

BANKING INDUSTRY IN BRAZIL: A STRATEGIC AND COMPETITIVE ANALYSIS OF PROFITABILITY AND OPERATIONAL EFFICIENCY

INDÚSTRIA BANCÁRIA NO BRASIL: UMA ANÁLISE ESTRATÉGICA E COMPETITIVA DA RENTABILIDADE E EFICIÊNCIA OPERACIONAL

Wilson de Jesus Beserra de Almeida*
wilson.almeida@unialfa.com.br

Felix Andrade*
wilson.almeida@unialfa.com.br

*Centro Universitário Alves Faria, Goiânia, Brasil

Resumo

Este artigo analisada rentabilidade dos principais bancos brasileiros, evidenciando a competitividade dos bancos públicos frente aos bancos privados, tendo como objetivo evidenciar a diferença de rentabilidade e suas causas. Foi utilizada pesquisa quantitativa, com utilização dedados secundários obtidos dos demonstrativos contábeis das empresas analisadas, por meio de indicadores. A análise envolve cinco instituições financeiras, no período de 2010 a 2019, sendo duas públicas e três privadas, tendo em vista o corte realizado pela pesquisa, que estabelece lucro líquido superior a R\$ 10 bilhões de reais para o ano 2019. Fica evidenciado que os bancos privados atualmente apresentam melhores rentabilidades e melhor eficiência operacional que os bancos públicos, apesar do melhor desempenho dos bancos públicos no início do período e forte reaçãoos últimos anos da análise. O estudo apresenta contribuições técnicas e gerenciais para interessados no setor bancário, seja usuários internos quanto externos.

Palavras-Chave: Rentabilidade; Eficiência Operacional; Bancos públicos e privados; Competitividade

ABSTRACT

This article analyzes and compares the profitability of the main Brazilian banks, highlighting the competitiveness of public banks against private banks, aiming to highlight the difference in profitability and its causes. Quantitative research was used, using secondary data obtained from the financial statements of the analyzed companies, through indicators. The analysis involves five financial institutions, in the period from 2010 to 2019, two public and three private, in view of the cut made by the research, which establishes a net profit of more than R\$ 10 billion reais for the year 2019. It is evident that Private banks currently have better profitability and better operational efficiency than public banks, despite the better performance of public banks at the beginning of the period and strong reaction in the last years of the analysis. The study presents technical and managerial contributions to those interested in the banking sector, whether internal or external users.

Keywords: Profitability; Operational efficiency; Public and private banks; Competitiveness.

Introduction

Public banks in Brazil bring in their mission topics of social responsibility, which are greater than private banks. This feature can be a weakness for public banks compared to private banks that do not have them. However, in some situations, public banks still demonstrate a performance, in terms of profitability, better than their private competitors. this study is intended to demonstrate how the competitiveness of these two groups of enterprises works and what are the factors that show these strategic and competitive differences..

Over the last few decades, it is noted that the segment has undergone major transformations, of a marketing, technological and financial nature, with the last years being marked by the merger of large companies in the sector and also by the acquisition of small and medium-sized financial institutions by large banks. , as pointed out by studies by Matias (1999) and Dantas et al (2011).

This movement caused relative concentration in the sector. According to a survey by Dieese (2017), the five largest banks (Itaú, Bradesco, Banco do Brasil, Santander and Caixa) hold 87% of the country's credit operations, although there are more than one hundred and fifty banks authorized to operate, and more nine hundred credit unions, according to data from the Central Bank.

Among the five largest Brazilian banks, three are private, one is a mixed economy, and one is public. Banco do Brasil, despite being a mixed capital company, that is, with public and private participation, in this work will be considered as a public bank, given that it is controlled by the federal government.

The study of profitability is a very important field of financial analysis, as it brings shareholder returns, being the objective of any company that intends to survive in the market (Gitman, 2010; Hoji, 2010; Bitencourt et al, 2017). In this sense, the main objective of this study is to highlight the difference in profitability between public and private banks, as well as to demonstrate the factors that interfere in the profitability of these institutions.

The study has practical relevance, since banks are very important for the national and international economy, as they are the dynamic link between the two main actors of financial resources: their savers and their borrowers. Such institutions enable the circulation of currency, enable means of payments and receipts, playing an important role in the lives of people, companies and in the domestic or

global financial system. In the business field banks make it possible to carry out investments in infrastructure, acquisition of capital goods, working capital and many other business solutions that are essential for the normal functioning of these organizations.

Given these factors, a study of the profitability of banks is justified, due to their importance to the national economy. With regard to practical relevance, the study of the comparative profitability of public and private banks concerns the fact of contributing to the improvement of the internal dynamics of collective and particular rationalities that move the main stakeholders of these institutions. The case of Banco do Brasil is, in this particular, emblematic, given that it has many private shareholders - who, despite the institution's governmental control and its rationality guided by the collective interest, - represent the rationality guided by the private interest that, also legitimately, they seek to maximize wealth and aim for greater returns.

For Banco do Brasil, lower returns can lead to a reduction in demand for its shares, generating devaluation and consequent reduction in the value of the brand. This devaluation would not be consistent with an institution that is over 200 years old and that has capillarity to compete equally with other institutions operating in the Brazilian banking market.

Another important factor for the study is the great changes that have been taking place in the sector in recent years. This is the entry of new competitors, with a fully digital bias, causing the need for important changes in large banks, especially public banks. This last factor adds an extra importance to the study, namely, its relevance.

The public banks analyzed have different performances within the public policy scenario. On the one hand, for example, Banco do Brasil is mainly active in the development of Brazilian agribusiness and has a strong market presence in all segments. On the other hand, Caixa Econômica has a strong presence in social programs, in addition to traditional banking services.

In liberal policies two conceptions are quite clear, high competitiveness and reduction in the size of the State. In this sense, the actions of public companies, as well as their importance and efficiency, are always discussed. Many debates have emerged recently about privatization of public banks and the study also contributes to a better concept on the subject.

The problem that the study intends to answer is whether public banks have the same competitiveness condition as private banks, demonstrated by the analysis of profitability, during the period of ten years, for example. Therefore, the main differences in the indicators of the analyzed companies will be demonstrated.

Profitability in the banking sector

Every company, whether public or private, when incorporated seeks to achieve results so that it can maintain itself in an increasingly competitive market. It is noted that the five large Brazilian banks have moved to raise the level of profitability, including public institutions.

Against the growing profitability objectives pursued by financial institutions, Gitman (2010) addresses that the objective of the company, but not only of the company, its managers and employees are to maximize the wealth of the owners and that such wealth is measured by price of the share and that it is also important to check the earnings per share. In this sense, in the disclosure of balance sheets, banks have been emphasizing the profit obtained, in view of the billionaire figures, as well as the indicator of return on equity (ROE). According to Hoji (2010, p 290) “The profitability indexes measure how much the invested capital is yielding. These are very important indicators, as they show business success (or failure).

Gitman (2010) also emphasizes the importance of comparing different companies at the same point, an analysis that is carried out in this study because it compares five different institutions, but in the same field of activity. On the other hand, the author also emphasizes the importance of evaluation over time, which is also the focus of this study, as the evolution of companies over ten years was analyzed. The author also brings very assertive positions on the study of profitability and states that owners, creditors, and administrators pay a lot of attention to the expansion of profits due to its great importance for the market.

In this sense, demonstrating the importance of profitability in the banking sector Bittencourt et al (2017, p. 2), comparing the profitability of banks with credit unions brings a very assertive statement about the profitability of banks: “In the case of banks, it is usual to assume that shareholders seek to maximize profits.

As defined by Gitman (2010), there are several measures of profitability, and the starting point of this work will focus on the study of the return on equity or return on equity (ROE), which, according to the author's own definitions, is calculated by dividing the net income by equity. The return on equity was chosen as a study base to demonstrate or refute the first hypothesis of the work. If there is really a significant difference in profitability between public and private banks, being chosen because it is the indicator usually used by the banks themselves for disclosure to the market. The ROE indicator will be complemented by the return on total assets (ROA) indicator.

Complementing the importance of the study of profitability, Matias apud Padoveze and Benedicto (2014) makes an important statement about the study of profitability: “the analysis of profitability is the most important part of the financial analysis, as it aims to measure the return on invested capital and the factors that led to this profitability”.

Having verified the importance of studying the profitability of companies in the field of administration, supported by the authors above, the results of the profitability studies carried out in the banking sector in recent years are shown below. It is worth mentioning that several methodologies are used to analyze and discuss the topic.

