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# **Developments of the Brazilian Chicken Meat Industry in International Trade: Analysis with Industrial Organization**

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# Developments of the Brazilian Chicken Meat Industry in International Trade: Analysis with Industrial Organization

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## Introduction

Over the past ten years the players in the poultry industry have changed. The poultry industry was the most dynamic meat sector during the last decade, showing the greatest growth of all meat sectors (FAO, 2010).

The evolution of Brazilian chicken meat exports is outstanding. Since 2004, Brazil has become the world's largest exporter, participating with 38% of the global market (USDA, 2010).

In the period 2000-2009, world's production of chicken meat grew 35,6%, while in Brazil the growth reached 84,3% (USDA, 2011b). Around 30% of the total amount of chicken meat produced in Brazil was destined for international trade in 2009.

## Objective

Given these characteristics, this study aimed to analyze the structure of the chicken meat exporting industry in Brazil, in the period 2000-2009, focusing on market concentration in a dynamic way; describing the characteristics of the country related to its exports and the demand for this type of meat in the world market.

## Market Structure

Industrial Organization Theory studies the imperfect market structures, their competition patterns and their implications in both public policy and enterprise strategies (SCHERER & ROSS, 1990). Concentration is a synthetic index of the existent competition within a given market. According to Kon (1994), concentration measurement provides the empirical elements needed for this assessment and also allows comparisons among different periods of time, which permits examining market dynamics from the supply-side.

## Method

### Concentration Ratio (CR)

$$CR(k) = \sum_{i=1}^k P_i$$

Where:  
K= number of major companies that are part of the calculation  
Pi= percentage share of the *i* company in the market

