# Brazilian Commercial banks and their Economic and Financial indices based on "Baseleia, traditional and Banking"

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Abstract— The conjuncture of the Brazilian banking financial system directly influences the economy of the country, where financial institutions, specifically those of banking activities, act as financiers of consumption and investment, which seek to obtain the Best possible results in its activities, not only for the satisfaction of its shareholders, but also by the social impetus they provide. This paper intends to demonstrate a financial analysis of the five largest publicly traded Brazilian commercial banks, according to net income at the end of the 2015 year, aiming to develop a comparative study between the indices of Basel of the banks selected in contrast with the analysis of the traditional economic and financial indices and banking. The study is characterized as an exploratory research, with documentary bibliographical basis and is defined by the quantitative approach. It can be concluded that the Basel index in conjunction with the analysis of the traditional financial indices of profitability and of the financial indices of profitability and profit, assist in the verification of tendency to profitability. It is evident that the application of the indices studied that reveal the performance of financial institutions, aiming at the commitment to maintain and administer their resources in a responsible and competent manner, ressaving that the Basel Index and indexes Exclusive use of companies in the studied sector. Keywords—risk. Banks. Traditional and banking financial indices.

### I. INTRODUCTION

Nowadays the economic situation of the country has been causing concerns to all individuals, because of the direction in which our economy has been taking in recent times, whether employers or employees, all are with the same goal of securing their company or their Job.

In view of this fact, organizations inserted in a market increasingly imposed by austerity, should be concerned with maintaining their profitability and profitability, striving to maintain their survival, not only to satisfy their owners Shareholders, but by the social impetus that companies provide.

Within the scope of business management, a company may prove to be more profitable than another, but the aggregate risk may also be higher and compromise its solvency.

People, both physically and legally, need resources to meet their investment and capital needs, belonging to banks to provide these resources, playing their role as financial intermediator.

Banks are institutions that should always evaluate and take risks, demonstrating a safe and balanced

condition, acting responsibly before their employees, community, government and shareholders.

In view of the above, financial institutions, specifically those of banking activity, according to their levels of demand for loans, end up covering greater exposure to credit risks, with the possibility that unexpected factors and Adverse effects may result in an economic loss due to failure to comply with the obligation established in a contract.

In addition to the risk monitoring, it is important to observe the data of the financial statements of these institutions, transforming them into information through the analysis of financial indicators, such as measures that introduce a trend of performance, Pointing out potential strengths and weaknesses of the Organization, arousing the attention of those interested in the aspects that require greater appreciation.

# II. THEORETICAL FOUNDATION

In 1930, the BIS (*Bank for International Settlements*) was created, the Bank of International Settlements, which fosters cooperation between the central banks in search of the monetary and financial stability of countries (bcb, 2016).

In 1988, BIS created the Basel Agreement, with the aim of creating minimum capital requirements for financial institutions as a way to cope with credit risk (BCB, 2016).

Basel I ended up having a different fate than the one foreseen by the Committee. Instead of being adopted only by more advanced countries and having its validity limited to international banking, the agreement has become the main pillar of domestic prudential regulation in more than 120 countries. In other words, the requirement of capital proportional to risk-weighted assets became the centerpiece of prudential regulation in a large number of countries, applied indistinctly to the entire banking system (ANBIMA, 2010).

In 2004, there was a revision of the Basel agreement, known as Basel II, aiming to seek a more accurate measure of the risks incurred by internationally active banks (BCB, 2016).

This agreement was directed to large banks, based on three complementary pillars:

Pillar 1 – Capital requirements for credit, market and operational risk;

Pillar 2 – Review by supervising the process of assessing the capital adequacy of banks, and;

Pillar 3 – market discipline.

Faced with the global financial crisis initiated in 2007, the insufficiency of Basel I and II was demonstrated as an impediment to the excessive leverage of banks, which allied to the low quality of capital and the low liquidity margin presented the fragility scenario of International banking system.

Therefore, as part of a continuous improvement of financial institutions, in 2010 the Basel III was created, aiming to improve the capacity of financial institutions to absorb shocks from the financial system itself or the Other sectors of the economy, reducing the risk of financial crisis transfers to the real economy (BCB, 2016).

Table 4: Basel accord.

| Total I. Zudal weeding                  |                               |   |  |  |  |  |  |  |
|---|-------------------------------|---|--|--|--|--|--|--|
| BASEL ACCORD                            |                               |   |  |  |  |  |  |  |
| 1988                                    | 2004                          | 2010  |  |  |  |  |  |  |
| Basel I                                 | Basel II                      | Basel III   |  |  |  |  |  |  |
| — ···· · · · ·                          | Dasei II                      | Dasei III   |  |  |  |  |  |  |
| Objective: to create minimum capital    | Objective: to seek a more     | <b>Objective:</b> to aim at improving the capacity of |  |  |  |  |  |  |
| requirements for financial institutions | accurate measure of the risks | financial institutions to absorb shocks from the      |  |  |  |  |  |  |
| as a way to cope with credit risk.      | incurred by internationally   | financial systemitself or from other sectors of the   |  |  |  |  |  |  |
|   | active banks.                 | economy, reducing the risk of transfers of            |  |  |  |  |  |  |
|   |                               | financial crises to the real economy.                 |  |  |  |  |  |  |

Source: Elaborated by the author.