Matias has been studying the banking system for some years, and presents three important studies on the banking system, the first, his doctoral thesis from 1999, and two others from 2014. In two of these studies, the author presents indexes to be used in the study of the bank profitability, also used in this study.

In his first study (1999), when analyzing the Failure of Large Brazilian Private Retail Banks, the aforementioned author already demonstrated a tendency towards concentration in the banking system that is materialized today. At the time, the author, according to the study's cut, showed seventeen large banks existing in 1994 and ten existing in 1998. This trend is verified by noting that currently only five institutions hold about 87% of the entire credit market.

Studies by Dantas (2011) also show the trend of concentration in the Brazilian market. This evidence of concentration in the Brazilian banking market reinforces the cut made in the research, with the choice of only five institutions due to their high representation in the national scenario.

Continuing his studies on the Brazilian banking market and specifically on profitability, Matias (2014), when comparing the profitability between Brazilian and American banks, finds that the profitability of Brazilian banks is higher than that of American banks, despite the margins net and gross operating expenses are higher in American banks.

With a different focus, but with the same objective, Zilber and Pajares (2009) also carried out a comparative study between American and Brazilian banks, with similar conclusions to the studies carried out by Matias (2014), that is, Brazilian banks are more profitable than American ones. In the study, as a comparative measure, it also uses financial indicators of ROE, ROA profitability and operational efficiency index. According to the author, ROE and ROA indices are widely accepted to analyze bank profitability, being found in several academic studies. The study also points out the high

interest rates as factors of the high profitability of Brazilian banks, but also points out the lack of competitiveness of the sector (high concentration).

Bittencourt et al (2017), in turn, reveal that technological innovations have allowed a large part of the return of financial institutions to be not linked to credit, despite the fact that banks perform well in their main business, credit. The study did not make a comparison between public and private banks, only between banks and cooperatives. In the study, the author points out that both banks and cooperatives use ROE and ROA to assess profitability, despite their different functions.

In another comparative study of the banking sector, Matias (2014) juxtaposes the efficiency of banks with credit unions, which operate in the banking segment, but which, unlike traditional banks, do not aim at profits. This study concludes that private banks are more efficient, followed by public banks and then credit unions. This study points the way to the second hypothesis of the work, that private banks are more efficient than public banks.

Carneiro et al (2016), on the other hand, addresses that the efficiency of the banking sector can be evaluated by three approaches: intermediation, production and profitability. The author concludes that “Efficient banks are those that manage to minimize their costs and maximize their revenues”. The aforementioned author points out the importance of evaluating the performance of organizations through efficiency.

The profitability of banks can be affected by numerous variables, as pointed out by the study carried out by Primo (2013). Among the various hypotheses raised, one is relevant for this study, as it is linked to operational efficiency. The conclusion of the study points out that institutions that present better profitability are those that have the best relationship between service revenue and operating expenses.

In this sense, it is important to verify if there is a difference in this relationship between public and private institutions. Mendonça (2018), on the same path pointed out by Primo (2013), also demonstrates that bank profitability can be affected by internal factors linked to its management and factors linked to the external environment, mainly linked to the macroeconomic environment. Regarding the internal environment, technological issues are highlighted due to the great power of customer satisfaction and also its great potential for cost reduction. The study concludes that greater profitability is directed at a higher level of funding, a greater alternative source of income, and greater cost control.

The size of Brazilian banks

This study has a descriptive character and consists of analyzing the profitability of Brazilian banks, comparing public and private banks, through recognized and tested financial indicators.

For this purpose, financial institutions were selected that presented profitability above 10 billion reais in 2019, which coincidentally are the banks that concentrate the largest volumes of credit operations. They are (Banco do Brasil, Caixa Econômica, Itaú Unibanco, Bradesco and Santander). The value of 10 billion was chosen, with a view to standardizing the analysis in companies that surpassed double digits of profitability in 2019. In the top five positions in asset values, revenue generation and loan portfolio.

The time span of the study will be ten years, covering the period 2010-2019, seeking to highlight the trend towards profitability of these companies. The analysis of the last ten years comprises an evaluation of the entire period after the global economic crisis that occurred in 2008/2009.

In order to calculate the indicators, secondary data extracted from the official accounting statements published by the companies, contained in their institutional websites, in the investor relations tab, were collected.

The study starts from two hypotheses. The first hypothesis is that private banks are more profitable than public banks. To confirm or refute the first hypothesis, the ROE indicator will be used, as it is commonly disclosed by financial institutions, and is also supported by several academic studies. In order to complement the ROE indicator, the ROA indicator will also be demonstrated.

The second hypothesis is that private banks have greater operational efficiency than public banks. To check the second hypothesis, the indicators for banking follow-up defined by Matias (2014), shown below, will be used.

Table 1 - Financial Profitability Indicators for Banks

Indicador	Formula
Income Generation	$(RIF/Total\ Application) * 100$
Gross Margin	$(RBIF / (RIF + Service\ Revenue)) * 100$
OperatingMargin	$(Operating\ Income / (RIF + Service\ Revenue)) * 100$

Net Margin	$(\text{Net Profit} / (\text{RIF} + \text{Service Revenue})) * 100$
Return on Equity	$\text{Net Profit} / \text{Equity} * 100$
Return on Assets	$(\text{Net Profit} / \text{Total Assets}) * 100$
Profitability of Banking Activity	$((\text{Operating Result} - \text{RPCC} - \text{Other Income}) / \text{Shareholders' Equity}) * 100$

Source: Matias (2014)

RBIF = Gross Income from Financial Intermediation; RIF = Income from Financial Intermediation; RPCC = Result of Interest in Subsidiaries and Affiliates.

Complementing the indicators pointed out by Matias (2014), the operational efficiency indicator indicated by Primo (2013) was also used, which can be translated into the following formula: $EO = \text{Service Revenue} / \text{Operating Expenses}$. The higher the indicator, the better, as it demonstrates the institution's potential to generate revenue from services (account fees, fees for contracting operations, brokerages, cards), in relation to its operating expenses.

Comparison of the companies analyzed

To elucidate the importance of these five financial institutions in the national scenario, a synthetic table was prepared with some information, which demonstrate the robustness of these institutions. The companies were arranged in the table in alphabetical order, so that there is no interpretation about the order of placement of the companies in the table, and the other tables in the study follow the same pattern.

Table 1. Comparison of the financial institutions studied.

	Brasil	Bradesco	Caixa	Itaú	Santander
Nome	Banco do Brasil S.A.	Banco Bradesco S.A.	Caixa Econômica Federal	Itaú Unibanco Holding S.A.	Banco Santander Brasil S.A.
Type of company	Publicly traded company	Publicly traded company	Publiccompany	Publicly traded company	Publicly traded company
Beginning of operations in	1808	1943	1861	1945	1982

Brazil					
Stocks on the Stock Exchange	yes	yes	no	yes	yes
Segmento na Bolsa	New market	level 1	not act on stock exchange	level 1	Withoutsegment
Controlling Group	FederalGovernment	Cia Cidade de Deus	Federal Government	Iupar-Itaúholdings	SantanderGroup
Ativos Totais	1,47 trillions	1,35trillions	1,29 trillions	1,7trillions	805millions
Net worth	108,5 millions	133,7 millions	80,6 millions	144,1 millions	69,7 millions
Number of agencies	4,3 millions	4,4 millions	4,1 millions	4,5 millions	2,6 millions
employees	93,1 thousand	97,3 thousand	94,4 thousand	94,9 thousand	47,8 thousand

Source: Own preparation based on data available in the financial statements of the companies analyzed and information from the B3 stock exchange.

It is important to consider that the five companies analyzed together have approximately 6.6 trillion reais in assets, which is of paramount importance for the Brazilian financial market, as they have a great capacity to circulate resources, contributing substantially to the development of the national economy.

Another important factor is the great capacity to generate jobs caused by these corporations. Together, they employ more than 425,000 people in almost 20,000 branches throughout the country, contributing to the development of cities, states, regions and the country as a whole, according to data from the financial statements of these institutions, detailed in table 1.

All companies studied have been founded or operated in Brazil for more than 30 years, including the oldest of them has more than 200 years of existence, created during the time of the empire, demonstrating that they are consolidated companies in the market, and that they have survived several economic plans. , crises and mismanagement.

Of the five companies selected, four have national capital origin and only one has foreign control. Contrary to what common sense imagines, among the companies selected for the study, the one with the best corporate governance standard on the Stock Exchange is a public company, Banco do

Brasil, according to research carried out on the B3 website. On the contrary, the only one selected that does not have assets traded on the stock exchange is also a public company, Caixa Econômica.

