THE PARADIGM OF THE NEW MILLENNIUM MANAGEMENT: A STUDY OF BRAZILIAN BANKS PERFORMANCE

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ABSTRACT

The Brazilian financial market has suffered deep recent alterations due to several factors, such as economy under controlled inflation; interest rates on the way to levels closer to the ones of more stable economies, entry of foreign capital, components of international management, open corporations, among others. Therefore, the questions which guide this research are: In this last decade, marked by a deep management paradigm change for the financial organizations in Brazil, was the performance of the big banks, compared to the medium-size banks, higher? Are the differences of scale and shareholding composition related to a positively differentiated performance? Based on information extracted from financial statements of all the Brazilian financial institutions with activities performed in at least a year in the period from 2000 to 2009, the indexes of Brazilian banks were calculated and grouped in financial-economic indexes, sales performance, cash generator and financial balance, capital structure and leverage, profitability and value creation. The results, considering a 95% reliability level, show that there was not significant difference between the economic-financial performance of big and medium-size banks and that the main differences occurred concerning the cash generation, immediate liquidity, own working capital, capital structure and financial leverage.

Keywords: *Big and medium-size banks, economic-financial performance, Brazilian financial system*

1. INTRODUCTION

The Brazilian Banking system is considered, by many experts, as being solid enough to overcome periods of high turbulence. Urdapilleta & Stephanou (2009), for example, in a recent study, pointed out that the Brazilian institutions constitute the biggest and most sophisticated Banking system of Latin America, capable of successfully withstanding the period of hyperinflation of the 1980´s as well as several international financial crises with took place in the last 30 years.

In fact, even though the Brazilian banking system has not collapsed, along the last three decades, important changes have significantly altered it. In the end of the 1980´s, foreign capital reached greater freedom to take the control of own financing of the banks. In the early 1990´s, the Federal Government created the PROES – Programa de Incentivo à Redução do Setor Público Estadual na Atividade Bancária (Program of incentive to the Reduction of the State Public Sector in the Banking Activity) – aiming to liquidate, privatize or restructure the State banks, which ended up privatizing almost all of those banks. The privatization, which started with the PROES, and the fall of the limitations to the foreign capital inflows caused a complete modification in the country´s banking system, especially concerning the competiveness and the configuration of the controlling system and authority on those organizations. As verified by Beck, Crivelli & Summerhill (2003), in the beginning of the PROES, the state and federal public banks represented more than 50% of the Brazilian banking system in volume of assets. Currently, they represent less than 30%.

The transformations suffered by Brazil´s banking system promoted, doubtlessly, improvements and a remarkable evolution, with the contribution of other factors such as the evolution of the information systems and the regulatory norms established by the Central Bank. Nevertheless, Brazil still presents one of the world´s greatest baking spreads, high operational costs, one of the lowest levels of access to credit, and the highest interest and return rates. And, considering the system through the client´s point of view, natural or legal person, the Brazilian banks depict incisive discrepancies in the interests charged in the loan operations and in the operational and administrative rates charged for services and products.

The restructuration process of the banking systems and, in a more extensive way, of the financial markets and their institutions, was a worldwide phenomenon. Paula & Marques (2006) cleared that the processes of fusion and acquisition in the financial industry, which is called banking consolidation, tend to reduce the number of banking institutions and increase the size of the resulting ones. Moreover, the financial deregulation provoked by the globalization, the technological advances in computers and telecommunications, and a change in the management philosophy, now directed to the addition of value to the shareholders, as a consequence of the increase in the size and the opening of capital to reach new financing sources are pointed as catalyzing factors of those processes, in ample scale in the world. It was not different in Brazil. The breaking factors of an intense period of banking consolidations were the same, in spite of some considered idiosyncratic.
The Brazilian banking system is segmented. Paula & Faria (2007) suggested that the banks can be divided in five segments: big-size retailers, regional retailers, retailers for high income clients; wholesalers, and specialized in credit. As headquarters, the banks can also be classified as being of small, medium or big size; or also belonging to two big groups: retailers and corporate. Scientific studies published on this banking system have revealed that most of its part is dominated by big retailer banks. These banks are also indicated as the ones which have obtained the best indexes of yield and return on own capital, in spite of the huge structure required by their operations with extensive geographic and fine wideness of range. Urdapilleta & Stephanou (2009) detected that the performance of the big retailer banks, in Brazil, is more than double than what the corporate banks reach, concerning the risk-adjusted return earned by the shareholders.

