



**DETERMINANTS OF VOLUNTARY DISCLOSURE:
A Study in the Brazilian Banking Sector**

**DETERMINANTES DO *DISCLOSURE* VOLUNTÁRIO:
Um Estudo no Setor Bancário Brasileiro**

**DETERMINANTES DE DIVULGACIÓN VOLUNTARIA:
Un Estudio en el Sector Bancario de Brasil**

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ABSTRACT

Disclosure theory assumes the wide availability of information to users, increasing the level of corporate transparency and reducing information asymmetry common to the business

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environment. This research aims to investigate the factors influencing the level of voluntary disclosure by companies in the Brazilian banking sector. Corporate reputation (REP), firm size (TAM), performance (DES), and internationalization (ADR) were the variables used as factors influencing the level of disclosure. The sample was composed of the 100 largest Brazilian banks in relation to total assets in 2012. The methodology technique used multiple linear regression. The evidence revealed that the corporate reputation and the size of the companies had a significant and positive relationship with the level of voluntary disclosure. In this sense, the larger the company and higher the standard of corporate reputation, the higher the level of corporate disclosure. Performance and internationalization were not statistically significant.

Keywords: Voluntary Disclosure; Disclosure Theory; Banking Sector.

RESUMO

A Teoria da Divulgação pressupõe a ampla disponibilidade de informações aos usuários, aumentando o nível de transparência corporativa e reduzindo a assimetria informacional comum ao ambiente empresarial. Essa pesquisa tem por objetivo averiguar os fatores que influenciam o nível de *disclosure* voluntário das empresas do setor bancário brasileiro. Reputação corporativa (REPT), tamanho da empresa (TAM), desempenho (DESP) e internacionalização (ADR) foram as variáveis utilizadas como fatores capazes de influenciar o nível de *disclosure*. A amostra foi composta pelos 100 maiores bancos brasileiros em relação ao seu ativo total no ano de 2012. Como metodologia, utilizou-se a técnica de regressão linear múltipla. As evidências revelaram que a reputação corporativa e o tamanho das empresas apresentaram uma relação significativa e positiva com o nível de *disclosure* voluntário. Nesse sentido, quanto maior a empresa e melhor nível de reputação corporativa, maior é o nível de evidenciação corporativa. Desempenho e internacionalização não apresentaram significância estatística.

Palavras-chave: *Disclosure* Voluntário; Teoria da divulgação; Setor Bancário.

RESUMEN

La Teoría de Divulgación asume la amplia disponibilidad de información a los usuarios, lo que aumenta el nivel de transparencia de las empresas y reduce la asimetría de información, común en el entorno empresarial. Esta investigación tiene como objetivo explorar los factores que influyen en el nivel de divulgación voluntaria de las empresas en el sector bancario brasileño. La reputación corporativa (REPT), el tamaño de la empresa (TAM), el rendimiento (DESP) y la internacionalización (ADR) fueron las variables utilizadas como factores que influyen en el nivel de divulgación. La muestra se compone de los 100 bancos brasileños más grandes en relación con sus activos totales en el año 2012. La metodología utilizada fue la técnica de regresión lineal múltiple. Las pruebas revelaron que la reputación corporativa y el tamaño de las empresas tenían una relación significativa y positiva con el nivel de divulgación voluntaria. En este sentido, cuanto mayor sea la empresa y nivel de reputación corporativa, mayor es el nivel de información divulgada por las empresas. El rendimiento y la internacionalización no fueron variables estadísticamente significativas.

Palabras clave: Divulgación Voluntaria de Información. Teoría de la divulgación. Sector Bancario.

1. INTRODUCTION

Due to the high volume of resources traded in the international arena, the search for greater disclosure of financial information, accountability and ethical behavior by companies has increased in Brazilian scenario. As a result of this trend, an improvement is expected in

the relationship between organizations and stakeholders. The more relevant the information provided by organizations, the better they are viewed in the eyes of the public.

Fernandes (2011) found that there is little research on the disclosure theory in Brazil. Thus, the author sought references in studies of several other authors, including the precursors of research on voluntary disclosure, Verrecchia (1983, 2001) and Dye (2001), which concluded that “managers define the information that will be presented to stakeholders, those trust the information provided, and make decisions from these disclosures” (FERNANDES, 2011, p. 2).

