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## **The Evaluation of Brazilian Beef in Europe: Consumers, Importers and Exporters' Perspectives**

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### **Abstract**

This research analyzes the Brazilian beef image in Europe from three different perspectives: consumers, importers and exporters by means of quantitative and qualitative methods. The main hypothesis tested whether consumer perceptions concerning the quality of Brazilian beef in Europe is dependent on the country's image. It was found that the image of Brazilian beef is considered positive overseas, but it would benefit from greater advertising in Europe and improved outlet infrastructure. Therefore, one important action to be taken in order to improve the Brazilian beef image overseas concerns communication and logistic strategies.

**Keywords:** country image, country of origin effect, European market, Brazilian beef.

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## Introduction

Agricultural trade liberalization is a priority for the Brazilian government and private sector, whether on a multilateral, regional or bilateral basis. Investments in research and development made since 1970 and the deregulation of the agricultural markets in the beginning of the 1990's awakened the competitiveness of the Brazilian agribusiness, diversifying and increasing its presence in the international market. The increase in the commodities produced in Brazil and other developing countries now depends on a greater opening of international market and less subsidies to agriculture (Jank 2011).

The economic globalization has enabled consumers to have access to a large number of products made in different parts of the world and countries have been increasingly facing an international competitiveness regarding their food products. Some companies have decided to use their product's country of origin as a differentiation strategy (Skaggs et al. 1996). For example, Switzerland has great experience with cheese and chocolate productions and this fact ends up influencing the opinion of foreign consumers about other Swiss products as a whole.

The world's new dynamics have affected production chains of agriculture and livestock. A great movement proposed by civil society institutions and international organizations, such as United Nations, have started to discuss in the last three decades the environmental and social impacts of development, and have also proposed to society ways to mitigate these impacts. Cultural interchanges, improved transportation and communication, higher income levels, increased number of women in the labor market are all factors that have influenced consumers to become more concerned about the environmental and social consequences of consuming a product, specially products from agriculture and livestock, including animal sanitation issues, and slaughtering procedures (Barcellos et al. 2009).

Considering the influence of country image on products evaluation, several studies on the subject have been conducted since the 1960's. In general, they point to the idea that consumers have very distinct but "generalized" perceptions of products from other countries. These perceptions of a country (or country image) have a significant effect on the consumer attitudes regarding brands of products made in certain countries (Balabanis et al. 2002; Han 1989). Several authors call this phenomenon "country-of-origin effect" (Han 1989; Jaffe and Nebenzhal 2001; Martin and Eroglu 1993; Pappu et al. 2007). For some authors, the image of a country can be influenced by exogenous factors such as economic development level, national identity, its people, political scenario as well as cultural environment and personal values (Balabanis et al. 2002; Jaffe and Nebenzhal 2001).

This study has sought to identify the influence of Brazil's image on the Brazilian beef trade in the European market, in a holistic research based on the views of consumers, European importers and Brazilian exporters. By means of a survey involving respondents living in England, Ireland, France and Germany, it was possible to identify how they evaluate the image of Brazil and which attitudes they have towards the Brazilian beef, thus enabling the identification of how the country image can influence the consumption of such a product. This influence was statistically evaluated, by employing the multiple regression technique, which had the attitude towards Brazilian beef as the dependent variable and some dimensions of Brazil's image as independent

variables. Furthermore, it was also identified how Brazil image has been affecting the trading of this product, according to importers and exporters.

Considering the theory of the country of origin effect, the main hypothesis to be tested in this research is “Consumers’ perception about the quality of Brazilian beef in Europe is dependent on the country image”. In order to check this hypothesis, the answers to the following questions are pursuit: (1) How important is the country of origin image in selling beef? (2) How good is the image of Brazil in Europe? (3) What is the image of Brazilian beef among European consumers? The Brazilian beef was selected as the product in analysis because Brazil has assumed, since the last decade, the first position in the ranking of global beef exporters. Brazil has the largest cattle herd on the planet (200 million heads) and one of the lowest production costs in the world, which brings great competitive advantage. Beef cattle represents the largest share of the Brazilian agribusiness, yielding R\$ 50 billion yearly and employing approximately 7.5 million people (The Brazilian Association of Beef Exporter Industries - ABIEC, 2010). Only behind U.S.A., Brazil is the world’s second producer and the world’s first beef exporter and it has become one of the major players in the international market of beef. The main importers of Brazilian beef is Russia (228.822 tons/ US\$ 1.013.691), European Union (approximately 100.000 tons / US\$ 478.800), North of Africa, specially Egypt (approximately 100.000 tons/ US\$ 413.586), Hong Kong (approximately 200.000 tons/ US\$ 701.000) and Iran (130.649/ US\$ 688.804).

The results of this study will support not only the Brazil’s beef exporter sector, but also the Brazilian exporters in general and those using marketing strategies involving the country of origin. This work was aimed to identify ways to strengthen the Brazil’s image, as well as the Brazilian brands overseas, mainly in the European market – the second largest consumer of Brazilian beef in the world, with a total consumption of 8,249 million tons (carcass equivalent) in 2010. The USA is the first consumer of Brazilian beef despite importing only industrialized meat rather than in natura (ABIEC 2010). Table 1 lists countries of the European Union that import Brazilian bovine meat.

Considering that there are a few Brazilian studies assessing the image of Brazil overseas, one can also highlight the innovative aspect of the present work, in which the effect of country image on the trade of a specific Brazilian product in other countries is demonstrated.