However, the context of the Brazilian financial market has changed due to some domestic factors. The innovations brought by a new governance model, with the New Corporate Governance Code and the Differentiated Levels of Corporate Governance implemented by the Bovespa (Bolsa de Valores de São Paulo – Stock Exchange of São Paulo) and the CVM (Comissão de Valores Mobiliários – Committee of Real Estate Values), in 1999, in addition to technological advances and the creation of the SPB (Sistema de Pagamentos Brasileiro – Brazilian Payment System) changed the perception of the agents on the money market and, specially, placed the Brazilian market in efficiency and reliability levels which had never been reached before. Adding the aspect of freedom granted the foreign capitals to take part in, without greater restrictions, the ownership of Brazilian Financial institutions, it was formed a new acting environment of those organizations, in which the management of their value is the dominant goal. The performance of the major institutions operating in the country is observed by the capital holders through the Money market window, much more comprehensive and transparent than ten years ago. With the end of the acute banking consolidation process, growth targets lost space for development and enrichment goals. As defined by Sá (2001), enrichment is an excess of wealth on a paradigm; and development is a phenomenon which comes from the use of the intelligence and knowledge in technically transformed processes. Even though growth, enrichment and development are concepts which relate to each other, they are distinct phenomena.

The paradigm is new, with components of international management, foreign capital, open companies, economy under controlled inflation and on its way to interest rates compatible with the levels practiced in the most stable economies. However, this evolutive movement does not reach all the organizations in the same way. Many of the aspects mentioned herein concern the environment of big corporations. In the case of the banking system, specifically, it is notorious that big banks are directly exposed to and, consequently, induced and motivated by inherent forces to big open companies, in which the conflicts between capitalists and agents are great, but the administrative flexibility and the access to resources of any kind are significantly greater as well. The greater scale requires more management quality, but it imposes an additional series of costs and losses.
The motivation of this study consists of this point: in the last decade, marked by deep management paradigm change for the financial institutions of Brazil, was the performance of big companies, when compared to the medium-size banks, higher? Are the scale and the Composition of Partnership differences related to a positively differentiated performance?

In the following sections, the literature review on the theme, the morphologic aspects of the research, the results obtained and finally the conclusions and final considerations which help answering the interesting questions which motivated the research are presented.

2. LITERATURE REVIEW

The financial organizations are more vulnerable than the non-financial ones. Although there are several particularities, the systemic risk deserves to be mentioned. The mistrust on the insolvency of just one institution can break out a process of "race to the cashier" of all the other ones, as a contamination effect. Hardly, this effect would take place in another organizational segment, Due to reasons such as this one, the banking performance is strictly monitored by regulatory agents, who establish exposure limits and regulation manuals, which intend to be preventive to a financial stress.
The banking performance is also observed very carefully, by other market participants, as the institutional investors, who are qualified and of big size, the highest amount fund depositors, fiscal and financial agents, partner corporations, governmental agents, among others. This special monitoring condition caused the theme of banking performance to be the object of important academic studies.

One of the widest studies on compared performance of financial institutions was developed by Berger & Humphrey (1997). In this study, 131 already published researches on the performance of financial institutions of 21 countries, aiming the obtainment of consensual view on the efficiency of those kinds of organizations were analyzed. Some of the main conclusions of the study pointed that, within the parameters considered, the financial institutions presented an average of 77% of efficiency with a 13% standard deviation, which is considered extensive. And, even though the results of the study are specially indicated for academic purpose and the establishment of management and governmental policies, they are not indicated as a way to identify the best and worst performances.

