

ANALYSIS OF DISCONTINUED OPERATIONS IN BRAZIL AFTER IFRS 5 ADOPTION

ANÁLISE DAS OPERAÇÕES DESCONTINUADAS NO BRASIL APÓS ADOÇÃO DO IFRS 5

ANÁLISIS DE LAS OPERACIONES DISCONTINUADAS EN BRASIL TRAS LA ADOPCIÓN DEL IFRS 5

Adolfo Henrique Coutinho e Silva

Doutor em Ciências Contábeis – Universidade de São Paulo – FEA/USP, São Paulo-SP, Brasil
Professor adjunto da Universidade Federal do Rio de Janeiro – FACC/UFRJ, Rio de Janeiro-RJ, Brasil
adolhocoutinho@uol.com.br

Carlos Eduardo Vieira da Silva

Mestre em Ciências Contábeis – Universidade Federal do Rio de Janeiro – FACC/UFRJ, Rio de Janeiro, Brasil
Contador – Petrobras, Rio de Janeiro-RJ, Brasil
dudu.silva@globo.com

Moacir Sancovski

Doutor em Administração – Universidade Federal do Rio de Janeiro – COPPEAD/UFRJ, Rio de Janeiro-RJ, Brasil
Professor emérito da Universidade Federal do Rio de Janeiro – FACC/UFRJ, Rio de Janeiro-RJ, Brasil
msancov@facc.ufrj.br

José Alonso Borba

Doutor em Ciências Contábeis – Universidade de São Paulo – FEA/USP, São Paulo-SP, Brasil
Professor titular da Universidade Federal de Santa Catarina – UFSC, Florianópolis-SC, Brasil
j.alonso@ufsc.br

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ABSTRACT

In this paper we analyzed the effect size and frequency of Brazilian discontinued operations as well as the managers' justifications presented in the current and annual reports for discontinued operations. Our study comprises the analysis of 191 discontinued operations disclosed by Brazilian companies after the IFRS adoption, for the period from 2010 to June 2016. We hand-collected the reasons for discontinued operations based on management's explanations provided in the current and annual reports. We performed a qualitative (content analysis) and quantitative (contingency table and nonparametric statistical tests) data analysis. Consistent with the Theory of Corporate Scandals, our results show that there was no evidence that Brazilian companies made opportunistic decisions to discontinue operations in order to increase their core income. Our study extends the literature in two ways: first, by providing new evidence about the impacts of IFRS 5 adoption in a developing market; second, by showing that adopting the forward-looking approach based on managers' intention does not relate to opportunistic decisions.

Keywords: discontinued operations; firms performance; earnings management; positive accounting theory; IFRS.

RESUMO

Neste estudo, analisamos a magnitude e frequência das operações descontinuadas, bem como as justificativas apresentadas pelos administradores brasileiros nos relatórios anuais e fatos relevantes para classificar tais operações. O estudo compreende a análise de 191 operações descontinuadas divulgadas por empresas brasileiras, após a adoção das IFRS, no período de 2010 a junho de 2016. Realizamos uma análise qualitativa (análise de conteúdo) e quantitativa (tabela de contingência e testes estatísticos não paramétricos) dos dados coletados. Assim como sugerido pela Teoria dos Escândalos Corporativos, nossos resultados demonstram que não há evidências de que as empresas brasileiras tomaram decisões oportunistas para aumentar o resultado das operações continuadas. Nosso estudo amplia a literatura de duas maneiras. Primeiro, fornece novas evidências sobre os impactos de adotar as IFRS 5 em um mercado em desenvolvimento. Segundo, demonstra que a adoção da abordagem orientada para o futuro, aplicada no IFRS 5, não está associada a decisões oportunistas.

Palavras-chave: operações descontinuadas; desempenho das empresas; gerenciamento de resultados; teoria positiva da contabilidade; IFRS.

RESUMEN

En este estudio, analizamos la magnitud y frecuencia de las operaciones discontinuas, así como las justificaciones presentadas por los administradores brasileños en los informes anuales y en hechos relevantes para la clasificación de las operaciones discontinuadas. El estudio comprende el análisis de 191 operaciones discontinuadas divulgadas por empresas brasileñas, después de la adopción del IFRS, en el período de 2010 a junio de 2016. Hemos hecho un análisis cualitativo (análisis de contenido) y cuantitativo (tabla de contingencia y pruebas estadísticas no paramétricas) de los datos recolectados. Así como sugerido por la Teoría de los escándalos corporativos, nuestros resultados demuestran que no hay evidencias de que las empresas brasileñas tomaron decisiones oportunistas para aumentar el resultado de las operaciones continuadas. Nuestro estudio amplía la literatura de dos maneras. Primero, proporciona nuevas evidencias sobre los impactos de la adopción del IFRS 5 en un mercado en desarrollo. Segundo, demuestra que la adopción del enfoque orientado hacia el futuro, aplicado en el IFRS 5, no está asociada a decisiones oportunistas.

Palabras clave: operaciones discontinuadas; desempeño de las empresas; gestión de resultados; teoría positiva de la contabilidad; IFRS.

1 INTRODUCTION

The accounting literature on earnings management suggests that firms shift expenses to income-decreasing discontinued operations to increase core earnings with the purpose of meeting or beating analysts' forecasts (MCVAY, 2006; BARUA et al., 2010). Managers are recommended to opportunistically change the classification of items in the income statement as an earning management tool in order to overstate core earnings despite there being no change in bottom-line earnings. In the same way, past studies (BARNEA; RONEN; SADAN, 1976; BEATTIE et al., 1994; for example) also indicate there is an incentive to manage extraordinary items in the income statement in order to smooth the income. On the other hand, Curtis, McVay and Wolfe (2014) have recently argued there was no evidence of increased opportunism on discontinued operations in the United States after SFAS 144 adoption and concluded that the broader scope of the rule, compared with the APB 30 and similar to IFRS 5, results in a finer partitioning of recurring and nonrecurring income.

Although there are few studies analyzing the impacts of IFRS 5 on the companies' financial statements around the world and the evidence from previous studies is still

inconclusive, there is a perception that managers make opportunistic accounting choices in order to impact the users' perception of the companies' performance.

Ray Ball (2013) finds it strange that academic researchers report accounting manipulations in their earning management studies to be frequent and to have relevant effects while the specialized press and professionals appear unable to detect such manipulations and ignore evidence. Thus, Ball (2013) argues that many studies have used statistical models to measure accounting manipulations that omitted relevant correlated variables and other important methodological limitations. According to Ball (2013), this situation appears to have encouraged a research culture that tolerates inadequate studies being published that indicate the existence of accounting manipulations even when it is not the case. Recently, Sherman and Young (2016) have argued that, after IFRS was adopted, managers have goosed the numbers by manipulating operations and not accounting reports, ("Cooking the Decisions, Not the Books") in order to report better short-term performance in their companies' financial statements.

Considering this context, this study aims to analyze the following questions: (a) How often do Brazilian companies make the decision to discontinue operations? (b) What is the impact of these decisions on their core income reported in the income statement? (c) What are the reasons managers usually present to justify the discontinued operations? and (d) Can these justifications suggest these decisions are opportunistic or efficient?

Thus, in this paper we analyzed the effect size and frequency of discontinued operations as well as the Brazilian managers' justifications presented in the current annual reports. There were two purposes: the first was to analyze the impact of discontinued operations (DO) on the companies' core income presented in the financial statements due to the IFRS 5 adoption in Brazil; the second was to analyze the reasons given by managers to justify the decision to discontinue relevant operations and their relation with the firms' performance. We carried out a quantitative and qualitative research based on a content analysis of annual and current reports disclosed by Brazilian companies after the IFRS adoption (from 2010 to June 2016) to better understand the corporate decision about discontinued operations and its relation with the firm's performance.

Following the suggestion presented by Li (2010), our study links textual disclosures to the numeric accounting data. According to Li (2010, p. 143-144), the textual analysis of the managers' communication could be helpful to (a) provide a useful context to understand the

financial data and to test economic hypotheses, (b) understand the managers' incentives and private information, and (c) uncover patterns that reveal certain managerial characteristics that could have important implications in understanding corporate decisions.

Our study extends the literature in two ways. First, by providing new evidence about the impacts of IFRS 5 adoption on a developing market. So far, there have been few studies analyzing this important standard around the world. Brazil is also an important code-law case study about IFRS adoption. Second, our study shows that the adoption of the forward-looking approach based on managers' intentions does not necessarily relate to opportunistic decisions.