BACEN adherence to the standards recommended by the Basel Committee was evaluated at the end of 2013 through the "Regulatory Consistency Assessment Programme" (RCAP). The rules in force in Brazil were considered adherent in terms of BIS, that is, the capital standards established in Brazil meet the minimum requirements internationally in force.

In summary, the Basel index is presented by the following calculation:

# Basiléia index = PR/RWA

Being:

PR - Reference equity;

RWA - Risk-weighted assets.

The PR is calculated as follows:

# PR = level I + level II

Being:

Level I - composed of the Principal Capital (deduced from Prudential adjustments, where the tax credits are considered shares in Treasury and other instruments of own issuance, accounts receivable and equity valuation) and supplementary Capital (participation of non-controllers in instruments issued by subsidiaries and eligible for the complementary capital of the conglomerate);

Level II – primarily includes subordinated debts (excess of provisions in relation to expected loss), subject to prudential limitations.

Table 6: Calculation of PR.

| PR  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| LEVEL I   | LEVEL II   |  |  |  |  |  |  |
| Principal Capital (deduced from Prudential adjustments) and supplementary Capital | Subordinated debts, subject to prudential limitations. |  |  |  |  |  |  |

Source: elaborated by the author.

The RWA is calculated considering at least the sum of the following plots:

# King = Kingcpad+ KingCam transfert+ Kingjur+ Kingcom+ kingACS+ Kingopad

Being:

RWACpad – portion concerning exposures to credit risk:

RWACAM – Share of gold, foreign currency and assets subject to exchange variation;

RWAJur – Parcel of exposures subject to the variation of interest rates, interest coupons and price coupons and classified in the trading portfolio;

RWACOM – Parcel for exposures subject to commodity price variation (commodities);

RWAACS – Parcel for exposures subject to stock price variation and classified in trading portfolio;

RWAOpad – a portion concerning the capital calculation required for operational risk.

In the regulation there is no minimum percentage requirement regarding credit risk, market risk and operational risk within the RWA.

In summary, the RWA can be demonstrated in:

RWA = Credit Risk + Market risk +

Operational risk

Table 7: Calculation of the RWA.

| RWA         |                         |                  |  |  |  |  |  |
|-------------|-------------------------|------------------|--|--|--|--|--|
| CREDIT RISK | MARKET RISK             | OPERATIONAL RISK |  |  |  |  |  |
| RWACPAD     | RWACAM, RWAJUR, RWACOM, | RWAupwards       |  |  |  |  |  |
|             | RWAACS                  |                  |  |  |  |  |  |

Source: elaborated by the author.

The following table shows the basis of calculation of the Basel index:

Table 1: Table demonstrating the basis of calculation of the Basel index.

| Table 1: Table demonstrating the basis of calculation of the baset thaex. |
|---|
| Calculation Base Basel III Index  |
| Reference Equity level I  |
| Equity  |
| Prudential adjustments  |
|   |
| Reference Equity level II   |
| Subordinated debt   |
|   |
| Reference Equity (a)  |
|   |
| Credit risk   |
| Market risk   |
| Operational risk  |
| Risk-weighted Asset-RWA (b)   |
|   |

Basel Index (A/b)%
Source: elaborated by the author.

Based on the objective of the Basel Agreement, which is to create minimum capital requirements for financial institutions as a way of addressing credit risk, the next item is the referential to risk.

# 2.1 TRADITIONAL AND BANKING FINANCIAL INDICATORS

Silva (1998, p. 214) says that "financial indicators are relationships between accounts or account groups of financial statements, which aim to provide us

with information that is not easy to be viewed directly in the statements Financial statements ".

"The analysis of the financial statements is devoted to calculating indexes, in order to evaluate the past, present and projected performance of a company" (BLATT, 2001, p. 61).

The banking and traditional financial indicators assist in the provision of information that is not directly visualized in financial statements and also, through these indices can be calculated the performance of the company in relation to the past, Gift and designed. The following

are detailed in the traditional and banking financial indices

Oliveira et al (2010, p. 4) states that "the analysis of the financial statements by indices consists of the confrontation between the various groups or accounts and the result in a way that establishes a logical relationship and enables the measurement of the economic situation and Financial contribution of the company".

The traditional financial indicators enable a logical relationship of the company and assist in the measurement of the economic and financial situation of the company.

The analysis carried out by the banks through their accounting statements may be limited in relation to the quality of information, but it aims to verify in the balance the position of assets, liabilities and shareholders 'equity.

The evaluation indicators can assist in performance trend analysis, indicating strengths and weaknesses, thus facilitating the analyst in relation to more accurate assessments or requiring greater evaluation. Thus, the bank financial indicators with their identifications and formulas are followed.

# III. METHODOLOGY

The methodology is to be applied in order to delineate the way in which the research will be developed so that the proposed results are obtained.

COmo Method The applied research, being performed the practical application of the study verifying whether there is a direct relationship between the analysis of Basel indices and the traditional and banking financial indices that indicate a tendency of profitability in Financial institutions studied.