Another study deserves distinction due to the reach as well as exploration of a very adherent aspect to the context of the Brazilian market, which is the analysis of economies in transition. Fries, Neven & Seabright (2002) analyzed the performance of 515 banks, of 16 economies in the transition phase from 1994 to 1999. The results obtained show that the existence of a suitable regulatory and political structure, in the sphere of acting of the financial institutions, is essential for the good performance of this sector. In the countries in which the process of the reformulation of the financial system was more advanced, there were lower levels of leverage and risk exposures. The opposite happened in countries with less developed financial systems. In those countries, the financial institutions assumed high levels of risk exposure. The study also revealed that the banks, present in countries with more competitive environment and deregulated of market, obtained lower margins, while those present in more advanced environment concerning the regulatory and market matters worked with more comfortable and stable margins.

Also taking into account the influence of the acting environment of the financial institutions, and the operational and legal aspects, Neely & Wheelock (1997) developed an ample study on the performance of American banks, compared according to the State in which they acted on. The researchers considered a wide period, to smoothen the effects of financial crises and specific events of the sector, such as regulatory changes. Data of the performance of the banks, concerning the period from 1949 and 1995 were analyzed taking into account all the time extensions and a sub-period from 1981 and 1995, when there was a great amount of banking bankruptcy in the USA. The results showed a significant disparity in the earnings of the institutions analyzed and that the performance of the banks was closely related to the level of economical activity of the State where they acted on. The banks acting in States with higher levels of *per capita* income had better performance. An important conclusion reached with the study is that this connection of banking performance with the economical conditions of the setting (State) was statistically weak for the results of the ongoing year, but consistent when measured for longer periods.

The economic setting seems to have a very important role in influencing the performance of the financial institutions of an economy. Using a time cut, determined by one of the most important changes in the Brazilian economy, as reference, Hajj (2005) made an extensive study on the transformations which took place in the Brazilian banking system, caused by the application of the Plano Real (Real Plan), in 2004, which is said to be the dividing mark of two inflationary eras, one of hyperinflation and the other one, which happened later, of controlled inflation. The data referred to the period from 1994 to 2002. In the study, the performance and evolution of the banks, which were classified as public banks, private national banks and private foreign banks, were investigated. The focus of the study was on the compared performance of those two last types of banks. Through a multivariate analysis about banking performance indexes (yield, solvency, liquidity, credit operation volume and efficiency), calculated from the financial statements publicized, the conclusion obtained with the study was that there are performance differences between the national and foreign private banks. The results revealed that the Profitability for the management of national banks was associated to the operational return, while for the foreign banks, this index included an association with efficiency. This last factor was considered as independent of the profitability by the banks with national capital.

Paula & Faria (2007) developed a study to analyze the evolution of technical efficiency and of scale of the Brazilian banking sector, including a period of six years from 2000 to 2006. Thirty-eight (38) banking institutions divided in five segments were analyzed. Using the DEA (*Data Envelopment Analysis*) technique on two efficiency approaches, of financial intermediation and of results, the researchers concluded that there was not, during that period, an expressive evolution in the levels of technical efficiency reached by the banks in the sampling. However, considering the small variation the segment of the big retail banks was the one which obtained the greatest evolution in this kind of efficiency. For the evolution of the scale efficiency, the differences obtained for the five segments of banks were even shier. The results also allowed considering that, in Brazil, the volume of credits and the longer terms of those operations are very dependent on more stable macroeconomic conditions and the good levels of GDP generation and employment in the economy. .

Macedo & Barbosa (2009) assessed the efficiency of the Brazilian banking market, elaborating a study which included data of financial statements of 105 banks, divided in four categories: Retail, Wholesale and Business, Financing and *Middle Markets.* The variables included in the study were: Deposits, Service Income, Total of Credits, Equity, Immediate Liquidity, Yield of the Equity, Default on Payments, Operational Cost and Efficiency. The period considered for the performance assessment was of only two years, 2005 and 2006. Also, making use of the DEA (*Data Envelopment Analysis*) technique, the researchers obtained results which revealed that the best institutions, in terms of efficiency, were the ones which presented consistency in the performance measured during the whole set of indexes observed. Moreover, the results revealed that it is possible to find a big-size institution among the less efficient ones, but not the opposite, that is, it is very unlikely that a small-size institution be among the most efficient ones. Scale showed itself to be an important factor for the obtainment of levels relatively higher of efficiency.