**Table 1.** EU member countries that import Brazilian beef

Country	2010 US\$ (000)	2010 Ton	2009 US\$ (000)	2009 Ton	2008 US\$(000)	2008 Ton
UK	168,178	44,377	168,163	48,009	220,785	56,023
Italy	189,180	29,693	157,010	26,917	145,712	23,565
The Netherlands	130,225	16,539	129,002	19,718	169,848	27,613
Germany	61,414	8,800	51,005	8,736	53,268	8,245
Spain	28,021	4,846	23,242	5,248	18,020	4,160
Sweden	25,212	3,795	17,539	3,499	24,035	3,952
Belgium	17,334	4,133	16,039	4,017	19,117	3,678
France	16,301	3,520	17,216	4,150	16,628	3,619
Portugal	7,706	1,244	5,477	1,094	7,172	1,392
Ireland	4,808	911	10,782	2,108	9,477	1,635

Source. ABIEC (2010)

## Country of Origin Effect

The first empirical test of the country-of-origin effect on acceptance and success of a product was conducted by Schooler (1965). The author found significant differences in product evaluations, which were identical in terms of attributes except for the country shown on the “made-in” label. Nagashima (1970) was the first author to define the concept of country image in terms of origin of products, that is, as being the representation, reputation, stereotype businessmen and consumers give to the products of a country.

Two traditional models have been used to explain how countries stereotypes affect the consumer behavior. On the one hand, country image can serve as a halo by which consumers can assess the quality of an unknown foreign product. On the other hand, consumers do not mind about the country of origin when they are familiarized with the product (Ahmed and D’Astous 1996; Han 1989). In the model establishing country image as a summary construct, well-known brands or more affordable prices can minimize the impact on the attitude of consumers that purchase products made in countries whose image is negative or even inexistent (Han 1989).

Studies on the country-of-origin effect are based on the notion that individuals have stereotyped perception of other people and countries and that country image has a significant impact on the judgment of the quality of the products and consumer attitude towards them. The relevance of this theme is demonstrated by Usunier (2006), who reported that about 1,000 studies on country-of-origin effect have been conducted in the last years, with 400 being published in major academic journals. The huge scientific production indicates that the origin of the product acts like a sign of quality, thus affecting the consumer’s purchase intentions (Han 1989; Roth and Diamantopoulos 2009).

Studies performed by Balabanis et al. (2002), Papadopoulos and Heslop (2002), Orbaiz and Papadopoulos (2003) and Verlegh et al. (2005) showed that consumers evaluate identical products differently regarding all aspects, except the country of origin. Such results suggest that product evaluation (quality, value, production etc.) is strongly affected by the knowledge of the country of origin. Therefore, the positive image of a country can influence the consumers’ evaluation of the products as well as their purchase intention. Other studies have reported that people also evaluate brands depending on their country of origin and on what this country internationally represents (Lin and Kao 2004; Samiee et al. 2005).

By analyzing the research on country image and its relevance in a period in which global brands are already consolidated (i.e. since the 2000’s), Pharr (2005) reports that one conclusion is unequivocally drawn: origin of the product continues to influence the consumer’s evaluation about the product. Hsieh et al., (2004) also believe that companies acting in several markets should identify the national characteristics which can affect the success of strategies related to the image of their brand or product. In this sense, by knowing the influence of the country image on one or more products, the managers of private institutions, like the export companies, may or may not use the country of origin emphatically as a communication strategy. They can also alter the product price to increase competitiveness and minimize the negative effects of the country’s bad image among the consumers (Han 1989; Jaffe and Nebenzhal 2001).

Some categories of products are intrinsically identified with some countries. For example, French perfumes, English porcelains, Germany machines and Italian fashion. Another example illustrating how some products are intrinsically identified with certain countries was reported by Davidson et al. (2003). The authors demonstrated that Scottish consumers believe that the beef produced in Scotland and products labeled “Scotch Beef” are safer, superior in quality and more expensive than the equivalent produced in England. However, such preference that Scottish consumers show towards products locally produced in regards to those from England could also be influenced by their beliefs about England.

Umberger and Calkins (2008) have also studied the country of origin influence on the choice of beef. Their research sought to determine which factors (such as price, quality attributes and socio-demographic and psychographic characteristics) would explain Korean consumers’ willingness to purchase U.S. versus domestic or Australian beef. The authors have employed both consumer focus groups and online surveys using choice sets. Results indicated that consumers had higher positive perceptions of Australian beef than of U.S. beef, particularly in the area of environmentally friendly, cleanliness, standards and credibility; and thus Korean consumers discount Australian beef less than U.S. beef relative to domestic beef.

Agrawal and Kamakura (1999) point out that country of origin is more influential on the purchase of agricultural products than manufactured products because of the lesser involvement with the latter. These findings demonstrate the complexity involved in the evaluation of beliefs on country of origin and its impact on the consumer attitude towards the product within a multidimensional context (Bhaskaran and Sukumaran 2007), and consequently, the complexity in measuring the country-of-origin effect. Because of this complexity, this paper has employed a holistic perspective of the theme, considering the viewpoints of consumers, exporters and importers of Brazilian beef.

