

*REFLEXES OF ENRON'S  
FALL: A FIFTEEN-YEAR  
PERSPECTIVE ON  
BRAZILIAN ACADEMIC  
PRODUCTIONS*

*REFLEXOS DA QUEDA DA  
ENRON CORPORATION: UMA  
PERSPECTIVA DE QUINZE  
ANOS SOBRE AS  
PRODUÇÕES ACADÊMICAS  
BRASILEIRAS*

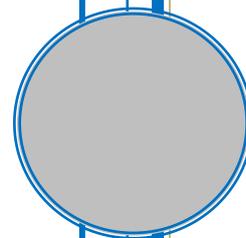
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**Abstract:**

At the end of the XX century, with the discovery of numerous financial frauds, the stock market became unstable and an uncertainty as to accounting procedure broke out. Among several cases, one was highlighted: a fall from Enron Corporation, one of the largest United States (US) companies at that time. Although the case has been extensively studied by several authors, it was not found in the literature a study that pointed out the relevance of the case to the academic productions (dissertations and theses) in Brazil, although the relevance of the theme is common sense. Through results obtained in a bibliometric research that used the keyword "Enron" in the catalog of theses and dissertations of *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES), twenty-eight *stricto sensu* postgraduate studies were found between 2002 and 2016. There is supremacy of master's dissertations in relation to doctoral theses. Evident is also the majority of productions by private institutions, in addition to the concentration of such productions in the Southeast region of Brazil, especially in the state of São Paulo. Another finding relates to the programs that originated the work: Accounting and Business Administration Programs account for 82% of total productions that are linked to Enron in some way. The results of this paper can bridge the academic gap of Enron's relevance to postgraduate teaching in Brazil.

**Keywords:** Enron. Brazilian academic productions. Doctoral Theses. Master's Dissertations.

**Resumo:**

No final do século XX, com a descoberta de inúmeras fraudes financeiras, o mercado de ações tornou-se instável e a incerteza quanto aos procedimentos contábeis eclodiu. Dentre vários casos, um destacou-se: a queda da Enron, uma das maiores empresas dos Estados Unidos da América (EUA) na época. Embora o caso tenha sido amplamente estudado por vários autores, não foi encontrado na literatura um estudo que apontasse a sua relevância para as produções acadêmicas (dissertações e teses) no Brasil, embora a importância do tema seja um senso comum. Através dos resultados obtidos por meio de uma pesquisa bibliométrica que utilizou a palavra-chave "Enron" no catálogo de teses e dissertações da *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES), foram encontrados vinte e oito estudos de pós-graduação *stricto sensu* entre 2002 e 2016. Há supremacia de dissertações de mestrado em relação a teses de doutorado. Evidente também é a maioria das produções por instituições privadas, além da concentração de tais produções na região Sudeste do Brasil, especialmente no estado de São Paulo. Outra descoberta diz respeito aos programas que originaram o trabalho: os programas de Contabilidade e Administração de empresas representam 82% do total de produções ligadas à Enron de alguma forma. Os resultados deste artigo podem preencher a lacuna acadêmica quanto à relevância da Enron para o ensino de pós-graduação no Brasil.

**Palavras-chave:** Enron. Produções acadêmicas brasileiras. Teses de Doutorado. Dissertações de Mestrado.

## 1 Introduction

In recent years, when large organizations, especially public companies, experience crises and even go bankrupt due to manipulation or fraud, accounting has been pointed out as the main protagonist in the financial scandals (Souza, & Scarpin, 2005). According to Prentice (2001), representatives of the accounting class have been more present in forums

than the lawyers themselves.

According to Souza, & Scarpin (2005), these notes have brought to light, even too much, an expression for guilt: the so-called "creative accounting". Kraemer (2004) also shows the great current use of this expression in the accounting language to denote bad faith in accounting actions.

For Silveira (2013) and Dias (2015) there are countless large-scale financial scandals in recent years, and the economic relevance of these events is gigantic. So what was the reason the Enron Corporation case was identified as one of the biggest, if not the biggest, scandals of all time?

