1995

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Journal of Consumer Marketing, Vol. 12, No. 3 (1995): 56-62. DOI.

Are Smaller Firms More Export Competitive? A Study of Brazilian Firms

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This article analyses the export performance of Brazilian firms from 2002 to 2010, when the Brazilian currency became stronger. Firms were classified according to their size (micro, small, midsize and large) and to exports volume in American dollars (USD). The Revealed Comparative Advantage Index (Balassa, 1965) was used to analyse the effects of currency fluctuations on export performance.[1] Results indicate that despite unfavourable conditions caused by currency appreciation, smaller firms increased exports volume and improved competitiveness more than large firms.

1. Brazilian exports and exchange rate fluctuations

From 2002 to 2010, Brazilian products became more expensive in foreign markets due to the Real (Brazilian currency) appreciation from approximately USD 0.28 to 0.60. This was due to global economic developments, changes in Brazilian economic policy, and an increase in the inflow of foreign direct investments.

In 2002, 2,639 export companies were located in RS state representing 13.64% of the total of Brazilian export companies. In 2010, the number of RS export firms dropped to 2,531 or 11.54% of the total. Over the same period, RS state exports increased 139.46%, but that growth was well below the national increase of 234.51%.

Considering that the number of export companies declined in RS and exports increased at a lower rate than the national average, it could be argued that RS firms lost export competitiveness. Based on these preliminary data, the question that guided this study was whether competitiveness loss was due to the exchange rate. Also, has it affected firms of all sizes equally or have smaller (micro, small, midsize) firms experienced greater adverse effects compared to large ones?

Smaller companies are subject to greater financial restrictions and, therefore, have limited access to capital markets to seek protection mechanisms to mitigate exchange rate effects. Another issue to be considered is the exported product. In general, smaller firms do not export commodities whose quotation is established by the international market, and the price increase may offset the loss of exported volume due to an adverse exchange rate. Having in mind the territorial dimension of Brazil and the large variety of firms, the study was concentrated in RS state, which is not a big commodities producer and even so has representativeness in the country exports volume.

2. Competitiveness, exchange rate and the RCAI

Competitiveness may be defined as the capability of a country, a particular industry sector, or a firm to profitably operate in the global market. Many conceptual models have been developed to identify factors that are associated with competitive advantages of a firm. External to the firm, systemic factors can change the competitive environment that alters the competitive advantages of a firm.

> A relation between long-range growth and devalued exchange rates in developing countries was found, reaching to the conclusion that price change due to exchange rate devaluation is of fundamental importance for economic growth.

In examining the role of different external factors, many authors have emphasised the significance of exchange rate fluctuations in influencing companies' international performance. The exchange rate is the main variable for exports growth due to its favourable impact on competitiveness. One author states that after thirty years he "remains convinced that the exchange rate is one of the chief obstacles to many countries' growth".[2] A more competitive exchange rate increases demand for exports.[3] Favourable exchange rate is a strategic variable for the growth of countries. A relation between long-range growth and devalued exchange rates in developing countries was found, reaching to the conclusion that price change due to exchange rate devaluation is of fundamental importance for economic growth.[4]

The Revealed Comparative Advantage Index (RCAI) is one of the indicators more commonly used to evaluate the competitiveness of a country's product in relation to international trade. Based on

Ricardo's law of Comparative Advantages created in 1817, the RCAI is used to evaluate product competitiveness in world markets, regional markets or a specific national market. Comparative advantage is a basic idea for explaining trade relations among countries that are not easily understood. As such, some researchers state that the theory might have been valid two centuries ago but it is irrelevant today. However, it is concluded that the advantages theory is important to explain international trade, but the concept alone can hardly explain something so broad and complex.[5]

A study in Italy has shown that comparative advantage may be altered over time. Changes in industrial sectors and in various regions involving the performance of the Italian economy over 30 years were observed. The conclusion was that the comparative advantage of traditional sectors remained, while the performance of sectors which were not competitive some decades ago improved. Some regions also improved their competitiveness indicators.[6] Comparative advantage regarding production fragmentation among countries was also analysed. The study concluded that the comparative advantage concept, when used in its original way, loses its explicative power for international trade. However, it is still useful when the global trade flow is considered as disaggregated into a production chain.[7]

3. Research method

This study refers to the period from 2002 to 2010 when a strong appreciation of the Brazilian currency occurred, followed by a remarkable devaluation. As a matter of fact, the exchange rate increased from USD/R$ 0.2831, in 2002, to 0.6005, in 2010. This change has altered the price relation (USD/Real) of products and affected companies' competitiveness in the global market. In this study, the RCAI was used to analyse RS firms' performance vis-à-vis that one of similar Brazilian companies. Based on data supplied by the Foreign Trade Office of the Brazilian Government (SECEX), a database of Brazilian and RS firms' exports according to company size was created. In accordance with SECEX criteria, the size of a firm is determined by the number of employees and the amount of exports. In instances where a firm can fit into different size categories, it is classified under the greater criterion.[8]

RCAI uses variables generated a posteriori to measure the participation of the exports of a product in relation to a reference zone of this same product; then, that quotient is compared to total exports of that economy with total exports of the reference zone. RCAI determines the relative competitiveness of a sector in relation to others. RCAI is calculated for RS companies classified by size resulting in their performance vis-à-vis the performance of similar size Brazilian ones.