It is noted that the companies analyzed show some similarity in terms of size, they have more than a trillion assets, more than 90 thousand employees, more than 4 thousand branches. The exception is Banco Santander, which has a smaller asset structure, as well as the number of employees and branches.

Comparative study of profitability

The main profitability indices for financial institutions will be shown below, following the pattern established by Matias (2014), and firstly, the ROE and ROA indicators will be demonstrated, which will demonstrate the return on equity and the return on assets.

The indexes found will indicate whether there really is a difference in profitability between the analyzed institutions, and the other indicators will demonstrate the path of this difference in profitability.

ROE Comparison

Financial institutions, as mentioned before, usually place a lot of emphasis on the ROE indicator, when presenting their accounting, in view of its wide acceptance by investors. During the compilation of data, a difference was noticed in the presentation of this indicator by financial institutions, in their presentations to the market. In this sense, with a view to standardizing the indices, giving greater support to the research, the indicator in question and all the other indices were calculated based on the consolidated financial statements and in the form presented in the methodology field of this work.

The nominal values for ROE are shown in table 2 and its graphic evolution shown in chart 1.

Table 2. Profitability Comparison in the period from 2010 to 2019, expressed as a percentage

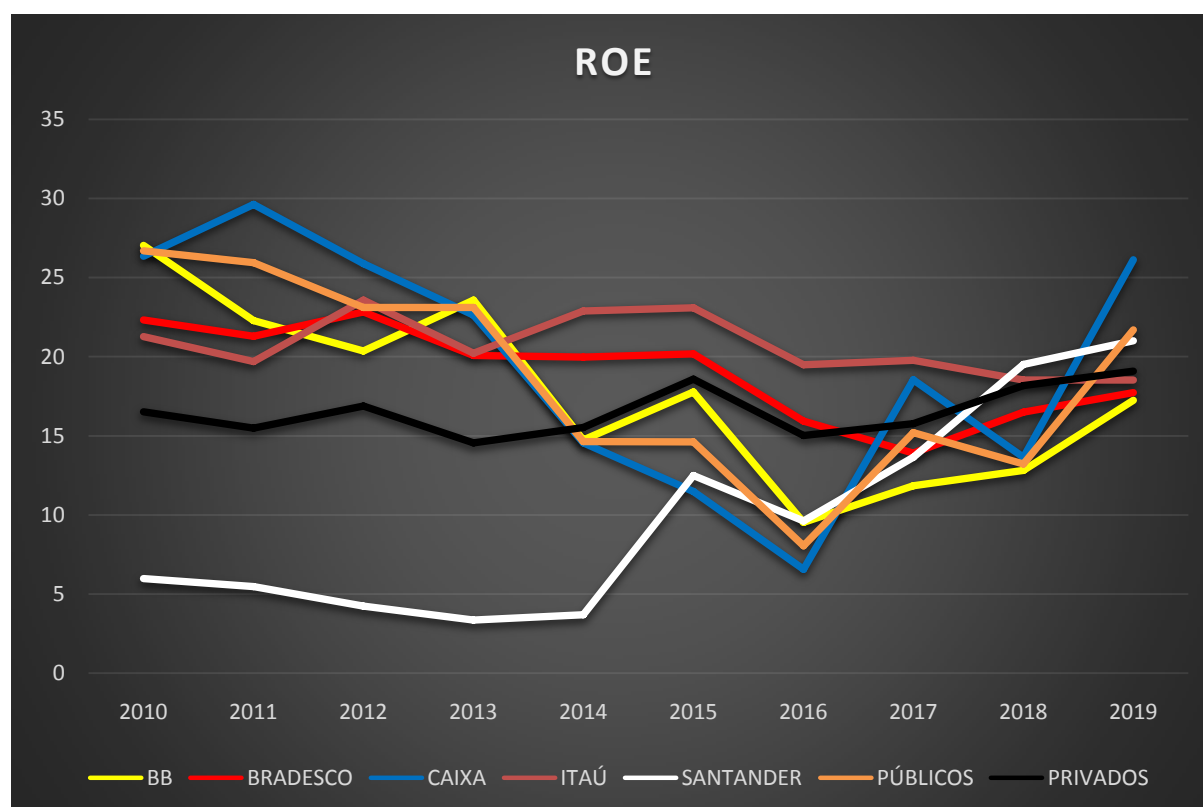
ROE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	27,04	22,28	20,36	23,57	14,72	17,76	9,52	11,84	12,80	17,23
BRADESCO	22,32	21,29	22,82	20,07	19,97	20,17	15,93	13,90	16,48	17,72
CAIXA	26,34	29,62	25,87	22,63	14,55	11,47	6,55	18,54	13,63	26,13
ITAÚ	21,26	19,69	23,58	20,22	22,89	23,09	19,49	19,76	18,52	18,53
SANTANDER	5,97	5,45	4,22	3,34	3,67	12,48	9,61	13,64	19,51	21,01

Public (AVG)	26,69	25,95	23,11	23,10	14,63	14,61	8,03	15,19	13,21	21,68
Private (AVG)	16,52	15,48	16,87	14,54	15,51	18,58	15,01	15,77	18,17	19,09

Source: Own preparation based on data available in the financial statements of the companies analyzed

There is a great disparity in profitability over the years surveyed, with an inversion in the yield curve when comparing public and private banks. At the beginning of the analysis period, public banks had higher average returns than private banks. In 2014, private banks began to show higher profitability than public banks. This inversion can be better observed in graph 1.

Graph 1. Evolution of ROE in the period from 2010 to 2019, expressed as a percentagem



Source: Own preparation based on data available in the financial statements of the companies analyzed

The graphical analysis allows for a glimpse of some important situations. At the beginning of the analysis period, which comprises the year 2010, there was a certain disparity between the institutions studied, with an advantage for public banks, both when analyzed individually or on average.

At the end of the period, it is noted that returns began to show greater uniformity, as can be seen in 2019. During the period, the loss of profitability by public banks is clear, as well as the escalation of profitability of private banks, this inversion being very well characterized in the year 2014.

The year 2016 was marked by a sharp drop in profitability in all analyzed institutions, with the reduction being more characteristic in public institutions. This year was marked by a strong economic downturn, and by the impeachment of the then president of the republic. After the sharp drop in profitability by public institutions in 2016, these companies have shown a return to profitability, with a strong acceleration in 2019, mainly by Caixa Econômica.

It is also noted that throughout the analyzed period, one company showed greater stability regarding profitability, Banco Itaú, which despite showing fluctuations in profitability, this oscillation in no year of analysis showed sudden downward or upward movements.

By analyzing the ROE indicator, it is possible to notice that in recent years private banks have shown better profitability than public banks, as well as greater stability, but this difference in profitability does not occur throughout the analysis period, and that public banks have shown a recovery in profitability at the end of the analysis period.

If we consider that Banco Santander pulled the average profitability of private banks down during the period 2010-2015, it becomes clear that private banks are more profitable than public banks, reaffirming the first hypothesis of the research, that private banks have higher returns than public banks.

ROA Comparison

Another profitability indicator that is widely accepted in the academic world is ROA, return on total assets, as it measures the company's ability to use its available assets to generate revenue and consequently generate profit, that is, this indicator can demonstrate the efficiency of a company, as pointed out by Matias (2014).

In this sense, we started to verify this indicator in the companies studied, as shown in table 3 and in graph 2 below:

Tabela 3- Comparativo ROA no período de 2010 a 2019, expresso em percentual

ROA	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	1,54	1,35	1,15	1,28	0,87	1,07	0,57	0,79	0,92	1,26
BRADESCO	1,75	1,58	1,75	1,58	1,65	1,77	1,37	1,23	1,53	1,71
CAIXA	1,01	1,14	0,93	0,86	0,74	0,63	0,34	0,99	0,82	1,65
ITAÚ	1,24	1,09	1,53	1,48	1,75	1,82	1,55	1,64	1,58	1,57
SANTANDER	1,01	0,84	0,62	0,45	0,40	1,10	0,80	1,15	1,63	1,71
Public (AVG)	1,28	1,25	1,04	1,07	0,81	0,85	0,46	0,89	0,87	1,46
Private (AVG)	1,33	1,17	1,30	1,17	1,27	1,56	1,24	1,34	1,58	1,66