A possible answer, according to Edwards, Hawkins, & Schedlitzki, D. (2018), it's the numerical dimension and the complexity of the scheme that occurred in the North American company. In numbers, Enron's stock losses were estimated at \$ 32 million, while employee pension funds were mitigated by approximately \$ 1 billion. As for the functioning of the fraud, the collusion between the company's managers, the audit firm and the regulator highlights this case against others (Bergamini Júnior, 2002; McLean, & Elkind, 2003).

Carvalho (2006) corroborates this understanding by stating that Enron Corporation has acquired the status of seventh largest US company and one of the world's leading in its segment (energy). Another important factor: Enron was sometimes chosen as the best place to work, as well as winning the most innovative company award in the United States (Kulik, O'Fallon, & Salimath, 2008; McLean, & Elkind, 2003; Catanach Jr., & Rhoades 2003).

Given the relevance of what happened with Enron, numerous works around the world were elaborated addressing the issue like Benston (2006), Bryce (2004), Fox (2003), Fusaro, & Miller (2002) and McLean, & Elkind (2003). With this, the objective of this study is to verify the quantity and the characteristics of Brazilian master's dissertations and doctoral theses that mention Enron from 2002 to 2016, demonstrating the relevance of the fact in academic terms to accounting science.

To fulfill this objective, this work uses bibliometric research as a methodological tool. The chronological delimitation is fifteen years from 2002 (since the bankruptcy of the company was decreed in December 2001), while the geographical delimitation of the research refers to the productions of Brazilian postgraduate programs.

Although there have been numerous previous studies of the Enron case, no work has been found in the literature that presents the effects caused by Enron on Brazilian Accounting Academy. This is, therefore, the motivating factor of the present study. It is hoped that the results of this study can elucidate the relevance of the fall of Enron Corporation to the

Brazilian accounting studies in quantitative form, since this importance is considered common sense, but without a work that proves it.

This work is segmented into six parts, which are: introduction (present reading); theoretical background (presenting the responsible parts in the case and the means used during the fraud); methodology; data analysis; conclusions and references.

## **2 Theoretical background**

### **2.1 Responsible parts**

Among all the possible responsible parts in the incidence of an accounting fraud, perhaps the managers and the accountants are the first ones questioned before the external public (Giroux, 2008). According to Bergamini Júnior (2002), due to the acts of dishonesty in the capital market practiced by these managers, in the late 1990s, the market was characterized by events such as the continuous growth in stocks, the large supply of credit and significant deficiencies.

For Mayers, & Majluf (1984), the reason for this mistrust in managers in general is due to the fact that certain information is not disclosed to the general public, making it an advantage for its holders, as a rule, the main managers of firms, which can be judged as suitability.

Nepomuceno (2002) explain that the distrust in the accounting and management of large American companies by citizens, economists and politicians has increased; for the author and for Prentice (2001), this mistrust is justified by the increase of financial illegalizations and lawsuits against large organizations over time.

According to McLean, & Elkind (2003), Enron Corporation was represented and managed largely by two members: Kenneth Lay and Jeffrey Skilling, who most of the time held the positions of president and Chief Executive Officer (CEO), respectively.

To get a sense of how the Enron managers were responsible parties in the bankruptcy of the company, it is possible to cite the work of Tang (2018), which creates a term called "Enron effect" to label, through a created index, the most dishonest managers among the companies observed in the study.

According to Bergamini Júnior (2002), the fraud in Enron probably would have been avoided if power was not as centralized as it was, because with mechanisms of control that impeded the concentration of power, the decisions taken would tend to benefit all

stakeholders. Collinson (2005) also believes that corruption in corporations is favored when there is great power in the hands of few leaders, and this is almost always derived from a romantic hope in a great hero.

Lay was a graduate in Economics of the University of Missouri and, in addition to being prominent in the academic world, was endowed with political skills. During his stay in politics, the US suffered a moment of crisis in the energy sector due to the Arab oil embargo. This fact led Kenneth Lay to resume his private career – where he would cross paths with Enron – and served as the basis for his argument in favor of market deregulation (McLean, & Elkind, 2003).