The main objective is to develop a comparative study between the Basíleia indexes of the selected banks in contrast with the analysis of the traditional and bank indices, in order to identify whether there is a direct relationship between these indices that Profitability trend in the financial institutions studied.

This work will be developed through bibliographic research, which according to Cervo and Bervian (2002 apud GUTH and PINTO, 2007) put that "the bibliographic research seeks to explain a problem based on theoretical references published in documents".

It will be based on books, articles, and other publications related to the proposed theme, serving as a

basis for support for the development of the proposed case study.

For Raupp and Beuren (2003 apud GUTH and PINTO, 2007) "The case study can be characterized by a concentrated study of a single case".

The case study will cover the survey of data from the financial statements of Banks Itaú, Bradesco, Banco do Brasil, Santander and Banrisul, which stand out for their representativeness in the commercial banking segment.

The use of the Basel index and the traditional and banking financial indicators will be sought, demonstrating the behavior of financial economic information, through the application of its statistical techniques.

Therefore, this work presents itself as an exploratory research, of documental bibliographical character and of quantitative approach, and according to the authors exposed this methodology is the most appropriate for the development of the study.

Following this, we present the description and analysis of the data.

# IV. DESCRIPTION AND ANALYSIS OF THE DATA

The description and analysis of the data will be given through a case study, where the financial statements of the five largest publicly traded Brazilian commercial banks that earned the highest net profits in the year 2015 were used in the sample, according to With data provided by banks to BM & FBovespa, being the object of study the comparative analysis of the Basel index in contrast with the traditional and banking financial indices of these institutions in the mentioned period, verifying whether there is a relationship Of these indexes that indicate profitability trend.

# 4.1 Largest Brazilian commercial banks

According to the Econoática website (2016), the profit of the 294 Brazilian publicly traded companies in the year 2015 fell by 19.5%, the banking sector had a growth of 28.3% in the same period.

Based on this information, we sought a survey of the financial data of the institutions of which stand out for their representativeness in the commercial banking segment, where both the profits of the five largest banks totaled more than 70.9 billion At the end of 2015, according to the report of the Central Bank of Brazil.

Table 2: Five largest publicly traded Brazilian banks according to net income (in thousands of reais):

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| Ranking | Bank             | Net income    | Participation |
|---------|------------------|---------------|---------------|
| 1       | ITAU             | 26.156.000,00 | 36,89%        |
| 2       | Bradesco         | 18.237.905,00 | 25,72%        |
| 3       | BANK OF BRAZIL   | 15.798.039,00 | 22,28%        |
| 4       | santander        | 9.833.826,00  | 13,87%        |
| 5       | Banrisul         | 880.218,00    | 1,24%         |
|         | TOTAL NET INCOME | 70.905.988,00 | 100,00%       |

Source: elaborated by the author. Adapted from the financial statements found in BM & FBovespa.

It is observed that Banco Itaú is currently the bank with the best result, being its participation of 36.89% of the sum of the five largest net bank profits in 2015.

The analysis of the financial statements of the selected banks comprises the year ended in 2015. In the

first moment, the analysis of the Basel indices will be performed, followed by the analysis of the traditional indices and after the analysis of the bank indices presented by the studied banks.

The following are the balance sheet and the result statements of the selected banks:

Table 3: Balance sheets and income statements of the selected banks.

| Tuble 3. Be                      | nance sheets and th |                | of the selected bank | ·            |             |
|----------------------------------|---------------------|----------------|----------------------|--------------|-------------|
|                                  |                     | Active         |                      |              |             |
| Values in thousands of Reais     | ITAU                | Bradesco       | BANK OF<br>BRAZIL    | santander    | Banrisul    |
|                                  | 1.276.415.000,      | 1.026.703.522, |                      | 605.394.528, | 68.103.613, |
| TOTAL ASSEIS                     | 00                  | 00             | 1.388.864.529,00     | 00           | 00          |
|                                  | 750.877.000,0       | 729.899.537,0  |                      | 516.294.712, | 60.591.697, |
| CURRENT ASSETS                   | 0                   | 0              | 1.122.603.416,00     | 00           | 00          |
|                                  |                     |                |                      | 89.143.353,0 | 9.725.474,0 |
| Available                        | 18.544.000,00       | 72.091.764,00  | 18.046.717,00        | 0            | 0           |
|                                  | 284.929.000,0       | 277.318.899,0  |                      | 120.882.571, | 20.593.698, |
| Interbank Liquidity Applications | 0                   | 0              | 364.341.734,00       | 00           | 00          |
|                                  | 447.404.000,0       | 380.488.874,0  |                      | 306.268.788, | 30.272.525, |
| Credit operations                | 0                   | 0              | 740.214.965,00       | 00           | 00          |
|                                  | 525.538.000,0       | 296.803.985,0  |                      | 89.099.816,0 | 7.511.916,0 |
| NON-CURRENT ASSETS               | 0                   | 0              | 266.261.113,00       | 0            | 0           |
|                                  | 516.997.000,0       | 291.299.550,0  |                      | 86.916.288,0 | 7.149.398,0 |
| Long-term realizable             | 0                   | 0              | 258.849.166,00       | 0            | 0           |
| Asset                            | 8.541.000,00        | 5.504.435,00   | 7.411.947,00         | 2.183.528,00 | 362.518,00  |
|                                  |                     | Passive        |                      |              |             |
|                                  |                     |                | BANK OF              |              |             |
| Values in thousands of Reais     | ITAU                | Bradesco       | BRAZIL               | santander    | Banrisul    |
|                                  | 1.276.415.000,      | 1.026.703.522, |                      | 605.394.528, | 66.103.613, |
| TOTAL LIABILITIES                | 00                  | 00             | 1.388.864.529,00     | 00           | 00          |
|                                  | 353.702.000,0       | 293.903.391,0  |                      | 312.494.370, | 38.698.329, |
| CURRENT LIABILITIES              | 0                   | 0              | 422.936.785,00       | 00           | 00          |
|                                  | 292.610.000,0       | 293.095.696,0  |                      | 296.769.851, | 35.524.404, |
| Deposits                         | 0                   | 0              | 366.762.440,00       | 00           | 00          |
|                                  |                     |                |                      | 15.724.519,0 | 3.173.925,0 |
| Cash deposits                    | 61.092.000,00       | 807.695,00     | 56.174.345,00        | 0            | 0           |
| -                                | 922.713.000,0       | 732.800.131,0  |                      | 292.900.158, | 27.405.284, |
| NON-CURRENT LIABILITIES          | 0                   | 0              | 965.927.744,00       | 00           | 00          |
| Long-term liabilities            | 808.654.000,0       | 641.885.369,0  | 879.697.750,00       | 209.368.404, | 20.929.597, |
|                                  |                     |                |                      |              |             |