## **The Image of Brazil and Brazilian Beef**

Few studies on Brazil’s image have applied a multidimensional perspective of evaluation, such as: Almeida and Drouvot (2009), Anholt (2007), Giraldi (2010) and Giraldi et al. (2011). Almeida and Drouvot (2009) have used Nagashima’s scale (1970) and found that French and Brazilian consumers perceived Brazilian products as being very inferior to those made in developed countries in terms of image and quality. Giraldi (2010) aimed at investigating the country-of-origin effect on high and low-involvement products by means of a survey with Dutch students, which were interviewed because Netherlands is an important access way for Brazilian products in Europe, with Rotterdam’s harbor as the main outpost for Brazilian exportations.

Anholt (2007) measured the brand power of 35 countries, through the nation’s brands index (NBI), showing that Brazil is a poor-selling brand overseas and it is little recognized among potential consumers. Brazil has an overall positive image which, however, is almost useless, little productive, and poorly explored by the country. In addition, the country sells soybean and meats as well as shoes and fashion but fails to aggregate all these products and tailor the image of a country where its products are of quality and may serve as reference for certain consumer segments, such as young people, and people from the fashion and tourism industries.

Giraldi et al. (2011) aimed to analyze Brazil's image in light of the Social Representations theory, considering the objectivation process, and have found categories of country image, with their respective subcategories/dimensions: Population, Politics, Nature, Sports and Economy.

Since 2010, two Brazilian government initiatives have systematically monitored the evolution of Brazil's image in foreign institutions, companies, newspapers and governments. One of them is a survey in which indicators are obtained by means of a 15-item questionnaire and updated every three months. This questionnaire is answered by 170 entities in Brazil, including embassies and trade chambers (Antunes 2010). The answers revealed a "moderately favorable perception" of the country in the majority of the items, but far from the "very optimistic" level. Violence was the issue receiving the lowest score, whereas expected GNP growth and economic policy were highly scored. The other government initiative is a daily analysis of international news on Brazil published by 48 newspapers from North America, Latin America, Europe and Asia. The objective is to establish public relations with foreign opinion formers, mainly journalists, so that the image of Brazil overseas can be strengthened (Antunes 2010). Despite the initiatives taken by the Brazilian government in recent years to evaluate the country image, there are still few actions aimed at internationally promoting the image of Brazil, and few studies have been conducted with foreign consumers to identify how the country is evaluated as the origin of products, investment and tourism destination.

In reviewing studies which evaluate perspectives on Brazilian beef, the following studies can be cited: Barcellos et al. (2009) and Banovic et al. (2010). It should be noted that the Australian and Brazilian consumers' attitudes towards bovine meat were studied on bovine meat produced in their own country, which is a different perspective than the one attempted in this paper. In their comparison of Australian and Brazilian consumers' attitudes towards bovine meat, Barcellos et al. (2009) have found similarities between the two groups. Consumers from Porto Alegre (Brazil) and Sydney (Australia) were found to be the most dedicated beef lovers, considering the strong relationship between their culture and bovine meat. In Brazil, consumers indicated that they perceived no consistency in meat quality, suggesting that quality guarantee systems should be implemented there. On the other hand, Australians were found to be less worried about this issue. In fact, the Meat Standard Australia (MSA) seems to ensure the meat quality expected by Australian consumers. MSA began in 1996 as an industry program following detailed consumer research investigating the continuing decline in beef consumption. It is a voluntary cooperative program requiring coordination and rewarding best practice across all Australian industry sectors (MSA, 2012).

A study of Portuguese consumers was conducted to determine quality perception towards two Portuguese brands (Carnalentejana and National) and a Brazilian meat brand ("Brazilian Beef" brand) by Banovic et al. (2010). The Portuguese brand Carnalentejana was identified by the consumers as having the best quality. This brand was chosen because it provided clear information on animal care, type of feed, fat content and origin. The preference for the Carnalentejana brand was made clear, even after a single-blind test in which consumers attempted to differentiate it from the other two meat brands based on sensory qualities such as taste, softness and succulence. According to Banovic et al. (2010), because the "Brazilian Beef" brand does not have an effective communication strategy, the Portuguese brands become more familiar as they invest more in advertisement. According to the above mentioned studies, the

characteristics considered important for bovine meat during its purchase seem to be the way cattle are raised (i.e., favorable or non-favorable conditions, feeding, sanitation, well-being), as well as meat texture, cattle breed and country of origin.

## Methods

Quantitative and qualitative methods were used in this study. In the first step, a survey with 380 consumers living in four European countries (France, England, Ireland and Germany) was carried out. In the second step, primary data on Brazilian exporters and a Dutch importer were collected with in-depth interviews. These interviews were aimed at complementing the results analysis from the first step.

Since the European Union is the second largest consumer of beef in the world and it is the first importer of beef in natura, this study has chosen to be centered in the countries mentioned above. It was also decided to carry out a survey with countries members of the EU because of their traditional protectionist position regarding agriculture products (Jank 2011). The choice of the four countries was due to the fact that England, France and Germany are the most populated ones in European Union. The Netherlands was not selected for this survey because of its role as a distributor of products to other European countries, due to the world's second largest port in Rotterdam. Italy is also considered an important purchaser, but it was not included in the field research because most of the beef imported from Brazil serves as raw material for manufacturing bresaola, a typical food very appreciated by Italian people. Ireland, in turn, was chosen because of its position in the EU as one of the ten major importers of Brazilian beef as well as the largest meat producer in Europe. Therefore, the choice of the four countries was based on the fact that their inhabitants are important consumers of in natura bovine meat, including the Brazilian meat, in addition to having a protectionist position regarding products of animal origin.