Two studies done with the data of the Brazilian baking system explored the performance of the banks from the perspective of the value for the shareholders: Tabak, Krause & Portella (2005) and Farias et al (2008). The study of Tabak, Krause & Portella, like Paula & Faria´s (2007), also sought to evaluate the evolution of the technical efficiency and scale of the Brazilian banking sector, with the use of the DEA (*Data Envelopment Analysis*) technique. However, in this study, the variable of exit of the function analyzed was the intrinsic value of the organization, having the capital (permanent asset), the work (number of employees) and the funding of the bank (resources for loans) as entrance variables. The premises adopted considered that the administrative and operational decisions taken by the managers of the institutions had the primordial objective of maximizing the value of those organizations. The study comprised a large analysis of the data, relating to the period from 1995 to 2003, of all the Brazilian commercial banks. The results showed that the general average of the technical efficiencies investigated was of 0.45 for a distribution with great variability. The result was similar to the one obtained by Nakane (1999), who obtained an average of 0.39, but in a distribution with less variability. This was one more study which led to the conclusion that the macroeconomic factors are very influent in the performance of banks.

The study of Farias et al (2008), on the other hand, analyzed the relationship between efficiency and yield of Brazilian banks of a sample composed by the 50 largest banks of the country, with data from 2002 to 2005. The efficiency (standard, inverted, composed and normalized) was analyzed also based on the DEA (Data Envelopment Analysis) technique. The yield was considered the generation of EVA (Economic Value Added). The relation between efficiency and yield was measured by a simple correlation function. In fact, the study sought to investigate whether the most efficient institutions are the ones which added more value to the capital of the shareholders, what, at first, can seem obvious. However, the results demonstrated that there is no adherence between both variables, efficiency and value generation.

Périco, Rebelatto & Santana (2008) also explored data of the largest Brazilian banks in search of answers to a similar questioning to the study of Farias et al (2008): are the largest banks more efficient? Working with data of the twelve largest Brazilian banks, based on the directory published by the *Banco Central* (Central Bank) concerning the year of 2005, and using the DEA technique, which is very used in studies of organizational performance, the researchers reached the conclusion that there is not a consistent relationship between the size of the banks and their operational efficiency.

Others studies on the theme can be mentioned, such as Stefanello, Freitas & Staduto´s (2002), who evaluated the performance of cooperative banks in Brazil; Grigorian & Manole´s (2002), who investigated the determining factors of the performance of commercial banks on a sample composed by banks of 17 countries with economies in economical transition phase; besides several other studies developed about the Brazilian banking system, such as the ones of Régis (2001), Ceretta & Niedehauer (2001), Silva & Jorge Neto (2002), Campos (2002), Guimarães (2002), Maçada & Becker (2003), Nakane & Weintraub (2003), Faria, Paula & Marinho (2007).

In summary, even though there is a great number of studies on the efficiency matter, or of the performance of banks, the theme still lacks more researches, both in Brazil and the world. Works with involve an extensive review of the studies published, such as Berger & Humphrey´s (1997), reveal that there is no consensus about the several questions investigated in this field of knowledge. And there are still questions which have been explored just a little, such as the performance compared between the institutions of different sizes. Emerging countries, as Brazil, naturally has an economic setting which is still effervescent, which undergoes important changes, with reflexes translated into disturbances that require years to settle and long phases of adaptation of the organizations and of the management culture. Those two last points, the lack of studies on the performance compared by size and the dynamics of an emerging market, considered all together, create the motivation of this study.

3. METHODOLOGY

In this part, the methodology used for the conduction of the research is presented, clarifying the classification of the research type, the data source, the steps described and the statistical tools used to reach the objectives.

This study involves a conclusive, descriptive and longitudinal research. It is conclusive because it respects formal and structural procedures and it is directed for the solution of problems. It is descriptive since it seeks to describe something, such as the characteristics of a phenomenon or a market function. It is longitudinal because it investigates the evolution of a phenomenon along the time. The classification was done based on the work of Cervo & Bervian (2002).