The importance of this study derives mainly from the practical relevance of the topic for users of accounting information and for managers, accountants and auditors involved in preparing financial statements, as well as for national and international standard-setters.

The remainder of this study is organized in four additional parts. In the second one, we present the literature review related to discontinued operations and earnings management. In the third part, we describe the methodology used in the study, highlighting how the data were collected and analyzed. In the fourth part, we present the data analyses. In the last one, we offer our final remarks.

2 DISCONTINUED OPERATIONS DEFINITION

The International Accounting Standards Board (IASB) issued the International Financial Reporting Standard 5—Non-current Assets Held for Sale and Discontinued Operations (IFRS 5) in March 2004, which replaced the International Accounting Standard (IAS) 35—Discontinuing Operations, issued in June 1998. According to the new standard, an entity shall apply it for annual periods beginning on or after January 1st, 2005.

In Brazil, IFRS adoption was required by Law 11,638, issued in 2007. The full IFRS adoption took place in 2010, when the Brazilian companies published their financial statements according to the IASB's standards, consequently applying the IFRS 5.

IFRS 5 sets out requirements for the classification, measurement and presentation of non-current assets held for sale and discontinued operations. It specifies that the results of discontinued operations be shown separately in the statement of comprehensive income, as well as any additional information required. In accordance with IFRS 5, an entity shall disclose a single amount in the statement of comprehensive income comprising the total of (i) the post-

tax profit or loss of discontinued operations and (ii) the post-tax gain or loss recognized on the measurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation (Item 33).

A discontinued operation is defined as “a component of an entity that either has been disposed of, or is classified as held for sale, and (a) represents a separate major line of business or geographical area of operations, (b) being part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations or (c) being a subsidiary acquired exclusively with a view to resale”. (IFRS 5, item 32)

In accordance with IFRS 5 (items 6 and 7), an entity shall classify a non-current asset as held for sale, according to management’s intention, if its carrying amount is recovered, principally, through a sale transaction rather than through continuing use, as long as the asset (or disposal group) is available for immediate sale in its present condition or its sale is highly probable, and the appropriate level of management is committed to a plan to sell the asset (or disposal group) and an active programme to locate a buyer. The sale should be expected to qualify for recognition as a complete sale within one year from the date of classification, but events or circumstances beyond the entity’s control may eventually extend the period to complete the sale beyond one year (Item 8).

In the Framework for the Preparation and Presentation of Financial Statements, IASB argues that

[i]nformation about financial position and past performance is frequently used as the basis for predicting future financial position and performance and other matters To have predictive value, information need not be in the form of an explicit forecast. The ability to make predictions from financial statements is enhanced, however, by the manner in which information on past transactions and events is displayed. For example, the predictive value of the income statement is enhanced if unusual, abnormal and infrequent items of income or expense are separately disclosed. (IASB’ Framework, item 28)

This assertion shows the Board’s concern about the usefulness of the financial information to the decision-making needs of users by helping them evaluate past, present or future events. As profit is frequently used as a measure of performance, following the framework objective, IASB requires that a company disclose information that enables financial statements users to evaluate the financial effects of discontinued operations and disposals of non-current assets (Item 30).

IASB also states, in the Basis for Conclusion of IFRS 5, that “The Board believes that discontinued operations should be shown in a section of the income statement separately from continuing operations because of the different cash flows expected to arise from the two types

of operations” (Item BC76). IASB concludes that (a) it is sufficient to show a single net figure for discontinued operations on the face of the income statement because of the limited future cash flows expected to arise from the operations (Item BC76); and (b) such information should assist users in assessing the timing, amount and uncertainty of future cash flows (Item BC17).

IASB adopts the forward-looking approach. According to its framework, this approach aims to provide relevant information about existing assets and liabilities, or about assets and liabilities that existed during the reporting period, even when the forward-looking estimates cannot be directly verified. According to the Board’s view, forward-looking information is subjective and its preparation requires professional judgment.

Recently, in April 2014, FASB issued Accounting Standards Update—ASU, 2014-08—Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity as a result of the convergence project whose objective was to align SFAS 144 with IFRS 5. According to FASB, “some stakeholders told the Board that under current guidance too many disposals of assets qualify for discontinued operations presentation, resulting in financial statements that are less decision useful for users and higher costs for preparers” (page 53). So, the new standard requires that a disposal activity should be presented in discontinued operations only when an entity has made a strategic shift in its operations, or enhanced disclosures about discontinued operations. Unlike the IFRS 5, this Update also requires certain disclosures in the footnotes for individually significant components of an entity that do not qualify for discontinued operations reporting.

3 LITERATURE REVIEW

According to Ronen and Yaari (2010, p. 26), earnings management occurs when managers use judgment in financial reporting to alter financial reports to either mislead some stakeholders about the underlining economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Opportunistic Approach). Watts and Zimmerman (1986) argue that opportunistic situation arises from information asymmetry problems existing between the shareholders (principal) and the managers or controlling shareholders (rational agents), as suggested by the Agency Theory.

However, there is another view of earnings management. Scott (2009, p. 402), from a financial reporting perspective, argues that earnings management can be a vehicle for the

communication of management's inside information to investors when managers use it to report a stream of smooth and growing earnings over time (Efficient Approach).

So, Fields et al. (2001) explain that earnings management is economically efficient if it maximizes the firm's value by signaling the manager's private information on future cash flows and is opportunistic when maximizing only the utility of management.

For Scott (2004, 297) while managers concern about accounting policies and standards may be driven by opportunism or by efficient contracting, there is significant evidence in favour of the efficient contracting version according to Positive Accounting Theory (PAT). Scott (2004, 284) also explain that PAT takes the view that firms organize themselves in the most efficient manner to maximize their prospects for survival and that the firms' efficiency depends on factors such as its legal and institutional environment, its technology, and the degree of competition in its industry.

In short, the main difficulty in analyzing these efficient and opportunistic hypotheses is that we cannot clearly identify which hypothesis is effectively applied to each company's context and whether the motivations took place simultaneously at the specific moments that managers made their accounting choices.

Nevertheless, many previous studies suggest that managers make opportunistic accounting decisions that increase the outcome through accruals management, manipulation of real economic activities (providing price discounts, cutting R&D, selling assets) or classification shifting (misclassification of extraordinary items the income statement) in order to influence investors' perception of the companies' performance (MCVAY, 2006, p. 504-505).

So far, few studies have analyzed earnings management through discontinued operations, but studies on classification shifting of extraordinary expenses or special items (transitory income) are relatively common.

Beattie et al. (1994) argue that PAT has generally been tested on accounting choices and there are a few studies that analyzed classificatory choices using extraordinary items (or discretionary classification items). They show that discretionary classification items in UK financial reporting were frequent and had a significant magnitude. Also, they argue that the classificatory choice does not commit management to any future actions.

McVay (2006) analyzes the focus on the deliberate misclassification of expenses between core expenses and special items and argues that classification shifting has been largely ignored. She provided evidence that managers opportunistically shifted expenses from core expenses to meet the analyst forecast earnings benchmark.

By analyzing earnings management that uses discontinued operations, Barua et al. (2010) also found evidence consistent with the Shifting Classification Hypothesis to meet or beat analysts' forecasts. They argue that "if investors value recurring earnings higher than nonrecurring earnings, then managers have an incentive to misclassify operating expenses as nonrecurring expenses, to increase recurring income subtotal" (BARUA et al., 2010, p. 1490). Additionally, Barua et al. (2010, p. 1489) explain that classification shifting simply moves certain revenues, expenses, gains and losses to different line items on the income statement and, for this reason, this approach is likely to be less costly and less scrutinized by auditors and regulators.

Recently, Curtis, McVay and Wolfe (2014) provided new evidence suggesting that managers are not pervasively abusing the broader scope of SFAS 144 rule, when compared with the narrow scope of the APB 30, which is similar to the scope of IFRS 5. Thus, they argue that the broader scope of SFAS 144 results in a finer partitioning of recurring and nonrecurring income since they found no evidence of increased opportunism.