Kenneth Lay was aware of global trends and worked hard to deregulate the sector to which Enron was embedded as he believed this was the great market opportunity (Kulik, O'Fallon, & Salimath, 2008). For the purposes of conceptualization, deregulation occurs when there is a scenario where the state does not interfere in the functioning of the market, allowing individuals to act alone and with their own interests that somehow adjust the needs of the market itself (Nogami, & Passos, 2003).

Bergamini Júnior (2002) also points to Lay's political stance when he states that he was a friend and financier of former President George Walker Bush. Through this relationship, Lay participated directly in the energy policy of this management, implementing the beginning of the deregulation of the sector, as desired. According to Bryce (2003) and Fusaro, & Miller (2002), there is ample evidence that Enron managers have manipulated deregulation by arguing against the public and government the benefits of a more competitive market, but with distinct intentions that were actually intended to facilitate manipulations at Enron Corporation.

Regardless of, according to McLean, & Elkind (2003), Skilling was equally outstanding in his student performance (he was graduated in Business), even managing to finish his MBA at Harvard Business School in the select group of five best students. Skilling was recruited by famed consulting firm McKinsey & Company and, as a consultant, had his first contact with Enron. Then Kenneth Lay recruited the promising consultant for Enron and offered him the CEO position, which was only accepted on one condition: the possibility of using mark-to-market (MTM) accounting (Benston, 2006; Bergamini Júnior, 2002; McLean, & Elkind, 2003).

According to Benston (2006), Kenneth Lay seduced Jeffrey Skilling with a proposal whereby he would gain individual gains as Enron's market value evolved, and for this reason Skilling requested MTM accounting, to maximize the company's profits (and hence their

distribution), since this type of accounting records future profits, even if potential.

Carvalho (2006) and Souza, & Scarpin (2005) point to this linkage of managers' remuneration with the company's actions as the major influencer for the manipulations in Enron, since managers would seek to inflate profit at any cost.

The actions taken by top Enron executives in order to maximize the company's profit not on behalf of Enron, but for individual gains, fall on the problem of the so-called "Agency Theory" (Arnold & de Lange, 2004).

Ross (1973) argues that agency theory is one of the oldest problems of social relations. Tosi, & Gomez-Mejia (1989), when discussing the problem of agency theory, explain that initially, at the contract stage, there is still no problem, however, when agents use the asymmetries of the relation in their favor and distort the main interest (the organization), the mentioned problem starts.

According to McLean (2001), it was difficult to understand Enron's estimated results through mark-to-market accounting, since potential revenues would not always be confirmed. Benston (2006), in turn, says that the losses were not recorded by Enron accounting and were only evidenced at the time of the bankruptcy of the company. Enron's entire operation was based on the premise of MTM accounting, but to allow the use of this technique, legal permission was required to do so (McLean, & Elkind, 2003).

According to Hendriksen, & Van Breda (1999), the United States' accounting and capital market regulator is the Securities and Exchange Commission (SEC), created in 1934 to narrow the gap between the information provided by the various companies, limiting the alternatives of their choosing in the financial statements. Eizirik (1982) explains that the role of a regulatory agency in the capital market is to exercise its protective function in a generic way, not applying, except in exceptional cases, discretionary measures.

Nepomuceno (2002) argues that economics, politics and accounting are intertwined, but the intervention of the first two on the latter through the form of regulation has always brought conflicts with regard to the freedom of accountants to an effective practice of their profession. Cooper, & Robson (2005), on the other hand, point out the relevance of accounting regulation to society and the economy.

Benston (2006) reveals that after the approval of the SEC, Enron had shortly recorded revenues of US\$ 242 million based on estimates of contracts up to twenty years ahead. According to Bryce (2004), the reason for the SEC's acceptance of the MTM accounting application made by Enron is still obscure, but it is the fact that this was the great facilitator for the company's revenue generation.