The population of the quantitative research consisted of under and post-graduate students and staff of business and economics schools in Dublin (Ireland), Paris (France), Munster (Germany), and Canterbury (England), with age ranging from 18 and 65 years old. Considering the four institutions, the entire population had approximately 4,000 people. This group of individuals was chosen because they are a segment of interest for companies as they are potential buyers of foreign products and meat. Considering other empirical studies on country image, many of them used students as the population of interest, such as: Martin and Eroglu, 1993, Pereira et al. (2005) and Brijs (2006). In addition, as shown by Verlegh and Steenkamp (1999), the magnitude of the country-of-origin effect does not differ between studies using samples of students and those using samples of consumers. However, the choice of this population may have brought some bias to the results of the evaluation of Brazil's image, as the sample includes individuals with higher levels of education than the general population. This element is one of the limitations of the research.

Non-probabilistic samples were used for the majority of the studies on country image, according to Roth and Diamantopoulos (2009). This was the choice in this study, with the sample being chosen according to the convenience criteria, as follows: 40 from French institutions, 111 from German institutions, 115 from English institutions, and 114 from Irish institutions. The respondents were asked how they evaluate the image of Brazil and its products, particularly

bovine meat. Because the sample elements were not randomly selected, it was not possible to objectively assess the sampling error (Churchill 1998). Statistical tests of significance were not performed and results from the sample cannot be generalized and applied to the entire study population, which is a limitation of this research.

The quantitative research had two main concepts: 1) the image foreign consumers have of Brazil and 2) their attitudes towards the Brazilian beef. The former is the independent variable and the latter is the dependent one. For the operationalization of the variables in each concept, a seven-point Likert scale was used (1= totally agree and 7 = totally disagree). This measurement was based on Parameswaran and Pisharodi (1994), Pisharodi and Parameswaran (2002) and Banovic et al. (2010), as explained below.

To analyze Europeans' attitudes towards Brazilian beef, it is necessary to empirically measure this concept. Fishbein and Ajzen (1975) define attitude as a "learned" predisposition to respond to an object stimulus. On the one hand, according to the original view of attitudes, its formation requires direct or indirect experience with the object, and responses to this object can be classified into three categories: cognitive (perception and verbal manifestations of beliefs), affective (neuro-sympathetic responses and verbal manifestations of affection), and behavioral (actions and verbal manifestations). Thus, attitudes do not consist of cognitive aspects only, but also include affective (i.e., specific feelings or emotions) and conative (i.e., intended behavior) facets (Fishbein and Ajzen, 1975).

On the other hand, newer studies describe attitudes either along a two-component view (Engel et al. 1995) or a hierarchy-of-effects (or ABC) sequence (Ajzen and Fishbein 1980) which assume that self-reported behavior and stated intentions to respond are treated as dependent effects of affective and/or cognitive variables. However, since it is not the objective of this paper to evaluate the level of dependence among the attitude components, the concept is measured according to the original view of attitudes, and it is operationalized by using 14 sentences aimed at evaluating cognitive, affective and conative components of the attitude towards the product being studied (see Table 2).

The affective component of attitude was measured through the question "How much do you like Brazilian beef?", because according to Fishbein and Ajzen (1975) this component represents feelings and emotions towards the object. This sentence refers to an overall evaluation of the feelings towards Brazilian beef. General attitudes towards Brazilian beef were then represented by the average scores attributed to the sentences and this composite score was considered the dependent variable in the multiple regression analysis.

The scales used to measure the independent variable (the image foreign consumers have of Brazil) were based on the study developed by Pisharodi and Parameswaran (1992), which was tested in 1994 and improved in 2002. The sentences are shown in Table 3.

In the quantitative step, the following statistical analyses were applied according to Giraldi's methodology (2010): exploratory factor analysis for identifying the dimensions of Brazil's image, and multiple regression analysis to know the impact of this image on consumers' attitude towards the Brazilian beef (the COO effect). According to Malhotra (2010) the multiple



regression can be used to evaluate the strength of a relationship between a dependent variable and a set of independent variables, which is the main purpose of this paper. In the qualitative step, in-depth interviews with a European beef importer and Brazilian beef exporters (represented by one major Brazilian company and representatives of the Brazilian Association of Beef Exporter Industries) were conducted.

**Table 2.** Scales used for measuring consumers' attitude towards the Brazilian beef

<b>Cognitive component of attitude (General product image)</b>							
	<b>I fully agree</b>			<b>I fully disagree</b>			
Brazilian beef is of good quality	1	2	3	4	5	6	7
Brazilian beef is easily found	1	2	3	4	5	6	7
Brazilian beef has an attractive image	1	2	3	4	5	6	7
Brazilian beef is cheap	1	2	3	4	5	6	7
Brazilian beef is sold in several European countries	1	2	3	4	5	6	7
Brazilian beef has a positive image	1	2	3	4	5	6	7
Product communication should be strengthened in the European market	1	2	3	4	5	6	7
Brazilian beef has a good texture	1	2	3	4	5	6	7
Brazilian beef is tasty	1	2	3	4	5	6	7
Brazilian beef is tender	1	2	3	4	5	6	7
Brazilian beef is adequately packaged	1	2	3	4	5	6	7
I consider the cattle-raising methods in Brazil adequate and sustainable	1	2	3	4	5	6	7
<b>Affective component of attitude</b>							
	<b>I liked very much</b>			<b>I did not like so much</b>			
How much do you like Brazilian beef?	1	2	3	4	5	6	7
<b>Conative component of attitude</b>							
Would you buy this product?				<b>I definitely wouldn't buy it</b>			
I would definitely buy it							
1	2	3	4	5	6	7	

Sources. Adapted from Assael (1995) and Banovic et al. (2010).

