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Determinants of the performance of BRICS firms after the 2008 crisis[1]

Abstract: The main objective of this article is to approach the task environment and the factors influencing the performance of firms in the BRICS countries during the recovery period after the 2008 financial crisis and the modeling of the effects of the task environment, market power, and competitive position of firms on performance. Partial Least Squares modeling was used to estimate the model parameters, and the sample is composed of companies in the manufacturing industry of the BRICS countries, in the period from 2012 to 2017. The key results are that market power and competitive position influence firm performance, and the task environment does not significantly influence competitive position, market power, and performance. Firms that increase their market power and improve their competitive position tend to perform better in different macroeconomic environments and degrees of competition.

Keywords: Competitive Position; Task Environment; Market Power; Performance; BRICS.

Classificação JEL: L1; L10; M2; M21.

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1. Introduction

Different strategies are required from firms to react to changes in the competitive market, aiming to identify their effects on the economic and financial performance of firms and their influence on the competitive position. Task environment's degrees of rivalry, dynamism, and munificence were considered elements that make up this competitive market in previous studies, such as that of Dias et al. (2019), Pratono et al. (2019) and Dias et al. (2020), among others.

Understanding the dynamics of the competitive environment becomes essential for the development of strategies that lead firms to achieve and maintain the expected level of performance, since this depends on the choice of competitive strategies aligned to the characteristics of the market in which firms are inserted (Pereira and Bánkuti, 2016).

The approach based on the economics of the Industrial Organization considers that the firms' performance is determined by the structure of the industry in which they operate (Porter, 1980; Porter, 1990). One of the outstanding aspects of this approach is the paradigm known as Structure, Conduct, Performance (SCP), which relates industry structure (structure), strategy (conduct), and performance (performance), the last two determined or outlined by the first (Barney, 1986; Hunt, 2000).

Regarding the competitive position and its relationship with performance, Brito and Brito (2012) point out the relevance of the identification of which indicators reveal the value created by the firm and can reflect, with fidelity, its competitive position. Therefore, in alignment with Brito and Brito (2012) and Dias et al. (2022), this paper considers the constructs competitive advantage, competitive disadvantage, and competitive parity as components of competitive position.

Given the above, this paper aims to study the influences of market structure, competitive position, and firms' market power on the performance of the firms that make up the BRICS (Brazil, Russia, India, China, and South Africa), considering the effects of time variation. According to Mensi et al. (2016), the BRICS need specific studies in the market and economic terms, considering their role in the world economy and their peculiarities.

The main contributions of this research are those related to simultaneously approaching the effects of competitive environment and firm's idiosyncratic issues, such as market power and competitive position, on firm's performance during a period characterized by intensive macroeconomic changes. The results bring light to the relevance of adopting a comprehensive theoretical perspective when trying to identify and explain the determinants of firm's performance variation, avoiding the use of restrictive and limited theoretical points of view.

2. Literature review, conceptual model, and hypotheses formulation

2.1 Task environment

2.1.1 Rivalry

The definition of rivalry surrounds the idea of why, how, and when firms compete at different levels. Thus, industries, strategic groups, clusters, and product markets are central guidelines for rivalry studies since the downstream activities, and the outlets of a company's value chain are located where rivalry is well defined (Markman et al., 2009). Thus, the closer the niche of activity of two or more companies, the higher the level of rivalry between them. The impact of rivalry can be reduced when competitors begin to focus on other segments that have faster growth or lower fixed costs (Mas-Ruiz and Ruiz-Moreno, 2011).

Mas-Ruiz et al. (2014) reveal that rivalry within and between groups depends on the size of the firms that make up these groups and that the size of firms provides different interactions, explaining the performance of their members. However, according to the study by Penagos-Londoño and Ruiz-Moreno (2019), these dynamics are not static, varying according to the performance and strategies adopted by the firms. Czarnitzki and Toole (2013) identified that the firm-specific effect of uncertainty on research and development is lower in markets with high levels of rivalry. Also, in this theme, Tajaddini and Gholipour (2021) identified that in times of greater uncertainty, there was greater government subsidy for research and development; however, these were mostly concentrated in the firms that presents large size. Thus, not only is there a reinforcement of research funding barriers for small firms, but it also encourages market leaders to have greater technological advantages, which in turn may imply a reduction in their competition in the industries in which they operate. According to Dias et al. (2020), the competitive position of firms tends to be more favorable as rivalry increases during and after periods of economic crisis.

2.1.2 Dynamism

Li and Simerly (1998) present dynamism as a ratio between the change on and the degree of instability of factors within an environment, and that it is the result of the interaction between competitive forces, such as changes in the size and number of firms in the industry, an increase in the rate of technological transformation and its dispersion throughout the industry (Simerly and Li, 2000).