Gordon (2003) says that, disregarding the fraudulent part of Enron fraud, the market was not able to protect itself minimally from the previously occurrence due to limited disclosure of the information provided, a function appropriate to the regulator. Catanach Jr., & Rhoades (2003) show that there is sufficient evidence to point to the inefficiency of analysts and the regulator in verifying Enron's results.

An audit firm has the task of providing an independent and transparent assessment to external users (Dias, 2015). Marion (1999) classifies auditing as the technique for verifying the accuracy of accounting procedures. According to Attie (1998), auditing is a branch of accounting aimed at testing equity effectiveness by issuing an opinion about it. Epstein and Geiger (1994) point out the importance of the auditors to the market in the investigation of errors and fraud and the credibility offered by the audited statements.

The revelation of the Enron fraud aroused the interest of the media and, as a natural course, the investigation reached the responsible audit firm, the renowned Arthur Andersen (Nelson, Price, & Rountree, 2008).

According to Bergamini Júnior (2002), the relationship between Andersen and Enron dates back more than a decade. Recently, many audit firms have been accused of being relevant parts in financial scandals acting in collusion with fraudulent administrations, but Arthur Andersen is the great negative example in these events (Antunes, J., Antunes, G. M. & Song, 2007).

Dias (2015) explains that the external audit service should be totally independent, and there is therefore no link with the audited company. However, Arthur Andersen provided audit and consulting services at the same time as Enron, a fact that was basically incompatible due to the different natures (Bergamini Júnior, 2002; Carvalho, 2006)

According to McLean and Elkind (2003), when SEC began the investigation at Enron, Andersen employees were instructed to destroy the work papers and, after some time, the company confessed to having acted fraudulently in the case. Bergamini Júnior (2002) and Mattessich (2005) also recite the case of the destruction of the documents by Arthur Andersen and say that the audit firm was aware of the accounting irregularities practiced at Enron prior to the discovery of the general public through information provided through a letter from a company executive.

## **2.2. Mechanisms used**

For accounting fraud, basically two tools were used: on the Asset side, the Mark-To-

Market accounting which inflated them artificially and, on the Liability side, the Specific Purpose Entities (SPE's) that hid them when necessary.

The MTM accounting is characterized by being an accounting practice of recording an asset at the current market value; being used to present a more reliable reality to the information user (Smith, Boje, & Melendrez, 2010). According to Allen, & Carletti (2008), there are two currents about mark-to-market: the argument in favor argues that this accounting better reflects the reality in the balance sheets; the opposing side, in turn, says that this practice generates a dangerous and excessive volatility of the items in the statements.

Gouveia (2009) explains that this practice has been used recklessly by inflating assets and distributing fictitious profits. This is also the view of Benston (2006) and McLean, & Elkind (2003) on Enron's management of mark-to-market use. According to Li (2010), there is no doubt about the optimistic manipulation of Enron's revenues, which according to the author, were made to satisfy outside pressures.

Benston (2006) and Li (2010) say that revenues were overvalued and losses were never recorded (until bankruptcy), so the result was completely surreal. Gouveia (2009) even claims to be the reason for Enron's bankruptcy, since the accounting model requested by Skilling allowed Enron to anticipate future contract revenues as if they were actually realized and to disregard the company's cash flow entirely.

About the other side of the accounting manipulation, in the paper presented by Hartgraves, & Benston (2002), the authors initially indicate that even accounting professionals are unfamiliar with or little knowledge about Special Purpose Societies, so-called SPE's.

According to Schwarcz (2012), initially SPE's were a means used basically to escape from legal bureaucracies, but currently, their use is focused on commonly named off-balance sheet operations, where obligations regarding the smaller company are not evidenced in the liabilities of the larger company, contrary to the consolidation principles.

According to Arnold and de Lange (2004) and Schwarcz (2002), off-balance sheet operations have enabled Enron to shift the bad quality assets to the SPE's and to receive cash flows in return. According to Fox (2003), with the architecture of this movement, Enron hidden it's debts until the moment of its bankruptcy, which culminated in the bankruptcy of purposeful societies in the same way. McLean and Elkind (2003) follow this thinking when addressing that Enron was creating fictitious money by increasing it's value without issuing shares and without incurring debts.