Literature has not reached a consensus on the level of development of the theory of disclosure. While Dye (2001) believes that this theory is well developed, Verrecchia (2001) concluded that there is no comprehensive theory and uniformity able to provide support for further research. Salotti and Yamamoto (2006) indicated that disclosure is mandatory or voluntary. This generated debate among researchers. Scholars in favor of mandatory disclosure argue that the companies do not provide sufficient information to investors, but scholars in favor of voluntary disclosure believe that there are incentives enough for companies to provide all the information that satisfies investors.

Michelon (2007) found in their study four categories of information. The first category deals with the disclosure of strategic information, which indicates basic company information, such as objectives of management, business strategy, governance, environment, and competitive products and markets served. The second category, which includes the disclosure of environmental information, involves the environmental impacts of the company's activities in addition to their environmental policies. In the third category, social information disclosure comprises the dissemination of social aspects of company activities, such as labor and human rights, among others. Finally, the disclosure of financial information covers the financial and operating information of organizations.

Considering the importance of providing adequate information to stakeholders, it is important to emphasize accountability - considered the reason for the accounting - the meaning of which is directly associated with reliability and is the result of an adequate level of disclosure. Accountability also involves an obligation to be accountable from the results of decisions or actions with some frequency, in order to prevent the misuse of power and other forms of inappropriate behavior of others (NAKAGAWA, 2007).

Several national and international studies have investigated the determinants of voluntary disclosure. Factors such as corporate reputation (CRUZ; LIMA, 2010; ZENG *et al* 2012), size (HOSSAIN; REAZ, 2007; BARAKO, 2007; MURCIA, SANTOS, 2009; CROSS; LIMA, 2010; UYAR; KILIC; BAYYURT, 2013; GHASEMPOUR ; YUSOF, 2014), performance (WANG; SEWON; CLAIBORNE, 2008), internationalization (MURCIA, SANTOS, 2009), among others, are mentioned in the literature as determinants of voluntary disclosure.

Due to the lack of studies of this nature in the banking sector (HOSSAIN; REAZ, 2007), the following research problem was formulated: **What factors influence the voluntary disclosure within the Brazilian banking sector?**

Based on research that points the determinants of voluntary disclosure and elaborate research problems, the goal of this research is to examine whether corporate reputation, size, performance and internationalization influence the level of voluntary disclosure by companies in the Brazilian banking sector. To achieve this goal, a multiple regression model was chosen as the method of analysis.

Due to the lack of studies on voluntary disclosure in the Brazilian banking sector, this study is justified by increasing knowledge on this subject by determining whether the

evidence obtained in the national literature (MURCIA, SANTOS, 2009; CROSS; LIMA, 2010; SOUZA et al, 2014) applies to the Brazilian banking sector.

This study is divided into six sections. The introduction presents the research problem, objectives and rationale for its development. In the theoretical framework, the fundamentals of disclosure theory will be exposed, as well as national and international research on the subject. The third topic deals with the methodological steps taken to prepare this research. Next, the results will be presented and discussed. The fifth section presents conclusions. Finally, the last section lists bibliographical references.

2. CONCEPTUAL FRAMEWORK

The theoretical framework consists of two sections. The first reviews the foundations of disclosure theory, with emphasis on the characteristics of voluntary disclosure. In the second section, the national and international literature on the subject will be reviewed, emphasizing the determinants of voluntary disclosure obtained in past research.

2.1. Disclosure theory

Disclosure theory is perceived as a synonym for evidenciation or dissemination of information. In this sense, Bushman, Piotroski and Smith (2004) associated the disclosure of financial information to corporate transparency. The authors defined this disclosure as the wide availability of company-specific information for those outside the organization. Such information can be revealed through corporate reports, providing voluntary information as required by law, and may be further quantitative or and qualitative as positive or negative.

Verrecchia (2001), after highlighting the lack of a unified disclosure theory, sought to categorize the models that deal with the subject in three major areas: (a) if the disclosure is economically efficient in general; (b) the effect of disclosure on the aggregate behavior of economic agents; and (c) the circumstances surrounding the decision to make private information public.