In this sense, Lumpkin and Dess (2001) and Tajeddini et al. (2020) affirms that growth and profitability of firms are related to their proactivity and industry's degree of dynamism. Moreover, the adaptive capacity of firms not only drives the development of new technologies that are better suited to changes in the environment but also promotes the optimization of customer communication and learning capabilities, which in turn reaffirms their competitive position in the market (Buccieri et al., 2020).

As pointed out by Dess and Beard (1984) and Sener (2012), given the plurality and restriction of resources, each firm implements different strategies in face of similar environmental exposures. In fact, as Shepherd and Gruber (2021) argue, although exposed to the same environmental factors, the way these impact the different levels of each organization may occur in a unique way, which results in a need for the development of specific strategies by each firm. Thus, success will also be observed by managers from several different points of view, given the positioning of each firm in the face of changes in the task environment

2.1.3 Munificence

The concept of environmental munificence proposed by Dess and Beard (1984) explains that firms seek environments that allow organizational growth and stability if related to an environment that provides the organization with a lower resource constraint. In this way, it will be possible to potentiate investments in systems and processes to exchange information with stakeholders, develop a common understanding of environmental issues, and propose specific actions to undertake mutually satisfactory measures (Rueda-Manzanares et al., 2008).

As stated by De-Carvalho et al. (2018), firms that operate in environments with a higher degree of munificence tend to achieve higher performance levels, with a moderating effect of the interaction between industry munificence and sector munificence. In line with this idea, the results of Fainshmidt et al. (2019) conclude

that, in stable environments, there is less need for adaptive and dynamic capabilities of firms, so that it is possible to obtain competitive differentials from a greater variety of strategies. Thus, this study corroborates the studies of Staw and Szwajkowski (1975) and Goll and Rasheed (2004), which state that in munificent environments, firms are less hostile. Therefore, it is proposed to adopt in this study the average size of firms operating in a given industry and sector in order to assess the level of the munificence of the environment in which firms are inserted, according to the work of De-Carvalho et al. (2018).

The following hypotheses are proposed taking as reference the theoretical propositions previously presented:

H1 – The less favorable the task environment, the lower the firm's performance.

H2 – The less favorable the task environment, the less favorable the firm's competitive position.

2.2 Competitive position

The 1980s marked a change in focus in such a way that competitive advantage began to assume a central position in the strategy area, gaining greater relevance in research on the subject (Reed and Defillippi, 1990). Research such as that of South (1981), Peteraf (1993), Amit and Schoemaker (1993), and Mintzberg and Quinn (1996) are examples of classic works that solidified what is today understood as competitive superiority, and competitive advantage became directly associated with the company's superior performance and economic profit. With this, above-average profitability becomes evidence of the existence of competitive advantage in a direct and perfect causal relationship; the two concepts - competitive advantage and performance - are now interchanged in strategy studies (Powell, 2001).

The possibility of the adoption of different strategies raises the idea that there is an optimal balance point between profitability and growth. This highlights the importance of pricing as a complex moderating effect in the relationship between competitive advantage and financial performance. As the main strategic decision-maker, the manager has the dilemma of dealing with profit or growth maximization choices, knowing the best moment for each decision (Penrose, 1959; Slater, 1980; Cubbin and Leech, 1986). Then, it is noted that the company with Competitive Advantage shows possible different combinations, pricing, and, thus, different performance results. The customer surplus is a direct function of price setting. On the other hand, the profit will depend on cost negotiation, which happens in the bargaining process with suppliers, managers, and employees.

According to Brito and Brito (2012), with focus on achieving and sustaining superior performance, the most relevant question faced by managers is to know which competitive environment and performance variables can reflect the value created by the firm and can represent its competitive position. Tus, it is essential to identify the performance measures which can express the theoretical approach and the concepts of competitive advantage, competitive parity, and competitive disadvantage.

Brito and Brito (2012) complement that, in a position of competitive advantage, firms can define strategies that lead to superior financial performance. When focused on growth, firms in a position of competitive parity must adopt strategies that can increase market share and profitability, facing the paradox: to achieve above-average profitability, they may lose market share. A firm's competitive position will be determined by the task environment structure and the specific dynamics of the industry.

The theoretical propositions presented allows the following hypothesis:

H3 – Firm's performance will increase as the most favorable the firm's competitive position.

2.3 Market power

According to Chang, Liang, and Yu (2019), market power could be represented by the ability of firms to determine the degree of quality of products and, also, their price, expressing the degree of market domination they own. Chang et al. (2019) also affirms that market power allows firms to achieve and sustain favorable competitive positions and higher performance levels, leading them to market position that present straight relationship with the degree of performance they achieve (Dias et al., 2022).