Correia (2012) analyzed the discontinued operations impacts on financial statements of 20 Portuguese companies in 2009. She has not identified a significant impact, in terms of value, on the net income and equity of these companies, but has identified significant changes in the disclosure of the information of these operations. She also highlights that 60% of the companies do not disclose their description or the amounts on discontinued operations in a particular note.

According to Ewert and Wagenhofer (2016), IASB's objective in financial reporting is to supply capital providers with information regarding the companies' expected future cash flows. Although the segregation of continuing and discontinued operations in the income statement may lead to more realistic and more meaningful projections and future comparisons, as suggested by Paul A. Pacter (1969) and currently supported by the IASB, the academic literature presents evidence of the existence of managerial opportunism in applying the accounting treatment on discontinued operations.

In addition, albeit previous studies with interesting insights, they did not enable us to understand some important companies' characteristics and the context in which accounting practices take place. In fact, these studies have at least three important methodological limitations. First, the aggregate metrics (as, for example, discretionary accruals) used in earnings management studies are difficult to interpret and do not allow an adequate understanding of the way in which companies operationalize such opportunistic choice. Second,

quantitative studies on earnings management focus on the analysis of only one period or event. Finally, using available databases, these studies ignore qualitative information provided by managers about their companies' transactions.

Although the managers' action is unobservable, we consider that, by using a textual analysis based on the economic approach (see BRENNAN; MERKL-DAVIES [2013] for more details) and associated with some other financial accounting data, it is possible to get more insights about managers' discontinued operations decisions. It also allows us to better understand the visible managers' decision and assess their main characteristics.

Thus, in this study we tested the following hypotheses:

H_a: There was no difference in the companies' net income before and after the income from the discontinued operations for all samples and for the separated performance groups.

H_b: There was no difference in the size effect of the discontinued operations in the net income among the different performance groups.

H_c: There was no difference in the proportion firm-years for companies that informed or not their reasons for discontinuing operations between different performance groups.

H_d: There was no difference in the size effect for companies that informed or not their justifications for discontinuing operations between different performance groups.

H_e: There was no difference in the proportion firm-years for companies that informed or not their reasons for discontinuing operations between companies that disclosed current reports and the other ones.

These hypotheses helped us assess the relevance of the discontinued operations in the companies and whether there was any manager's timely opportunistic behavior to disclose the discontinued operations, their effect size or frequency in different performance groups.

4 RESEARCH DESIGN METHODS

4.1 Sample selection

To achieve the purpose of this paper, it was necessary to identify the public companies that applied IFRS 5. We analyzed public companies because of the easy access to their annual

reports, which are available at the Brazilian Securities and Exchange Commission (Comissão de Valores Mobiliários—CVM) website.

To identify the companies that applied IFRS 5, we used the financial statements data available in Economática© database as of August 2016. The database included 384 listed companies with available data from 2010 to June 2016 whose shares could be traded at the Stock Market Exchange (BMF&Bovespa). 2010 was the first year of adoption of the full IFRS in Brazil, and in June 2016 the last financial statements were available. Table 1 presents the sample composition by business sector.

Table 1—Companies with discontinued operations by sector

Sector ^a	Total Sample	With Discontinued Operations	%
Agriculture	6	0	0.0%
Food and Beverage	17	4	23.5%
Commerce	20	6	30.0%
Construction	22	5	22.7%
Electrical & Electronics	6	1	16.7%
Electricity	44	8	18.2%
Finance and Insurance	36	1	2.8%
Funds	1	0	0.0%
Industrial machines	5	2	40.0%
Mining	5	3	60.0%
Non-metallic minerals	4	1	25.0%
Paper and cellulose	5	2	40.0%
Oil and Gas	8	4	50.0%
Chemistry	10	4	40.0%
Steel & Metallurgy	21	5	23.8%
Software and Data	6	2	33.3%
Telecommunications	12	2	16.7%
Textile	24	9	37.5%
Transport Services	19	4	21.1%
Vehicles and parts	16	3	18.8%
Others	97	20	20.6%
Total	384	86	22.4%

Source: developed by the authors.

Note: (a) Classification according to Economática database.

The sample included 86 listed companies impacted by IFRS 5 (22.4% out of the 384 firms), which correspond to 191 firm-years events (7.4%) for the years 2010 to June 2016. Out of these 86 firms, most presented discontinued operations in just one or two years (73.3%). Two companies disclosed discontinued operations in all years analyzed.

Our sample included 16 companies (30 firm-years) from regulated sectors. In our sample, the sectors with the largest number of companies were: (a) textile sector (nine firms), (b) electricity sector (eight firms), and (c) commerce sector (six firms). Proportionally, IFRS 5 was more applied in mining (60.0% out of five firms) and Oil & Gas (50.0% out of eight firms).

4.2 Data collection

Our qualitative analysis comprises the content analysis of 191 firm-years of discontinued operations disclosed by Brazilian companies for the period from 2010 to June 2016. The reasons for the managers' decisions on discontinued operations were identified from the content analysis of their Annual and Current Reports, both available at the CVM website in August 2016. These justifications were manually collected for the analysis.

According to Li (2010, p. 143), “unstructured textual information typically has irregularities and ambiguities that make it difficult to understand using traditional computer programs [...]”. The manual content analysis is also more precise, detailed, and tailored to the specific research setting (LI, 2010). This was why we decided to hand-collect the data.

In Brazil, Current Reports comprise two different documents disclosed to the market (“Relevant Facts” and “Communication to the Market”). The Annual Report includes (a) a non-audited manager's report (similar to Management Discussion and Analysis available in USA), (b) financial statements and (c) explanatory notes (notes to financial statements). Each current report analyzed has no more than two pages, while the discontinued operations information disclosed in managers reports and explanatory notes can reach up to ten pages. The discontinued operations information disclosed both in managers' reports and explanatory notes represents a small part of the annual report published by companies.

For June 2016, we analyzed only the Quarterly Report because the annual report was not available yet. Normally, the quarterly report presents less detailed information than the annual report does.

The qualitative justifications for decisions leading to discontinued operations could be presented in the current report, manager's report and explanatory notes. Typically, companies prepare explanatory notes to discuss operations that were discontinued, as required by IFRS 5. We also opted to analyze the current reports because these documents timely disclose the

managers' decisions to discontinue operations as well as their closing time. Appendix 3 shows some examples about the timely disclosure.

The companies' explanations could provide one or more reasons for discontinued operations, and in our study, we analyzed all reasons disclosed by managers and classified these into some categories. We also opted to classify just the reasons that were explicitly stated and directly associated with discontinued operations. All other financial data used in this research were collected from Economática© database.

4.3 Coding procedures

We classified the discontinued operations justifications according to empirical categories constructed from the qualitative data analysis. This classification allows us to understand the managers' strategic business purposes regarding the discontinued operations decisions.

There was no a priori typology before sorting the data. For this reason, the coding process was performed in two stages. In the first, we identified all categories that made up the adopted typology. In the second stage, we defined the final categories, which best synthesized the explanations provided by the managers. We created eight categories of justifications parsimoniously from 41 textual reasons identified.

Two researchers proceeded to collect the data and to code them, while the other two researchers reviewed the suitability of such a classification. All divergent classifications were discussed by all the researchers involved in a single round.

To minimize subjectivity in the data reduction process, we followed some guidelines. Coders should follow four basic instructions.

First, coders should read all content of the annual and current reports related to discontinued operations. The information was found by searching key words, such as "IFRS 5", "discontinued" (and variations like "discontinuing" or "discontinue"), "disposal", "held for sale" and "sale". In some cases, we did not limit ourselves to these key words in order to make sure that all relevant information was analyzed. Second, coders had to identify just the explicit reasons presented by the companies. Following Clapham and Schwenk (1991, p. 223), we ignored implicit statements because they required interpretation and imagination. In these cases, we classified the managers' intention as uninformed. Third, management's explanations for

discontinued operations should be close to the information on discontinued operations or preferably in the same paragraph. Fourth, if companies disclosed more than one reason for discontinued operations, all of them were considered. Each manager's explanations should be classified in their corresponding category.

Finally, coders should examine whether the reasons given in the annual report and current reports were consistent when presented in both documents. In case of discrepancy in their justifications, we opted to consider all reasons presented in the financial statements.

4.4 Comparative performance groups

We also classified companies into four groups according to the income from the continuing and discontinued operations disclosed in their financial statement. This classification follows a typology of four kinds of companies, as shown in Table 2.