Most Brazilian firms determine costs in Reals, converted to USD when goods are exported. If the product export price in USD is maintained, the firm will receive a lower amount in Reals for the unit sold. This would mean a competitiveness loss for Brazilian companies and, thereby, a reduction of the exported amount, or a price increase in dollars that would result in a reduction of the exported volume. After exports go down, product profit margins for sold goods may deteriorate, what is observed from 2002 to 2010. However, exports present an increase during that period. From 2002 to 2010, according to Table 1, Large size firms experienced an increase of 150.84%. In general, these firms sell agricultural or mineral commodities, which experienced a price increase in world markets. The price increase offsets the exchange rate disadvantage Brazilian firms then faced.

Table 1 – RS exports in USD FOB and RCAI according to firms' size

Year	Micro	RCAI	Small	RCAI	Midsize	RCAI	Large	RCAI	Exchange Rate
2002	24,270,034	1.423	125,670,114	1.062	569,580,368	1.205	5,407,015,785	0.980	0,28
2003	32,947,357	1.430	165,963,904	1.047	711,686,528	1.165	6,723,844,615	0.983	0,35
2004	47,392,274	1.586	277,705,539	1.246	855,198,271	1.107	8,356,581,876	0.984	0,38
2005	37,447,147	1.512	219,425,819	1.233	920,430,930	1.297	9,164,863,796	0.973	0,43
2006	39,640,244	1.791	227,044,011	1.321	1,008,316,466	1.341	9,920,422,619	0.969	0,47
2007	54,504,572	1.625	322,862,187	1.468	1,100,120,338	1.337	12,114,603,005	0.969	0,56
2008	34,251,936	1.868	272,327,983	1.547	895,062,586	1.166	15,859,092,374	0.987	0,43
2009	37,610,613	1.617	124,797,879	1.261	1,014,125,687	1.272	13,006,259,825	0.982	0,57
2010	33,308,545	1.985	220,231,874	1.748	854,454,271	1.434	13,563,106,195	0.974	0,60
Change (%)	37.24	39,49	75.25	64,59	50.01	19,00	150.84	-0,61	114,28

Source: Secex data, BCB (Central Bank of Brazil). Elaborated by the authors

A fact that deserves attention is the increase of smaller (micro, small, and midsize) firms' exports. All of them increased sales in world markets despite the expectation that the currency appreciation would result in a loss of competitiveness and, thereby, a decrease in sales. Given the characteristics of RS state, which does not have large mineral reserves and is a grain producer, the question that must be investigated is its performance in relation to the Brazilian one. Having in mind the firms' size, how was the sales evolution in the international market?

4. Main findings and questionings

Data analysis shows that smaller (micro, small, and midsize) firms improved their RCAI from 2002 to 2010, while large firms did not, and, still worse, their RCAI kept falling in the period.

From 2002 to 2010, RS large export firms lost competitiveness compared to firms in other size categories. The RCAI for micro firms increased from 1.423, in 2002, to 1.985, in 2010, representing a growth of 39.49%. Small firms presented a growth rate of 75.25%, from a RCAI of 1.062 to 1.748, over the same period. Midsize companies, however, have grown only 19.00% (RCAI from 1.205 to 1.434), while large companies have lost competitiveness in the same period of time. Competitiveness reduction was not significant once the RCAI has shown just a slight decrease of 0.59%, from 0.980 to 0.974.

Data analysis shows that smaller (micro, small, and midsize) firms improved their RCAI from 2002 to 2010, while large firms did not, and, still worse, their RCAI kept falling in the period.

One of the outcomes of this study is to leave some questions open for future investigations that could shed light on the following research questions: (1) are there structural issues in RS state that influence the growth of smaller firms' exports notwithstanding the number of smaller export companies' decrease? or (2) do internal management issues explain their performance? Future studies may investigate smaller firms that have increased their exports to find out whether their performance is due to price changes, new markets, higher productivity, competitive strategies or other factors.

This study is important for economic and foreign trade policies because smaller firms do not sell commodities and their performance signals that they may be developing some competitive advantages which need to be investigated. A more detailed study may help these firms to expand their participation in world markets.

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