

A critical analysis on the additional adjustments considered in the disclosure of the non-GAAP “adjusted EBITDA” measure in the reports of Brazilian listed companies

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Abstract

Objective: This research aims to identify the main types of additional adjustments made through the disclosure of the non-GAAP “adjusted EBITDA” measure of the largest Brazilian listed companies and to analyze the fitness of those adjustments based on a critical perspective on their nature.

Method: The press releases of companies in the IBrX 100 index were investigated for the main additional adjustments made by the companies in the sample, followed by a critical analysis on the possible utility or opportunism of these adjustments from the perspective of the Regulation theory and premises of information asymmetry. The quarters of 2014 and 2015 were covered in the research.

Results: The main types of adjustments are Impairment (83.34%), Error correction (3.52%), Equity (1.38%), Dividends received (1.35%) and Provisions (1.29%). Almost 76% of the adjustments made derive from accounting principles and rules.

Contributions: The evidence from this study supports the Iasb’s position on the importance of non-GAAP measures, which the board is currently discussing in actions to improve financial reporting, including the use of non-GAAP information in accounting records. The results encourage the debate on the theme in Brazil.

Key words: Non-GAAP measure, Adjusted EBITDA; Additional adjustments.

1. Introduction

The appetite for non-GAAP performance measures is current and promising. Professional entities and regulators around the world have endeavored to address concerns regarding this type of disclosure through, among other means by conducting research (Financial Reporting Council, 2013; Deloitte, 2015), developing instructions to assist issuers in the preparation and disclosure of non-accounting metrics (European Securities and Markets Authority, 2015; International Organization of Securities Commissions, 2016) and even in the modification of standards to include non-GAAP subtotals in accounting items, such as the project to update IAS 1 (International Accounting Standards Board, nda).

These measurements are referred to as “non-GAAP” because they are metrics that derive from manual interferences with accounting figures to compose and disclose new figures to the market, such interference not being permitted by the accounting framework as it is currently conceived. This means that these are alternative performance measurement measures that do not meet the Generally Accepted Accounting Principles (Nichols, Gray, & Street, 2005), principles inherent in the statements prepared in accordance with the International Financial Reporting Standards.

Figures from the application of these measures are generally associated with results or adjusted earnings. Given the variety of concepts and different indicators developed in order to gauge company performance, the academy (Black, & Christensen, 2009; Cormier, Lapointe Antunes, & Magnan, 2011; Isidro & Marques, 2013), accounting entities (International Federation of Accountants, 2014) and global consulting and audit firms (PricewaterhouseCoopers, 2014; Deloitte, 2016a) have questioned the role of non-GAAP measures in corporate communication.

According to the International Financial Reporting Standards (2011), the development of other methodologies may be linked to the fact that there is a perception in the market that a company’s actual operating performance and growth potential cannot be adequately reflected through a single measure. Following the logic of such reasoning, there are claims in the market regarding the use and disclosure of non-accounting metrics in order to provide users with measures that allow the assessment of the effective cash generation of companies considering only their operating activities.

The authors believe that, given that the market has sought to meet its own and its stakeholders’ informational needs, standards under the GAAP may not meet the specific purposes of certain users. Therefore, it is fundamental to use and disclose measures that go beyond the “walls” of accounting. The chairman of the International Accounting Standards Board himself has spoken more than once in favor of non-GAAP measures in corporate reporting, as when he pointed out that “non-GAAP measures can be helpful in explaining different aspects of a company’s performance and we do not intend to eradicate them.” (International Financial Reporting Standards, 2019).

In Brazil, one of the most widely used non-GAAP financial metrics in the corporate scenario is Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA), according to the Brazilian Institute of Corporate Governance (2017). It assesses a company’s cash-generating potential while disregarding the financial, tax and depreciation and amortization effects. Adjusted EBITDA, in turn, goes a little further: in its calculation, it considers additional adjustments to include or exclude effects that companies consider to be unrepresentative of their gross cash generation (Brazilian Securities Commission, 2012). Companies have used terms such as “extraordinary”, “non-recurring”, “non-operating” and “unusual” to justify disclosures of non-GAAP measures.

It is important to note that, until 2019, there is no standard regulating the types of additional adjustments considered for the calculation of the Adjusted EBITDA. ICVM no. 527 governs the voluntary disclosure of EBITDA and Earnings Before Interest and Taxes and points out that, in the event that a company chooses to include other adjustments to EBITDA, the term “adjusted” in the disclosure should be identified (Brazilian Securities and Exchange Commission, 2012).