### Herfindahl-Hirschman Index (HH)

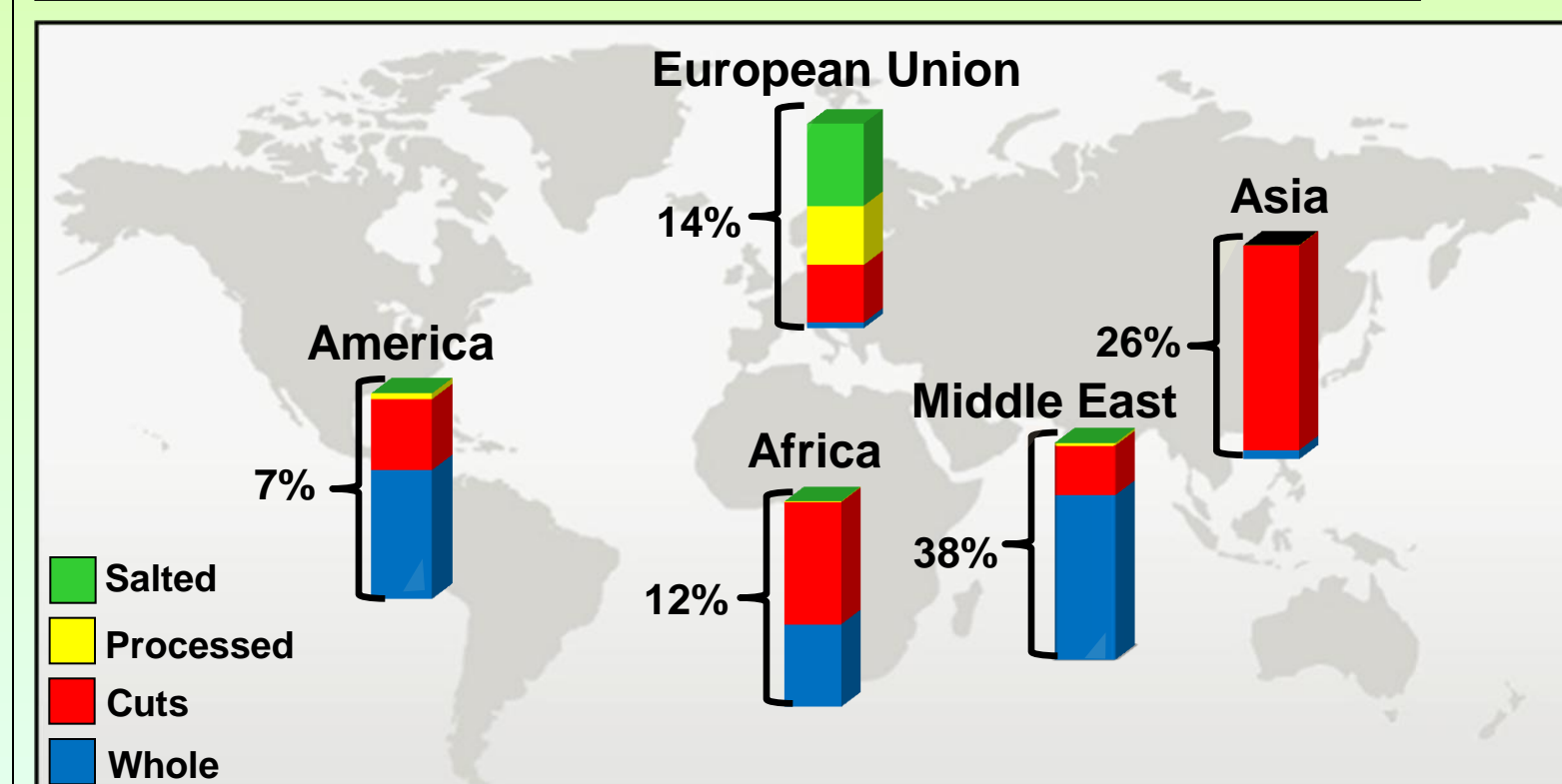
$$HH = \sum_{i=1}^n P_i^2$$

Where:  
K= number of firms in the industry and market participants  
Pi= percentage share of the *i* company in the market

The industry structure was assessed, based on market concentration, calculating concentration indexes CR2, CR4, CR8, CR16 and HH (variables of the industry structure) related to the total amount of chicken meat exported in net tons.