## Results and Discussion of the Quantitative Step

A total of 380 questionnaires were completed and validated. Most of the questionnaires were applied individually to the sample between September and November 2010, in the form of live interviews. Overall, the results showed that 60% of the sample had low levels of knowledge about Brazil and 40% knew the country reasonably or fairly well.

The exploratory factor analysis was aimed at creating a set of new variables to replace the existing ones. The Bartlett's sphericity test assessed the statistical probability of existing significant correlations and the Kaiser Meyer Olkin test presented a value of 0,816. According to Hair et al. (2009), this result can be considered a very good one.

Analysis of variables communalities was performed. When communalities are lower than 0.5, it is recommended to exclude the variable (Hair et al. 2009). In this sense, those variables with communalities lower than 0.5 were excluded from analyses. The criterion for choosing the number of factors was the eigenvalues greater than 1, which resulted in seven factors, explaining 61.045% of the total variance. As suggested by Hair et al. (2009), rotation of the factors for questions on Brazil's image was performed by using the VARIMAX method. Hair et al. (2009) indicate that it is necessary to verify the practical significance of the factors; they should be at least 0.50 to be considered significant. In this sense, virtually all factor loads resulting from analysis have values greater than 0.50, except for the correlation between "Brazilian products are well-finished" and factor 5. Therefore, this sentence was excluded from analysis. Internal consistency was assessed by the Cronbach's alpha. Table 3 presents the rotated component matrix, factor labels (given after literature suggestions), factor loads and Cronbach's alphas.

**Table 3.** Rotated component matrix, factors labels and Cronbach's alphas

<b>Factor Label</b>	<b>Cronbach's Alpha</b>	<b>Sentences on the Questionnaire</b>	<b>Factor Loads</b>
Factor 1- Face of the Brazilian People	<b>0.749</b>	Brazilian people are hard working	<b>0.769</b>
		Brazilian people are well-educated	<b>0.732</b>
		Brazilian people have technical skills	<b>0.679</b>
		Brazilian people reached high standard of living	<b>0.644</b>
Factor 2 - General Image of the Brazilian products	<b>0.707</b>	Brazilian products are long-lasting	<b>0.801</b>
		Brazilian products have a good value	<b>0.731</b>
		Brazilian products have a wide range of models	<b>0.601</b>
Factor3 Communication, Distribution and Differentiation of Brazilian Products	<b>0.728</b>	Brazilian products are easily available	<b>0.740</b>
		Brazilian products are prestigious	<b>0.668</b>
		Brazil is well known for producing mainly industrial products	<b>0.618</b>
		Brazilian products have high technology	<b>0.523</b>
		Brazilian products are intensively advertised	<b>0.515</b>
Factor 4- Perceived Similarity	<b>0.720</b>	Brazil is economically similar to my country	<b>0.791</b>
		Brazil has similar culture comparing to my country	<b>0.770</b>
		Brazil has similar political view comparing to my country	<b>0.639</b>
Factor 5- Internationalization of Brazil	<b>0.507</b>	Brazilian products are sold in many countries	<b>0.688</b>
		Brazil participates in international affairs	<b>0.680</b>
Factor 6 - Beliefs about Brazilian Arts and Sympathy for Brazil	<b>0.697</b>	Brazilian people are creative and artistic	<b>0.864</b>
		Brazil is friendly and likeable internationally	<b>0.843</b>
Factor 7- Negative Aspects of Brazilian Products	<b>0.429</b>	Brazilian products are imitations	<b>0.723</b>
		Brazilian products need frequent repair	<b>0.721</b>
		Brazilian products are not attractive	<b>0.488</b>

Factor 5 has a Cronbach's alpha equals to 0.507, indicating that it would not be acceptable. However, according to Cortina (1993), the value of Cronbach's alpha decreases as the number of variables of in a factor also decreases, since its calculation is directly proportional to this number (N). Therefore, because Factor 5 has only two variables, such a low Cronbach's alpha is the result of the small number of variables in the factor, and it was kept in the analysis. However, factor 7 had an alpha value much smaller than 0.5, and it was not kept.

The attitude towards Brazilian beef, the dependent variable, was represented by the mean score attributed to the variables that measured the cognitive, affective and conative (behavior) aspects of attitude (following the original view of attitude formation), because it was not the objective of this paper to evaluate the level of dependence among the attitude components. Moreover, the problem of multicollinearity among the attitude dimensions of Brazilian beef could be avoided by using this summated score. As it was used a 7 point scale, mean scores lower than 4 meant a positive attitude towards the Brazilian beef; scores equal to 4 meant a neutral attitude; and scores greater than 4 meant a negative attitude. In general, the respondents' attitude towards the Brazilian beef had a mean score of 3.93, that is, close to a neutral assessment.

Concerning the differences among countries (see Table 4), among the French and English respondents, the attitude towards Brazilian beef was found to be less favorable, when compared to Irish and German counterparts. However, the worst mean score was given by French respondents, despite being considered somehow a neutral evaluation. This can be explained by the fact that France is one of the most protectionist countries in the world in relation to its products, especially those produced in the agriculture and livestock sectors. In addition, both French and English consumers, and even German ones, indicated in the questionnaires that they have a vegetarian habit.