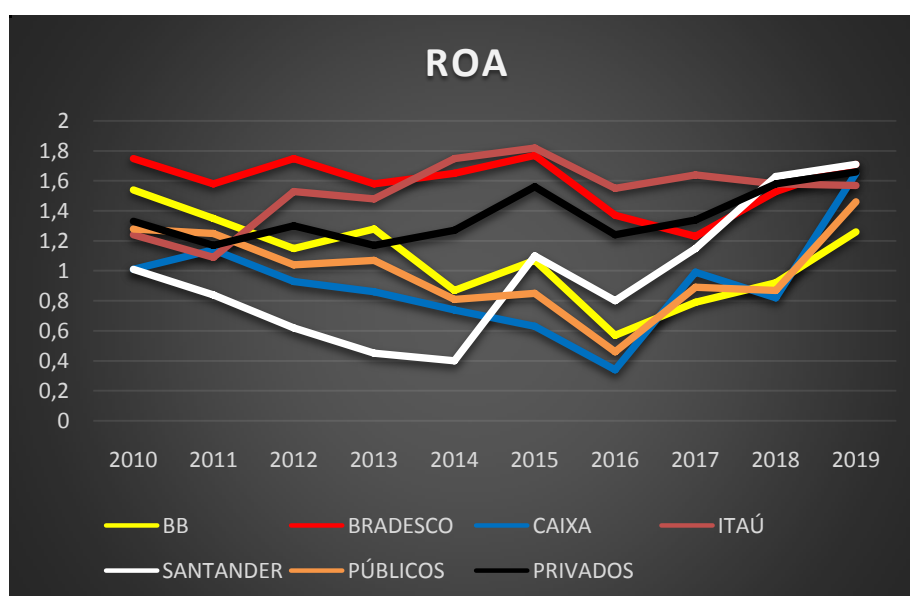
Source: Own preparation based on data available in the financial statements of the companies analyzed

ROA Comparison

ROA effectively confirms the first hypothesis raised in the research, as private banks, on average, have a higher ROA in all analyzed periods, with the exception of 2011, where private banks had a slightly lower average ROA than public ones.

Differently from what was pointed out by the ROE, there is not a great advantage of profitability on the part of public banks at the beginning of the analysis period, with the positive difference to private banks observed in all periods, as can be seen in the following chart.

Graph 2. Evolution of ROA in the period from 2010 to 2019, expressed as a percentage



Source: Own preparation based on data available in the financial statements of the companies analyzed

Again, the graph shows a certain heterogeneity for the institutions studied during the period of analysis, making it evident the advantage of private banks in relation to public banks.

It is possible to notice a trend of improvement in profitability by private banks, when analyzing the average, and on the other hand, a strong oscillation on the part of public banks, with a strong downward trend in profitability until 2016 and strong recovery from 2017.

As shown by the ROE indicator, the ROA also showed a strong drop in 2016 in all analyzed institutions, being better characterized in public banks. It should be noted that in 2016 the country was experiencing strong economic instability, political problems and corruption scandals. Such problems caused, as previously mentioned, the removal of the president of the republic. It is salutary to inform that one of the irregularities attributed to the president was the use of irregular credits by public banks, using supplementary credit by the banks to pay for social programs, which may have caused a significant change in the analyzed indexes.

Also in relation to ROA, it is worth mentioning Banco Santander, which as of 2014 has shown a growth in profitability much higher than all the banks analyzed. Among the institutions analyzed, Santander has the leanest operational structure, with the fewest number of branches and employees, as can be seen in table 1.

That said, and confirmed the first research hypothesis, the study moves on to the analysis of other profitability indicators, as demonstrated in the research methodology field.

Income Generation

Matias (2014) defines that this indicator demonstrates the financial performance of the banks' assets, being the quotient between the income from financial intermediation and the total investment. This indicator demonstrates the bank's efficiency in using available assets to generate intermediation income.

In this sense, it is worth mentioning that all the analyzed institutions operate in all credit markets (Individuals, Companies, AGRO and Government), and some have a greater presence in some segment than in others. That said, let's go to the numbers presented in table 4.

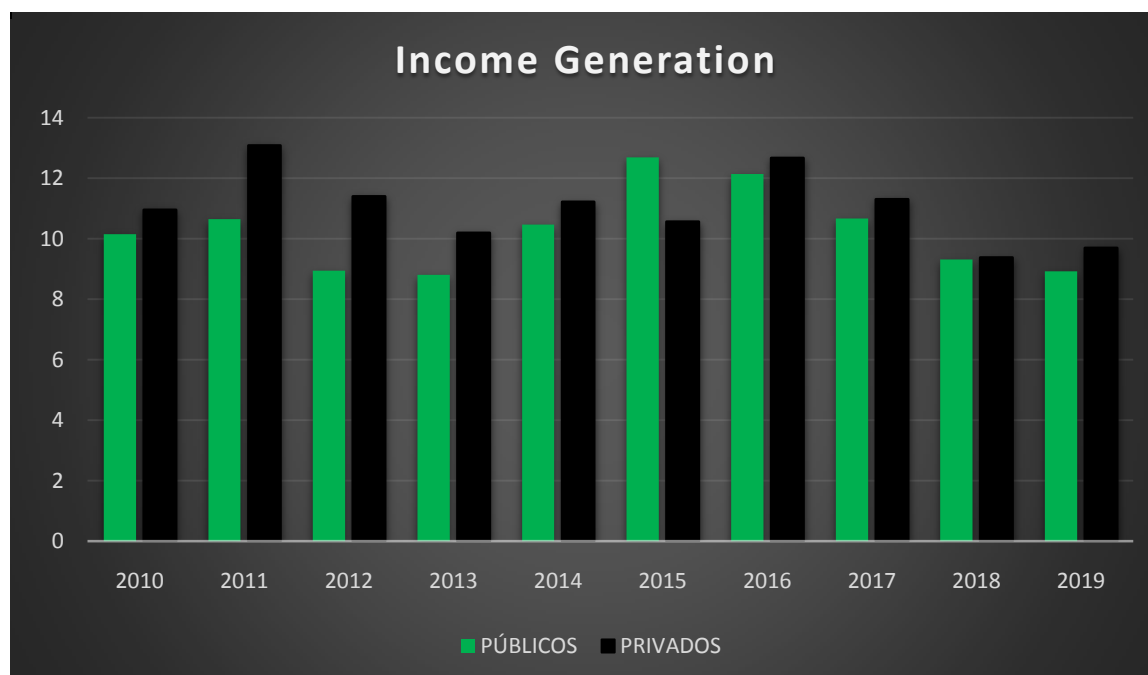
Tabela 4 - Geração de Rendas no período de 2010 a 2019, expresso em percentual

GERAÇÃO DE RENDAS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	10,33	10,79	9,52	9,01	10,79	13,25	12,23	10,65	9,72	8,96
BRADESCO	11,30	12,21	11,20	9,89	11,80	13,32	14,12	12,56	9,99	10,01
CAIXA	9,97	10,50	8,37	8,60	10,15	12,13	12,04	10,68	8,92	8,90
ITAÚ	11,04	12,65	9,98	8,62	10,52	12,20	11,44	10,00	8,77	8,66
SANTANDER	10,53	14,39	13,02	12,10	11,34	12,17	12,44	11,38	9,98	9,80
MÉDIA PÚBLICOS	10,15	10,65	8,95	8,81	10,47	12,69	12,14	10,67	9,32	8,93
MÉDIA PRIVADOS	10,96	13,08	11,40	10,20	11,22	12,56	12,67	11,31	9,58	9,49

Source: Own preparation based on data available in the financial statements of the companies analyzed

In this indicator, there is again a slight advantage observed for private banks. The better performance observed in private banks can possibly be explained by the fact that public financial institutions practice slightly lower rates than private banks, as can be seen on the central bank's website, at the address: (bcbr.gov.br/estatisticas/txjuros)

Graph 3. Income Generation by period from 2010 to 2019, expressed as a percentage



Source: Own preparation based on data available in the financial statements of the companies analyzed

Despite the slight advantage to private banks over the period, it is noted that the difference in margin in this item is relatively small compared to the indicators studied so far. What can be seen is a slight reduction in this indicator from 2017 onwards, a reduction that can be explained by the gradual reduction in the basic interest rate of the Brazilian economy, which forces a reduction in the rates charged by banks, despite the abyssal distance found in Brazil, between the Selic rate and interest charged by banks. Another factor that may explain the reduction in income generation is the increase in competition in the sector, mainly due to the emergence of fintechs, forcing a gradual reduction in banking spreads, although banks are still in a comfortable situation in relation to new entrants.

Study of Margins and operational efficiency

The next indicators studied refer to the profitability margins, being three indicators (gross, operating and net margin). The first indicator to be demonstrated will be the gross margin which, according to Matias (2014), is the gains generated in intermediation, deducting the costs of the operation. The data obtained are shown in table 5 and explained in graph 4 below.