|                                    | 0              | 0              |                 | 00           | 00          |  |  |  |  |  |
|------------------------------------|----------------|----------------|-----------------|--------------|-------------|--|--|--|--|--|
|                                    | 114.059.000,0  |                |                 | 83.531.754,0 | 6.475.687,0 |  |  |  |  |  |
| Equity                             | 0              | 90.914.762,00  | 86.229.994,00   | 0            | 0           |  |  |  |  |  |
| INCOME STATEMENT                   |                |                |                 |              |             |  |  |  |  |  |
|                                    |                |                | BANK OF         |              |             |  |  |  |  |  |
| Values in thousands of Reais       | ITAU           | Bradesco       | BRAZIL          | santander    | Banrisul    |  |  |  |  |  |
|                                    | 147.789.000,0  | 127.048.252,0  |                 | 69.870.200,0 | 9.666.650,0 |  |  |  |  |  |
| Financial intermediation revenues  | 0              | 0              | 182.368.871,00  | 0            | 0           |  |  |  |  |  |
|                                    |                |                |                 | -            | -           |  |  |  |  |  |
|                                    |                |                |                 | 38.533.089,0 | 6.553.228,0 |  |  |  |  |  |
| Financial intermediation expenses  | -75.064.000,00 | -71.412.210,00 | -136.620.920,00 | 0            | 0           |  |  |  |  |  |
| Net revenue from financial         |                |                |                 | 31.337.111,0 | 3.113.422,0 |  |  |  |  |  |
| intermediation                     | 72.725.000,00  | 55.636.042,00  | 45.747.951,00   | 0            | 0           |  |  |  |  |  |
|                                    |                |                |                 | -            | -           |  |  |  |  |  |
|                                    |                |                |                 | 34.552.829,0 | 2.069.044,0 |  |  |  |  |  |
| Other Operating income/expenses    | -54.460.000,00 | -46.032.459,00 | -35.610.447,00  | 0            | 0           |  |  |  |  |  |
|                                    |                |                |                 | -            | 1.044.378,0 |  |  |  |  |  |
| Result before IR and CS            | 18.265.000,00  | 9.603.583,00   | 10.137.504,00   | 3.215.718,00 | 0           |  |  |  |  |  |
|                                    |                |                |                 | 13.049.544,0 |             |  |  |  |  |  |
| Income tax and social contribution | 7.891.000,00   | 8.634.322,00   | 5.660.535,00    | 0            | -164.160,00 |  |  |  |  |  |
| Net income                         | 26.156.000,00  | 18.237.905,00  | 15.798.039,00   | 9.833.826,00 | 880.218,00  |  |  |  |  |  |

Source: elaborated by the author.

Table 3 showed the balance sheet and the results of the chosen banks, where only the accounts used to perform the analysis were contemed.

Based on these demonstrations, the Basel index presented by each institution appears below.

As mentioned in the theoretical framework, the Basel index is based on the objective of creating minimum capital requirements for financial institutions at risk.