Regulators have focused on the types of adjustments companies make. Young (2014) points out that regulators often use adjusted figures to monitor companies and Black and Christensen (2018) state that the Securities and Exchange Commission has always been concerned with adjustments that exclude items that are actually recurring in the income statement, such as "operating expenses" for example. The global regulator of the securities commissions warns that issuers of non-GAAP measures need to consider the nature of the facts they intend to adjust, providing the appropriate basis for each adjustment made. The use of Impairment, for example, is considered improper in the view of the agency because it contains in its nature a susceptibility to repetition in the foreseeable future and should not be described as a "non-recurring" or "unusual" item without sufficient explanations (International Organization of Securities Commissions, 2016).

Most scientific research on non-GAAP measures has been conducted on the international stage (Black, 2016a) and, to some extent, it is concentrated in the United States due to the strict Sarbanes Oxley law on the companies registered in the Securities and Exchange Commission regarding the disclosure of non-GAAP metrics, avoiding potential dangers to investors deriving from possible misuse. This argument of corporate misuse of non-GAAP measures is practically common sense in this line of research, as several previous evidences suggest this behavior. Graham, Harvey and Rajgopal (2005) interviewed more than 400 managers to understand the factors that determine earnings disclosure decisions and identified that there is a tendency for managers to emphasize non-GAAP measures when GAAP is not expected. The results of the research conducted by Miller (2009), along the same lines, suggest that managers engage in opportunistic disclosure behavior of non-GAAP earnings measures, benefiting management itself to the detriment of investors.

Regarding the types of adjustments made, Bradshaw and Sloan (2002) document that excluding special items, known as one-time, transitional and/or non-recurring items, would be the main difference between GAAP and non-GAAP figures. More recent evidence indicates that the adjustment of non-recurring items is the most common form of adjustment via non-GAAP measures, and such items are related to restructuring, tax and acquisition facts (Black, Christensen, Ciesielski, & Whipple, 2018b).

In Brazil, however, there is little research on the subject (Oliveira, 2018), despite the growing use of non-GAAP measures in publicly-held companies (Securities Commission, 2012). Some surveys have identified the reasons for using EBITDA and how this measure is used in the Brazilian professional market (Momose, 2009; Carvalho, 2014; Maragno, Borba, & Fey, 2014), while others criticize its use as a measure capable of ensuring debt coverage and as a proxy for operating cash generation (Diaz, 2002; Frezatti & Aguiar, 2007) or value the use of EBITDA from a value relevance perspective (Macedo, Machado, Murcia, & Machado, 2012). No published research has been identified though that critically evidences the types of additional adjustments considered in non-GAAP measures to contribute to the international discussion of whether or not these indicators are appropriate.

The relevance of this study is justified by the signals that the academy as well as the market, regulators and standardizers have sent regarding the subject. Black (2016b) considers the study of non-GAAP measures a hot topic today for conducting scientific research. Marques (2017) points out that descriptive evidence indicates that the disclosure of these measures is a growing practice in many countries and that deliberations and discussions by regulators and standardizers make this area important for research. These statements are in line with the perceived prevalence and recurrence of such metrics in corporate financial reporting around the world, particularly in the jurisdictions of the United States and the United Kingdom, from which the major market regulatory movements come, but also in other countries such as New Zealand, Australia and France (Marques, 2017).

To get an idea of the impact of the use of non-GAAP measures on the US market, in 2016, the topic “non-GAAP measures” ranked third on the list of topics most frequently commented by the Division of Corporation Finance, leading the Securities and Exchange Commission to update, that same year, the interpretation on the use and disclosure of such measures to include new guidelines for companies that chose to disclose them. In the United Kingdom, for example, of the top 100 companies listed on the FTSE index in 2015, 81% reported non-GAAP measures at the beginning of their annual reports (Deloitte, 2016b). According to Black, Christensen, Ciesielski, and Whipple (2018a), the proliferation of non-GAAP measures around the world has revived interest from entities such as the International Accounting Standards Board and the Financial Accounting Standards Board on the topic, which have included projects focused on the discussion and possible regulation of non-GAAP measures on their agendas since 2014 and 2015, respectively.

The purpose of this paper is to fill a gap in the accounting research by identifying the most significant types of additional adjustments made via disclosures of the non-GAAP “Adjusted EBITDA” measure of the largest Brazilian listed companies and analyzing the adequacy of these adjustments from a critical perspective of their characteristics. The methodology consists of descriptive analysis of the collected data and critical analysis of the obtained results.