The degree of contribution of a specific firm's market share to the degree of concentration in an industry represents the firm's market power, allowing the achievement of better levels of performance due to access to high levels of sales. In alignment with the propositions of Nurrachmat (2023), this article tests for a quadratic effect of firm's market power on performance.

Considering the theoretical approaches presented, the following hypothesis is proposed:

H4 – Firm's performance will increase as the greater the firm's market power.

Another point that needs to be considered is that the firm's market power could be established by its competitive position, leading to the hypothesis:

H5 – The firm's market power will increase as the more favorable its competitive position.

2.4 Firm's performance

As noted earlier, understanding the interactions between the dimensions of the task environment is crucial for the development of strategies that allows firms to the achievement of the expected level of performance, since this depends on strategies aligned with the characteristics of the competitive market (Pereira and Bánkuti, 2016). In this sense, managers must use creativity and innovation for the development of strategies that aim to take advantage of the organization's resources and use them to obtain a competitive differential (Ali and Anwar, 2021).

According to Talaja et al. (2017), such a differential act as an enabler for the organization's performance. However, as highlighted by Rahman et al. (2018), several methods measure performance in their different dimensions. Thus, it is crucial to identify which aspects and variables of performance are associated with the objectives and approaches of each study. Some lines of research, for example, have been dedicated to studying the multidimensional nature of the concept, while others have sought to develop aggregate measures of organizational performance (Matitz and Bulgacov, 2011).

3. Conceptual model and hypotheses

In the conceptual model – Figure 1 –, the aspects related to Performance were considered, which is defined regarding the profitability categories Return on Equity (ROE) and Return on Invested Capital (ROIC), which is influenced by Task Environment, defined

by the dimensions Dynamism, Munificence and Rivalry, by the Competitive Position expressed by the variables: Competitive Parity (dummy variable) and Competitive Disadvantage (dummy variable), by Market Power, by Size and by Year. The effect of Time must be considered in the study, considering that it could be a proxy for changes in macroeconomic contexts, which leads to the hypothesis:

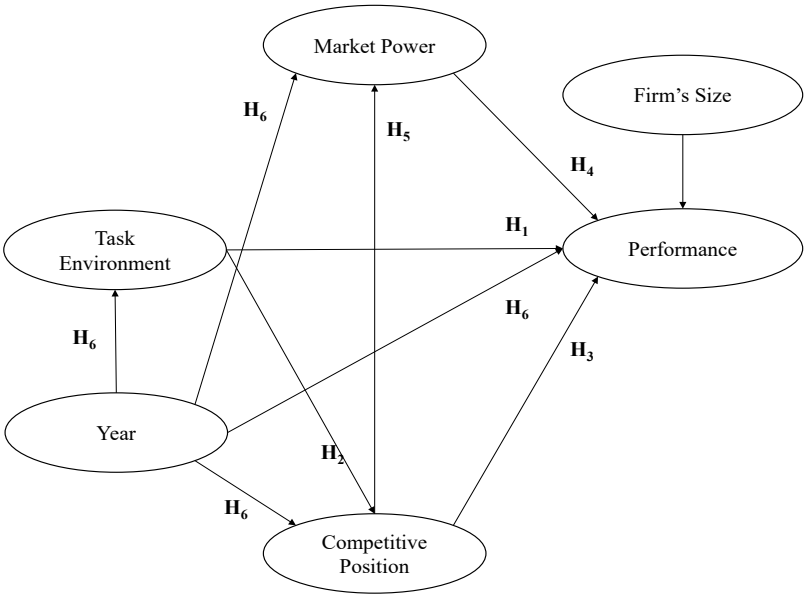
H6 – Time exerts positive influence on task environment, competitive position, market power, and firm's performance.

Equation (1) shows the expected relationships between latent variables that comprise the complete research model:

$$\mathrm{PERF} = \beta_0 - \beta_1 \times \mathrm{TE} + \beta_2 \times \mathrm{MP} + \beta_3 \times \mathrm{CP} + \beta_4 \times \mathrm{YEAR} + \beta_5 \times \mathrm{SIZE} + \mathrm{e} \quad (1)$$

with PERF being the firm's performance, TE is the representative of the Task Environment in which the firm competes, MP is the firm's Market Power, CP is the firm's Competitive Position, YEAR is the time variable which represents the macroeconomic context faced by firms, and the control variable SIZE is the firm's size measured by its Total Assets.

Figure 1 - Research model.