Below is the calculation of the Basel index of each bank selected in the study:

# 4.2 Basel Index of the studied banks

Table 4: Calculation of the Basel index of the studied banks.

| Values in thousands of reais |                |                |                |               |               |
|------------------------------|----------------|----------------|----------------|---------------|---------------|
| Calculation Base Basel III   |                |                |                |               |               |
| Index                        |                |                | BANK OF        |               |               |
| On 31/12/2015                | ITAU           | Bradesco       | BRAZIL         | santander     | Banrisul      |
| Reference Equity level I     | 101.001.000,00 | 77.506.951,00  | 95.713.963,00  | 5.278.504,90  | 6.145.573,00  |
| Equity                       | 100.955.000,00 | 88.906.644,00  | 84.976.920,00  | 4.784.017,90  | 6.082.833,00  |
| Prudential adjustments       | 46.000,00      | -11.399.693,00 | 10.737.043,00  | 494.487,00    | 62.740,00     |
|                              |                |                |                |               |               |
| Reference Equity level II    | 27.464.000,00  | 25.318.399,00  | 39.837.233,00  | 518.206,50    | 1.243.602,00  |
| Subordinated debt            | 27.464.000,00  | 25.318.399,00  | 39.837.233,00  | 518.206,50    | 1.243.602,00  |
|                              |                |                |                |               |               |
| Reference Equity (a)         | 128.465.000,00 | 102.825.350,00 | 135.551.196,00 | 5.796.711,40  | 7.389.175,00  |
|                              |                |                |                |               |               |
| Credit risk                  | 679.593.000,00 | 556.440.558,00 | 785.773.084,00 | 36.355.897,00 | 34.689.482,00 |
| Market risk                  | 14.252.000,00  | 18.670.132,00  | 18.346.766,00  | 2.300.969,00  | 1.011.989,00  |
| Operational risk             | 28.623.000,00  | 37.106.557,00  | 36.389.090,00  | 1.874.328,00  | 5.835.041,00  |
| Risk-weighted Asset-RWA      |                |                |                |               |               |
| <b>(b)</b>                   | 722.468.000,00 | 612.217.247,00 | 840.508.940,00 | 40.531.194,00 | 41.536.512,00 |
|                              |                |                |                |               |               |

| Basel Index (A/b) | 17,78% | 16,80% | 16,13% | 14,30% | 17,79% |
|-------------------|--------|--------|--------|--------|--------|
|-------------------|--------|--------|--------|--------|--------|

Source: elaborated by the author based on the financial statements of the selected banks.

The financial indices presented for the calculation of the Basel index are determined in the consolidated form, applied to the institutions belonging to the Prudential conglomerate, which covers not only the financial institutions but also the administrators of Consortium, payment institutions, companies that carry out operations or directly or indirectly assume credit risk and investment funds in which the group of undertakings has substantially retained risks and benefits, as Normalized by the BCB.

In an analysis of the Basel Index, Banco Banrisul presented the highest index, being 17.79%,

followed by Banco Itaú, which presented an index of 17.78%, being only 0.01 percentage point more than the antecedent. This demonstrates that these institutions achieved the highest coverage of equity on the risk compared with the other banks studied.

Next, the traditional indexes applied to the studied banks are presented.

# 4.3 Traditional indices applied to the studied banks

Table 5 shows the traditional indexes applied to the studied banks, enabling the economic and financial measurement of these institutions.

Table 5: Traditional indices applied to the studied banks

| Tuble 3. Traditional matters applied to the stated banks |      |        |      |                                 |        |       |       |      |       |      |       |  |
|--|------|--------|------|---------------------------------|--------|-------|-------|------|-------|------|-------|--|
| Bank   |      | QUIDIT |      | INDICES OF CAPITAL<br>STRUCTURE |        |       |       |      |       |      |       |  |
|  |      |        |      |                                 |        |       |       |      |       | Thre |       |  |
|  | ILC  | Пg     | Or   | PCT                             | this   | IPL   | IRNC  | Ga   | ML    | e    | TRPL  |  |
|  |      |        |      |                                 |        |       |       | 5,70 | 35,97 | 2,05 | 29,76 |  |
| ITAU   | 2,12 | 1,09   | 0,05 | 1019,08%                        | 30,43% | 7,49% | 0,93% | %    | %     | %    | %     |  |
|  |      |        |      |                                 |        |       |       | 5,42 | 32,78 | 1,78 | 25,09 |  |
| Bradesco   | 2,48 | 1,09   | 0,25 | 1029,30%                        | 31,41% | 6,05% | 0,75% | %    | %     | %    | %     |  |
| BANK OF  |      |        |      |                                 |        |       |       | 3,29 | 34,53 | 1,14 | 22,43 |  |
| BRAZIL   | 2,65 | 1,06   | 0,04 | 1510,65%                        | 32,47% | 8,60% | 0,77% | %    | %     | %    | %     |  |
|  |      |        |      |                                 |        |       |       | 5,18 | 31,38 | 1,62 | 13,34 |  |
| santander  | 1,65 | 1,16   | 0,29 | 624,75%                         | 59,88% | 2,61% | 0,75% | %    | %     | %    | %     |  |
|  |      |        |      |                                 |        |       |       | 4,57 | 28,27 | 1,29 | 15,73 |  |
| Banrisul   | 1,57 | 1,14   | 0,25 | 920,80%                         | 64,90% | 5,60% | 1,32% | %    | %     | %    | %     |  |

Source: elaborated by the author based on the financial statements of the selected banks.

The results of the analyses by the traditional indices will be presented by means of graphs for assistance in interpreting these indices. Banco do Brasil presented the highest rate of current liquidity, demonstrating a greater capacity to pay its commitments in the short term. Banco Santander presented the highest overall liquidity index, demonstrating greater capacity to pay for its short-and long-term obligations, related to the others. Besides also having the highest rate of immediate liquidity, demonstrating greater availability to immediately pay off their short-term debts.