First, researchers seek answers to the general question of whether the disclosure of information is cost-effective in general; that is, they seek to evaluate the informational preferences of economic agents. Second, researchers focus on the effect of disclosure on the behavior of economic agents. Literature attempts to empirically explain the association between disclosure and responses from the market, mainly through the behavior of asset prices and trading volume. Finally, the literature devotes attention to the circumstances surrounding the decision to make public the private information. According to Hossain and Reaz (2007), there is a consensus that the decision to release or not to release information is based on weighing the costs and benefits of making the information public.

The objective of the disclosure is the reduction of asymmetric information. Pereira (2008) stated that the reduction can be made on a compulsory or voluntary basis. In a company's disclosure, besides legally required information, there is all relevant information for stakeholders' decision-making process, allowing greater transparency for the company in the corporative environment (LIMA, 2007).

Disclosing required information is related to Article 176 of Law 6,404 of December 15, 1976, which deals with the financial statements in corporations. As per this law, the board of these corporations must provide financial information through statements - DRE, balance sheet, cash flow statement, statement of retained earnings at the end of the fiscal year, etc. Such statements must clearly express the financial position of the company and the changes during the year.

Yamamoto and Salotti (2006) asserted that the mandatory disclosure has the function of giving credibility to voluntary disclosure (i.e., mandatory disclosure is seen as a primary

source of information that enables the veracity of voluntary disclosure). The authors added that it is possible to exist an environment in which companies inform the market of their relevant information with credibility.

According to Salotti and Yamamoto (2008, p.3), voluntary disclosure "deals with the development of the Disclosure Theory considering the disclosure as an endogenous process, i.e. are considered the incentives for managers and / or companies to disclose information". According to Murcia and Santos (2009), theory of voluntary disclosure provides the conceptual framework for analyzing the conditions under which the information is voluntarily disclosed by the companies, because of strategic interaction with external agents.

2.2. Determinants of Voluntary Disclosure

This research investigates the influence of four entrepreneurial characteristics (reputation, size, performance, and internationalization) on the level of voluntary disclosure by companies in the Brazilian banking sector. This section is intended to justify the reason for using these factors to explain the level of disclosure of the companies studied.

Roberts and Dowling (2002) argued that corporate reputation is an organizational attribute that determines if stakeholders see the organization in a good or bad way. The authors added that a good reputation, in general, is determined by the quality of previous work of the organization (i.e., it constitutes the basis of practices that reflect identity and image). In this sense, it is understood that corporate reputation is now considered an important asset for organizations. Moura et al (2014) stated that by seeking reputation, a company interacts with external environment and keeps changing with it.

In the perception of Castro (2009), corporate reputation is a set of judgments about the company that considers the financial, social, and environmental analysis of an organization, thus pointing to the need to measure the reputation using three perspectives. The first perspective is reputation as an asset, in which there is a link among the reputation, the company's value, and the company's relevance to the competition among firms. The second perspective is reputation as an assessment, in which the judgment and evaluation are references to corporate reputation. The third perspective is reputation as a perception, in which the representations of knowledge and emotion are considered as relevant elements, as those contemplate a consciousness about the firm. In this sense, the largest voluntary disclosure level can promote and enhance the reputation of organizations.

The second factor evaluated in this research is the size of the company. Verrecchia (2001) explained that the larger companies have greater capacity to bear the costs associated with the disclosure process. In addition, due to the large amount of stakeholders involved with the organization, there is a greater need for disclosure of voluntary information.

Evaluating the performance of the organization, Wang, Sewon, and Claiborne (2008) stated that due to adverse selection, higher profitability can induce the organization to offer a greater volume of information to illustrate their ability to maximize the wealth of stakeholders. In addition, the management of a profitable company can be proud of their performance and use the information disclosure as a means to improve its image.

Finally, on the international factor, companies tend to be influenced by the market in which it trades its securities. In this sense, organizations that trade securities on international markets tend to promote a greater volume of information, especially if the securities are traded in developed country markets.

2.3. Empirical Evidences

This section is intended to highlight the main national and international research on the factors influencing the level of voluntary disclosure of organizations. Internationally, the

research of Hossain and Reaz (2007), Barako (2007), Wang, Sewon and Claiborne (2008), Zeng et al (2012), Uyar, Kilic and Bayyurt (2013) and Ghasempour and Yusof (2014) stand out. Nationally, the highlights include efforts of Murcia and Santos (2009), Cruz and Lima (2010), Klan and Beuren (2011) and Sousa et al. (2014).

