chance events have influenced other determinants, but they have not been influenced by them.

Figure 2: The determinants of competitive advantage in the Uruguayan poultry industry



Porter's level of focus is national but not regional. It provides a suitable framework to analyze the competitiveness of industries such as the one in study. However, if MERCOSUR continues progressing then the above model would need to be modified to deal with the impact of regional forces on the competitiveness of Uruguayan broiler firms. By then multinational activities should be incorporated into the analysis.

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Appendix 1. Questionnaire

A. Description of the Company

1. Could you give me some background detail on the history of the company such as year of foundation, how the business started and legal status?
2. What is your position at this establishment? Could you tell me something about your background and experience in the context of this company?
3. Are the owners of the company involved in decisions concerned with operational management and strategic management? What is the educational background of them?
4. What is the level of vertical integration of the industry? What is the level of concentration of the industry?
5. What is the current market share of the company?
6. What have been the main changes of the firm business over the past ten years?
7. What are the main factors that have constrained a major development of this company’s business?
8. Has this company developed a strategic plan to face the eventuality competition from other members of MERCOSUR?

B. Factor Conditions

9. Has the company been involved in research with either private or public institutes?
10. Does the company offer an employee training and development programme?
11. How suitable do you consider is the national supply of management staff and labour to poultry?
12. Where does the production technology utilised by the firm is sourced from?
13. How important have been the influence of recent domestic economic developments to your company progress?
14. How important are the following location issues to the company’s activities?
    - Near to poultry farmers;
    - Near to markets;
    - Close to rivals;
    - Near to where management/owners live;
    - Able to take advantage of promotion incentives targeted at a local area;
    - Excellent infrastructure;
    - Good local community and social facilities;

C. Demand Conditions

15. How would you describe the market for poultry products over the last 10 years? What has been the rate of growth?
16. How would you rate the importance of the home demand compared to the demand in foreign markets?
17. What percentage of the Uruguayan meat market does poultry account for?
18. Could you tell me some general aspects about your customers, such as:
    - Where are they located?
    - What type of customers do you have?
    - Do Uruguayan consumers have particular requirements on the characteristics of the chicken they look for?
    - Do you have a few key customers or many small ones?
    - How closely do you liaise with your customers in order to respond to their needs?
    - What do you find customers most demanding about the company's product? Example: price, innovation, quality, lead delivery times, reliability, etc.
    - What is the company's product marketing strategy to attract customers?

D. Domestic Rivalry

19. How strong is rivalry amongst existing competitors? What form does it take? Example: price, quality, reliability, product performance, advertising, etc.
20. Is the threat of new entrants (either from new firms or international subsidiaries) to the industry of concern to the incumbent firms? Is there any form of retaliation against new competitors?
21. Do you worry about the threat of substitute products from other companies displacing your products?

E. Firm Strategy

22. What is the technical background and professional experience of the managers of the company?
23. Where does the emphasis in the firm's strategy lie? Example: products (cost/quality), processes, marketing, etc.
24. What are the main objectives of the company?
25. How important is the company's reputation in gaining market share?
26. How would you describe the attitudes of workers of the company toward management and vice versa?
27. Does the firm have any clear employment strategy? Has the company set up a share incentive plan?

F. Related and Supporting Industries

28. What suppliers are the company dependent on? Could you describe: number of suppliers, location, working relationship with them, and most important things valued in a supplier.
29. Does the company operate with local suppliers, foreign suppliers, or both? Do the local suppliers serve foreign markets?
30. Are there related firms on which the company is dependent on? Could you specify: number, location, and what do they produce.
31. How suitable to the company is the general support of financial institutions?

G. Government Policy

32. Has the company secured any government grants?
33. Has the company received any advice from government bodies that may have helped the company to progress?
34. Do you think government policy helps poultry firms to be successful?
35. Has the government implemented any programme to disseminate cutting edge technology?

H. Chance

36. Have there been any chance events, which have had a significant impact on the progress of your company?

I. Final Comments

37. Is there anything else you would like to add that it has not been covered in this interview?