Source: Developed by the authors

Based on the theoretical framework above, Table 1 presents a summary of the research hypotheses, which are explanatory of the relationships between dimensions and categories of the proposed model. The equations that are representative of the relationships between constructs are presented after Table 1, except for Equation (1), which was previously presented.

$$\mathrm{CP} = \beta_0 - \beta_7 \times \mathrm{TE} + \beta_8 \times \mathrm{YEAR} + \mathrm{e} \quad (2)$$

with CP being the firm's Competitive Position, TE is the representative of the Task Environment in which the firm competes, and YEAR is the time variable which represents the macroeconomic context faced by firms.

Table 1 - Research Hypotheses.

	HYPOTHESES	EQUATIONS
H_1	The less favorable the task environment, the lower the firm's performance.	(1)
H_2	The less favorable the task environment, the less favorable the firm's competitive position.	(2)
H_3	Firm's performance will increase as the most favorable the firm's competitive position.	(1)
H_4	Firm's performance will increase as the greater the firm's market power.	(1)
H_5	The firm's market power will increase as the more favorable its competitive position.	(3)
H_6	Time exerts a positive influence on firm's performance, competitive position, market power, and task environment.	(1, 2, 3, 4)

Source: Developed by the authors

$$MP = \beta_0 + \beta_{11} \times CP + \beta_{12} \times YEAR + e \quad (3)$$

with MP being the firm's Market Power, CP is the firm's Competitive Position, and YEAR is the time variable which represents the macroeconomic context faced by firms.

$$TE = \beta_0 + \beta_{13} \times YEAR + e \quad (4)$$

with TE being the representative of the Task Environment in which the firm competes, and YEAR is the time variable which represents the macroeconomic context faced by firms.

All the measurement models are formative in nature, and, according to Hair et al. (2014), the Partial Least Squares parameters estimation method is based on principal components analysis when it constructs composite from both the multiple independent variables and the dependent variables. As a matter of example, the composite Task Environment is obtained by generating an index that put together the level of Rivalry faced by firms, the degree of Munificence in the industry, and the degree of Dynamism in the industry, in line with the theoretical references presented. The same approach applies to the constructs Performance and Market Power.

The combined performance matrix proposed by Brito and Brito (2012), and used by Dias et al. (2022), contextualizes the approach used in this research when considering competitive advantage, competitive disadvantage, and competitive parity as constructs of competitive position. The dummy variable for Competitive Disadvantage received the value one if the value calculated for the variable Growth is less than the average market share in the industry minus a standard deviation, and the value calculated for the variable Profitability is less than the average profitability of the industry minus a standard deviation.

The Competitive Parity dummy variable received the value one if the value calculated for the variable Growth is situated in the range between the average calculated for the market share in the industry minus a standard deviation (minimum value) and plus a standard deviation (maximum value) and the value calculated for the variable Profitability is situated in the range between the average calculated for the Profitability minus a standard deviation (minimum value) and plus a standard deviation (maximum value). The Competitive Advantage position was used as the reference and is identified if both dummy variables received value zero. Table 2 presents how the indicators were calculated.

Table 2 - Variables calculation.

CATEGORY	VARIABLE	CALCULATION
PERFORMANCE		
Profitability	Return on Equity (ROE)	Net Profit / Shareholders' Equity
	Return on Invested Capital (ROIC)	Net Profit / Average Invested Capital
TASK ENVIRONMENT		
Rivalry	Shepherd's G-Index	Degree of industry concentration, calculated using the Herfindahl-Hirschman Index - HHI, minus the firm's market share.
Munificence	Munificence index according to De-Carvalho et al. (2018)	Average of the total assets of firms located in the same industry, excluding the indicator of the firm under analysis.
Dynamism	Environmental dynamism index according to Simerly and Li (2000)	Standard error of the regression of the sales values, industry, in relation to the year / average value of the sales values, industry, in the year.
MARKET POWER		
Market Power	MktPower	Proportion of the HHI Index attributed to the firm, obtained by dividing the square of the market share by the HHI Index.
	$MktPower^2$	Squared proportion of the HHI Index attributed to the firm, obtained by dividing the square of the market share by the HHI Index.
COMPETITIVE POSITION		
Growth	Firm's Market Share	Firm Market Share minus the average of the Market Share of the Firms in the same industry, in the same market and in the same year.
Profitability	Return on Assets (ROA)	Profitability of the firm minus the average profitability of firms in the same industry, in the same market and in the same year. Profitability = Net Profit / Total Assets.
SIZE		
Size	Size	*Ln* (Total Assets)
YEAR		
Year	Year	Dummy variables for each year, with 2012 set as the reference year.