## Demand for chicken meat in the international market

### Brazilian chicken destinations in 2009.



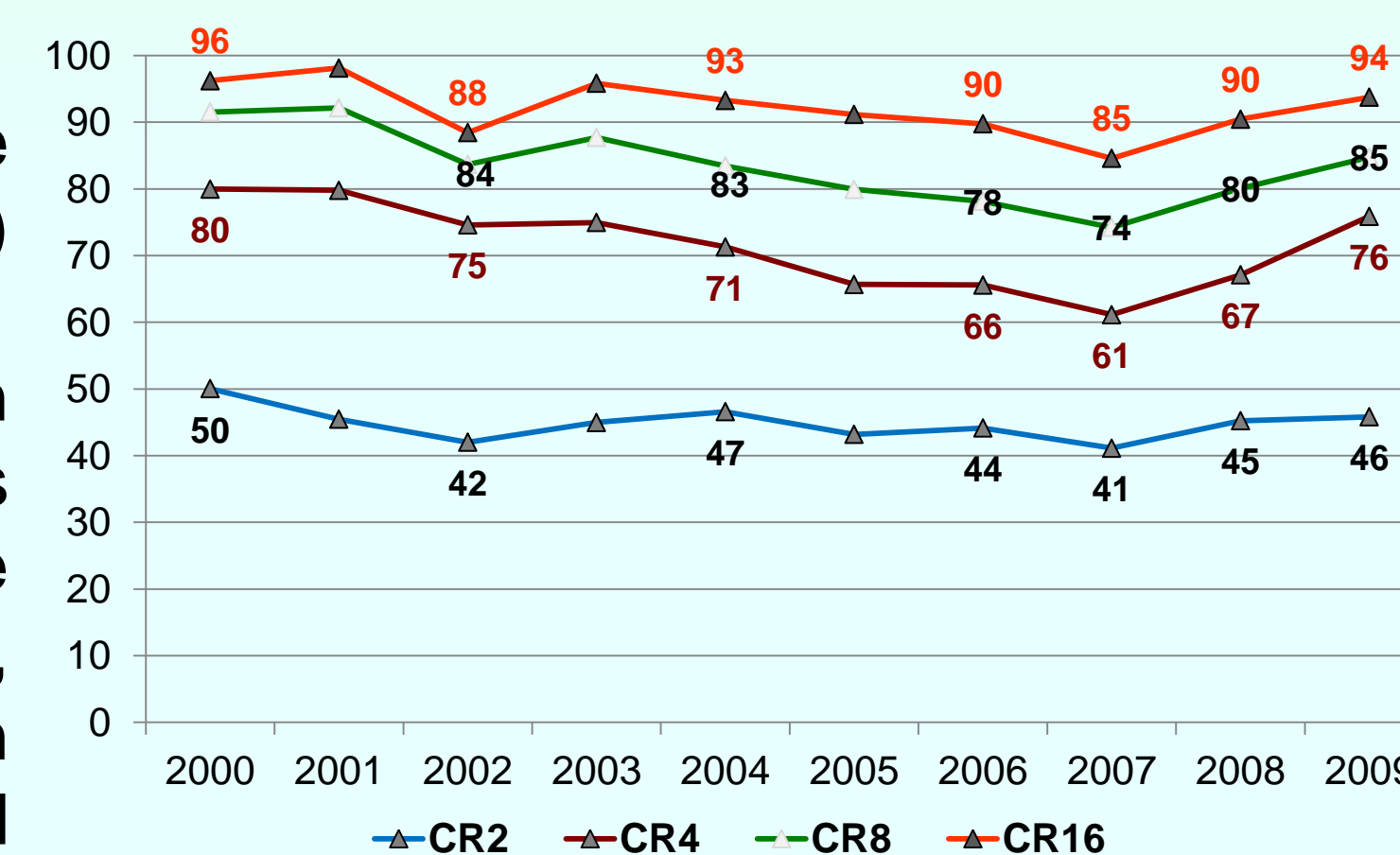
- The Middle East stands out as the importer of 37% of the total volume exported from Brazil
- Asia focuses its imports in chicken parts (95.6% of total)
- EU is the main market of elaborate chicken products
- Salted and processed accounted for 4.7% and 5.4% respectively of total exports from Brazil in 2009.