For the sake of numerical effects, Dias (2015) states that Enron sold goods for

unrealistic amounts to SPE's and made debts of US\$ 650 billion disappear by not presenting them in its balance sheet.

### 3 Methodology

According to Demo (1989), methodological process is the search of scientific knowledge that limits and investigates the conditions given for knowledge. Habermas (1987) corroborates the thought that the method is the guiding thread until knowledge.

In order to fulfill the proposed objective, this study was based on the technique of bibliometric analysis. This technique consists of observing and quantitatively analyzing the behavior of the researches of a certain subject during a chronological cut. The results of this type of research have high relevance in allowing the identification of the level of development of a specific area (Araújo, & Alvarenga, 2011; Martins, & Silva, 2005).

In addition, because the master's dissertations and doctoral theses are the focus of this study, the proposed bibliometric analysis follows the strand called scientometry, according to Bufrem, & Prates (2005). Vanti (2002) corroborates this understanding by pointing to scientometry as the study of scientific progress through quantitative analyzes of theses and dissertations. The choice of dissertations and theses as a research base is justified by Leite Filho, & Siqueira (2007) when they affirm that postgraduate programs represent the origin of academic production.

The proposed chronological cut was of fifteen years, beginning in 2002 due to the bankruptcy of Enron occurred in December 2001. The information was collected through the Catalog of Theses and Dissertations of the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES).

CAPES is a Brazilian public foundation established in 1951 within the Ministry of Higher Education whose central point is to improve the quality of Brazil's higher education, playing a fundamental role in the expansion and improvement of *stricto sensu* courses (masters and doctorates) throughout the Brazilian territory (<http://www.capes.gov.br/historia-e-missao>, recovered on January 14, 2018).

The Catalog of Theses and Dissertations aims to facilitate the access to information on theses and dissertations defended by postgraduate programs of the country as of 1987. The information is provided directly to Capes by programs, which are responsible for the accuracy of the data.

The word "Enron" was used as a search key in the CAPES database in the "subject"

field. Results were obtained that represent a total of 28 works defended by postgraduate programs between 2002 and 2016. The data were classified into 6 types of variables, namely: type of production; author's gender; production by institution of education; administrative category of the institution of education; demographic region of the educational institution and; nature of the postgraduate program. All information was structured in a spreadsheet in Excel<sup>®</sup> software for the subsequent analysis of results.

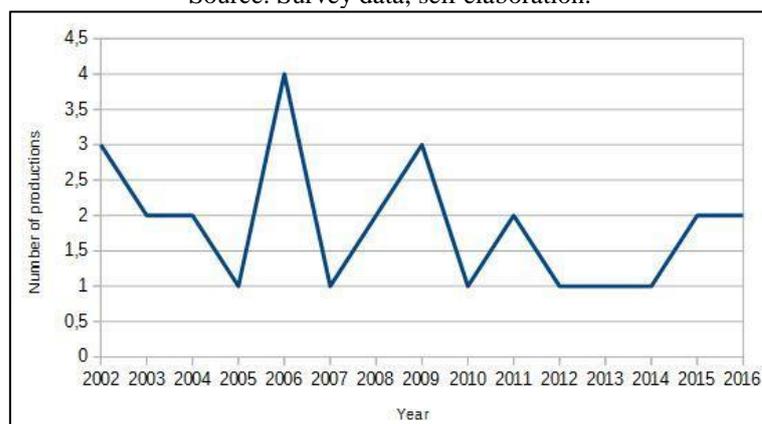
#### 4 Data analysis

The first analysis of this study concerns the type of academic production derived from the results of bibliometric research. From the perspective of 15 years (2002 - 2016), 28 academic productions were found, being only 5 doctoral theses and 23 master's dissertations. There is no explanation for such a discrepancy, but apparently the Enron case did not raise so much interest in the PhD students. Further studies may justify such an outcome.