Source: Developed by the authors

4. Methods and data analysis

4.1 Data processing and parameters estimation

As an estimation method for the proposed model's parameters and in the search for the achievement of the research objectives, the Partial Least Squares method (PLS) was applied, in alignment with the positioning of Henseler, Ringle, and Sinkovics (2009). When estimating the proposed model, the software SmartPLS 3 (Ringle, Wende & Becker, 2015) was used.

Partial Least Squares (PLS) modeling allows the analysis of the relationships between variables from a formative perspective, in which the grouping of observed variables is used as a form of categorization and measurement device for some complex phenomenon in the real world, as in the case of this research (Lohmöller, 1984). According to Lohmöller (1988), in the PLS method, latent variables are estimated as linear aggregates, encompassing, for example, the principal component method, with no restrictions on the distribution characteristics of the data. According to Chin (1997), due to the iterative technique of parameter estimation used by the PLS method, there are no errors in the identification of the model, nor are assumptions established in relation to the distribution of the observed variables.

4.2 Sample

The research sample is compound by firms operating in the manufacturing industry (consumer goods, industrial goods, and basic materials) in the BRICS countries, during the period from 2012 to 2017, which had their accounting information disclosed in Thomson Reuters Datastream® database. This time interval was determined due to the relevance of understanding the behavior of the firms belonging to BRICS in the macroeconomic scenario following the immediate aftermath of the 2008 U.S. financial crisis.

The samples are all above or close to the minimum of 98 cases for a test power of 0.80, an effect size of 0.15, six predictors, and a two-tailed test of significance at 5% for a coefficient of determination different from zero – Table 3. To calculate the minimum sample size, were used G*Power 3.1.9.2 software (Faul et al., 2009) and the benchmark established by Hair et al. (2014). Descriptive statistics by country and year are presented in Tables 4, 5 and 6.

Table 3 - Number of firms by country, by year.

Year	Brazil	Russia	India	China	South Africa
2012	105	144	1,504	1,648	139
2013	108	142	1,523	1,77	139
2014	108	135	1,458	1,94	134
2015	98	127	1,331	1,947	131
2016	92	122	1,52	1,959	119
2017	95	106	1,502	1,598	113

Source: Developed by the authors

Table 4 - Descriptive statistics, by year.