Table 2—Performance groups business strategy

Performance Group	Continuing Operations	Discontinued Operations
Healthy Performance	Profit	Profit
Improving Performance	Profit	Loss
Under Observation Performance	Loss	Profit
Unhealthy Performance	Loss	Loss

Source: developed by the authors.

This empirical classification can represent differences in the companies' current financial performances. First, the Healthy Performance group includes companies seeking to increase profitability by selling their less profitable and less efficient activities. Second, the Unhealthy Performance group includes companies that were facing difficulties in their operations and sought recovery by focusing on specific activities. Third, the Improving Performance group includes companies that decided to sell their operations with a negative net income, which could jeopardize the companies' efficiency. Finally, the Under Observation Performance group includes companies that tried to adjust their operations by cutting off the activity that provided the worst expected future profits.

This basic classification allows for a direct comparison between different types of companies' current performances. The categorization of companies' performance in the previous research (see, for example, CLAPHAM; SCHWENK, 1991) may be sophisticated but

it did not allow for a direct association with the continued and discontinued operations and neither could it give us any new insight for our analysis.

4.5 Data analysis and research hypotheses

The data analysis consisted of performing quantitative and qualitative analysis about the impact of IFRS 5 on Brazilian financial statements. Prior to calculating the statistical test, we analyzed the importance of discontinued operations economic data disclosed in the financial statements.

The main analysis involved a cross tabulation (contingency table analysis) of two dimensions: managers' justifications for discontinued operations (informed and uninformed) and performance groups, in order to identify the correlation and differences between them. We also analyzed the effect size and the frequency of the discontinued operations in income statement by performance groups.

We used the contingency table by performance groups to avoid a possible paradoxical outcome (Simpson's Paradox) that could occur in combined data analysis. The paradox exists when there is a trend (causal relationship) in the analysis of data of different groups that disappears (or reverses) when these data groups are aggregated (SIMPSON, 1951).

Due to the small size of our sample, we opted to perform nonparametric statistical tests (Mann-Whitney, Wilcoxon Signed Ranks and Pearson Chi-Square). We applied the statistical test analysis for assessing the hypotheses. We also performed a qualitative analysis on the kind of reasons disclosed to discontinue operations and other main characteristics in these operations.

5 DATA ANALYSIS

5.1 Frequency of IFRS 5 adoption in Brazil

Table 3 includes 2,582 firm-years, in which 672 firm-years (26.1%) represent single entities. Only 106 firm-years (4.1%) show no data for the analyzed period. This database included 2 insurance companies and 26 banks. 25 banks prepared their financial statements in compliance with the Brazilian Corporate Law, while the other companies adopted the full IFRS

translated by the Brazilian Accounting Pronouncement Committee (Comitê de Pronunciamentos Contábeis—CPC).

Table 3—Discontinued operations by firms and by year

Panel A—Number of Brazilian public companies in Economática© database						
Year	Separate Financial Statements ^a (a)	Consolidated Financial Statements ^a (b)	Total Firms (c)	Companies With no Data (d)	Firms impacted by IFRS 5 (e)	% (e / c)
2010	103	253	356	28	24	6.7%
2011	99	263	362	22	26	7.2%
2012	101	270	371	13	32	8.6%
2013	99	273	372	12	28	7.5%
2014	93	284	377	7	31	8.2%
2015	88	289	377	7	29	7.7%
June/2016	89	278	367	17	21	5.7%
	672	1,910	2,582	106	191	7.4%

Panel B—Number of firms with discontinued operations (DO) ^b		
Discontinued Operations	Number of firms	%
With	86	22.4%
Without	298	77.6%
	384	100.0%

Panel C—Frequency of discontinued operations firms by year		
Number of years with DO	Number of Firms	%
1	36	41.9%
2	27	31.4%
3	9	10.5%
4	4	4.7%
5	4	4.7%
6	4	4.7%
7	2	2.3%
	86	100.0%

Source: developed by the authors.

Notes: (a) Consolidated Financial Statements are the combined financial statements of parent companies and their subsidiaries, while Separate Financial Statements are prepared by companies that represent a single entity. (b) The analysis included 2,688 financial and non-financial companies-year, which amounted to 384 listed companies for the years 2010 to June 2016.

5.2 The impact of discontinued operations in the income statement

Table 4 presents the impact of IFRS 5 on Brazilian Financial Statements. The balance sheet of public companies in Brazil usually discloses accounts for discontinued operations and non-current assets held for sale. Panel A (Table 4) shows a small assets and liabilities percentage per year for non-current assets held for sale (average of 0.25% for assets and 0.06%

for liabilities), and just in a few companies, the effect shows significant relevance. In the same way, the discontinued operations effects are even smaller in the balance sheet accounts (average of 0.04% for assets and 0.01% for liabilities).

Panel B (Table 4) describes the number of companies impacted by IFRS 5 per year. There are 284 firm-year recording non-current assets held for sale and 81 firm-years recording discontinued operations, and just a few companies with liabilities associated with IFRS 5.

Table 4—Non-current assets held for sale and discontinued operations in the statement of financial position (balance sheet) of Brazilian public companies

Panel A—Amount and percentage of assets and liabilities associated with IFRS 5 by year					
Year	Total Asset (R\$ millions)	Non-current Assets Held for Sale		Discontinued Operations	
		% Asset	% Liabilities	% Asset	% Liabilities
2010	5,436,276,057	0.33%	0.00%	0.02%	0.02%
2011	6,318,733,965	0.07%	0.00%	0.00%	0.01%
2012	7,267,850,680	0.05%	0.00%	0.03%	0.01%
2013	7,436,241,657	0.40%	0.15%	0.04%	0.02%
2014	8,245,054,831	0.25%	0.03%	0.05%	0.01%
2015	8,952,011,557	0.29%	0.10%	0.07%	0.01%
2016, June	8,754,630,019	0.37%	0.14%	0.05%	0.02%
Mean	7,487,256,966	0.25%	0.06%	0.04%	0.01%

Panel B—Number of firms impacted by IFRS 5 by year					
Year	Asset	Non-Current Assets Held for Sale		Discontinued Operations	
		Liabilities	Asset	Liabilities	
2010	35	2	9	5	
2011	41	5	9	3	
2012	40	1	12	5	
2013	43	6	14	6	
2014	44	5	11	5	
2015	40	10	14	5	
2016, June	41	10	12	5	
Total	284	39	81	34	

Source: developed by the authors.

Note: The analysis included 2,582 financial and non-financial firms-year, which comprises 384 listed firms for the years 2010 to June 2016. Non-current Assets Held for Sale and Discontinued Operations included the amounts of the short term and long-term assets and liabilities.

As highlighted in Table 4, the number of companies with non-current assets held for sale recorded in the balance sheet is higher than the number with discontinued operations. In both cases, IFRS 5 effect is small in the balance sheet, even though the effect in the income statement is very significant, as we will discuss later.

Table 5 (panel A) shows that, out of the 2,582 firm-year analyzed, only 191 firms-year (7.4%) presented discontinued operations. Out of these 191 firm-year that disclosed discontinued operations, 91 showed negative net income. The percentage of firms with losses in the income statement was higher in firms with discontinued operations than in the ones

without them (47.6% against 33.2%). This difference in proportions in our sample is statistically significant [$\chi^2(1) = 16.362$ ($p < 0.01$)].

Panel B (Table 5) shows that in our sample there are more firms with profit in continuing operations, and losses in discontinued operations (64 firms representing 33.5%), but the difference in proportions is not statistically significant. Of the companies in the improving performance group, 53 (82.8%) had a positive net income. On the other hand, Panel C (Table 5) uncovers that in the under observation performance group, 37 companies had a negative net income (**hypothesis H_a**).

Table 5—Frequency of discontinued operations (DO) in the statement of profit or loss (income statement) of Brazilian public companies

Panel A—Relationship between net income (profit and loss) and discontinued operations					
Net Income	Discontinued Operations			a / c	Chi-Square tests (p-value)
	With (a)	Without (b)	Total (c)		
Profit	100	1,597	1,697	5.9%	16.362
Loss	91	794	885	10.3%	(0.000)
Total	191	2,390	2,582	7.4%	

Panel B—Analysis of interaction between continuing operations and discontinued operations				
Continuing Operations	Discontinued Operations			Chi-square tests (p-value)
	Profit	Loss	Total	
Profit	41	64	105	1,436
Loss	41	45	86	(0.231)
Total	82	109	191	

Panel C—Analysis of net income (profit and loss) by performance group				
Net Income	Performance Group			
	Healthy	Improving	Under Observation	Unhealthy
Profit	41	53	4	-
Loss	-	11	37	45
Total	41	64	41	45

Source: developed by the authors.