Regardless of the type of production, it is important to emphasize that at least one thesis or dissertation mentioning Enron has been elaborated since 2002. This seems to be directly related to the fact pointed out by Rosa, Mendes, Teixeira, & Martins (2010) that earnings management was a subject little explored in the Brazilian literature when compared to the international literature, however, this changed since 2002 after the Enron and WorldCom crises.

**Figure 1: Number of productions year by year**

Source: Survey data; self elaboration.



Fonte: Autor.

As for the gender of the authors, there is a certain balance, since of the total of 28 productions, 16 were elaborated by men and 12 by women. This result is contrary to Silva,

Oliveira, & Ribeiro Filho (2005) and Leite Filho (2008), who perceived a predominance of males in scientific accounting productions in Brazil.

It is possible to verify that even after many years of the financial scandal occurred in Enron, new academic works continued to be produced. This is in agreement with Issa and Pick (2010), who explain that financial crises and large corporate frauds tend to become study focus for business literature.

The relevance of Enron's bankruptcy is evidenced when recent productions, such as that of Edwards, Hawkins and Schedlitzki (2018), treat it as a landmark in global creative accounting. More than that, the relevance of the Enron case can be perceived even in the non-academic environment, according to Murcia, & Borba (2005), which identified 193 mentions to the case in the newspapers "Valor Econômico" and "Gazeta Mercantil" between 2001 and 2004. The next analysis refers to higher education institutions that gave rise to theses or dissertations. The results are presented in the following table.

**Table 1: Productions by Institution of Education**

Name of the Institution of Educations	Initials	Productions
<i>Faculdade Campo Limpo Paulista</i>	FACCAMP	1
<i>Faculdade de Direito Milton Campos</i>	FDMC	1
<i>Fundação Escolda de Comércio Álvares Penteado</i>	FECAP	1
<i>Fundação Getúlio Vargas / SP</i>	FGV-SP	1
<i>Fundação Instituto Capixaba de Pesquisas em Contabilidade, Economia e Finanças</i>	FUCAPE	2
<i>Instituto Brasilro de Mercado de Capitais / RJ</i>	IBMEC-RJ	2
<i>Pontfícia Universidade Católica de São Paulo</i>	PUC-SP	8
<i>Pontfícia Universidade Católica do Rio de Janeiro</i>	PUC-RJ	2
<i>Universidade de Brasília</i>	UnB	2
<i>Universidade de São Paulo</i>	USP	1
<i>Universidade do Estado do Rio de Janeiro</i>	UERJ	1
<i>Universidade Federal de Minas Gerais</i>	UFMG	1
<i>Universidade Federal de Uberlândia</i>	UFU	1
<i>Universidade Federal do Paraná</i>	UFPR	2
<i>Universidade Metodista de São Paulo</i>	UMESP	1
<i>Universidade Nove de Julho</i>	UNINOVE	1

**Source:** Survey data; self elaboration.

It is possible to notice a prominence in the number of academic productions tied in some way to the bankruptcy of Enron by PUC-SP. With a total of 8 productions over the 15 years, this educational institution has an advantage of 6 productions compared to those in the second place. This result seems to be in disagreement with the research done by Catapan, & Cherobim (2010) that found results that indicate a supremacy of USP in the Brazilian scope regarding the academic productions on corporate governance between 2000 and 2010. It was expected that productions on corporate governance and on Enron were tied up, so there should

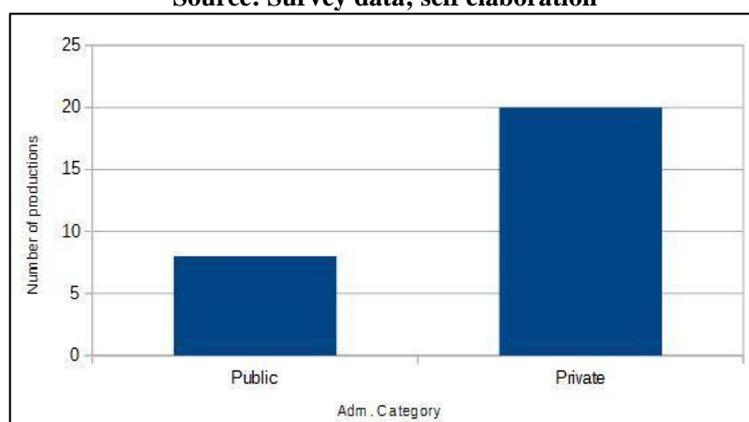
not be this divergence of results between the surveys.