Hossain and Reaz (2007) investigated the extent of voluntary disclosure of 38 companies in the Indian banking sector. The study considered the annual financial statements for the year 2002. The authors associated voluntary disclosure of information of the sampled companies to six specific characteristics: (a) size, (b) age, (c) multiple listing, (d) the complexity of the business, (e) board composition, and (f) proportion of tangible assets. The evidence revealed that Indian banks are reporting a considerable amount of voluntary information. In addition, the results indicated that the size of the company and the proportion of tangible assets are significant variables that can be used to explain the level of disclosure. In this sense, financial institutions with higher values of total assets (proxy for size) and a higher proportion of tangible assets disclose more voluntary information.

Barako (2007) assessed the factors associated with voluntary disclosure of four types of information: (a) general and strategic, (b) financial, (c) future-oriented; and (d) social, in the annual reports of Kenyan companies. The study investigated the extent to which the attributes of corporate governance, ownership structure, and firm characteristics influence the voluntary disclosure of the companies. The evidence showed that the disclosure of all types of information was influenced by governance, ownership structure and the characteristics of the company. In particular, the results showed that firm size positively influences the disclosure of voluntary information by Kenyan companies. Eng and Mak (2003), after evaluation of financial and non-financial companies listed on the Singapore Stock Exchange in 1995, also found evidence that large companies have a higher level of voluntary disclosure.

Wang, Sewon and Claiborne (2008) examined the determinants of voluntary disclosure of annual reports of Chinese companies that issue shares in the domestic and foreign market. The evidence indicated that the voluntary disclosure level is positively related to the proportion of State ownership, foreign ownership, the company's performance measured by return on equity and reputation of the contracted auditor.

Zeng et al. (2012), after studying manufacturing companies in China in the period from 2006 to 2008, found evidence that image and organizational reputation have a significant positive influence on the level of disclosure of environmental information; that is, companies with the best reputation tend to disclose more environmental information.

Uyar, Kilic and Bayyurt (2013) investigated the factors that impact the level of voluntary disclosure of Turkish manufacturing companies listed on the Istanbul Stock Exchange in 2010. The evidence showed a positive association between the level of voluntary disclosure and firm size, size of the audit firm, the proportion of independent directors on the board and corporate governance. Other variables, such as profitability, purse listing time, and board size were not statistically significant.

Ghasempour and Yusof (2014) investigated the determinants of voluntary disclosure in a sample of 65 companies listed on the Stock Exchange of Tehran from 2005 to 2012. The evidence showed that the company's size, the complexity of the business, earnings volatility, and the company's value had a significant positive influence on voluntary disclosure, while the financial leverage showed a negative relationship. The financial performance was not statistically significant.

Murcia and Santos (2009) evaluated the factors that could explain the level of voluntary disclosure of public companies in Brazil. The sample was composed of the 100 largest non-financial public companies in 2007. Nine factors were tested: audit, profitability, internationalization, size, corporate governance, debt, stock control, issue of shares, and

sector. Through multiple regression analysis, it was observed that only the variables sector, internationalization, size and governance were statistically significant.

Cruz and Lima (2010) evaluated whether corporate reputation can be considered one of the drivers of voluntary disclosure level of publicly traded companies in Brazil. The evidence showed that corporate reputation showed a significant positive relationship with the voluntary disclosure. Additionally, the company's size also showed a significant positive relationship. Accordingly, companies with a higher level of reputation tend to promote a greater amount of information volunteers.

Klan and Beuren (2011) evaluated whether business characteristics influenced the disclosure of financial performance indicators in the form of voluntary disclosure in their annual reports. They analyzed 90 companies listed on the "Novo Mercado" segment of the BM&FBovespa in 2008. The independent variables were the profitability and return on investment, leverage, liquidity, efficiency, company size, and sector of activity. However, none of these variables showed statistically strong significance.

Sousa et al. (2014) investigated the relationship between market value, measured by Tobin's Q, and voluntary disclosure of economic, social, and environmental information in reports of companies listed on BM&FBovespa from 2007 to 2011. The evidence pointed to a significant relationship, positive and negative, between the market value and the economic and environmental voluntary disclosure, respectively. Social voluntary disclosure was not statistically significant.