Year	Variable	Brazil				Russia				India				China				South Africa			
		Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.
2012	MktPower	0.00	74.65	5.71	14.67	0.00	91.93	4.86	14.03	0.00	96.30	0.46	4.17	0.00	68.71	0.36	2.95	0.00	92.77	4.32	12.98
	Size	9.66	19.37	14.34	1.80	9.69	20.28	15.97	1.86	7.47	21.11	14.94	1.88	8.82	20.29	14.69	1.27	10.40	19.12	14.75	2.02
	ROIC	-13.82	52.13	9.13	10.00	-24.29	57.32	9.63	11.54	-60.17	72.13	7.87	11.12	-30.87	46.45	7.74	7.71	-46.80	50.83	10.53	14.67
	ROE	-61.62	67.38	8.31	20.17	-518.77	78.46	2.93	56.84	-317.69	99.36	3.88	33.41	-467.60	81.49	7.75	20.01	-131.27	79.31	11.07	26.46
2013	MktPower	0.00	84.83	5.54	15.53	0.00	86.02	4.87	13.77	0.00	97.96	0.45	3.83	0.00	84.48	0.34	3.38	0.00	93.67	4.31	13.05
	Size	9.69	19.45	14.45	1.75	10.99	20.24	16.02	1.86	10.01	21.11	14.96	1.86	8.67	20.47	14.74	1.29	10.37	19.33	14.89	2.00
	ROIC	-36.40	63.95	9.24	12.02	-27.86	45.46	8.24	11.29	-62.95	75.74	7.13	11.47	-28.77	48.01	7.63	8.08	-34.60	56.32	9.23	14.54
	ROE	-218.30	88.80	4.37	38.49	-582.42	77.71	1.66	56.64	-284.43	164.86	4.61	28.22	-247.64	137.33	8.11	15.86	-106.44	124.70	9.53	26.11
2014	MktPower	0.00	90.01	5.55	15.59	0.00	98.58	5.02	15.57	0.00	98.37	0.47	3.95	0.00	85.55	0.31	3.21	0.00	95.02	4.48	12.68
	Size	9.64	19.52	14.43	1.85	9.84	20.42	16.05	1.99	10.04	21.48	15.00	1.87	10.90	20.63	14.77	1.31	10.26	19.44	14.96	2.00
	ROIC	-29.33	63.68	8.85	12.22	-38.31	61.48	6.57	14.18	-52.51	76.04	7.09	10.86	-31.86	47.61	8.14	8.22	-41.54	54.18	9.09	14.72
	ROE	-90.65	64.70	6.48	23.84	-958.49	62.65	-9.03	94.30	-307.47	150.92	2.59	31.89	-191.66	76.11	8.44	14.96	-113.92	65.04	9.84	22.89
2015	MktPower	0.00	93.50	6.12	16.49	0.00	98.99	5.39	16.55	0.00	97.32	0.50	4.35	0.00	83.93	0.31	3.31	0.00	96.28	4.58	13.91
	Size	9.85	19.57	14.68	1.87	10.88	20.69	16.23	1.94	9.34	21.38	15.06	1.90	9.06	20.79	14.97	1.30	10.21	19.59	15.08	2.03
	ROIC	-40.95	68.85	7.85	13.79	-28.47	59.92	10.52	12.80	-63.07	60.01	7.52	10.80	-33.82	47.76	6.99	8.37	-39.59	55.09	9.20	13.90
	ROE	-175.77	82.76	0.45	37.87	-173.72	99.10	9.81	29.85	-312.83	124.97	2.92	29.69	-429.48	93.66	6.40	19.67	-50.51	102.23	11.16	19.97
2016	MktPower	0.00	93.76	6.52	16.65	0.00	95.50	5.73	16.65	0.00	87.84	0.46	4.25	0.00	79.43	0.31	3.30	0.00	97.41	4.76	13.20
	Size	10.11	19.52	14.67	1.85	11.80	20.72	16.39	1.84	9.29	21.54	14.94	1.93	11.06	21.05	15.16	1.26	9.99	19.77	15.18	2.07
	ROIC	-65.80	35.34	5.67	13.14	-23.43	60.85	11.79	13.06	-61.94	77.32	7.41	11.74	-34.21	47.69	6.72	6.89	-34.08	50.43	9.54	12.94
	ROE	-149.49	81.94	-2.94	34.61	-78.42	165.48	17.39	29.73	-320.83	191.84	2.49	36.51	-247.39	168.88	7.18	15.06	-67.95	107.94	11.23	20.22
2017	MktPower	0.00	93.52	6.31	16.56	0.00	98.81	6.58	18.30	0.00	93.64	0.47	4.56	0.00	80.55	0.38	3.41	0.00	96.45	5.31	14.24
	Size	10.09	19.54	14.59	1.93	12.23	20.68	16.61	1.90	9.30	21.47	15.00	1.93	10.90	21.16	15.21	1.26	10.61	19.80	15.34	2.07
	ROIC	-63.11	61.92	8.46	14.39	-40.77	45.41	9.19	11.96	-55.14	76.49	7.64	11.18	-30.19	45.04	6.61	6.72	-47.86	45.44	8.31	14.68
	ROE	-151.83	231.56	7.94	39.34	-107.81	123.75	10.12	27.69	-320.46	266.57	4.23	33.18	-230.99	188.27	7.60	14.51	-106.74	66.94	7.15	23.97

Notes: 1) MktPower – firm's market power; 2) Size – the size of the firm as measured by Total Assets; 3) ROIC – Return On firm's average Invested Capital; 4) ROE – Return On firm's Equity; 5) Min – lowest value for the variable in each sample, by country, by year; 6) Max – highest value for the variable in each sample, by country, by year; 7) Mean – mean value for each variable in each sample, by country, by year; 8) Std. Dev. – standard-deviation for each variable in each sample, by country, by year.
Source: Developed by the authors.

4.3 Structural model analysis

One of the steps to be followed in the models' evaluation, as indicated by Hair et al. (2014), is to verify the collinearity occurrence. As can be seen in Table 5, multicollinearity was only identified for the linear and quadratic versions of the Market Power variable for South African firms, given the value above the 5.000 limits for the VIF (Variance Inflation Factor) as proposed by Hair et al. (2014), which does not make the structural model analysis unfeasible, since the two variables have the same origin.

Table 5 - Multicollinearity diagnosis.

Variables		VIF Values				
		Country				
Independent	Dependent	Brazil	Russia	India	China	South Africa
Competitive Position	Market Power	1.002	1.000	1.000	1.000	1.001
	Performance	1.208	1.340	1.157	1.071	1.335
Market Power	Performance	2.519	3.189	4.327	3.307	6.253
Market Power^2	Performance	1.260	1.715	1.457	1.080	1.721
Size	Performance	2.099	1.870	3.484	3.251	4.259
Task Environment	Competitive Position	1.850	1.059	1.640	2.336	1.438
	Performance	2.069	1.507	1.665	3.026	1.861
Year	Competitive Position	1.850	1.059	1.640	2.336	1.438
	Market Power	1.002	1.000	1.000	1.000	1.001
	Performance	1.961	1.078	1.654	2.483	1.541
	Task Environment	1.000	1.000	1.000	1.000	1.000

Notes: 1) VIF – Variance Inflation Factor; 2) Market Power2 – squared value of the Market Power variable.
Source: Developed by the authors.