The results presented indicate that the main types of adjustments with greater magnitude are Impairment, Error Correction, Equity, Dividends Received and Provisions, as well as that almost 76% of the adjustments made by the companies are the result of accounting principles and rules, suggesting that companies have adjusted through non-GAAP measures, items that (i) do not generate cash outflow when constituted; (ii) non-recurring events or events that do not reflect reported results of the year; and (iii) non-operating items. These results generate new evidence in the Brazilian corporate scenario and corroborate the need for the use and disclosure of non-GAAP measures, contributing to discussions in accounting practice as well as in the academy.

2. Theoretical platform

2.1 Use of non-GAAP measures and regulation theory

The main issue related to voluntary disclosures is whether they actually guarantee the quality of the users’ decision making. The premise commonly adopted when addressing “non-GAAP measures” is that they entail a discretionary bias. There is reasonable consensus between those publications and the provision of misleading information: “In view of their prevalence and potential for misleading, the use of alternative measurement measures is increasingly in the regulatory focus” (Deloitte, 2016b).

A considerable fraction of previous evidence suggests inconsistencies and opportunism when reporting non-GAAP measures (Miller, 2009; Marques, 2010; Doyle, Jennings, & Soliman, 2013). Black and Christensen (2009), for example, point out that managers manipulate adjustments made to non-GAAP earnings to beat benchmarks set by companies. Marques (2010) suggests that managers emphasize non-GAAP metrics when accounting profit does not reach the expected benchmark and, in the same vein, Lougee and Marquardt (2004) suggest that companies with accounting losses would be more likely to emphasize non-GAAP metrics to present an improved result to the market. With respect to exclusions considered in non-GAAP measures, the study by Doyle, Jennings, and Soliman (2013) states that companies reporting exclusions are more likely to beat or exceed forecasts by market analysts.

There is also academic research that points to the usefulness of non-GAAP measures. This line of research argues that non-GAAP numbers are more informative and efficient, and that the market perceives "pro forma" gains as more representative of operating earnings than GAAP operating earnings (Bhattacharya, Black, Christensen, & Larson, 2003). Bradshaw and Sloan (2002) suggest, for example, that "pro forma" gains are more determining than GAAP gains in explaining changes in stock prices and that corporate management has taken a proactive role in emphasizing non-GAAP measures in corporate reporting.

Despite this evidence, there is still strong concern about whether such measures are reliable, especially as regards the impact of this reliability on the stock market. The International Accounting Standards Board (n.d.a) states that inconsistencies in corporate financial performance can lead to misguided or unsatisfactory investment decisions, resulting in market failures and affecting national and global economies. Malone, Tarca and Wee (2016) state that non-GAAP gains can be "noisy" and difficult to interpret information, causing investors to react inappropriately to share pricing.

Marques (2017) points out that, while there was evidence in favor of the use and disclosure of non-GAAP measures, previous studies seem to indicate that, while they may be helpful to the capital market, they have the potential to mislead investors and, in particular, the "unsophisticated" ones. The experiment by the researchers Johnson, Percy, Stevenson Clarke and Cameron (2014) considered the provision of a non-GAAP gain greater than a GAAP gain in the annual report and concluded that unsophisticated investors, when asked to identify the profitability measures of the report, choose non-GAAP information over GAAPs. The research by Bhattacharya, Black, Christensen, and Mergenthaler (2007) similarly found that unsophisticated investors rely on "pro forma" information. This evidence is important in the discussion about the regulation of non-GAAP measures, as the main regulations in the US capital market are designed to protect this class of "less informed" market participants.

Due to the fact that company managers and management have informational advantage over other market participants (Iudícibus & Lopes, 2004), the use of non-accounting measures in corporate reports may be used to distract these participants' attention from the companies' actual situation. In addition to this premise, there is the aggravation that non-GAAP measures are not audited, thus allowing "freedom" in the construction and presentation of these figures.

This study considers the regulation of certain non-GAAP measures (the most widely used globally) may be an outlet to inhibit or mitigate the possibility of misuse of such voluntary disclosure. Given that there is a tendency for non-GAAP measures to yield more optimistic figures on company performance, the IFRS standard itself needs to provide details and the structure for these disclosures (International Financial Reporting Standards, 2019).