3. METHODOLOGICAL PROCEDURES

This study provides a quantitative-descriptive approach whose main purpose is the analysis of facts characteristics (MARCONI; LAKATOS, 2008). This research can also be classified as descriptive as it "has as main objective the description of certain population characteristics or phenomenon or establishing relationships between variables" (GIL, 2008, p. 28).

To answer the proposed research question, a sample of the 100 largest Brazilian banks, in relation to its total assets in 2012, was selected. The sample was intentional and data used were those available on the Central Bank website (BACEN).

3.1. Research Hypotheses

Hypotheses developed in this research were based on Brazilian surveys (e.g., MURCIA, Santos, 2009; CROSS; LIMA, 2010; KLAN; BEUREN, 2011; SOUSA et al, 2014) and international surveys (e.g. HOSSAIN; REAZ, 2007; BARAKO, 2007; WANG ; SEWON; CLAIBORNE, 2008; ZENG et al, 2012; UYAR; KILIC; BAYYURT, 2013; GHASEMPOUR; YUSOF, 2014) described in the theoretical framework. Table 1 shows the four research hypotheses.

Assumptions	Description
H ₁	Companies with strong reputation reveal larger volume of voluntary disclosure
H ₂	Larger companies show more voluntary information
H ₃	There is a positive relationship between corporate performance and the level of voluntary disclosure of companies
H ₄	Companies with ADR have a higher level of voluntary disclosure

Table 1: Research Hypotheses.

Source: the Authors.

3.2. Models and Variables

To check the influence that independent variables have on the level of voluntary disclosure of companies, this study adopted a multiple regression model. The model tested in this research was the disclosure as a dependent variable and the reputation, size, performance, and internationalization as independent variables. In this model, the slope coefficients were constant but the intercept varies between individuals, which is one way to take into account the individuality of each company (GUJARATI; Porter, 2011). The model has the following form:

$$DIS_i = \beta_1 + \beta_2 REP_i + \beta_3 TAM_i + \beta_4 DES_i + \beta_6 ADR_i + \varepsilon_i$$

Where:

DIS = voluntary *disclosure* level

REP = Corporate reputation

TAM = Company Size

DES = Company Performance

ADR = Internationalization

Thus, hypotheses were tested for each of the model's independent variables (REP, TAM, DES, and ADR). Like the study of Cruz and Lima (2010), variables used in the proposed model were not directly observable, so it was necessary to choose proxies for this purpose that, as Salotti and Yamamoto (2008) stated, are real measures employed to represent theoretical concepts. The following describes the appropriate proxies for this study.

3.2.1. Voluntary disclosure (DIS)

The criterion used to measure the voluntary disclosure of the companies in this study was the criteria used by Lima (2007). The technique consists of a checklist of the degree of voluntary disclosure. It was found that there are 52 items of voluntary information, including strategic, economic and financial, and environmental and social. Each was assigned 0 for lack of information and 1 for its existence. Thus, the maximum score allowed would be 52. Next, the score obtained by each company was split by the total maximum score, which provided an indicative ratio of corporate voluntary disclosure of the company (CRUZ; LIMA, 2010). Table e presents the checklist of the degree of voluntary disclosure by companies.

Table 2: Checklist of the Degree of Disclosure of Voluntary Disclosure

Group Note: Additional Information Administration report

Employee training information

Information on hygiene and safety of employees

Information on customer satisfaction ratings of the company

Information on cultural incentive programs

Information on relationship programs with the community

Information practices of Corporate Governance

Group Note: Income Statement (DRE)

Detailed explanation of the accounts in DRE and Explanatory Notes (NE)

Group Note: DMPL

Details of subdivisions of reserve accounts in NE

Group Note: Lay-out of the NE and Management Report

Use of graphics features

Group Note: Additional Reports

Cash Flow Statement

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 Value Added Statement

 Social Report

 Balance in CMI

 DRE in CMI

 DMPL in CMI

 Reconciliation of profits and the Equity (PL) by LS and CMI

Group Note: Further information on Check-List

 Open cost accounts and other DRE expenses

 Fiscal Council Statement

Group Note: Economic Value Added Statement

 Published statement of added economic value - VEA

 VEA in CMI

 Disclosed methodology for calculating the cost of equity

Group Note: Environmental Information

 Actual statements and intent of the policy

 President's commitments to sustainable development

 Environmental goals and objectives

Environmental audit

 Environmental review

 Scope of the audit

 Evaluation, including independent opinion

Environmental management system

 ISO 14001

 EMAS

Environmental impacts

 Waste

 Residuals

 Packaging

 Pollution

 Recycling

 Ecological product development

 Decontamination and land reclamation and water

 Conservation of natural resources

 CO2

Energy

 Efficient use in the industrial process

 Use of waste materials for energy production

 Energy savings by recycling products

 Effort to reduce energy consumption

Environmental financial information

 Costs and environmental investments

 Extraordinary environmental expenditures (fines)