Brazilian firms present negative and significant effects of competitive position on market power and performance (β = -0.334 and β = -0.539, respectively). Similar results were obtained for Russian firms (β = -0.432 and β = -0.621, respectively), for Indian firms (β = -0.296 and β = -0.652, respectively), for Chinese firms (β = -0.173 and β = -0.700, respectively), and for South African firms (β = -0.435 and β = -0.727, respectively) – Table 6. Competitive advantage is considered as the reference for the analysis of the dummy indicators of competitive position, expressed by zero values for the dummy indicators of competitive disadvantage and competitive parity. The results obtained indicate a tendency for an increase in the firm's market power and performance, as the firm moves towards a position of competitive advantage.

Task environment exerts significant effect on the competitive position (β = 0.184), and on the market power (β = -0.080) of South African firms. Negative and significant effect was estimated for task environment on performance of Chinese firms (β = -0.052). Results are in line with Pereira and Bánkuti (2016) who emphasize that the task environment directly influences the adoption of appropriate strategies for the achievement of the expected level of performance. In this study, dynamism, rivalry, and munificence were considered as components of the task environment and the non-significant path coefficient to performance of firms in Brazil, Russia, India, and South Africa corroborates Lipczynski and Wilson (2004), as they observe that the task environment involves several components, such as the number and size of firms, the types of products developed, the possibility of economies of scale, the barriers to entry, among others.

Except for Russia, the influence of firm's market power generates a reduction in the performance of the firms belonging to the other BRICS's countries – Table 6. According to Oh and Thomas (2013), this negative and significant influence can be explained by the interference in the price generated by one or more firms, which is caused by the

high level of concentration of these firms compared to others (Amann and Baer, 2008).

The size of the firms, considered as a control variable, exerts a negative and significant effect on performance for all the firms from the countries under analysis.

The negative and significant effect of time on market power of Indian firms (β = -0.105) points to a reduction on the market power of the firms as the macroeconomic conditions faced by firms become favorable. Similar results were obtained to the effect that time exerted on task environment (β = -0.625). When considering Chinese firms, time exerts positive and significant effect on competitive position (β = 0.019), and on task environment (β = 0.756). The effect of time on Chinese firm's performance is negative and significant (β = -0.028). Time does not exert significant effects on competitive position, market power, performance and task environment from Brazil, Russia, and South Africa – Table 6.

Table 6 - Estimated path coefficients by country.

Variables		Brazil		Russia		India		China		South Africa	
Independent	Dependent	Path Coefficient	p-Value	Path Coefficient	p-Value	Path Coefficient	p-Value	Path Coefficient	p-Value	Path Coefficient	p-Value
Competitive Position	Market Power	-0.334	0.000 ***	-0.432	0.000 ***	-0.296	0.000 ***	-0.173	0.000 ***	-0.435	0.000 ***
	Performance	-0.539	0.000 ***	-0.621	0.000 ***	-0.652	0.000 ***	-0.700	0.000 ***	-0.727	0.000 ***
Market Power	Performance	-0.020	0.747	0.076	0.275	0.177	0.000 ***	0.070	0.000 ***	0.136	0.038 **
Market Power^2	Performance	-0.141	0.000 ***	-0.027	0.269	-0.054	0.000 ***	-0.077	0.000 ***	-0.069	0.001 ***
Size	Performance	-0.238	0.003 ***	-0.115	0.027 **	-0.167	0.000 ***	-0.232	0.000 ***	-0.318	0.000 ***
Task Environment	Competitive Position	0.245	0.194	0.198	0.147	-0.024	0.111	0.023	0.131	0.184	0.049 **
	Market Power	-0.082	0.214	-0.086	0.153	0.007	0.115	-0.004	0.142	-0.080	0.059 *
	Performance	0.018	0.756	0.071	0.375	-0.022	0.117	-0.052	0.002 ***	-0.070	0.314
Year	Competitive Position	0.049	0.267	-0.012	0.791	-0.008	0.472	0.019	0.049 **	-0.035	0.499
	Market Power	0.020	0.637	0.034	0.507	-0.105	0.000 ***	-0.009	0.347	-0.010	0.798
	Performance	-0.056	0.197	0.097	0.307	0.006	0.605	-0.028	0.003 ***	-0.005	0.894
	Task Environment	0.678	0.234	0.236	0.196	-0.625	0.000 ***	0.756	0.000 ***	-0.552	0.318

Notes: 1) Statistical significance of the path coefficients was checked by the bootstrapping technique, with 5,000 samples and the option of not changing the signals. 2) p-Value represents the coefficient statistical significance at levels *** $p < 0.010$; ** $p < 0.050$; * $p < 0.100$.