The research by Maragno, Borba and Fey (2014) is an example of the benefit of the EBITDA regulation in the Brazilian market. It is concluded that, before ICVM No. 527 started to regulate aspects of EBITDA calculation and disclosure, less than half of the IBrX 100 companies were in compliance with the established calculation methodology. After the regulation, 60% became compliant with that methodology, indicating increased adherence to the established criteria. Heflin and Hsu (2008) found that, after the regulation of non-GAAP measures by the Securities and Exchange Commission, as from 2003, in the United States, companies have decreased the frequency and magnitude of adjustments ("special items" and others) made through non-accounting metrics. These authors also identified that, after the regulation, there was a decline in the likelihood of reported non-GAAP gains beating or exceeding market analysts' forecasts. These results suggest that regulatory interference in the market has positive impacts in protecting it against misleading information.

Understanding the positive impacts of non-GAAP regulation, the accounting regulator has focused part of its efforts on the “Primary Financial Statements” project, which proposes amendments to the Income Statement through the use of subtotals, one of which is set for all the companies - Earnings Before Interest and Taxes - and another for a different performance measure chosen by management (International Accounting Standards Board, 2018).

This project was added to IASB’s agenda in 2014 and, as early as 2015, the respondents identified it as a priority, who indicated that the focus of the project should be the income statement. At the end of 2016, Iasb decided to draw up a project for improvements to this statement, with several discussions on the topic and possibilities for improvement between 2017 and 2019. The result is that, by the end of 2019, Iasb intends to publish an exposure draft, an official document that precedes an accounting standard (International Accounting Standards Board, 2018).

The following is a table summarizing the project timeline and key discussions on the specific EBITDA regulation (International Accounting Standards Board, n.d.b).

Table 1

Project “Primary Financial Statements” and EBITDA

Dates	Main Discussions and Results
July/2017	If the Iasb should require the inclusion of the “EBIT” as a subtotal in the Income Statement.
October/2017	A document “Iasb Investor Update” was issued, which presented and discussed, among other aspects and standards, the reporting of the “EBIT” as a subtotal in the Income Statement from the perspective of the investors and the Iasb itself.
June/2018	If the Iasb should develop a guidance and/or define the “EBITDA” measure, considering that: (i) it is widely used by financial statement users; (ii) there are concerns as to whether it is a valid performance measure; and (iii) diverse definitions and calculations exist for the EBITDA.
September/2018	On this date, the Iasb had not discussed the issue raised in June/2018 yet.
November/2018	The Iasb decided that the EBITDA should not be included in the Income Statement as a subtotal, nor should it be required in the Notes to the Financial Statements, due to, among other reasons: (i) not being applicable to all entities (comparability); (ii) avoiding highlights on this aspects, given concerns as to whether it is a valid performance measure; (iii) due to the fact that the users can calculate this measure if they think that it is useful, given the requirement to disclose depreciation and amortization individually in the financial statements; and (iv) to avoid the need to describe what “EBITDA” is.
December/2018	On this date, the Iasb decided attending to the Board’s suggestions on the discussions held in November/2018 concerning the description of EBITDA, to avoid the diverse forms of calculation. As a result of the incorporation of the term “EBITDA” into the IFRS terminology, the Iasb would avoid the calculation of measures disclosed with this label as “Adjusted EBITDA”, and would enhance the comparability of this measure among entities. Hence, it was decided that EBITDA should be described as: “operating profit before depreciation and amortization” and that it would be added to the list of measures that are not considered as management performance measures. Through this approach, the Iasb would avoid describing “EBITDA” and treating the measure as an operating profit calculation before depreciation and amortization, avoiding additional disclosures if it were considered a management performance measure.
June/2019	Decision to publish an exposure draft by the end of 2019.

Source: elaborated by the authors.

The question of including alternative measures of performance in the “GAAP world” can be explained by the regulation theory, more specifically the theory of public interest. This theory suggests that, when economic regulation is established, there is evidence that action has been taken to correct possible market failures, which are justified by the inefficiency of markets and the existence of information asymmetry. In this case, the regulator’s incentives are presumed to be in line with the public’s interests and, as a result, the former intervenes in favor of the latter (Beaver, 1998).

2.2 Additional Adjustments

Deciding which items management intends to adjust based on accounting results requires the application of professional judgment and a critical eye. As appointed by the Brazilian Institute of Corporate Governance (2017), the board of directors plays a key role in the assessment of items considered "extraordinary". Although current accounting standards do not allow companies to disclose an item containing "extraordinary items" (Accounting Pronouncements Committee, 2011) in the income statement, management may consider disclosing in its reports that there are facts that are considered to be "unusual" or "infrequent" and make use of a non-GAAP measure to do so.