The variables of a research must present two fundamental attributes: to be aspects which allow to observe a phenomenon and to have to present variations concerning the same phenomenon (RICHARDSON, 1999, p. 117).

The phenomenon to be investigated in this research is the financial-economical efficiency of Brazilian banks. In order to do so, the data used in this research were all taken from the quarterly financial statements of the Banks in the sample, which are Balance Sheet, Result Statement of the Period and Cash flow Statements, closed on March 31st, July 31st, September 30th and December 31st within the period from December 31st, 1999 to December 31st, 2009.

The data were taken from the Economática® software, available at Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, of the Universidade de São Paulo (FEARP-USP), being, therefore, secondary data, and having been collected in May and June, 2010.

Based on the information taken from the financial statements of the companies of the sample, the indexes of the Brazilian banks were calculated and grouped in economical-financial performance indexes (financial margin of the assets, captation average cost, average return of credit operations, assets profitability and default interests); Sales performance (evolution of the financial revenues, evolution of the net profit, financial margin of the revenues, net margin and efficiency index); generation of cash and financial balance (voluntary fit, immediate liquidity and loan/deposit indexes, net working capital and loan participation); capital structure and leverage (financial independence, leverage, capital/depositors relation and immobilization of the equity capital); yield (average return on the net assets; net margin, net working capital, total spread, profit reinvestment rate, index of profit deduction and expansion limit), value creation (opportunity cost of equity capital, shareholder´s risk premium, economical ROE).

Concerning the classification according to the scaling of elements, the variables used in this study are ratio variables since they gather all the properties of the natural numbers. According to the traits of continuity of the variables, the variables are continuous, because they can take on an orderly set of values within determined limits and of ratio, since it is possible to know the ratio between the measures and there is a real zero (RICHARDSON, 1999, p. 133).

The sample of this study is made up by all the Brazilian financial institutions in activity in at least of year in the period from 2000 to 2009. To obtain the ranking of the financial institutions in big, medium and small size, according to the criteria used by the Banco Central (Central Bank), first of all, the total value of the asset of the 39 companies of the sample was obtained according to the balance sheet ended on December 31st, 2009.

According to this information, the banks were ranked in decreasing order of asset value. Next, the total of the assets of all the banks of the sample was added up and the percentage participation of each bank in the total of the assets of all the financial institutions was checked. The banks which reached a participation percentage in the sum of the assets of all the banks higher than 15% are considered big-size institutions which, in this study, were Banco do Brasil, Itaú-Unibanco and Bradesco. After the big-size banks were identified, they were taken out of the sample in order to determine the medium and small size banks.

The next step was to rank the financial institutions in decreasing order of individual participation of each one of them in the sum of the assets of all the banks remaining in the sample. Once it was done, the accumulated participations of each financial institution in the total of the sample were calculated and cuts were done at the moment the accumulated participation reached 70%, 95% and 100% of the total of the assets of the sample. The banks which were present in the range up to 70% were also considered big-size institutions, just like the ones determined before. They were: Santander and Unibanco.

The financial institutions in the range from 70% to 95% of accumulated participation in the sum of the assets of all the financial institutions of the sample (extracted the big banks) are considered as medium-size banks according to data gathered in the research. Finally, the financial institutions which were left are considered small, such ranking consists of banks whose accumulated participation in the sum of the assets of all the financial institutions of the sample were between 95% and 100%.

Analysis was done through the technique of parametric statistical test of mean difference. This test was chosen due to the fact that the samples are independent and it was possible to calculate the variance of the populational indexes. The hypotheses tested were:

$H_{0.1}$ = Big Banks Index = Medium-size Banks Index
$H_{0.2}$ = Big Banks Index = Small Banks Index
$H_{0.3}$ =Medium-size Banks Index = Small Banks Index

The alternative hypothesis which would involve the not acceptance of the hypothesis above, represented the significant difference between the indexes of the banks separated by their respective sizes.

The statistics of the test was: $t = \dfrac{(\bar{x}_1 - \bar{x}_2) - (y_1 - y_2)}{\sqrt{\dfrac{S_p^2}{n_1} + \dfrac{S_p^2}{n_2}}}$, in which the values of $\bar{x}_1$ and $\bar{x}_2$ represent the indexes calculated for each bank, and $S_p^2 = \dfrac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{(n_1 - 1) + (n_2 - 1)}$ and the degree of liberty is gl = $n_1 + n_2 - 2$ which is calculated when there is not enough evidence to reject the equality of the variances of the banks indexes.