In an analysis of the index of immobilization of shareholders 'equity, Banco do Brasil demonstrated that it has the highest index, which entails less availability of own resources, resulting in the increase in dependence on third-party capitals to finance the Its current assets, which justifies its higher rate of participation of third-party capital.

Banco Banrisul, presented the highest debt composition index, with 64.90% of its indebtedness in the short term, in addition to the presentation of the higher rate of imoblization of non-current resources, which indicates the percentage of its resources not Currents applied in the permanent asset, being unfavorable in relation to the other banks, considering that, this index the lower the better.

In an analysis of the indices of profitability, Banco Itaú is evidenced with the best indexes, presenting a better return in relation to the invested capital. Portrayed through the largest generation of sales from its asset base; Higher net margin presented in 35.97%, that is, higher net result produced by net sales; Higher rate of return on investments, being the only one among the institutions analyzed that presented a profitability index in relation to the investment of more than 2.00% and; Higher rate of return on shareholders ' equity, presenting the highest

remuneration of the investment made by shareholder partners.

The results of the analysis by the bank indices will be presented below.

# 4.4 Bank indices applied to the banks studied

Table 6 shows the banking indices of solvency and liquidity applied to the studied banks, enabling the measurement of the performance trend of these institutions.

Table 6: Bank indices applied to the banks studied

|           | SOLVENCY AND LIQUIDITY INDICES |        |         |   |                |        |  |  |  |
|-----------|--------------------------------|--------|---------|---|----------------|--------|--|--|--|
| Bank      | Home                           | НІМ    | IED     |   | CGP            | On     |  |  |  |
| ITAU      | 0,30                           | 4,97   | 152,90% | - | 411.479.000,00 | 35,05% |  |  |  |
| Bradesco  | 89,26                          | 432,60 | 129,82% | - | 205.889.223,00 | 37,06% |  |  |  |
| BANK OF   |                                |        |         |   |                |        |  |  |  |
| BRAZIL    | 0,32                           | 6,81   | 201,82% | - | 180.031.119,00 | 53,30% |  |  |  |
| santander | 5,67                           | 13,36  | 103,20% | - | 5.568.062,00   | 50,59% |  |  |  |
| Banrisul  | 3,06                           | 9,55   | 85,22%  | - | 1.036.229,00   | 44,45% |  |  |  |

Source: elaborated by the author.

The results of the analysis by the bank indices will be presented by means of graphs for assistance in interpreting these indices.

Banco Bradesco presented a relevant voluntary fit index compared to the other banks, being the institution that represented the highest immediate financial capacity to cover the withdrawals against the deposits to be seen at the closing date of the year Social, besides also presenting a significant index of immediate liquidity, matching with a greater availability of negotiation of its applications at any time.

The Bank of Brazil presented the highest rate of loans/deposits, and for each R \$1.00 of resources captured by the institution in the form of deposits was Lent R \$2.02; Noting that the cost of funding is usually lower than the borrowing cost, which directs better results. Besides this index, the Bank of Brazil also presented the highest rate of participation of loans, which reveals the percentage of 53.30% of its total asset applied in credit operations.

In relation to its own working capital index, Banco Itaú presented a significant negative index, which expresses high risk to the institution, that is, it relates its higher risk to a higher return compared to other banks.

The Bank of Brazil presented the lowest rate of financial independence that indicates the proportion between the shareholders 'equity and the total investments made in the asset, which relates to the higher leverage index indicating that the total asset of the bank is 16.11 times Greater than the capital invested, also related to the higher rate of immobilization of equity that indicates how much the bank applied in its permanent asset in relation to its shareholders 'equity.

The capital/Depositor ratio index was highlighted by Banco Itaú, which obtained the highest index, revealing a greater application of its own capital as a means of funding, being applied R \$0.39 of own resources for each R \$1.00 of deposits in capture. The results of the profitability and profitability indices are presented as shown in table 8:

Table 8: Profitability and profit rates.

|           | INDICES OF PROFITABILITY AND PROFITABILITY |       |        |        |        |        |        |       |        |  |  |
|-----------|--|-------|--------|--------|--------|--------|--------|-------|--------|--|--|
| Bank      | RPL  | Ride  | ML     | MF     | Cmc    | RMOC   | The    | JP    | Œ      |  |  |
| ITAU      | 22,93%                                     | 2,05% | 17,70% | 11,58% | 25,65% | 11,58% | 11,58% | 5,88% | 36,85% |  |  |
| Bradesco  | 20,06%                                     | 1,78% | 14,36% | 12,37% | 24,36% | 12,37% | 12,37% | 6,96% | 36,23% |  |  |
| BANK OF   |  |       |        |        |        |        |        |       |        |  |  |
| BRAZIL    | 18,32%                                     | 1,14% | 8,66%  | 13,13% | 37,25% | 13,13% | 13,13% | 9,84% | 19,53% |  |  |
| santander | 11,77%                                     | 1,62% | 14,07% | 11,54% | 12,98% | 11,54% | 11,54% | 6,36% | 49,45% |  |  |
| Banrisul  | 13,59%                                     | 1,29% | 9,11%  | 14,19% | 18,45% | 14,19% | 14,19% | 9,91% | 21,40% |  |  |

Source: elaborated by the author.