 Environmental liabilities

 Accounting policies of environmental items

 Contingencies and environmental commitments

 Environmental insurance

Other environmental information

 Environmental education

 Encouragement and support for environmental research

Forests

 Reforestation

Water

 Water treatment and reuse policies used in processes

Source: LIMA (2007).

3.2.2. Independent variables

In order to verify the influence of corporate reputation, size, performance, and internationalization on voluntary disclosure in companies in the banking sector in Brazil, this study opted for using proxies representative of the independent variables, as shown by the national literature (CRUZ; LIMA, 2010).

In order to classify the reputation of the companies in this study, the initial intent was to use the criterion adopted by Michelin (2007), in which the proxy was used or not participation of companies in the Dow Jones Sustainability Index (DJSI). Thus, for purposes of this study, the proxy would be the verification of whether or not the companies participated in the Corporate Sustainability Index (ISE) of BM&FBovespa, which is a Brazilian version of the index used by Michelin, as Cruz and Lima (2010) observed. However, the idea was discarded because only 22% of the sample was in the stock market, which made this an improper classification. The research of Roberts and Dowling (2002), Toms (2002), Hasseldine, Salama and Toms (2005) and Michelin (2007) used a proxy variable for corporate reputation and provided the conditions for measuring the business reputation of this research. For the authors, the proxy for the above variable was represented by obtaining the Sustainability Report, which was a dummy variable, assigning 1 for the presence of the report and 0 for its absence.

As for the other variables in the model, the variable size (TAM) was calculated by the natural logarithm of the total assets of the company, the variable performance (DES) was represented by ROE (Return on Equity), and internationalization (ADR) was represented by a dummy variable that indicates whether or not the company has American Depositary Receipt.

4. DATA AND RESULTS

Initially, a descriptive analysis of data was performed. According to Table 3, the dependent variable, disclosure (DIS), showed a mean of 0.18 with a standard deviation of 0.15 and a median of 0.12. It was also observed that 62% of the observations fell below average.

Table 3: Explanatory analysis of data

Measures	DIS	REP	TAM	DES	ADR
Average	0.1833	0.2000	14.7713	0.0066	0.0700
Median	0.1200	0.0000	14.8000	0.0300	0.0000
Standard deviation	0.15491	0.40202	2.45471	0.13931	0.25643

Source: The Authors

The independent variables REP and ADR were classified from a dummy variable. Thus, the variable Reputation (REP) had a mean of 0.2 and standard deviation 0.4. The variable Internationalization (ADR) averaged 0.07 with a standard deviation of 0.26. The median of these two variables was 0.0. The variable size (TAM), represented by the natural logarithm of the total assets of the sample had an average of 14.77. Its standard deviation was 2.45, the lowest standard deviation from the average of the variable, and a median of 14.80. As for the performance (DES), its average was 0.0066 with a median of 0.03. The standard deviation was 0.14.

After the descriptive analysis, multiple linear regression analysis was generated. The parameters are described in Table 4. The results show that the Reputation (REP) had a positive and significant coefficient of 0.196. Thus, when the reputation grows, the disclosure index grows in proportion to the coefficient. As for size (TAM), the regression

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coefficient was 0.026, also statistically significant. Thus, it is evident that as TAM increases, the voluntary disclosure also increases.