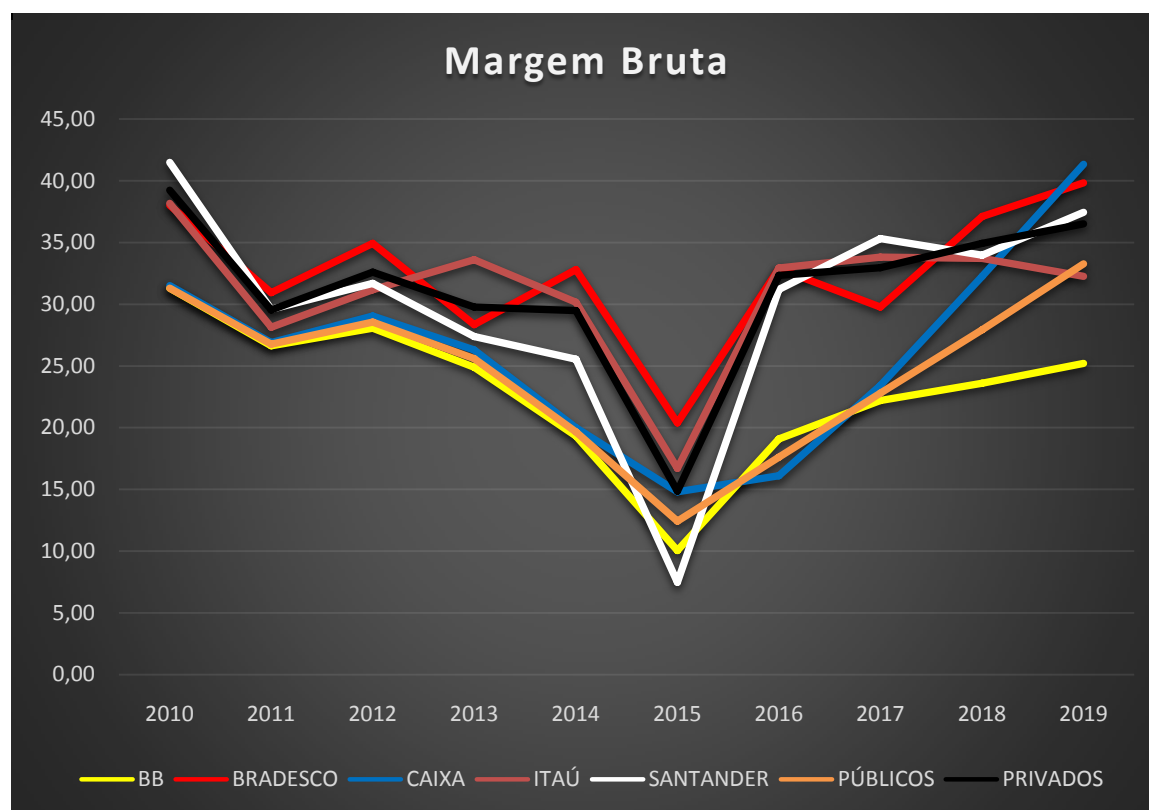
Tabela 5 - Margem Bruta no período de 2010 a 2019, expresso em percentual

MARGEM BRUTA	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	31,29	26,63	28,05	24,89	19,31	10,04	19,08	22,20	23,60	25,21
BRADESCO	38,01	30,92	34,92	28,33	32,79	20,38	32,88	29,76	37,10	39,82
CAIXA	31,49	26,89	29,04	26,29	20,00	14,80	16,10	23,40	32,26	41,33
ITAÚ	38,16	28,13	31,17	33,60	30,14	16,70	32,93	33,82	33,70	32,26
SANTANDER	41,49	29,58	31,67	27,37	25,54	7,47	31,19	35,31	33,96	37,44
MÉDIA PÚBLICOS	31,29	26,76	28,55	25,59	19,66	12,42	17,59	22,80	27,93	33,27
MÉDIA PRIVADOS	39,22	29,54	32,59	29,77	29,49	14,85	32,33	32,96	34,92	36,51

Source: Own preparation based on data available in the financial statements of the companies analyzed

In this indicator, it is also possible to verify a certain advantage to private banks, and this advantage was observed in almost the entire period, with the exception of 2019, where cash showed a slight advantage in relation to other banks.

Gráfico 4. Margem Bruta por período de 2010 a 2019, expresso em percentual



Source: Own preparation based on data available in the financial statements of the companies analyzed

In this indicator, different from the one indicated by the ROE and ROA, it is possible to notice a strong reduction in margins in 2015, with an immediate resumption in the following year, and again public banks had greater impacts that year. The year 2015 was marked by strong economic instability, with strong recession, high inflation, among others.

The economic scenario of 2015 had a negative effect on business activity and it is noted in the financial statements of the analyzed companies, an increase in the delinquency rates, mainly in the corporate segment, increasing the risk of operations, causing a higher forecast of bad debts. On the other hand, another component responsible for the reduction in financial margins was the increase in funding costs.

It is possible to verify some stability for private banks during the analysis period. Public banks, on the other hand, showed a downward trend, mainly from 2012 onwards, with a sharp drop in 2015, and a more gradual recovery in the following years.

In 2012, the federal government, led by President Dilma Rousseff, started a plan to reduce bank spreads, a plan that later proved to be ineffective. Such reductions were led by public banks, causing significant reductions in the gross margin of these institutions as of 2012.

The following analysis concerns the operating margin, which according to Matias (2014), “corresponds to the result generated in the operation before deducting taxes and non-operating expenses”. Again, private banks presented better results than public banks over the period analyzed, also presenting more stable results. As can be seen in table 6 and graph 5.

Tabela 6 - Margem Operacional no período de 2010 a 2019, expresso em percentual

Margem Operacional	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	18,81	15,22	13,44	10,55	10,09	3,12	7,40	10,45	12,03	7,88
BRADESCO	17,07	13,41	11,98	12,51	15,65	6,08	14,84	11,45	15,59	9,87
CAIXA	5,45	7,02	5,97	5,81	5,30	0,70	2,34	9,21	12,01	15,86
ITAÚ	17,15	11,85	13,22	16,27	16,68	7,42	18,15	17,57	17,19	15,33
SANTANDER	11,89	4,40	3,96	0,60	3,26	-0,41	13,44	14,99	15,22	16,53
MÉDIA PÚBLICOS	12,13	11,12	9,71	8,18	7,70	1,91	4,87	9,83	12,02	11,87
MÉDIA PRIVADOS	15,37	9,89	9,72	9,79	11,86	4,36	15,48	14,67	16,00	13,91

Source: Own preparation based on data available in the financial statements of the companies analyzed

In this other indicator, it is again possible to identify a strong drop for 2015, and recovery in the following years, with emphasis on Banco Santander, which until 2015 had the worst operating margin, including a negative margin. After 2015, the company showed a strong recovery, reaching the best index in 2019. Emphasizing that Banco Santander has the leanest structure in relation to other banks.

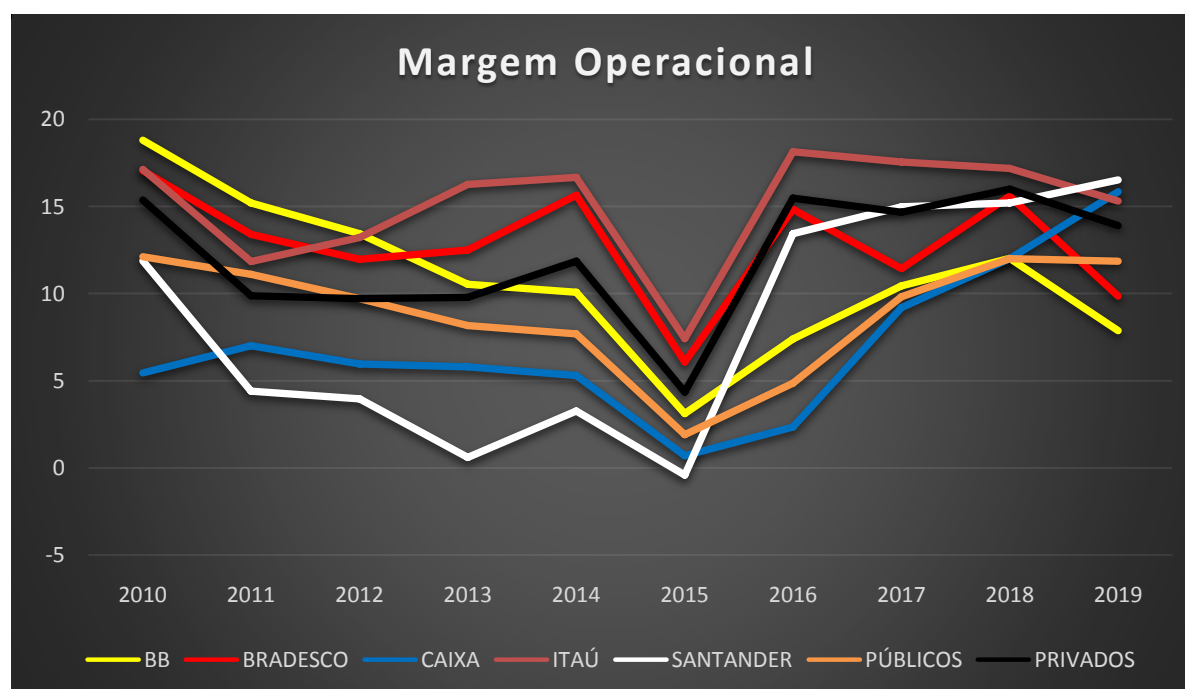
It is worth noting that after the sharp drop in 2015, public banks have been showing gradual improvements in the indicator, with emphasis on the strong growth of the indicator by Caixa, which was also accompanied by growth on the part of Banco do Brasil. The difference between the two institutions