**Table 4.** Differences in attitude towards Brazilian beef according to country of residence

Country	N	Mean	Standard Deviation
France	40	4.0821	0.89060
England	115	3.9652	0.92361
Germany	111	3.9575	0.68107
Ireland	114	3.8330	0.83797

Six factors were used to represent the independent variable (Brazil image) with regards to the multiple regression analysis performed to identify the country of origin effect. Table 5 shows the summary of the estimated regression model for assessing the influence of Brazil's image on the respondent's attitudes towards the Brazilian bovine meat, as well as the model components. The  $R^2$  is the measure of the magnitude of the country-of-origin effect, as in Giraldi's (2010) work. Because  $R^2$  measures the percentage of total variation in the dependent variable, one can observe that the relationship between the variables is not strong ( $R^2 = 0.137$ ). For all the respondents, the Brazil's image did not influence significantly their attitudes towards the Brazilian beef, that is, the country-of-origin effect is not strong.

However, it must be mentioned that, in the Social Sciences field of research, it is not uncommon to have low  $R^2$  values, especially in cross-sectional studies (Wooldridge 2009), because of the

complexity of the phenomenon under study. These research results can be considered relevant, since part of the variability in the attitudes towards Brazilian beef can be explained by the country image.

Since this research has used a non-probabilistic sample, the elements of the sample were not chosen randomly, and it was not possible to objectively evaluate the sampling error (Churchill, 1998). Thus, no generalizations can be made regarding the results obtained from this sample for the entire survey population, since the key characteristic of a sample allowing generalization is its probabilistic versus non-probabilistic nature (Mazzocchi 2008). Therefore, the t-test to check the statistical significance of differences was not employed. Although statistical tests were not employed since the sample was not probabilistic, the residual normality was verified in order to apply the multiple regression analysis. It was observed that residuals follow a normal distribution (this was observed through both Kolmogorov-Smirnov test and histogram analysis).

**Table 5.** Summary and coefficients of the regression model for all the respondents

<b>Summary</b>						
	<b>R</b>	<b>R<sup>2</sup></b>	<b>Adjusted R<sup>2</sup></b>	<b>Estimated Standard Error</b>		
	0.370	0.137	0.123	0.77674		
<b>Components</b>			<b>B</b>	<b>Standard Deviation</b>	<b>B</b>	<b>Tolerance</b>
Constant			2.134	0.276		0.000
Face of the Brazilian people			0.026	0.053	0.027	0.628
General image of the Brazilian products			0.013	0.060	0.012	0.835
Communication, distribution and differentiation of Brazilian products			0.118	0.054	0.127	0.030
Perceived similarity			0.089	0.037	0.128	0.018
Internationalization of Brazil			0.040	0.038	0.056	0.289
Beliefs about Brazilian arts and sympathy for Brazil			0.196	0.039	0.252	0.000

In this case, we found it was more effective to assess and compare both the magnitude and valence of the regression coefficients, rather than the R<sup>2</sup> values in the estimated model, in order to better understand the influence of the Brazilian image on attitudes towards Brazilian beef. By analyzing the non-standardized regression coefficients (Table 5), one will observe that the dimensions of the Brazil image which have higher values are *Beliefs about Brazilian arts and sympathy for Brazil*, followed by *Communication, distribution and differentiation of Brazilian products*.

Although both were the most influential dimensions regarding the respondent's attitude towards the Brazilian beef, the former had a more positive influence and the latter a more negative influence. Aspects related to communication, distribution and differentiation of the Brazilian products were negatively evaluated (mean score above 4.5) by the total of respondents. Because the highest coefficient was that for the dimension *Beliefs about Brazilian arts and sympathy for*

*Brazil*, one can conclude that the country-of-origin effect was positive for all the respondents, despite not being strong.

This finding is corroborated by other authors, who found that consumers evaluate identical products differently regarding all aspects, except country of origin (Orbaiz and Papadopoulos 2003; Verlegh et al. 2005). Such evaluations (quality, value, labor etc.) are strongly affected by the knowledge about the place where the product is made, that is, the country of origin (Ahmed and D'Astous 1996; D'Astous and Ahmed 1999; Han 1989; Papadopoulos 1993). The positive image of a country can influence the attitude of the consumers towards its products as well as their purchase intention (Balabanis et al. 2002; Papadopoulos and Heslop 2002). Umberger and Calkins (2008) have also shown that the country of origin is one important attribute that Korean consumers evaluate when searching for "high quality beef" at the supermarket, after cut of meat, being chilled, grade, price and color.

## **Results and Discussion of the Qualitative Step**

A qualitative study with representatives of the Brazilian beef exporters and one European importer was conducted in order to identify how Brazil image has been affecting the market access and bovine meat trade, thus complementing the results from the quantitative step. The way how exporters and importers have been highlighting the origin of the product was also addressed, including how the Brazilian beef is positioned in the European market.

The Brazilian exporting company interviewed has a high rate of internationalization, almost twice the general rate for the food sector. The Brazilian Association of Beef Exporter Industries (ABIEC) was also chosen for the qualitative research because it is a class entity representing the major exports of beef in Brazil. The importer company is a Dutch one, which was chosen because it is one of the major beef importers in Europe, having storage capacity of 30 thousand tons of meat. Supermarkets, retail networks, industries, food manufacturers, and restaurant chains are among its main clients in Europe. The bovine meat imported by this company comes from Brazil, Argentina, Uruguay, Paraguay, USA, New Zealand, Botswana, and Namibia.