Note: The analysis included 2,582 financial and non-financial firms-year, which comprises 384 listed firms for the years 2010 to June 2016. Two-tail p-value of a Pearson Chi-Square test.

The analysis of the effects of the discontinued operations reveals that 11 companies reversed the net income from loss to profit in the improving performance group, whereas just four companies reversed the net income from profit to loss in the under observation group.

Table 6 (panel A) shows that more than half of the companies recorded positive discontinued operations in their income statement (109 companies representing 57.1%). In 2012, we observed more events (32 firm-years), while in 2015 we observed a higher percentage of negative events (55.2%). The effect of the discontinued operations on the income statement

varies significantly from year to year. As we can see in Panel B (Table 6), there were more negative extreme effects.

Table 6—Effects of discontinued operations (DO) in the statement of profit or loss (income statement) of Brazilian public companies

Panel A—Number of firm-years with negative and positive Discontinued Operations by year				
Year	Effects of DO in income statement			(a / c)
	Negative (a)	Positive (b)	Total (c)	
2010	9	15	24	37.5%
2011	10	16	26	38.5%
2012	17	15	32	53.1%
2013	9	19	28	32.1%
2014	11	20	31	35.5%
2015	16	13	29	55.2%
June/2016	10	11	21	47.6%
Total (Mean)	82	109	191	42.8%
%	42.9%	57.1%	100.0%	

Panel B—Effects percentage of discontinued operations in the net income			
Year	Maximum	Minimum	Average
2010	31.0%	-74.9%	-3.1%
2011	75.9%	-80.0%	-2.2%
2012	34.4%	-99.3%	-5.5%
2013	72.7%	-90.6%	-1.9%
2014	99.8%	-99.8%	-1.9%
2015	79.3%	-99.5%	0.4%
June/2016	90.8%	-97.8%	-0.4%
Mean	69.1%	-91.7%	-2.1%

Source: developed by the authors.

Note: The analysis included 2,582 financial and non-financial firm-years, with 384 listed firms for the years 2010 to June 2016. The effects represented the result from the discontinued operations divided by the sum of the module of continuing and discontinued operations.

Table 7 shows the data analyses of the reasons disclosed by the firms to perform discontinued operations according to performance group.

Table 7—Relationship between the firm's performance group and the justification for discontinued operations (DO)

Panel A—Number of firm-years that discontinued operations by performance group							
DO Justifications ^a	Total	Non-Regulated	Regulated	Performance Groups			
				Healthy	Improving	Under Observation	Unhealthy
With	49	42	7	9	16	10	14
Without	59	56	3	17	26	7	9
Total	108	98	10	26	42	17	23
Repeated events	32	31	1	8	15	3	6

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Financial Distress Interrupt operations	41	23	18	4	6	16	15
Database errors	4	4	-	-	-	3	1
Total	6	5	1	3	1	2	-
Total	191	161	30	41	64	41	45

Panel B—Effects ^b of discontinued operations in statement income by performance group (mean)

DO Justifications ^a	Total	Non-Regulated	Regulated	Performance Groups			
				Healthy	Improving	Under Observation	Unhealthy
With	24.4%	25.9%	15.4%	20.0%	21.1%	24.1%	31.2%
Without	17.3%	16.5%	32.4%	13.5%	17.0%	22.1%	21.3%
Total	20.5%	20.5%	20.5%	15.7%	18.6%	23.2%	27.3%
Repeated events	23.9%	24.7%	0.3%	22.2%	18.4%	7.0%	48.3%
Financial Distress Interrupt operations	23.1%	24.9%	20.7%	31.2%	52.0%	13.3%	19.7%
Database errors	17.5%	17.5%	-	-	-	7.0%	49.2%
Total	11.7%	7.9%	31.0%	22.2%	1.0%	1.4%	-
Total	21.3%	21.5%	20.3%	19.0%	21.4%	15.9%	28.1%
U-statistic (p-value) ^d	-1.219			-0.728	-0.570	-0.683	-0.693
(With or Without)	(0.223)			(0.491)	(0.569)	(0.536)	(0.516)
Z-statistic (p-value) ^e	-1,336			-4.458	-5.645	-3.621	-4.198
(after or before DO)	(0.181)			(0.000)	(0.000)	(0.000)	(0.000)

Panel C—Statistical significance for comparing the effect size between performance groups

	U-statistic	p-value ^c
Healthy vs Unhealthy	-1.042	0.298
Healthy vs Improving	-0.492	0.623
Healthy vs Under Observation	-1.317	0.188
Improving vs Under Observation	-0.669	0.503
Improving vs Unhealthy	-0.823	0.410
Under Observation vs Unhealthy	-0.150	0.892

Source: developed by the authors.

Notes:

(a) The cases segregated in the analysis are: 1. Repeated events occur when a specific discontinued operation impacts two or more years. 2. Financial Distress means companies that filed for judicial recovery. Judicial recovery comprises legal options that permit debt negotiations in order to allow the companies to avoid bankruptcy. 3. Interrupted operations mean that the company's operation is currently suspended (paralyzed). 4. Database errors mean that the companies made a mistake in recording data in Economática©.

(b) The effects represent the income from the discontinued operations divided by the sum of the module from continuing and discontinued operations. See the additional information on Appendix 1.

(c) Two-tail p-value of a Pearson Chi-Square test.

(d) Two-tail p-value of a Mann-Whitney test (U statistic) for independent groups (Informed and Uninformed justifications).

(e) Two-tail p-value of a Wilcoxon Signed Ranks test (Z statistic) for paired groups (Net Income after and before the DO effects).

In the data analysis, we segregated 41 firm-years (from 14 companies) with financial distress and 6 firm-years (three companies) with paralyzed operations in at least one of the

analyzed years. We also segregated 32 firms-years (from 21 companies) with discontinued operations that impacted on their income statement for more than one year. Finally, our analysis also revealed six firm-years (two companies) with errors in the database. After these exclusions there were 108 firms-years left for analysis.

We segregated the repeated data from our analysis because they did not represent a new operation and their effects were not controlled by the managers. We also segregated companies with financial problems because such companies presented a special situation and usually have a formal plan for the sale of assets in order to recover the activities that are evaluated by investors and creditors in court. So, we chose to focus our analysis on the events associated with the first manager's decision to discontinue operations in companies with a normal course of business operations.

For companies in financial distress, we observed that the largest number of events was concentrated both in the under observation performance group (16 firm-years) and the unhealthy performance group (15 firm-years). It is noteworthy that the effect size was significantly higher in the improving performance group and very low in the under observation performance group. We noticed a different pattern in the number and effect size of discontinued operations between the companies that are in financial distress and those that are not.

As we can see in Table 7 (panel C), the average effect size for discontinued operations is greater in the unhealthy performance group (27.3% on average), but there was no statistical difference for the comparison among the performance groups (**hypothesis H_b**). It is very important to highlight that statistical tests revealed that discontinued operations significantly affected the net income for the individual performance groups even though the data were not statistically significant when computed together.

Table 7 (panel A) also shows that 59 firm-years (54.6%) did not provide any justification for discontinued operations, where the largest number of cases belong to the improving performance group (26 firm-years). The statistical tests show that there was a significant difference in the proportion of companies that disclosed justifications for discontinued operations for the healthy and unhealthy performance groups [$\chi^2(1) = 3.377$ ($p < 0.1$)], but not for the total sample [$\chi^2(1) = 5.581$ ($p\text{-value} = 0.134$)] or for the improving and the under observation performance groups [$\chi^2(1) = 2.110$ ($p\text{-value} = 0.146$)] (**hypothesis H_c**).

Panel B (Table 7) shows that the average effect size of the discontinued operations in their income statement was greater in the group of companies that presented justifications than in those that did not (24.4% against 17.3%). Nevertheless, it was not statistically significant (**hypothesis Ha**). The statistical test also showed that the effect size of either informed or uninformed justifications for discontinued operations was not significantly different for each individual performance group.