4. RESULTS

The results are described below and the tests were applied considering the reliability level of 95%.

In the group Financial Economical Performance, in the comparison between the banks, significant statistical difference between such indexes was not found, that is, the medium and big-size banks presented the same operational behavior. An opposite result was obtained when the big banks were confronted with the small and medium-size banks and the small ones just for the asset financial margin, that is, the relation between gross result of financial intermediation and the total of the assets of medium and big-size banks did not show to be different in the period. The same way, the financial institutions presented the same mean credit operation return, that is, the same relation between the financial revenues coming from credit operations and the mean value applied in credits.

It also reveals that the financial cost of capital invested in the institutions by savers is not different. The same thing happens in the relation between the revenues of financial intermediation and the total assets of the banks, appearing to be completely equal; similar behavior for the interests bearing liabilities, that is, the relation between the expenses of financial intermediation and the total liability kept by the bank. Cost of the bank financing sources.

Concerning the sales performance, the tests did not show any difference among the three bank sizes. Even though the profit margins are numerically different, in statistical terms, those differences do not seem to be significant.

The generation of cash and financial balance was the one that presented to be the most discrepant one. The voluntary fit did not show difference between the medium and small size banks, that is, the medium and small size banks presented the same relation between the availabilities and the demand deposits. Such a fact reveals that both of them have basically the same immediate financial ability to cover draws against demand deposits. Such a fact did not happen between the big and medium size banks showing different behaviors concerning the voluntary fit. The same thing happened for immediate liquidity. The indexes of loans, deposits and net working capital were statistically different for the three bank sizes.

The index of loan participation did not present statistical significance between the big and small banks. However, it was statistically different between the big and medium size banks and between the medium and small size ones, revealing that the big banks really have greater loan participation in their portfolios.

In the indexes of capital structure and leverage of the end of the year and average, the Leverage and the relation of depositing capital, were all statistically different among the three sizes of banks.

The yield, profitability, spread and value creation indexes did not present statistically significant differences.

5. CONCLUSIONS AND FINAL CONSIDERATIONS

The objective of this work was to verify whether the economical-financial efficiency of the big Brazilian banks was higher than the efficiency of the small and medium-size banks during the period from

December, 1999 to December, 2009. The deep management paradigm changes which took place in the financial organizations in Brazil in the last decade – economy under controlled inflation, interest rates compatible with more stable economies, capital opening, the entry of foreign groups, international management, among other aspects – provide the motivation for this study. Therefore, the question which directed this research was: Are the differences of scale and societarian composition related to a positively differentiated performance?

To check whether there was difference between the performance of Brazilian banks according to their sizes, the parametric test of mean differences, with a reliability level of 95% was applied, testing three null hypothesis: (i) the financial performance of the big banks was equal to the performance of medium-size banks; (ii) the performance indexes of the big banks was equal to the performance of the small banks and (iii) the performance of the medium and small size banks were equal.

The major results show that there was no significant difference between the economical-financial performance of the big and medium-size banks. It was also verified that, independently of the size, the financial institutions presented the same mean return for the credit operations, the same financial cost of the capital invested, the same relation between financial intermediation expense and liability and the same sales performance.

The major differences concerning the performance of the banks occurred in relation to the cash generation, immediate liquidity, net working capital, capital structure and financial leverage.

The results of this research did not confirm the conclusions obtained by Macedo & Barbosa (2009) since it shows it is possible to find a smaller size institution with yield, profitability and value creation indexes similar to the performance of big banks. Besides, the conclusions of this study also differ from the conclusions obtained by Hajj (2005), Périco, Rebelatto & Santana (2008) and Macedo & Barbosa (2009).

For future works, which aim to analyze this exactly problematic, it is suggested to divide the time series in smaller time periods in order to verify whether the analyses in side cuts will indicate divergences of economical-financial performance between the financial institutions.

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