Table 4: Results of the Model 1

Explanatory variable	Coefficients	Standard Error	T statistic	<i>p</i> – value	VIF test
Constant	-,242	,069	-3,535	,001	
REPT	,196	,027	7,126	,000	1,453
TAM	,026	,005	5,407	,000	1,675
DESP	-,032	,068	-,479	,633	1,064
ADR	,014	,041	,339	,735	1,295
Description	Value		Description	Value	
R	0,817		Durbin-Watson	2,000	
R ²	0,668		F Test	47,740	
Adjusted R ²	0,654		Sig. (F Test)	0,000	

Source: The authors

The results show that the coefficient of determination R² was 66.8%, indicating a good explanation of the variance of the dependent variable. The Durbin-Watson statistic indicated that there is no autocorrelation issues in the residuals. It was also observed by the F test, that the model is highly significant (Sig = 0.000), (i.e. at least one of the explanatory variables is significant to explain the behavior of disclosure).

The variables business performance and internationalization had regression coefficients, respectively, of - 0.032 and 0.014. As to their business performance, it was observed an inverse relation with the level of disclosure volunteered. However, these variables showed a low statistical significance (DES = 0.633, ADR = 0.735), and using the backward procedure, these variables were excluded from the model. Thus, the new model was generated considering only the independent variables corporate reputation and size. The new model (model 2) presented the highest adjusted R². Note that the Durbin-Watson statistic is close to 2, indicating that there is no problem in the autocorrelation residues (Table 5).

Table 5: Results of Model 2

Explanatory variable	Coefficients	Standard Error	T statistic	<i>p</i> – value	VIF test
Constant	-,243	,063	-3,853	,000	
REPT	,198	,027	7,342	,000	1,420
TAM	,026	,004	5,935	,000	1,420
Description	Value		Description	Value	
R	0,816		Durbin-Watson	1,957	
R ²	0,667		F Test	96,982	
Adjusted R ²	0,660		Sig. (F Test)	0,000	

Source: The authors

Table 4 shows the new regression coefficients with the REP variables and TAM, respectively, of 0.198 and 0.026. Thus, the model can be written as:

$$DIS = - 0,243 + 0,198REPT + 0,026TAM$$

The hypothesis that companies with strong business reputation have a higher level of disclosure was supported, as the regression coefficient was positive and significant. This result corroborates the findings of Cruz and Lima (2010) and Zeng *et al.* (2012). As for the hypothesis on the size variable, it was observed that the larger the company, the more voluntary information will be presented, which also confirms the results of several national

surveys (MURCIA, SANTOS, 2009; CROSS; LIMA, 2010) and international studies (ENG; MAK, 2003; HOSSAIN; REAZ 2007; BARAKO 2007; UYAR; KILIC; BAYYURT, 2013; GHASEMPOUR; YUSOF, 2014).

Regarding the variable of performance, the hypothesis of a positive relationship with the level of disclosure was rejected due to not having statistical significance. Finally, the variable internationalization was also not statistically significant in Model 1. These results are consistent with evidence obtained by Cruz and Lima (2010).

5. CONCLUSIONS

In this research, levels of voluntary disclosure from the 100 biggest operating banks in Brazil in the year 2012, according to the Central Bank ranking, were analyzed. A multiple linear regression was used to assess the determinants that influence the level of disclosure of the voluntary sector companies. Findings showed that the banks providing greater volume of voluntary information are publicly traded or are listed on the Stock Exchange (BM&FBovespa).

The results showed that there is a positive relationship between corporate reputation and the level of disclosure, corroborating the evidence obtained by Cruz and Lima (2010). This empirical evidence may be related to the need for banks to maintain a reputation, as reported by Michelon (2007), for publicly traded companies.

The variable size (TAM) also showed a positive relationship with the level of disclosure. This means that the larger the size of the bank, the higher the level of disclosure. This may be related to lower disclosure costs, according to a study by Cruz and Lima (2010).

The variables performance and internationalization were not statistically significant with the level of disclosure volunteered. These results coincide with the research performed by Cruz and Lima (2010), but differ from the study by Murcia and Santos (2009), which concluded that internationalization influences the level of disclosure of the 100 largest public companies in the Brazilian non-financial year 2007.

This research presents a limitation on the classification of the business reputation of the banks because they do not exist in the reviewed literature and appropriate classification to this segment. Another limitation relates to the sector chosen for analysis. The results of divergence in relation to national surveys can be explained by the specific characteristics of the banking sector. However, this research contributes to the Brazilian literature by demonstrating the reality of voluntary disclosure. This paper expands the literature in the Brazilian banking sector. As contributions for future research, we suggest an exploratory study on bank reputation in order to verify the causes and factors of reputation and relationship with voluntary disclosure of this segment.

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