In short, discontinued operations are important and affect the net profit of Brazilian companies significantly when analyzing the performance groups separately. Regardless of that, the overall effect is not statistically relevant. In addition, evidence shows that there is no difference in the effect size and proportion of cases between the companies that inform the reasons for discontinuing operations and those that do not.

5.3 The reasons usually presented by managers to justify the discontinued operations

The qualitative analysis of the data, summarized in Table 8, shows that 58 firm-years (53.7% out of 108 firm-years) disclosed their current report on discontinued operations prior to the disclosure of their annual report. Of these companies, 24 firm-years did not inform the reason for their operations, neither in the current nor in the annual report. This difference in proportions in our sample is statistically significant [$\chi^2(1) = 8.874$ ($p < 0.01$)] (**hypothesis He**).

We found that 39 firm-years disclosed the justification for carrying out discontinued operations in their annual report, with 27 firm-years disclosing it in the management report and 22 firm-years disclosing it in the explanatory notes. Our sample also showed that companies often used their annual report to disclose reasons for discontinuing operations rather than doing so in their current report. Only 27 firm-years presented the justifications for carrying out discontinued operations in their current report.

Table 8—Relationship between the disclosure of current report and the justification for discontinued operations (DO)

Panel A—Relationship between current report disclosure and justification disclosure							
DO Justifications	Current Report			Chi-Square tests ^a	Current Report		
	With	Without	Total		With	Without	Total
With	34	15	49	8,874	31.5%	13.9%	45.4%
Without	<u>24</u>	<u>35</u>	<u>59</u>	(0.003)	<u>22.2%</u>	<u>32.4%</u>	<u>54.6%</u>
Total	58	50	108		53.7%	46.3%	100.0%

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Panel B—Were managers' disclosed Discontinued Operation (DO) justifications	Current Report	Annual Report
DO Justifications		
With	27	39
Without	<u>81</u>	<u>69</u>
Total	108	108

Source: developed by the authors.

Notes: (a) Two-tail p-value of a Pearson Chi-Square test.

The textual analysis allowed us to identify a pattern for the reasons managers present to discontinued operations. The most frequent justifications were: (a) focusing on management (25 cases); (b) adequacy of the capital structure (15); (c) Reducing debt (18); (d) optimizing capital allocation (11); (e) increasing performance (11); (f) selling non-strategic assets (6); (g) optimizing the organizational structure (3); and (h) others (2). Some companies presented more than one justification for the same discontinued operation. Appendix 2 shows some examples.

Our qualitative analysis of the discontinued operations justifications shows that there was no evidence that Brazilian companies opportunistically discontinued operations to impact their core income in order to influence the investors' analysis. In our data analysis, eight important characteristics about the discontinued operations in Brazil stand out.

First, the number of discontinued operations after the adoption of IFRS 5 in Brazil is very small. Only 191 firm-years disclosed discontinued operations, which represent 7.4% of the total 2,582 firm-years events between 2010 and June of 2016.

Second, a significant number of events refers to companies in financial distress (41 firm-years) or paralyzed operations (6 firm-years). In general, these companies have more difficulty adopting opportunistic behavior because they get more attention from the users of the accounting information.

Third, 32 firm-years (16.8% out of 191 firm-years) correspond to discontinued operations that have impacted the income statement more than one year. Notably, these cases are less relevant than those corresponding to the first year in which the company decided to discontinue its operations. In our sample, we also observed 3 discontinued operations that impacted two companies (6 firms-years). This occurs because one or more companies can consolidate the same subsidiary entity that performs discontinued operations. These events are not excluded from our analysis, because they help us understand the impacts of IFRS 5.

Fourth, in several cases, the discontinued operation imposed a high political cost on these companies due to the need to obtain an authorization from a governmental regulatory body in order to do so. Several companies mentioned the need for the approval from Conselho Administrativo de Defesa Econômica—CADE (Brazilian Administrative Council for Economic Defense responsible for applying antitrust laws). Some companies that operate in regulated sectors also mentioned the need for an authorization from Brazilian sectorial regulatory agencies, such as Agência Nacional de Energia Elétrica—ANEEL (National Electric Energy Agency) and Agência Nacional de Petróleo—ANP (Brazilian National Oil Agency).

Fifth, 58 firm-years (53.7% out of 108 firms-year) disclosed current reports about their decision to discontinue operations before the end of the year and the preparation of their financial statements. Companies that disclose their discontinued operations in advance are less likely to adopt an opportunistic behavior.

Sixth, in many cases (49.1% out of 108 firm-years) the effect size of discontinued operations in the income statement is less than 10%. The small size effect of the discontinued operations may not justify managers' opportunistic behavior.

Seventh, it should be noted that many cases (39 firms-years out of 108) involve the sale of a subsidiary and not a separated major line of business or geographical operation area. Furthermore, we observed a few disclosed discontinued operations (12 firm-years) related to the shutdown activities with the sale of assets. In these cases, it is difficult (or maybe impossible) for the company to shift expense classification to improve the its core income.

Finally, many companies (45.4% out of 108 firm-years) presented clear justifications for carrying out discontinued operations, demonstrating there was a manager's rationale to do so. The justifications presented by the managers in the current report or annual report suggested that the decision to discontinue operations aimed at increasing the company's efficiency. In addition, there were no significant variations in frequency and effect size among companies belonging to a different performance group.

6 CONCLUSION

In summary, according to the literature review, there is some evidence that managers and accountants took advantage of the discontinued operations to lower their operating expenses and increase profits from core operations (classification shifting) or, more radically,

they could decide to discontinue operations in order to manage the normal results presented in the income statement (real activities manipulation).

Our results do not support the evidence from previous studies. Instead, they showed that there was no evidence that Brazilian companies made opportunistic decisions to discontinue operations in order to increase the core income to influence the investors' analysis about their current and future performance. This can be explained by the predominantly concentrated ownership systems of Brazilian companies, in which some shareholders hold a control block of shares. The results are consistent with the Theory of Corporate Scandals, suggested by Coffee Jr. (2005), for whom the concentrated ownership systems seem to be much less vulnerable to earnings management than the dispersed ownership systems adopted in countries such as the USA.

Scott (2009, p. 497) also argues that in code-law countries (a) there is less information asymmetry since important constituencies are insiders rather than outsiders and (b) the agency cost of contracting between managers and owners is lower. In this context, while concentrated ownership may reduce the moral hazard problem between managers and owners, the problem shifts to one between controlling and minority shareholders (SCOTT, 2009, p. 499).

In addition, there are some theories that could better explain the decision to discontinue or maintain a line of business. Among them, we highlight: (a) Transaction Cost Economics (WILLIAMSON, 1981); (b) Core Competence (PRAHALAD; HAMEL, 1990); (c) Resource Based View (BARNEY, 1999); (d) Parenting Advantage (GOOLD; CAMPBELL, 1991); and (e) The modular organizations and leveraged growth strategy (HAGEL III, 2002). Some of these theories have high commonality. For example, the arguments that Barney (1999) uses are similar to the Core Competence. As there are certainly intangible factors that cannot be properly quantified, decisions in some situations end up being rationalized based on strategic arguments.

Shillinglaw (1982) also explains that the decision about liquidating or continuing with a division “requires a comparison of the net present value of the future cash flows from continued operation of a division’s activities with the present value of the after-tax net liquidation value of the facilities and working capital they require”.

Thus, we can argue in favor of the possibility that a company discontinues an operation that in the short term seems profitable simply because it has no strategic advantages in maintaining it or because the present value of the after-tax net liquidation value of the facilities

and working capital requirements exceeds the expected value of the cash flows that this operation will generate. Perhaps this argument can be used to explain why managers and accountants have been accepting profit reduction as a price to be paid for not acting shortsightedly (avoiding myopic behavior as described by MIZIK; JACOBSON [2007]). On the other hand, as there is not much information about the decision to discontinue an operation, it can be suggested they are not correctly using the opportunity they have to show the apparent loss of profitability results from the limitations of accounting systems in portraying a reliable business income.

The decision to discontinue an operation depends on the present value of the net benefits expected, and the accounting system cannot report this information (accounting measures the short-term consequences of the decision). Hence, there is no way to assess whether the decisions were opportunistic or not.

Notably, the lack of clarity in the disclosure of information on discontinued operations or the omission of such information contributes to increasing investor uncertainty. If they cannot obtain this information from other sources, they may as well impose some discount on stock prices of companies that do not adequately report the reasons to discontinue their operations.