The predominance of PUC-SP (approximately 28% of the total studies) follows the results found by Chung, Pak, & Cox (1992) that there is an institutional concentration in accounting scientific production.

In another hand, it is possible to mention the dissemination of productions in Brazil, since sixteen institutions have at least one academic production related to the case. This is in keeping with Diamond (2007), when stated that accounting students, aided by academia, should focus their research efforts on relevant cases that allow analysis that make a difference to society.

Next, results are presented for the number of total academic productions according to the administrative category of the higher education institutions.

**Figure 2: Number of productions by administrative category of the Institution of Education**  
Source: Survey data; self elaboration

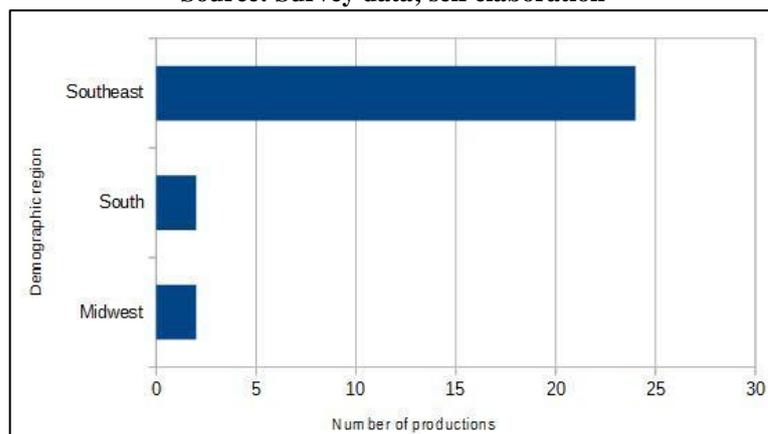


Fonte: Autor.

There is an evident difference in the quantity of academic productions between public and private institutions. The public universities presented only 8 productions against 20 of the private universities. This fact seems to be in agreement with Martins, Vasconcelos, & Aguiar (2009), who pointed to the boom in access to universities in Brazil thanks to private institutions since the 1970s, so it is natural to have more publications as these institutions present more graduates.

After this, the findings of bibliometric research about the quantity of productions in relation to the demographic region in which they were developed are presented.

**Figure 3: Number of productions by demographic region**  
**Source: Survey data; self elaboration**



Fonte: Autor.

According to Figure 3, the Southeast region leads the number of academic productions around Enron's bankruptcy with 24 productions in total. The South region and the Midwest region present two productions each, so, there is an abyss in the number of productions when compared to the Southeast region.

These results may have some relation with the research findings of Viggiano, & Mattos (2013). In this study, the authors analyzed the national admission exam for universities in Brazil and classified the results into three groups where the Southeast and South regions have the best results, the Midwest region has medium results and the North and Northeast regions have the worst results. The results of each state are shown below to deepen this analysis. The leadership of the Southeast region in relation to production is explained, according to table 2, by the high number of productions originated in the state of São Paulo.

**Table 2: Productions by State**

State	Number of productions
Distrito Federal	2
Espírito Santo	2
Minas Gerais	3
Paraná	2
Rio de Janeiro	5
São Paulo	14

Source: Survey data; self elaboration.

Finally, are shown the results of the productions according to the nature of the postgraduate programs.

**Table 3: Productions by Nature of postgraduate programs**

<b>Nature of postgraduate programs</b>	<b>Number of productions</b>
Accounting	14
Business Administration	9
Economics	1
Energy Interunits	1
Law	1
Production Engineering	1
Social Sciences	1

Source: Survey data; self elaboration.

According to Table 3, it is possible to verify that doctoral theses and master's dissertations which are linked to Enron are in great majority (14 units) born in programs of postgraduate in accounting. Business Administration programs are just behind, with 9 units, and the other programs have only one job each. There is, therefore, a concentration of interest of the subject on the part of accountants and administrators.