in this indicator is that cash has maintained its upward trend and Banco do Brasil fluctuated downwards in 2019.

The operating margin makes evident the situation of the banks in the analyzed period, if we compare the beginning of the analysis period, marked by the year 2010, and the end of the analysis period, which is the year 2019, three of the five banks studied showed a reduction of operating margin, one public and two private.

The banking market has undergone radical transformations in recent years, arising mainly from advances in the relationship with customers, caused by greater use of digital media. The changes observed in the segment resulted in changes in the structure of these companies, with a reduction in jobs and in the number and quantity of branches. All the analyzed institutions underwent and are still undergoing restructuring, in order to seek better operational efficiency, reducing costs and gaining agility.

Gráfico 5. Margem Operacional por período de 2010 a 2019, expresso em percentual



Source: Own preparation based on data available in the financial statements of the companies analyzed

Primo (2013) points out that companies with better profitability are those with the best relationship between service revenues and operating expenses.

These two accounting items directly affect the operating margin. Revenues from the provision of services comprise account maintenance fees, fees for contracting operations, credit cards, brokerage fees,

among others. On the other hand, operating expenses are composed of personnel, administrative and tax expenses, among others.

Before analyzing this relationship, it is important to demonstrate the behavior of service revenue generation in relation to total revenue.

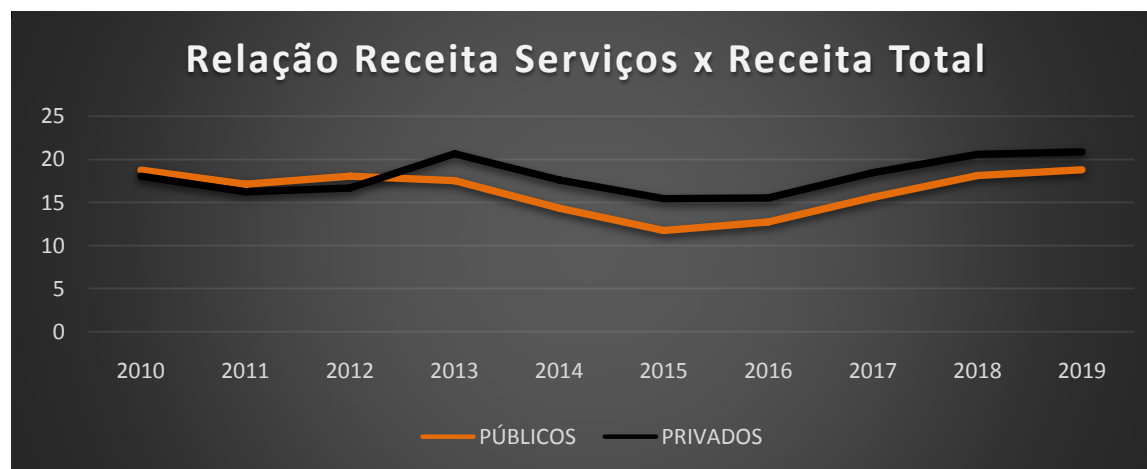
Tabela 7- Receita de Serviços x Receita Total, no período de 2010 a 2019, expresso em percentual

RS X RT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PÚBLICOS	18,77	17,15	18,08	17,55	14,37	11,76	12,75	15,61	18,14	18,81
PRIVADOS	18,08	16,23	16,70	20,68	17,61	15,46	15,53	18,48	20,60	20,90

Source: Own preparation based on data available in the financial statements of the companies analyzed

There is a greater power to generate revenue from services on the part of private banks, and this advantage was not observed at the beginning of the analysis period, where public banks had a slight advantage. This difference for private banks directly affects the results of the companies analyzed, as they are major sources of revenue for the segment.

Gráfico 6. Relação Receita de Serviços X Receita Total período de 2010 a 2019, expresso em percentual



Source: Own preparation based on data available in the financial statements of the companies analyzed

In view of the power of income generation by banks, the behavior of operating expenses in relation to these revenues is shown below, as shown in table 8.

Tabela 8 – Eficiência Operacional, no período de 2010 a 2019, expresso em percentual

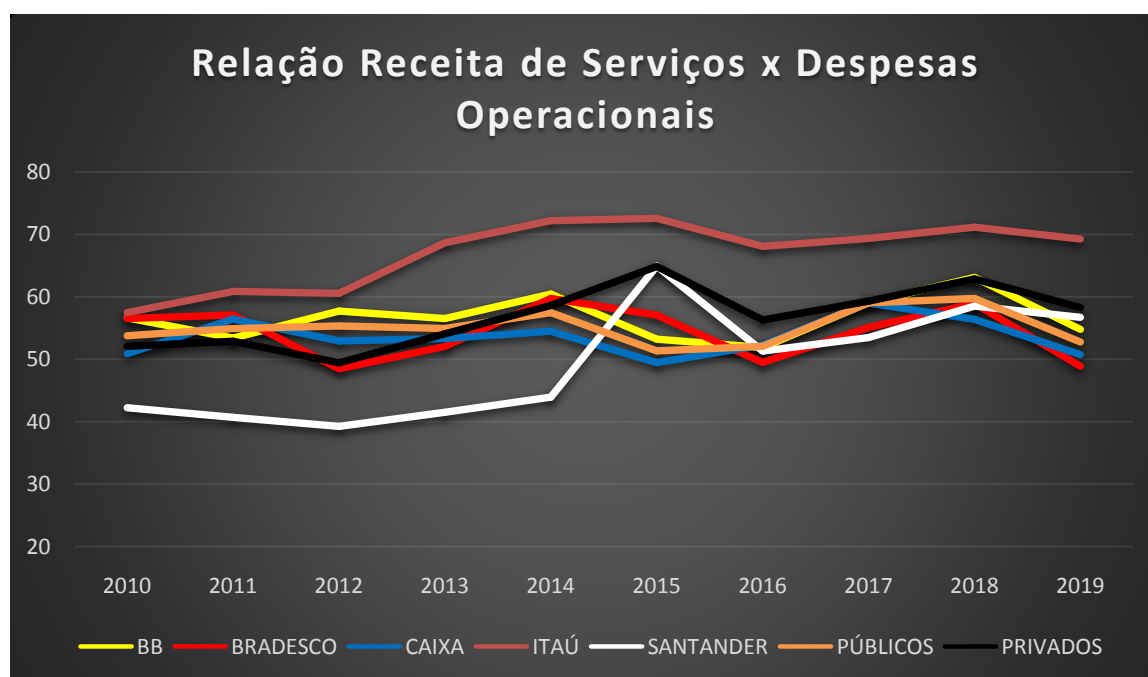
Eficiência Operacional	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	56,62	53,39	57,71	56,52	60,43	53,21	51,87	59,05	63,10	54,78
BRDESCO	56,52	57,09	48,46	52,05	59,73	57,06	49,48	55,09	58,92	48,88

CAIXA	50,89	56,43	52,93	53,31	54,48	49,45	52,27	59,01	56,38	50,73
ITAÚ	57,47	60,86	60,55	68,65	72,19	72,57	68,07	69,35	71,15	69,25
SANTANDER	42,23	40,69	39,24	41,50	43,93	64,91	51,30	53,47	58,51	56,71
MÉDIA PÚBLICOS	53,76	54,91	55,32	54,92	57,46	51,33	52,07	59,03	59,74	52,76
MÉDIA PRIVADOS	52,07	52,88	49,42	54,07	58,62	64,85	56,28	59,30	62,86	58,28

Source: Own preparation based on data available in the financial statements of the companies analyzed

The calculated values are in line with what was verified by Primo (2013), when compared to the average, following the same trend found in the ROE analysis, with an inversion of the curve in the year 2014. Despite the average indicating a correlation with the results found by Primo, this behavior is not verified in all the analyzed institutions, not being valid in all situations.