As well as in the analysis of the traditional indices (TRPL, TRI and ML), Banco Itaú also presented

the largest banking indices related to return on shareholders 'equity, return on total investment, and net

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margin, evidencing greater Profitability over the invested capital.

Banco Banrisul had the largest financial margin, indicating that for each R \$1.00 of assets there was a 14.19% return on its financial intermediation, which relates to the same average return rate of credit operations and the same index of Profitability of assets.

In relation to the efficiency index, Banco Santander stands out for the highest index in relation to the other banks, indicating a worse productivity, that is, its operating expenses represent 49.45% of its financial intermediation revenue, far beyond the Other institutions analysed.

# 4.5 Comparative comparison of the indices of the studied banks

The analysis of the Basel, Tradional and bank indices, interpreted the information obtained by these indices, verifying the performance of the five largest publicly traded Brazilian commercial banks, with regard to the trend of Profitability, since it seeks to meet not only the satisfaction of its shareholders, but also of society as a whole, because they are companies of an important economic sector in the country that work.

Table 14 shows the comparison of the indexes of the studied banks:

Table 14: Comparative of the indices of the studied banks.

|                  | INDEX               |                            |  |
|------------------|---------------------|----------------------------|--|
| Bank             | TYPOLOGY            | RELEVANCE INDEX            | WHAT PRESENTS  |
| Itaú             | Basel               | Basel                      | Increased equity coverage over risk.   |
|                  | TRADITIONAL INDICES | Asset turnover             | Greater effectiveness in generating sales from your asset base.                            |
|                  |                     | NET margin                 | Highest net result produced by net sales.  |
|                  |                     | Rate of return on          |  |
|                  |                     | investments                | Greater profitability of assets in the period.   |
|                  |                     | Rate of return on PL       | Greater remuneration of the investment made by the shareholder.                            |
|                  | BANK INDICES        | Own working Capital        | Greater own resource by financing active operations (high risk related to higher returns). |
|                  |                     | Capital/Depositors ratio   | Greater application of its own capital as a means of capture.                              |
|                  |                     | Return on PL               | Greater remuneration of the investment made by the shareholder.                            |
|                  |                     | Return on Total            | Greater result of the business opportunities driven by the                                 |
|                  |                     | Investment                 | bank.  |
|                  |                     |                            |  |
| Bradesco         | BANK INDICES        |                            | Increased immediate financial capacity to cover withdrawals                                |
|                  |                     | Volunteer Fitting          | against cash deposits.   |
|                  |                     |                            | Increased availability of trading for your applications at any                             |
|                  |                     | Immediate liquidity        | time.  |
|                  |                     | 1                          |  |
|                  | TRADITIONAL INDICES | Current liquidity          | Greater capacity to pay commitments in the short term.                                     |
| BCO DO<br>BRASIL |                     | Immobilization of PL       | Higher percentage of PL in the permanent asset.  |
|                  |                     | Participation of third-    | Greater dependence on third-party capital and the need for                                 |
|                  |                     | party capitals             | external resources.  |
|                  | BANK INDICES        |                            | Higher uptake with lower cost for providing loans yields                                   |
|                  |                     | Loans/Deposits             | better results.  |
|                  |                     | Participation of loans     | Highest percentage of assets applied in credit operations.                                 |
|                  |                     | F' '1' 1 1                 | Lower proportion of the PL on the total investments made in                                |
|                  |                     | Financial independence     | the asset.  Total bank assets are 16.11 times greater than the capital                     |
|                  |                     | Leverage                   | invested.  |
|                  |                     | Levelage                   | mvested.   |
|                  |                     | Self-equity                | How much was applied in its permanent asset in relation to                                 |
|                  |                     | Self-equity immobilization | How much was applied in its permanent asset in relation to PL.                             |

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| santander | Basel        | Basel                    | Lower equity coverage on the risk.                            |  |  |
|-----------|--------------|--------------------------|---|--|--|
|           | BANK INDICES | Efficiency               | Higher index indicates worse productivity.                    |  |  |
|           |              |                          |   |  |  |
| Banrisul  | Basel        | Basel                    | Increased equity coverage over risk.                          |  |  |
|           | BANK INDICES | Financial margin         | Greater profit in financial intermediation.                   |  |  |
|           |              | Average return on credit | Increased financial revenue from credit operations applied in |  |  |
|           |              | operations               | credit operations.  |  |  |
|           |              |                          | Greater revenue in financial intermediation over total bank   |  |  |
|           |              | Profitability of assets  | assets.   |  |  |

Source: elaborated by the author.

Banco Itaú, in the analysis carried out in relation to the Basel index, obtained the second highest result, being 17.78%, only 0.01 percentage point behind Banco Banrisul that showed the highest Basel index, this demonstrates that these institutions reach Greater coverage of equity on the risk. In the traditional indices, referring to the profitability index, Banco Itaú was evidenced with the best indexes, presenting better returns in relation to the invested capital (higher generation of sales from its asset base; higher net margin; higher Rate of return on investments and higher rate of return on equity). In the bank indices, in relation to the Working capital index itself, it presented a significant negative index, which expresses high risk for the institution, that is, it relates its higher risk to a higher return. In the analysis of the index capital/depositors ratio was evidenced, because it obtained the highest index, revealing a greater application of its own capital as a form of uptake. Finally, it also obtained the highest bank indices related to the return on shareholders 'equity, return on total investment, and net margin, evidencing greater profitability over the invested capital.