After attesting the validity of the model proposed to approach the effects of task environment, competitive position, firm's market power, firm's size, and time on the performance of firms belonging to BRICS countries in the period from 2012 to 2017 and verifying the significance of the path coefficients that make up the structural model, this subsection moves on to the analysis of the research hypotheses.

The first research hypothesis – H1 - The less favorable the task environment, the lower the firm's performance - was not rejected only for firms belonging to China due to the negative sign of the path coefficient and its significance. For the other countries, the rejection occurred due to the non-significance of the path coefficient. Based on these results, one could conclude that there's not a pattern in the way firms react to threats in the task environment, mainly in terms of the variation in rivalry and dynamism.

The second research hypothesis – H2 - The less favorable the task environment, the less favorable the firm's competitive position - was not rejected for South African firms (path coefficient is positive and significant). The hypothesis is rejected for the other countries - the coefficients do not present significance. These results allow us to affirm that firms from Brazil, Russia, India, and China looks for a better competitive position, despite the intensity of rivalry and dynamism they face and the scarcity of resources in the environment.

The third hypothesis – H3 - Firm's performance will increase as the most favorable the firm's competitive position - was not rejected in all due to the negative and significant

path coefficient estimated, leading us to conclude that firms in the position of competitive advantage are those who can benefit from the possibility of establishing the pace and intensity of changes in the competitive environment.

The hypothesis – H4 - Firm's performance will increase as the greater the firm's market power - was rejected for Russian firms, due to the non-significance of the path coefficient, and for the other countries due to the negative sign of the quadratic form of the variable, pointing out that the greater the market power of the firms belonging to Brazil, South Africa, India, and China, the lower the performance of these firms will be. These results reinforce the relevance of the achievement and maintenance of a position of competitive advantage by firms, considering that achieving higher levels of market share, when compared to competitors, is not a relevant factor in the search for better levels of performance.

The hypothesis – H5 - The firm's market power will increase as the more favorable its competitive position - was not rejected in all, due to the significance and the negative sign of the path coefficients, pointing out that the firms in competitive advantage tend to achieve better levels of market power.

The sixth hypothesis – H6 - Time exerts a positive influence on task environment, competitive position, market power, and firm's performance - was rejected for Brazil, Russia, and South Africa, due to the non-significance of the path coefficients. For the firms from India and China, the same hypothesis was also rejected, despite the significant influence only in relation to market power and task environment for the firms from India, and in relation to competitive position, performance, and task environment for the firms from China. The effect of time was included in the model as a proxy for the effects exerted by macroeconomic context. Based on these results, one can affirm that firms seek to achieve competitive advantage and market power, despite the changing in macroeconomic context, and that changes in firm's performance do not depend on changes in macroeconomic context, result that is like the same results obtained for the influences of the macroeconomic context in task environment.

5. Conclusions

The main objective of this work is to contribute to the understanding of the effects exerted by task environment and firm's specific factors on firm's performance, specifically in the context of BRICS countries, during the economic recovery period after the 2008 world financial crisis. The model's parameters were estimated by structural equations modeling, with the use of partial least squares.

The performance of BRICS' firms is influenced by firms' idiosyncratic factors, such as market power and competitive position, and task environment does not exert relevant effects on competitive position, market power, and performance. These results show that, during the recovery period after 2008 financial crisis, firms that seek to increase their capacity of influencing the competitive environment, by means of their market power and competitive advantage position, tend to achieve better levels of economic performance, despite the configuration of different macroeconomic contexts, and the degree of competition they face.

When analyzing the influence of a firm's competitive position in relation to its performance, the competitive advantage position determines both the growth potential and the profitability level, reinforcing the importance of the achievement and the maintenance of favorable market position in the relationship between competitive position and financial performance. It is possible to make some inferences about the negative effect exerted by a firm's market power on its financial performance, such as

the fact that market power is obtained by investments in the expansion of market share, reducing the amount of profits retained by owners. Other factors already observed and important to consider in the analysis concern the fact that market power behaves in different ways in markets with high innovation rates and dynamic and aggressive competition.

As for the limiting factors of this study, it is also important to clarify that the results of this research can be generalized to firms operating in the BRICS countries, in the macroeconomic context studied, and in the period considered. However, its extension to other contexts is not recommended.

For future studies, it is recommended that further research consider the inclusion of macroeconomic variables as influencing the relationships proposed in the structural model and the extension to periods before the 2008 financial crisis, and during the SARS-CoV pandemic

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