Gráfico 7. Eficiência Operacional período de 2010 a 2019, expresso em percentual



Source: Own preparation based on data available in the financial statements of the companies analyzed

The graph shows that the analyzed banks are very close in this relationship, with the only exception being Itaú, which is in a much higher position than the others.

That said, the study moves on to the analysis of the net margin, which according to Matias (2014) reflects the bank's ability to generate shareholder returns and may also represent its operational efficiency. The data are represented in table 9 and graph 8.

Tabela 9 - Margem líquida no período de 2010 a 2019, expresso em percentual

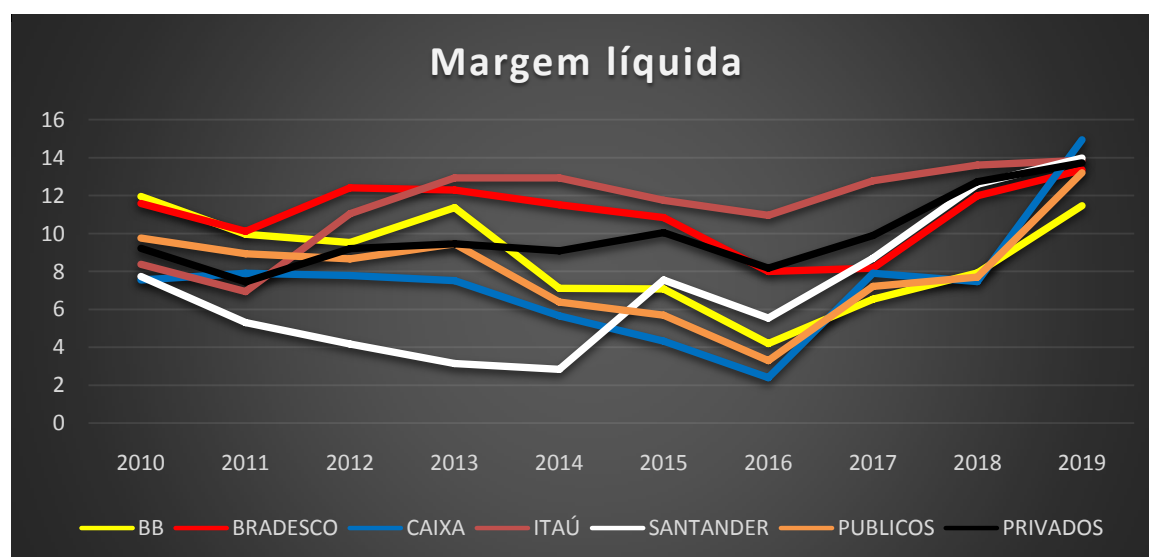
Margem Líquida	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	11,96	9,97	9,52	11,37	7,12	7,07	4,20	6,54	7,93	11,47
BRADESCO	11,58	10,11	12,41	12,30	11,51	10,85	8,00	8,18	11,99	13,35
CAIXA	7,55	7,91	7,79	7,52	5,66	4,33	2,40	7,90	7,47	14,94
ITAÚ	8,37	6,94	11,04	12,93	12,93	11,76	10,96	12,79	13,61	13,87
SANTANDER	7,73	5,31	4,18	3,14	2,84	7,55	5,55	8,70	12,59	13,98
MÉDIA PÚBLICOS	9,76	8,94	8,66	9,45	6,39	5,70	3,30	7,22	7,70	13,21
MÉDIA PRIVADOS	9,23	7,45	9,21	9,46	9,09	10,05	8,17	9,89	12,73	13,73

Source: Own preparation based on data available in the financial statements of the companies analyzed

The analysis of this indicator demonstrates greater operational efficiency on the part of private banks, in line with the other indicators demonstrated so far. In the graph, it is possible to notice a drop in all institutions for the year 2016, as well as a resumption of all in the following year.

Highlight in this indicator for the stability presented by Itaú as of 2013, always presenting the highest net margins. Also noteworthy was the strong increase for Santander from 2016 onwards, maintaining a constant upward trend. Also noteworthy was the strong increase in cash for 2019, standing out among the others in that year specifically.

Gráfico 8 – Margem Líquida período de 2010 a 2019, expresso em percentual



Source: Own preparation based on data available in the financial statements of the companies analyzed

In the analysis of profitability margins, the three indicators show clear advantages for private banks, as well as show a tendency of reaction from public institutions in recent years, mainly after the change of government, which took place in 2016.

Profitability of Banking Activity

Finally, the profitability of banking activity is analyzed. It is an important indicator as it measures the institution's performance in its activities, without considering results in affiliates and other revenues. This indicator showed great variation between public and private institutions. Attention is drawn to the indices presented by Caixa, which during eight of the ten analyzed periods presented negative profitability of banking activity, significantly different from the other banks studied. As of 2016, the company showed a strong change, ending in 2019 ahead of two institutions in this indicator.

Until 2016 there was a strong operational inefficiency for Caixa, and its profit was basically caused by other revenues. Among the other revenues, the most prominent comes from the remuneration as an FGTS agent.

For the year 2015, there was a strong reduction in the profitability of banking activity by all institutions, caused by the strong economic downturn experienced at the time, as well as the political problems in which the country found itself, as mentioned above. In that year, three of the five institutions studied showed negative returns from Banco do Brasil, Caixa and Santander.

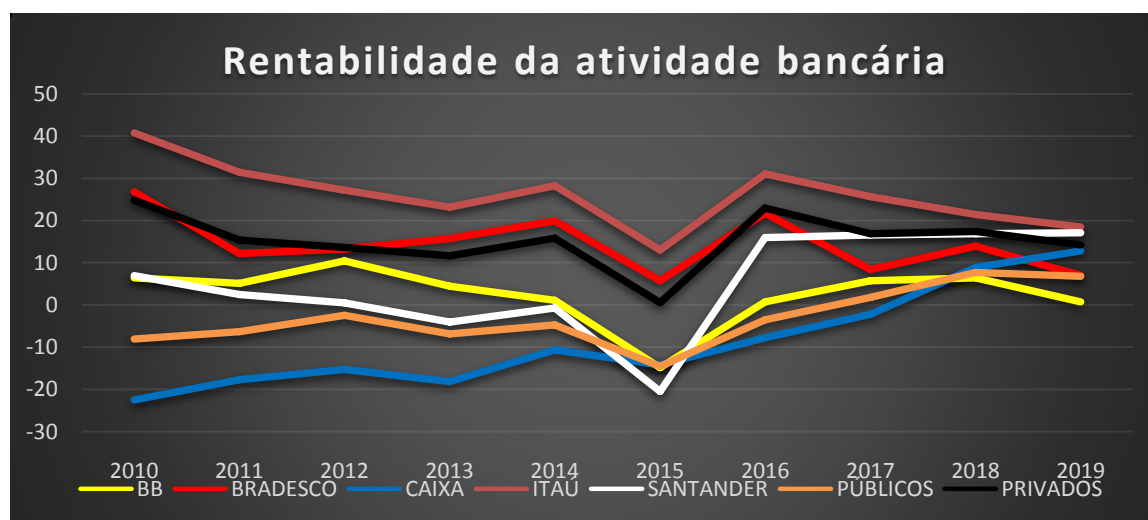
Tabela 10 - Rentabilidade da Atividade Bancária, no período de 2010 a 2019, expresso em percentual

RAB	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BB	6,42	5,16	10,45	4,44	1,14	-14,84	0,71	5,74	6,43	0,76
BRADESCO	26,84	12,19	13,20	15,73	19,93	5,74	21,75	8,37	13,94	7,06
CAIXA	-22,49	-17,72	-15,29	-18,14	-10,61	-14,22	-7,72	-2,19	8,90	12,81
ITAÚ	40,75	31,44	27,19	23,14	28,23	13,01	31,04	25,65	21,42	18,44
SANTANDER	6,95	2,45	0,50	-4,02	-0,69	-20,47	15,96	16,54	16,84	17,07
MÉDIA PÚBLICOS	-8,04	-6,28	-2,42	-6,85	-4,74	-14,53	-3,51	1,78	7,67	6,79
MÉDIA PRIVADOS	24,85	15,36	13,63	11,62	15,82	-0,57	22,92	16,85	17,40	14,19

Source: Own preparation based on data available in the financial statements of the companies analyzed

Analyzing Graph 9, it is possible to verify the strong drop in 2015, as well as its recovery after that year. The main highlight of this indicator is Banco Itaú, which has shown greater stability throughout the period, always maintaining better indices, despite showing a slight decline in the last years of the analysis. Another highlight is the strong growth seen by Santander after 2015.