The Securities and Exchange Commission (2003), as a direct consequence of the Sarbanes Oxley Act, now prohibits US listed companies from adjusting items identified as "non-recurring", "infrequent" and/or "unusual" in non-GAAP measures to smoothen their results. Other important requirements exist aimed at ensuring the validity of such disclosures, such as: (i) giving prominence to the directly comparable non-GAAP measure; (ii) providing details of the differences between the disclosed non-GAAP measure and the directly comparable GAAP measure, with reconciliation information available to the market without undue effort; and (iii) providing a statement highlighting why management believes that the disclosure of non-GAAP measures is useful to investors.

The European Securities and Markets Authority (2015) guide to alternative performance measures points out that it is not a problem in itself that they derive from elements or information in the financial statements, but disapprove of the indiscriminate, inconsistent and unjustified use of adjustments in non-GAAP measures.

Competent institutions for this purpose have fought commonly adjusted items. Both the International Organization of Securities Commissions (2016) and the chairman of the accounting standard setter have already formally rejected adjusting the effect of accounting impairment, given the very nature of this item in reflecting an operating expense of companies (Deloitte, 2017). The research by Doyle, Lundholm and Soliman (2003) suggests that adjustments commonly declared by companies as "non-recurring" and/or "non-cash" are actually important items for the market to understand the firm's future value, such as adjustments for losses on discontinued operations and amortization of goodwill. Bowen, Davis and Matsumoto (2005), while not focusing their study on the adjustments themselves, indicate that, based on the pro forma earnings sample analyzed, the most commonly made adjustments were, in descending order: goodwill amortization, share-based compensation expenses, restructuring expenses and income from disposal of assets.

As there is no standardized theoretical framework to establish what would be considered non-recurring, unusual or infrequent items, there is some openness for corporate management to use these concepts in its favor, and also other terms such as "non-operational" and "non-cash" as a justification for non-GAAP adjustments.

A key issue in understanding whether companies have been reporting opportunistic non-GAAP measures is whether they have consistently presented adjustments. That is, the company needs to adjust both the constitution and reversal of provisions, both the gain and loss on the disposal of assets, and so on. What has actually been observed is that companies have only adjusted "negative items", making their non-GAAP figures always better than the corresponding GAAP figures: "It is not surprising that negative results dominate adjustments to IFRS profits. We should be comforted when we observe that, in any given year, there are companies reporting non-GAAP profit lower than IFRS profit" (Deloitte, 2017, p. 6). Webber, Nichols, and Street (2013) investigated the disclosure of non-GAAP profit measures in 303 US company press releases between 2005 and 2010 and concluded that, as net income declines, firms are more likely to appoint higher non-GAAP gains.

Malone et al. (2016) concluded that, overall, both companies and analysts tend to adjust losses and expenses with the effect of increasing non-GAAP earnings, which reflects a higher incidence of negative versus positive adjustments. Black et al. (2018b) also identified this pattern, finding that non-GAAP figures exceed both GAAP figures and operating gains, suggesting that the adjustments made are predominantly negative and significant. A recent survey states that CEOs of S&P 500 companies made major adjustments to achieve non-GAAP earnings between 2010 and 2015 and thus received 23% more than the expected annual compensation if the figures used were GAAP (Guest, Kothari, & Pozen, 2019).

This and other evidence suggest that companies typically adjust only negative items through non-GAAP measures, besides indicating a certain degree of inadequacy of these adjustments from a critical perspective. As an example of adjustments that may be considered inappropriate or misleading, including non-compliance with existing requirements for their presentation to the market, the disclosure of Ambev S.A.'s "Adjusted EBITDA" in its annual report of 12/31/2015 may be mentioned, according to Table 2:

Table 2

Disclosure of Adjusted EBITDA of Ambev S.A. in the annual report dated 12.31.2015

Conciliation net income EBITDA R\$ million	2014	2015
Net income Ambev	12,065.5	12,423.8
Participation of non-controlling shareholders	296.5	455.4
Expense on income tax and social contribution	2,006.6	3,634.2
Income before taxes	14,368.6	16,513.4
Participation in the results of affiliated and subsidiary companies	(17.4)	(3.1)
Net financial result	1,475.4	2,268.2
Non-recurring items	89.0	357.2
Adjusted EBIT	15,915.6	19,135.7
Total depreciation and amortization	2,360.2	3,074.1
Adjusted EBITDA	18,275.8	22,209.7

Source: elaborated by the authors.