At Banco Bradesco, a relevant index of voluntary fit was presented, being it the solvency and liquidity index, which represented a greater immediate financial capacity to cover the withdrawals against the deposits at the time of closing the year Social, in addition to presenting a significant index of immediate liquidity, matching with a greater availability of trading of its applications at any time.

The Bank of Brazil's analysis showed the highest rate of current liquidity, demonstrating that it has a greater capacity to pay its commitments in the short term. In relation to the index of immobilization of shareholders 'equity, it has shown that it has the highest index, which entails lower availability of own resources, resulting in increased dependence on third-party capitals to finance its assets Which justifies its higher rate of participation of third-party capital. In bank indices, Banco do Brasil presented the highest rate of loans/deposits, and

for each R \$1.00 of resources captured by the institution in the form of deposits was lent R \$2.02; It is observed that the cost of funding is usually lower than the borrowing cost, which directs better results. In addition to these indices, Banco do Brasil also presented the highest lending participation index, which reveals the percentage of 53.30% of its total asset applied in credit operations. It also presented a lower rate of financial independence that indicates the proportion between equity and total investments made in the asset, which relates to the higher leverage index indicating that the total asset of the bank is 16.11 times greater than the Capital invested, also related to the higher index of equity immobilization, which indicates how much the bank has applied in its permanent asset in relation to its shareholders 'equity.

Banco Santander, in analysis of the Basel index, obtained the lowest index of the studied banks, presenting 14.30%, thus demonstrating that it reached a lower coverage of the shareholders 'equity on the risks compared to the other banks analyzed, However, taking into account the limits required by the regulation. In relation to the efficiency index, it obtained the highest index, indicating a worse productivity, that is, its operating expenses represent 49.45% of its revenue from financial intermediation, far beyond the other institutions compared.

Finally, Banco Banrisul presented the highest index in relation to the calculation of the Basel index, making up the index of 17.79%, demonstrating that it achieves greater coverage of equity on the risk. It also presented a greater financial margin, indicating that for each R \$1.00 of asset, there was a return of 14.19% in its financial intermediation, which relates to the same average return rate of credit operations and with the same profitability index of Active.

### V. FINAL CONSIDERATIONS

The objective of this work was to develop a comparative study between the Basel indices of the five largest publicly traded Brazilian commercial banks, such

as Itaú, Bradesco, Banco do Brasil, Santander and Banrisul, according to net income End of 2015, in contrast with the analysis of the traditional and banking indices.

In order to achieve the proposed objective, initially, a bibliographical survey was carried out on the topic, with terraces on the issues related to work, after analyzing the Basel indices and the financial indices And banking, developing a comparative study between these indexes applied to the selected banks.

The research problem was based on the study of economic and financial indices in commercial banks, the theory in practice was applied, estimating the probability that the application of the traditional and banking financial indices could demonstrate the Existence of a direct relationship between them, which indicates a tendency of profitability.

The results indicate through the application of the traditional indices of liquidity, which was highlighted for Banco Santander, which stood out by two indexes (ILG and ILI) and, by the application of bank indices of solvency and liquidity, there was emphasis on the bank Bradesco and Banco do Brasil, which stood out also by two indices (EV, LI and IED, PE respectively), however, these indexes did not indicate evidence of profitability trend, as proposed.

By applying the traditional indices of capital structure and the application of bank indices of capital and risk, the Bank of Brazil was evidenced by five indices (PCT, IPL among the traditional and ICP, L and IF among the bank), demonstrating greater Dependence on third-party capitals, that is, low financial independence, however, these indices also did not indicate evidence of profitability trend, as proposed.

During the development of the proposed study, it was perceived that Banco Itaú reached the highest net income among the institutions studied, being R \$26,156,000,000.00. In an analysis of the Basel index, which measured the percentage of assets required to cover the risks, Banco Itaú, despite having a 0, 1% index lower than Banco Banrisul that obtained the highest percentage, stood out in this regard, presenting 17.78% index. When the traditional indices of profitability and the bank indices of profitability and profits were applied, Banco Itaú was unanimous in the best traditional indices (GA in 5.70%, ML in 35.97%, TRI in 2.05% and TRPL in 29.76%) And it was highlighted in three bank indices (RPL in 22.93%, ML in 17.70% and RIT in 2.05%), with higher return on shareholders ' equity, higher return on total investment, and higher net margin. The tendency of higher profitability obtained is evidenced through these indices.

Although the traditional indices of liquidity and capital structure and; Of the banking indices of solvency and liquidity and capital and risk, produce an important role in providing information on the performance of a company, are expendable in terms of investigating the trend of profitability, because the response of the relationship of Basel indices and the traditional and banking indices that aimed at profitability trend proved through the application of the indices of profitability and profit.

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