The interviews scripts were built based on the literature. The method employed was in-depth interviews, and the content was analyzed according to Bardin (2007) procedures. Based on the interviews conducted with representatives of the Brazilian meat export sector, it was seen that they have highlighted the product's origin since 2005, when the Brazilian Beef brand (sectorial brand which explores the image of Brazil) was reformulated. Even slaughterhouses which are not ABIEC members use the Brazilian Beef brand to strengthen the image of their products. According to the Dutch meat importer, both meat's origin and Brazilian Beef brand are also highlighted by the importers while the exporters are encouraged to use the brand in marketing campaigns.

However, the Brazilian exporter has pointed out that it is not always possible to control the type of highlight importers give to the bovine meat in Europe. The origin of meat cuts to be used as raw material for manufacture of other products, such as the Italian bresaola, is less stressed. He has also informed that European importers usually buy fore-quarters and hind-quarters of the animal and then they chop them into smaller pieces. Although importers or retailers buying

bovine meat are obliged to clearly inform the origin of it, even in case of meat cuts, the exporters have no control on how this is done. On the other hand, the meat cut in Brazil is directly sold to European countries, with tenderloin and top sirloin beefs being highlighted as Brazilian products. In addition, these noble meat cuts are divulged by importers and retailers through marketing campaigns in Europe.

Both exporters and importers somehow highlight the Brazilian bovine meat origin depending on the region of Europe and meat cut being traded. In fact, the Brazilian top-sirloin has a positive image in virtually all European countries. However, considering the differences in cultural patterns and diet habits, there are regions where Brazilian beef is more positively evaluated than in others.

According to both Brazilian exporters and the importer, the image of Brazilian beef is considered positive overseas. The import company pointed out that Brazilian beef has always been competitive in Europe thanks to its price, especially between 2005 and 2008, as well as to its quality and supply. However, the importer believes that the Brazilian beef still needs to be more advertised in Europe. "There is always negative news suggesting that the production of bovine meat and other commodities in Brazil has been causing the destruction of Amazonia forest".

By analyzing the economic advances reached by Brazil in the last couple of years, the importer also said that the product became scarce in the European market as a result of the improved purchasing power of the Brazilian people, who have been consuming more meat thanks to the economic boost and income transfer programs implemented by the Brazilian government. For the importer, the outlet logistics for the Brazilian beef is badly regarded, which has contributed to the product's loss of competitiveness. Because of the delayed arrival of the product in Europe (up to 45 days), much of the imported meat can only be sold to the so-called wholesale markets, whose main clients are the large retail networks supplying hotels and restaurants. The direct sale of the product to retail groups becomes more difficult because of such a delay, since the bovine meat loses its original tonal qualities when sliced after 25 days of the slaughtering of the animal. At that moment, the importer was selling American, Uruguayan and Argentine meat to European supermarkets, because the product takes about 20 days to be transported from one continent to another, thus making the meat from these countries more competitive.

These results can be compared to the ones obtained by Umberger and Calkins (2008), which have shown that, for Korean consumers, the beef freshness (not frozen) appears to be very desirable. Although it may be expensive, the importance of freshness may indicate the need for U.S. beef exporters in the case of Umberger and Calkins (2008) study (and also Brazilian in this research) to further explore transportation and shipping methods which allow more beef to arrive and to be sold as chilled (not frozen) meat in the supermarkets abroad.

Despite the social, infrastructure and logistics problems, the exporters believe Brazil has a much better image than 10 years ago. With regard to the bovine meat, the product is more positively regarded in some markets like Middle East and Russia, whereas its image varies among the EU countries. For example, the Brazilian beef's image is extremely negative in Ireland, whose economy depends on the bovine meat production, and in France, whose people are very nationalist and tend to consume national products. In the Netherlands, the Brazilian beef has an

extremely positive image in view of the large number of foreign products. Thus, residence country and culture may contribute to a more or less favorable image of the Brazilian meat.

According to the Brazilian exporting company, inadequate logistics and poor infrastructure are domestic problems which affect negatively the exports. In addition, the private sector assumes many responsibilities of the public sector. For example, the cattle-tracking system should be applied throughout the country by force of law, and not only to farms which export to European markets. This would strengthen the image and credibility of the sector by allowing consumers from all countries to obtain information on birth place and how animals are raised and slaughtered.

The significant differences in cultural patterns and consumption habits among European consumers, which mostly determine their preference for a type of meat instead of another was also mentioned. For instance, both Portuguese and Swedish consumers have a very positive image of the Brazilian beef, the former thanks to their proximity of Brazil and the latter thanks to low-fat content in the product. The preference for this type of meat is due to the fact that Swedish soldiers during the World War II had to eat pure fat stored in cans because of the lack of food. As a result, a collective aversion to high-fat content products in Sweden developed since then.

German and Irish consumers prefer meat from Argentina, Uruguay, USA, and Ireland, which contains a high content of fat. France is also considered a peculiar market as the country is considered an important meat producer while foreign meat is not easily found in French supermarkets. However, because of the great number of tourists visiting the country every year, restaurants and hotels have to import the product from other countries. Despite being an important meat producer in Europe, England has a large number of industries acquiring pre-cooked meat from Brazil for industrialization and distribution in English market.