The Majority of the works produced by the accounting academy seems to be linked to the fact pointed by Diamond (2007) that, after the fall of Enron, many criticisms were directed at US accounting education programs, questioning their ability to aid in fraud prevention.

Confirming the tendency pointed out by Prentice (2001) and Nepomuceno (2002) that public distrust of accounting and managers grows (arousing a certain interest, even if critical) as corporate fraud occurs, the results of the research show that there is continuity of research about Enron even after 15 years past of that case. More than that, the surveys are distributed among different demographic regions and areas of knowledge, indicating an unrestricted scope of the relevance of the case.

Mayers, & Majluf (1984) had pointed out that this distrust of managers was closely linked to the informational asymmetry that provided advantages to managers with undisclosed information. With the financial scandals of 2000s, especially the Enron case, transparency measures were required by regulators and the general public, such as the emergence of the Sarbanes-Oxley Act. When we identify 28 academic productions (be they doctoral theses or master's dissertations) mentioning the fact that occurred in Enron, it is possible to have a notion of the impact of such a financial scandal on society as a whole, confirming what was exposed by Rosa Mendes , Teixeira, & Martins (2010).

## **5 Conclusions**

Financial scandals in large corporations raise the interest of new research in the search

for answers to what happened, according to Silveira (2013) and Dias (2015). Among the many cases of fraud occurring since the end of the 1990's, the Enron case was highlighted because of the magnitude of the numbers involved and its real implications in the business world.

The purpose of this study was to verify the quantity and characteristics of Brazilian academic productions (master's dissertations and doctoral theses) that were influenced in some way by the bankruptcy of Enron Corporation.

In order to fulfill this objective, this article was based on a bibliometric research as a methodological tool. A fifteen-year chronological cut, initiated in 2002 (immediately after Enron's bankruptcy) and ended, therefore, in 2016, was delimited for the research. The studies verified were the master's dissertations and the doctoral theses elaborated in Brazil that had a positive response given to keyword "Enron" in the catalog of theses and dissertations of CAPES.

Through this search were found twenty-eight academic productions that met the criteria selected. The characteristics of these works were analyzed through six variables: Type of production; Author's gender; Production by Institution of Education; Administrative category of the institution; Demographic region of the production and Nature of the postgraduate program.

The results indicate a predominance of the Enron theme in the master's dissertations. Although there is no study that could explain this relationship, it is clear that Enron's bankruptcy did not obtain the same representativeness among Brazilian doctoral students compared to the master's students. As for the gender of the authors, there was not a considerable difference, suggesting that the theme is of equal interest between men and women.

The Institution of Education with the greatest number of related works was the PUC-SP, with eight productions. This institution, added to others in the state of São Paulo, reveals this state as the largest producer of dissertations and theses about the fall of Enron in Brazil. There are 14 productions in total that, in turn, leverage the Southeast region as the largest producer in the same sense.

Another relevant fact concerns the numerical discrepancy of productions between public and private educational institutions. There are twenty productions built in private institutions versus only eight in public institutions. Perhaps this is in agreement with the greater access to higher education provided by the creation of many private universities as explained by Martins, Vasconcelos, & Aguiar (2009).

Regarding the nature of postgraduate programs, 82% representativeness were found when accounting and business administration programs were added to the total number of academic productions in Brazil. It is noteworthy that accounting programs lead the number of productions with fourteen units, indicating the greater interest of the case by students of the accounting sciences.

With these findings, this research can fill a gap in the Brazilian academy by pointing out how many master's and doctoral works in Brazil were influenced in some way by the fall of Enron and the characteristics of them.

A limitation of this research is the non-verification of studies related to Enron's bankruptcy in the form of Bachelors's monographs and articles published in journal or presented at conferences.

Given the above limitation, it is suggested to verify a larger range of studies that were influenced by Enron in Brazil in order to attest to the existence of similarities or divergences from the works presented in *stricto sensu* programs.

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