## Market Concentration

### Concentration Ratio (CR)

There was a decrease in the concentration of exports in all CR (k) calculated between 2000 and 2009.

The reductions in the concentration were distinct, which companies constituents (CR4) and (CR8) were the most affected with a decrease, respectively (-19%) and (-18%) in participation between 2000 and 2007. After 2007 there were changes of the downward trend.

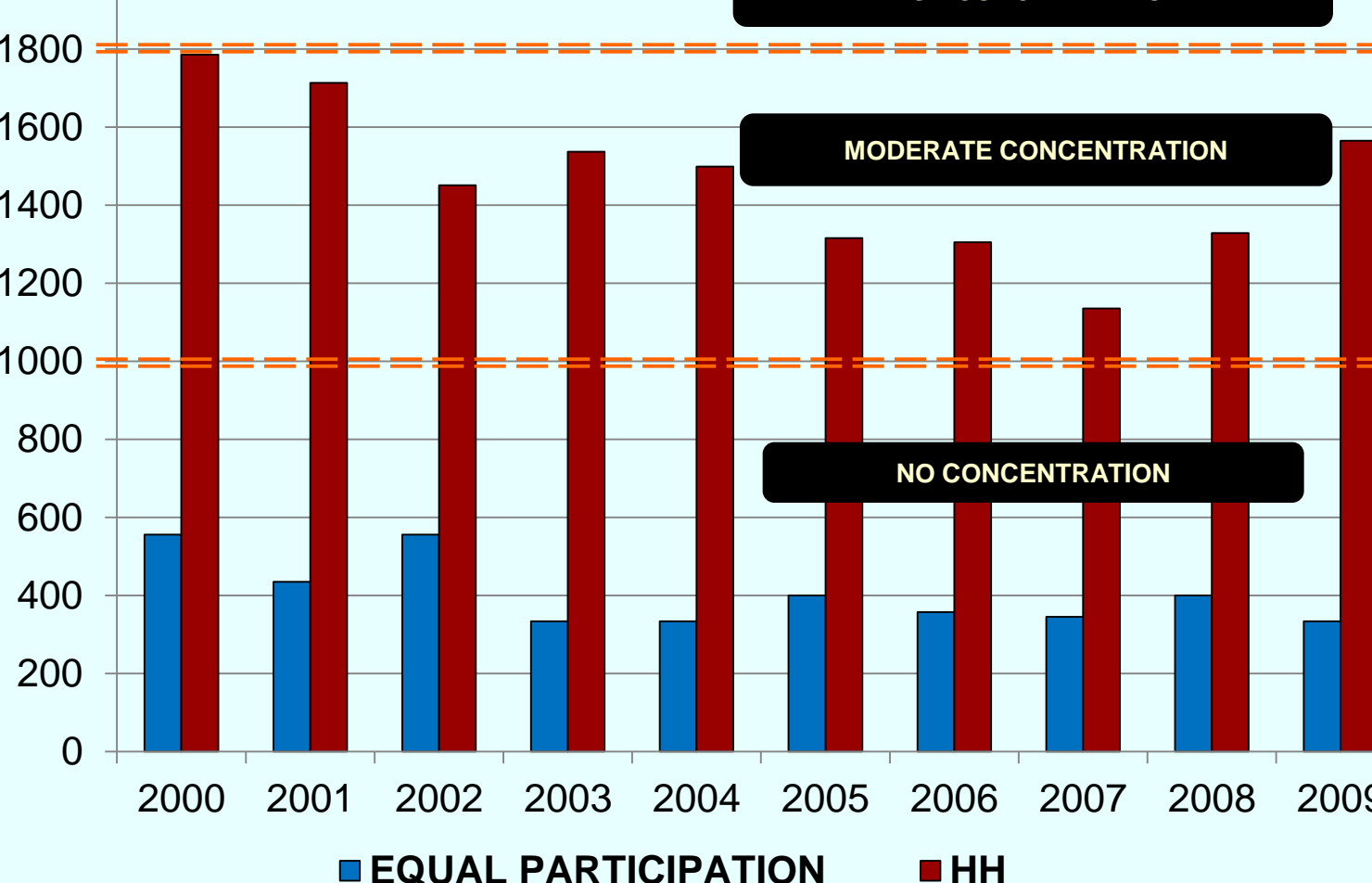


### Herfindahl – Hirschman Index (HH)

Market concentration presented the same trend of the CR(k), falling down until 2007 and returning to increase after that.

During this period the concentration of exports in HH was kept in a range of moderate concentration.

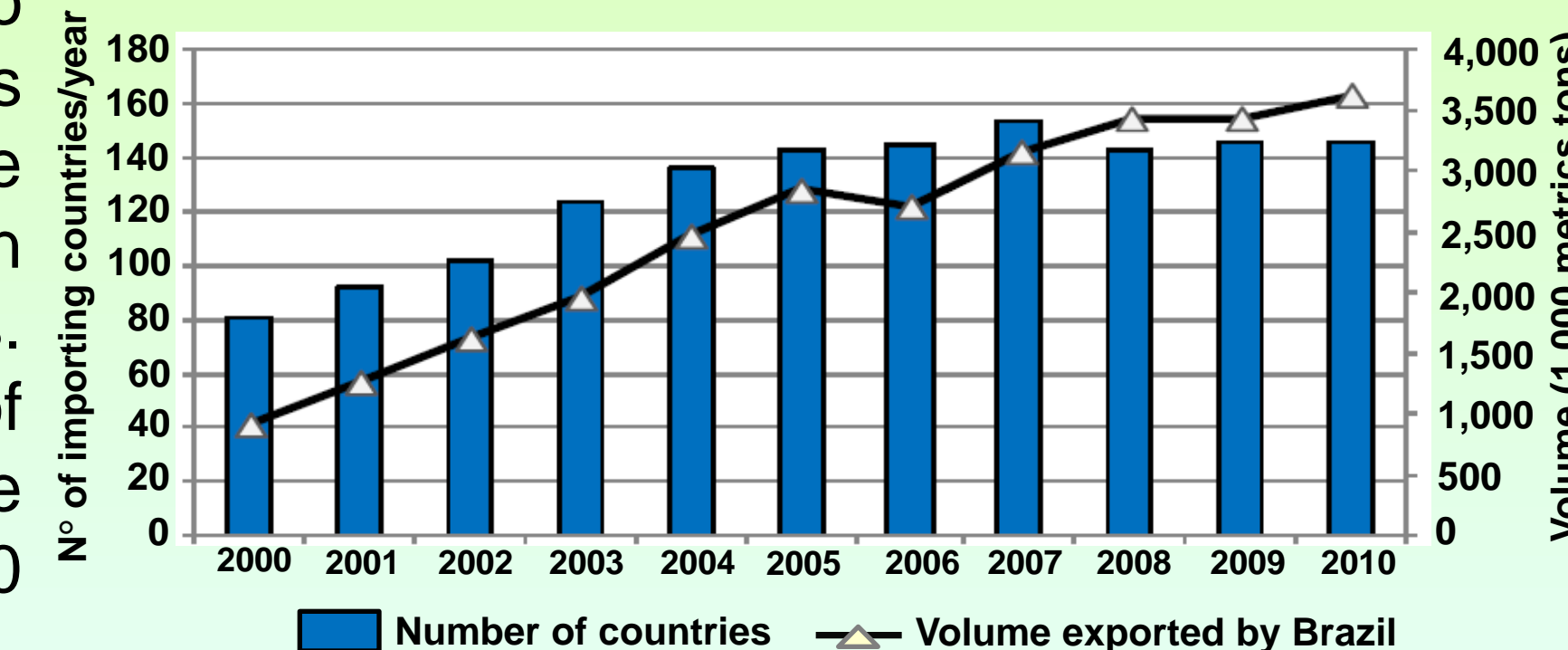
HH index values are different when compared with an equal participation in the market.