The interviewees stated that little effort has been made to promote the Brazilian bovine meat among the end consumers, which can partially explain the results seen in the quantitative step of this research (low level of knowledge about Brazil and Brazilian beef). Although ABIEC marketing measures have been heavily directed to European meat importers, it would be necessary to advance and reach directly the networks of restaurants and retailers prior to the end consumers. The next step would be to increase the number of distribution platforms in the consumer markets, thus enabling advertising campaigns to be performed for end consumers. Otherwise, it would be risky to do so without the guarantees that the product will be on the shelves of the supermarkets. Furthermore, investments by the Brazilian government are needed to improve the outlet infrastructure so that the Brazilian products can be more competitive overseas.

Attempts by the Brazilian government are also necessary to reduce the *ad valorem* taxes imposed by EU, which means three euros charged for each one-fifth of meat. It was suggested that a group of entrepreneurs and government agents be formed in order to negotiate with the European Commission a reduction of *ad valorem* taxes, as well as to establish strategies for entering new markets, as did Japan, South Korea and other countries.

## Conclusions

The paper analyzed the influence of Brazilian image on the trade of Brazilian beef in Europe. It has assessed how different dimensions related to the Brazil's image are viewed by a group of European consumers and how their attitudes towards Brazilian beef are influenced by these dimensions. Moreover, a qualitative research step has sought to investigate Brazilian beef image and promotion strategies in other perspectives: importers and exporters'.

This study's main hypothesis was *Consumers' perception about the quality of Brazilian beef in Europe is dependent on the country image*. In order to check this hypothesis, the answers to the following questions were obtained: (1) How important is the country of origin image in selling beef? (2) How good is the image of Brazil in Europe? (3) What is the image of Brazilian beef among European consumers?

The first and the second questions were answered by the quantitative study, indicating that the influence of Brazil's image on the consumer attitude towards the Brazilian beef, that is, the country-of-origin effect, was not considered so significant. However, this research results can be considered relevant, since part of the variability in the attitudes towards Brazilian beef can be explained by the country image. The dimensions of Brazil image that had the higher influence on the attitude towards Brazilian beef were *Beliefs about Brazilian arts and sympathy for Brazil* (a positive influence), and *Communication, distribution and differentiation of Brazilian products* (a negative influence).

Both quantitative and qualitative studies helped to answer the third question. The qualitative study has shown that to both Brazilian exporters and the importer, the image of Brazilian beef is considered positive overseas. It was seen that the importer believes that the Brazilian beef still needs to be more widely advertised in Europe and that the outlet logistics for the Brazilian beef is badly regarded. These elements were also poorly evaluated by consumers in the quantitative study. Therefore, one important action to be taken needed to improve the image of Brazilian beef overseas refers to the communication and logistics strategies.

We also found that the image of Brazil has been explored by both exporters and importers more or less intensively, depending on the market to be served. Brazilian bovine meat is more or less accepted in some European countries, depending on the consumers' dietary habits, since Brazilian beef is viewed as having a lower fat content compared to the meat from Uruguay, Argentina and the USA.

Brazil tends to keep its position as the world's leading exporter of bovine meat and other cattle products, thus diversifying its trade partners, mainly in Asia, and is increasing exports of beef to this continent. Therefore, it is essential to strengthen the image of Brazil and its bovine meat as they are not well known. Actions should be coordinated, developed, and implemented by the government and bovine meat exports and the production sectors, including those involving other cattle products, in order to improve the image of Brazilian products overseas.

For instance, both private sector and government need to invest more in measures aimed at advertising and differentiating the Brazilian products overseas. Public managers could launch



campaigns aimed to minimize the negative image of the country overseas, thus increasing the chance that the products will be consumed worldwide with a higher aggregate value. Projects should be also implemented in order to improve airport, port, and road infrastructures for enhancing export logistics, besides offering higher fiscal incentives to exporters.

Meanwhile, investment should be increased not only to guarantee adequate conditions for raising the cattle, but also to comply with the environmental and labor laws, implement cattle-tracking systems, and develop technologies aimed at increasing productivity and reducing the use of natural pastures in the country. On the part of the government, the outlet infrastructure for export products should be improved through investments to increase the capacity of the ports and construct more railways and motorways, including hydro-ways.

Despite the initiatives already taken, such as the creation of the Brazilian Beef brand, it is essential that the sector considers the viability of developing additional or complementary brands for markets, mainly European countries, associating the Brazilian beef with different regions of Brazil, such as Cerrado, Pampas and others where meat production is traditionally practiced. Associating the Brazilian cattle with Brazil has been a challenge because of the concerns raised by the international community regarding the Amazon forest and its preservation. The export sector should, still, be aware of the specificities of each market and how different types of consumers respond to the marketing stimuli.

Regarding the methodological limitations of this research, we highlight the defined target population for the quantitative part of this study, which did not cover other important markets with which Brazil maintains trade relations, such as other European and Asian countries, the United States, or even other European consumer segments, such as professionals and affluent consumers. This can be considered a limitation of this research, since they may not represent the opinions of all European consumers or even of consumers from the countries analyzed. Additionally, a non-probabilistic sample was used, and thus the statistical tests of significance were not performed.

Despite the limitations mentioned above, this study has contributed to the understanding of how the country-of-origin effect can influence the consumer's perception in a food market context and whether the country of origin can be used as a marketing tool. Considering that there are few Brazilian studies assessing the image of Brazil and Brazilian products overseas, the innovative aspect of this paper can also be highlighted.

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