Our analysis also indicates that: (a) many companies do not report the reasons for their decisions to discontinue operations in their annual and current reports; (b) many companies disclose dubious or too general justifications for discontinuing operations; and (c) managers' justifications show no difference patterns for different levels of companies' financial performance.

These mentioned limitations in the excuses presented by companies may contribute to causing doubts among users of accounting information regarding the suitability of their decisions to discontinue operations. Thus, the discontinued operations presented in the annual report can be interpreted as opportunistic and not efficient, aiming to improve the company's future performance.

Additionally, our analysis also revealed that the corporate communication of discontinued operations varies significantly. We noticed that (a) many companies did not disclose any current report about discontinued operations, (b) few companies timely disclosed a current report about the managers' decision to discontinue operations, while many others just

disclosed the current report when the asset sales contract was signed, and (c) few companies reported the reason for their managers' decision to discontinue an operation.

On the other hand, some companies presented detailed and frequent communication about their relevant asset sales transactions. However, in certain cases, identifying their current report of discontinued operations is quite difficult—although companies disclose several current reports on asset sales transactions, most of which are not treated as discontinued operations. The disclosure of the current report on discontinued operations is very important as these could have an impact on a company's current and future performance.

We also noticed that there is no disclosure pattern in the explanatory notes and in the management report. Several companies did not disclose qualitative information on discontinued operations in these documents. In many cases, information on the sale of assets has been evidenced without clarifying these transactions were eligible as discontinued operations. In rare cases did we observe any information about the impact of discontinued operations on their business segment information. Additionally, no company disclosed information about the effects of the discontinued operations on their future earnings projections in the manager's report. We also noticed that the first year of IFRS adoption in Brazil (2010) showed the lowest level of disclosure about discontinued operations in all the analyzed period.

This evidence suggests that, although discontinued operations were important for the analyzed companies, the quality of the disclosed information seemed to vary in function of the relevance of their impact on their financial statements, as well as other corporate characteristics such as size or business sector. Obviously, the deficiency on discontinued operations disclosure may reduce the relevance of the accounting information disclosed in the annual report.

It is important to note that IASB does not require the reasons to be disclosed that led the companies to discontinue relevant operations. It is also relevant to emphasize that the analyzed companies do not intend to highlight the real motives behind their strategic decisions out of fear that this information may be used by their competitors.

These findings suggest that regulatory bodies should issue additional guidance on the information to be disclosed on discontinued operations. This initiative would both contribute to ensuring an adequate IFRS 5 compliance and facilitate the oversight process carried out by the regulatory bodies and the enforcement provided by auditing.

Similar to the Financial Accounting Standard Board (See FASB Accounting Standards Update—ASU, 2014-08—Reporting Discontinued Operations and Disclosures of Disposals of

Components of an Entity), IASB could issue a standard requiring additional information disclosure and provide many examples to facilitate the consistent application of IFRS 5. IASB could also require companies to disclose additional information on important asset disposal transactions not eligible for IFRS 5. These requirements not only would prevent the dispersed and incomplete disclosure of information on the sale of significant assets, but would also improve the quality of the accounting information presented by the companies to their investors.

Companies may use several ways to disclose business information, however both the current and the annual report are still the main and most appropriate ways to do so. Therefore, the absence of full disclosure of relevant information in these documents seem to be an important market failure as far as information disclosure is concerned. This can lead to a reduced level of relevance of the information provided in financial statements.

The evidence presented in this paper also emphasizes how important it is that companies see the need to improve their communication with investors, since the absence of important information may often lead to questions about the companies' future performance. A natural consequence of our research would be to examine how the market reacted to the announced discontinuation of operations of the 191 companies and what happened to the share returns or the trading volume of these companies in the periods following the announcement.

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Appendix 1—Descriptive statistics about the effects of discontinued operations in statement income

Panel a - Median

DO Justifications	Total	Non-Regulated	Regulated	Performance Group			
				Healthy	Improving	Under Observation	Unhealthy
With	0,157	0,183	0,013	0,100	0,050	0,206	0,245
Without	0,094	0,094	0,105	0,099	0,094	0,152	0,080
Repeated events	0,032	0,035	0,003	0,021	0,022	0,081	0,479
Financial Distress	0,082	0,098	0,074	0,337	0,535	0,006	0,098
Interrupt operations	0,085	0,085	-	-	-	0,040	0,492
Database errors	<u>0,088</u>	<u>0,023</u>	<u>0,310</u>	<u>0,202</u>	<u>0,010</u>	<u>0,014</u>	-
Total	0,082	0,094	0,076	0,100	0,076	0,049	0,105

Panel b - Standard Deviation

DO Justifications	Total	Non-Regulated	Regulated	Performance Group			
				Healthy	Improving	Under Observation	Unhealthy
With	0,259	0,261	0,223	0,228	0,276	0,182	0,289
Without	0,210	0,198	0,332	0,180	0,182	0,267	0,265
Repeated events	0,368	0,371	-	0,355	0,319	0,052	0,464
Financial Distress	0,308	0,302	0,315	0,229	0,415	0,262	0,239
Interrupt operations	0,187	0,187	-	-	-	0,042	-
Database errors	<u>0,115</u>	<u>0,083</u>	-	<u>0,065</u>	-	<u>0,009</u>	-
Total	0,276	0,273	0,293	0,241	0,288	0,228	0,313

Panel c - Maximum

DO Justifications	Total	Non-Regulated	Regulated	Performance Group			
				Healthy	Improving	Under Observation	Unhealthy
With	0,995	0,620	0,995	0,727	0,995	0,622	0,749
Without	0,800	0,793	0,800	0,752	0,685	0,793	0,800
Repeated events	0,993	0,003	0,993	0,908	0,978	0,127	0,993
Financial Distress	0,906	0,998	0,998	0,563	0,998	0,998	0,855
Interrupt operations	0,492	-	0,492	-	-	0,129	0,492
Database errors	<u>0,202</u>	<u>0,310</u>	<u>0,310</u>	<u>0,310</u>	<u>0,010</u>	<u>0,023</u>	-
Total	0,995	0,998	0,998	0,908	0,998	0,998	0,993

Panel d - Minimum

DO Justifications	Total	Non-Regulated	Regulated	Performance Group			
				Healthy	Improving	Under Observation	Unhealthy
With	0,001	0,003	0,001	0,010	0,003	0,001	0,001
Without	0,000	0,072	0,000	0,000	0,007	0,001	0,002
Repeated events	0,000	0,003	0,000	0,000	0,001	0,003	0,004
Financial Distress	0,000	0,000	0,000	0,011	0,066	0,000	0,001
Interrupt operations	0,039	-	0,039	-	-	0,039	0,492
Database errors	<u>0,005</u>	<u>0,310</u>	<u>0,005</u>	<u>0,153</u>	<u>0,010</u>	<u>0,005</u>	-
Total	0,000	0,000	0,000	0,000	0,001	0,000	0,001

Appendix 2—Some examples for disclosed reasons about managers' intention on discontinued operations

This Appendix provides some examples on how we classify the reasons for discontinued operations.