## Drivers in market concentration

The number of importing countries from Brazil increased from 81 in 2000 to 146 in 2009. This growth was continuous and represents the Brazilian industry capacity in accessing new markets. Moreover, an increase of 275% in the exported volume was obtained between 2000 and 2009.

### Number of importing countries and exported volume by Brazil between 2000-2009



## Concluding Remarks

Analyzing the destinations and types of markets served by the Brazilian industry, one sees that they are broad and diverse, which shows the versatility of the industry, as well as its need to reach new markets and to increase the proportion of industrialized meats on total exports. Regarding market concentration, there was a decrease by the year 2007, which can be attributed, in part, to the access of new markets and the increase of exports. However, in 2008 and 2009, there was an increase in the levels of concentration, which can be ascribed, partially, to the occurrence of mergers and acquisitions in the Brazilian poultry sector.

## References

- ABEF – Associação Brasileira dos Produtores e Exportadores de Frangos. Relatórios Anuais 2000-2010. [http://www.abef.com.br/Relatorios\\_Anuais.php](http://www.abef.com.br/Relatorios_Anuais.php) Accessed January 5 2011.
- ALICE WEB – Sistema de Análise das Informações de Comércio Exterior. Dados de exportações de carne de frango e derivados 1996-2009. <http://aliceweb.desenvolvimento.gov.br/> Accessed January 5 2011.
- CARLTON B.; PERLOFF, J. Modern industrial organization. Harper Collins, 1994.
- FAO – Food and Agriculture Organization of the United Nations. 2010. Agribusiness handbook: poultry meat & eggs. <http://www.fao.org/docrep/012/al175e/al175e.pdf> Accessed March 20 2011.
- KON, A. Economia Industrial. São Paulo: Nobel, 1994.
- MAPA – Ministério da Agricultura Pecuária e Abastecimento. 2010. Projeções do Agronegócio Brasil 2009/2010 e 2019/2020. <http://www.agricultura.gov.br> Accessed January 8 2011.
- SCHERER, F. M.; ROSS, D. Industrial market structure and economic performance. 3. ed. Chicago: Raud Mc Nally e Co, 1990.
- UBA – União Brasileira de Avicultura. Relatórios Anuais 2000-2010. [http://www.abef.com.br/uba/uba\\_relatorios\\_anuais.php](http://www.abef.com.br/uba/uba_relatorios_anuais.php) Accessed January 5 2011.
- USDA – United States Department of Agriculture. 2010. Livestock and Poultry: world markets and trade. [http://www.fas.usda.gov/psdonline/circulars/livestock\\_poultry.pdf](http://www.fas.usda.gov/psdonline/circulars/livestock_poultry.pdf) Accessed January 10 2011.
- USDA – United States Department of Agriculture. Production, supply and distribution. <http://www.fas.usda.gov/psdonline/psdquery.aspx> Accessed March 20 2011.
- USDOJ – United States Department of Justice. The Herfindahl-Hirschman Index, In: Horizontal Merger Guidelines. Washington, DC, 1997.