Gráfico 9. Rentabilidade da Atividade Bancária período de 2010 a 2019, expresso em percentual



Source: Own preparation based on data available in the financial statements of the companies analyzed

Profitability of Banking Activity

The analysis of table 10, complemented by the graphical analysis, allows us to verify a significant change in this indicator over the analyzed period. At the beginning of the analysis in 2010, banks had a variation of 63.24% in this item, when compared separately, and this difference in 2019 was around 17.68%. If compared on average, this difference between public and private banks suffered a drastic reduction during the analyzed period, from 32.89% in 2010 to 7.4% in 2019, demonstrating a significant improvement in public banks from 2016 onwards.

In view of the analysis of all indicators, the best operational efficiency on the part of private banks is also evident, given that they present better indicators in most of the analyzed indices.

Final considerations

The study clearly demonstrates that the Brazilian banking market is dominated by large companies, which present satisfactory returns, both in private and public banks. The analyzed companies have great importance for the national economy, in view of their capillarity and representativeness in all the states of the country. As for the objectives of demonstrating the difference in profitability existing between public and private banks and the factors causing the difference in profitability, the responses to the objectives were satisfactory, partially moving towards the hypotheses raised and bringing several elements of technical and managerial importance.

Regarding profitability and operational efficiency, the study pointed to two hypotheses: that private banks are more profitable than public banks and that they have better operational efficiency. Both hypotheses were partially confirmed according to the data contained in the study, and it is also evident that there is not a difference much greater than that of private banks, which could compromise the performance of public banks.

While ROE and ROA show an advantage to private banks at the end of the analysis period, public banks present better profitability at the beginning of the period. Even if the ROE indicator shows an advantage for private banks at the end of the course – since the ROE showed a reduction in the difference in profitability between all institutions analyzed at the end of the period – the positive performance of public banks in the initial phase of the historical series remains latent.

The two indicators also make it clear that public banks, in view of government control, are more susceptible to political and economic issues, suffering greater fluctuations over the period of analysis. There was a significant reduction in profitability indicators in previous years, as well as in the year of the presidential impeachment, which took place in 2016, when the country went through several political problems, which directly affected the economy.

After confirming the first hypothesis, the study through the proposed methodology demonstrated the possible causes of this difference in profitability, and the first factor analyzed was income generation, where a slight advantage was again observed for private banks. Such an advantage was to some extent expected, given that public banks generally charge lower rates, according to data available at the central bank.

When analyzing gross, operating and net profit margins, the study again demonstrates advantages to private banks, although the advantage was not observed throughout the period of analysis. The determining factor for the better margins observed in private banks is their greater capacity to generate revenue from services and a better ratio between service revenues in relation to operating expenses,

directly affecting net and operating margins, resulting in better operational efficiency. by private banks, as demonstrated in the calculation of operational efficiency, as defined by Primo (2013).

In this sense, for public banks to be able to raise their levels of profitability, they must increase their level of service provision or reduce their operating expenses, or both. Digital solutions can be the way to these goals.

Concluding the analysis of the second hypothesis, through the analysis of the result of banking activity, the advantage of private banks is evident, which during the entire period presented higher returns. In this item, the study shows that Caixa Econômica was very different from the other institutions, presenting negative returns in eight of the ten analysis periods. Santander also presented negative returns in some periods.

That said, the advantage of private banks in relation to public banks in terms of profitability remains evident, despite the good performance of public banks at the beginning of the period. At the same time, it is possible to conclude that despite this clear advantage, public banks have the capacity to react and are important for economic policy, being profitable for the government and shareholders, in the case of Banco do Brasil.

Despite not bringing theoretical contributions, the study presents a great practical and managerial contribution to the managers of the analyzed companies, investors, students, and internal and external analysts interested in the national banking market.

The study has as limitations the analysis of only five corporations, not reflecting the characteristics of the entire Brazilian banking market and the competition originated by new market entrants, the fintechs. In this sense, it is salutary for future studies to compare the impact of these new digital companies on the profitability of large Brazilian banks. Another limitation of the study is the focus on the analysis of indicators, not addressing statistical methods of analysis.

As the present analysis also showed strong oscillations over the period studied, especially in public banks, it is interesting to carry out a study of the impacts of the Covid-19 pandemic on bank profitability in the coming years, in view of the notorious economic downturn, with consequences still unpredictable, as well as greater caution in granting credit, especially in the private sector.

7. REFERÊNCIAS

BANCO CENTRAL DO BRASIL. Disponível em <www3.bcb.gov.br/ifdata/index.html> Acesso em 20 julho de 2020.

BITTENCOURT, Wanderson Rocha; BRESSAN, Valéria Gama Fully; GOULART, Clayton Peixoto; BRESSAN, Aureliano Angel; COSTA, Davi Rogerio de Moura; LAMOUNIER, Wagner Moura. Rentabilidade dos bancos múltiplos e cooperativas de crédito nos brasileiros. **Revista de Administração Contemporânea**, Curitiba, v. 21, 2017.

CARNEIRO, Murilo; SALGADO JÚNIOR, Alexandre Pereira; MARCORIS, Lucas Serrão. Avaliação da Eficiência Bancária por meio da Abordagem de Intermediação: Uma Análise Comparativas das Instituições Financeiras Brasileiras. **Revista Eletrônica de Administração**, Porto Alegre, ed 85, p. 336-359, 2016.

DANTAS, José Alves; MEDEIROS, Otávio Riveiro de; PAULO, Edilson. Relação entre concentração e rentabilidade no setor bancário brasileiro. **Revista Contabilidade e Finanças**, São Paulo, v. 22, 2011.

DE PAIVA, João Carlos Neves; BARBOSA, Francisco Vidal; RIBEIRO, Helena Puga. Proposta de escala para mensurar o valor percebido no varejo bancário brasileiro. **Revista de Administração Contemporânea**, Curitiba, v. 13 nº 2, 2009.

DIEESE. **Desempenho dos bancos no primeiro semestre de 2017**. São Paulo, 2017, disponível em dieese.org.br/desempenhodosbancos/2017/desempenhoDosBancos1Semestre2017.html

GITMAN, Lawrence J. **Princípios de Administração Financeira**. São Paulo, Pearson Prentice Hall, 2010.

HOJI, Masakazu. **Administração Financeira e Orçamentária**. 9º Ed. São Paulo: Atlas, 2010.

MANTOVANI, Marli Helena Colangelo. Análise da relação entre alavancagem e rentabilidade dos bancos brasileiros listados na bolsa de valores de São Paulo no período de 2001 a 2010. **Revista de Gestão**, São Paulo, v. 22, nº 4, p. 509-524, 2015.

MATIAS, Alberto Borges; QUAGUIO, Gislaine de Miranda; LIMA, João Paulo Resende de; MAGNANI, Vinícius Medeiros. Bancos versus cooperativas de crédito. Um estudo dos índices de eficiência e receita da prestação de serviços entre 2002 e 2012. **Revista de Administração Mackenzie**, v. 15, nº 5, p. 195-223, 2014.

MENDONÇA, Douglas José; SOUZA, Julia Alves e; CARVALHO, Eduardo Gomes; CARVALHO, Francisco de Melo. Fatores que Influenciam a Rentabilidade das Instituições Financeiras Bancárias Brasileiras. **Reunir**, v. 8, nº 1, p. 107-123, 2018.

PRIMO, Uverlan Rodrigues; DANTAS, José Alves; MEDEIROS, Otávio Ribeiro; CAPELLETO, Lúcio Rodrigues. Determinantes da Rentabilidade Bancária no Brasil. **Revista Base da Unisinos**, v. 10, nº 4, p. 308-323, 2013.

ZILBER, Silvia Novaes; PAJARES, Fernando M. Roncal. Análise da vantagem competitiva de bancos em países emergentes e em países desenvolvidos utilizando o modelo de visão baseada em recursos: estudo comparativo Brasil x Estados Unidos. **Revista Economia Global e Gestão**, v. 14, nº 2, p. 95-117, 2009.

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Endereço para correspondência:

Nome Wilson de Jesus Beserra de Almeida

Email wilson.almeida@unialfa.com.br



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