Example 1—Increase performance:

“[...] after analyzing the strategic options for the business developed by Alphaville Urbanismo SA (“Alphaville”) in order to maximize value for its shareholders, it announces that on this date a was contract made for the sale of 70% of shares Alphaville.” (Gafisa, Current Report of June 7, 2013)

Example 2—Reduce debt:

“[...] the sale of the cosmetics manufacturing and marketing business conducted by the Company and its subsidiaries was adopted. [...] The resources from the transaction will be used mainly to reduce the Company's net indebtedness.” (Hypermarcas, Current Report, 2015)

Example 3—Adequacy of the capital structure:

“This transaction will enable Energisa Group to strengthen its capital structure, significantly by reducing its leverage, after the effort made on the acquisition of the Rede Group, executed on April 11, 2014.” (Energisa, Current Report, 2014)

Example 4—Optimized capital allocation & Sale of non-strategic assets:

“Non-current assets held for sale and discontinued operations: [...] Following the initiatives to disinvest non-strategic assets and reduce corporate costs, started in 2013, the Company entered into a Purchase and Sale contract with Eurofins Scientific Group on September 17, 2014 (“Eurofins”), for the sale of its subsidiary Integrated Petroleum Expertise Company—Serviços em Petróleo Ltda. (“IPEX”).” (Petrório, Annual Report—Explanatory notes—2014)

Example 5—Focus on the management attention & Reduced debt:

“[...] hereby announces that it has hired a first-rate financial institution to advise the Company in its intention to dispose of all or part of the forestry sector activities currently carried out by its subsidiaries, in line with its current strategic planning Focused on concentrating its activities on the transport area and logistics as well as reducing its short and long term indebtedness, without, however, discarding its industrial activities of wood processing, which will continue.” (Batistella, Annual Report—Managers' report—2011)

Example 6—Increased performance & Adequacy of the capital structure & Reduced debt:

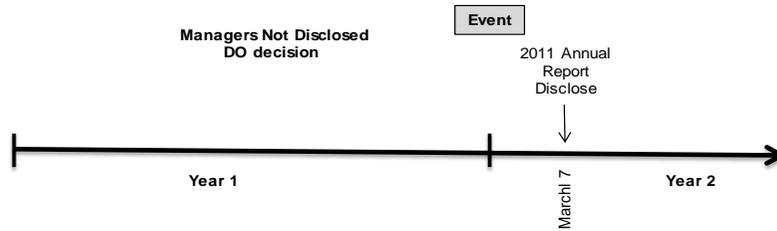
“The Company also decided to discontinue the hardening, re-rolling, pickling and steel service center activities, carried out at the plant located in São Bernardo do Campo—SP, pursuant to a material fact disclosed on December 10, 2012. [...] The Company decided to discontinue several businesses in order to optimize its results, strengthen its financial position and capitalize the Company. [...] The assets of these businesses will be put up for sale and these resources will aim to reduce the Company's debt and improve the profitability of its other businesses.” (Mangels, Annual Report—Managers' report—2012)

Example 7—Reduced debt & Optimized capital allocation:

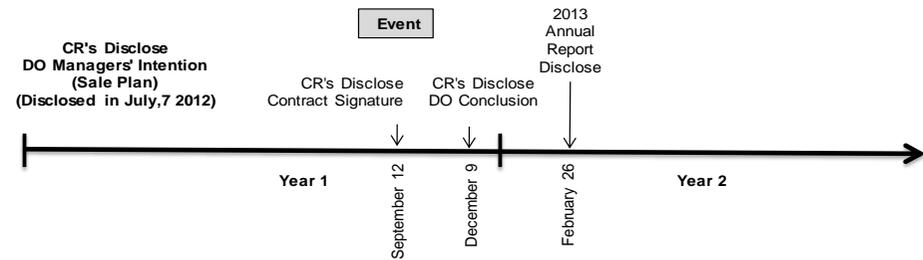
“Available-for-sale assets: On November 18, 2014, the Company concluded negotiations with São João Energética SA, FIP Investimentos Sustentáveis and Brookfield Energia Renovável SA, indirectly controlled by Brookfield Renewable Energy Partners, for the sale of energy generation assets both in operation and under construction. [...]. The value of the transaction, subject to the usual adjustments of the balance sheet to be drawn up in the execution of the transaction, is approximately R\$ 1,428,100. This amount will give Energisa a reduction in consolidated net debt of R\$ 2,607,900, in addition to a reduction in the investment commitments of R\$ 200,000 until the beginning of 2016.” (Energisa, Annual Report—Managers' report—2014)

Appendix 3—Examples about current and annual report timely discontinued operations (DO) disclosure

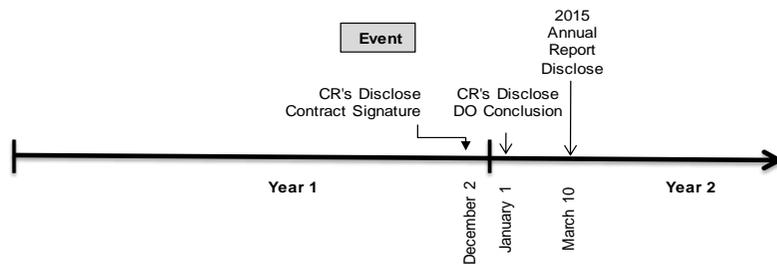
Panel A - Example 1



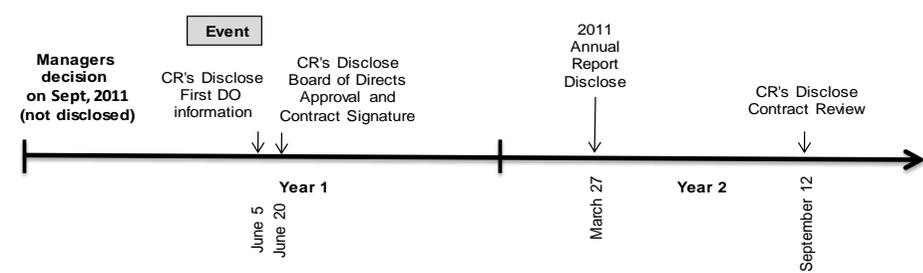
Panel E - Example 5



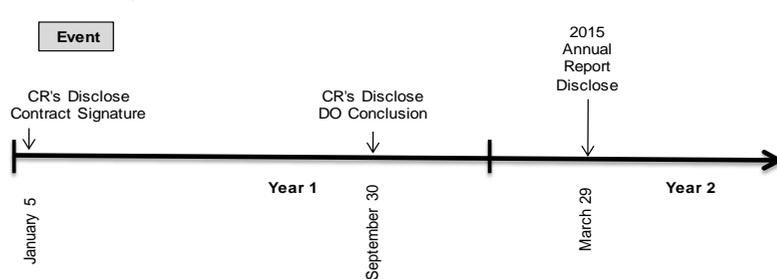
Panel B - Example 2



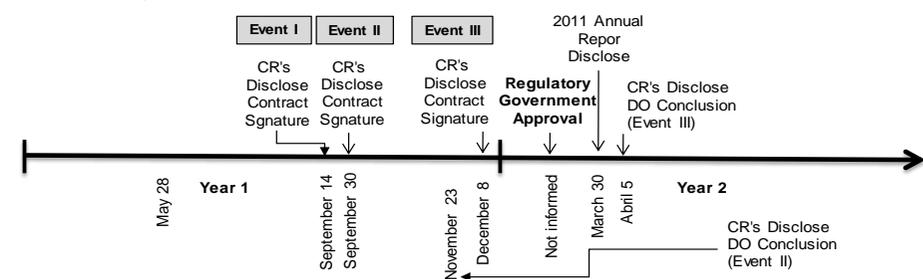
Panel F - Example 6



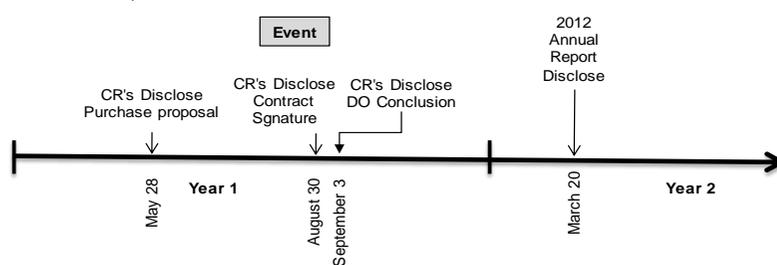
Panel C - Example 3



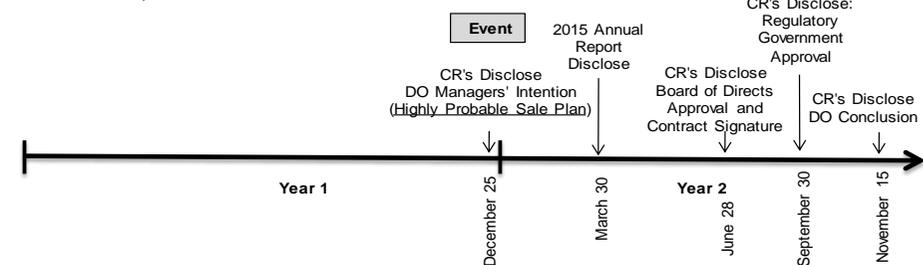
Panel G - Example 7



Panel D - Example 4



Panel H - Exemplo 8



Notes: (a) acronyms: CR—Current Report; DO—Discontinued Operations. (b) Examples elaborated from data of Brazilian companies, except for example 8.