This disclosure was deemed non-compliant with the calculation requirements of ICVM No. 527 because: (i) it contains a line with "non-recurring" items in the disclosure, which is expressly prohibited in article 3; and (ii) it does not disclose traditional EBITDA before Adjusted EBITDA, as required by paragraph 1 of article 4. Additionally, the disclosure did not detail the purpose of considering the additional adjustments "Non-controlling interest" and "Equity in affiliates and subsidiaries" to compose the Adjusted EBITDA.

Lack of compliance, detail and clarity in the disclosure of non-GAAP measures may support the premise that these measurements are discretionary. As the market itself has justifications to legitimize such disclosure, companies that choose to voluntarily disclose non-accounting measures need to do so aiming to present reliable information and with the appropriate technical basis to their investors and potential investors, always respecting the existing regulations.

3. Method

The sample consists of companies listed on the index "IBrX 100" of B3 on 2/24/2017, the starting date of the data collection. The years 2014 and 2015 were selected and all quarterly press releases were considered for the analysis of the Adjusted EBITDA, when disclosed, totaling 8 periods for each sample company. The analyses resulted from 760 reports and 360 observations (reports disclosing the Adjusted EBITDA). This measure was chosen because it is one of the most used in the Brazilian corporate market, regulated by ICVM no. 527 and deriving from the additional adjustments made to EBITDA.

The research was thus delimited given the manual data collection and aiming to consider macroeconomic factors that negatively affected Brazil's financial and economic situation in the years 2010-2015. According to Malone et al. (2016), in this scenario, the market and asset price volatility may lead to greater sensitivity about GAAP measurements and can potentially increase the usefulness of non-GAAP disclosures.

As there were repeated companies on February 24, 2017 because they had more than one type of share (ON and PN) classified as the 100 most traded (such as Banco Bradesco SA shares BBDC3 and BBDC4), the actual number of companies needed to be identified. The procedure was performed in Excel through the "Remove Duplicates" command, which was used after aligning the names of the companies present in the index in only one column. Thus, Excel automatically recognizes and excludes companies that may have the same name on different lines. At the end of this procedure, the existence of 95 companies was indicated.

Of the 95 companies, 52 companies reported Adjusted EBITDA in at least one period, representing 55% of all companies in the sample. The researchers compiled the data extracted from the quarterly reports into an Excel spreadsheet. In view of the objective presented in the introduction, the following information was collected for the non-GAAP Adjusted EBITDA: 1) types of additional adjustments to EBITDA; and 2) amounts of additional adjustments to EBITDA, both presented in reconciliations to accounting profit (or loss), as required by ICVM no. 527. After collecting this data, the researchers classified each adjustment into categories that respected the proper name given to the adjustments, as disclosed by the companies.

The methodology of this study is based on a descriptive analysis of the additional adjustments made via Adjusted EBITDA and, considering the main results presented, critical analyses were performed from the perspective of a conceptual discussion of the nature of the adjustments and also considering the existing guidelines and standards concerned. Thus, this research has a normative and exploratory design because, according to Matos and Murcia (2019), it resembles normative theoretical essays for discussing themes based on the current literature, thus stimulating debates and research in the area.

The perspective of the magnitude of the items was also considered and not just their frequency because, according to Young (2014), the economic significance of non-GAAP figures is partially based on their frequency and the magnitude and nature of the components excluded through them. This is due to the fact that the impact (distance between the non-GAAP measures and the corresponding GAAP figures) will be greater when the magnitude of the adjustments is greater. Bhattacharya et al. (2003) analyze, for example, the relative magnitude between GAAP and non-GAAP figures, relating this to their locations in press releases. In principle, this distancing can influence the market analyses, given the relevance of the adjustments made.

4. Results

4.1 Types of additional adjustments

In total, 37 adjustment categories were mapped. The researchers identified that each could fit as a reflection of some accounting or other standard. Table 3 presents this framework, with the categories arranged based on the representativeness of the adjusted amounts in relation to the adjusted total (in millions of *reais* and in absolute values) and indicating the frequency of adjustments (number of times reported):

Table 3
Categories and amounts of the adjustments made

Item	Category	Related CPCs	Amount	%	Frequency
1	Impairment	CPC 01	146,601	83.34%	25
2	Correction of errors	CPC 23	6,194	3.52%	1
3	Equity	CPC 18	2,436	1.38%	179
4	Dividends received	Law 6.404/86	2,366	1.35%	8
5	Provisions	CPC 25	2,277	1.29%	55
6	Participation of non-controlling shareholders	CPC 36	2,232	1.27%	80
7	Regulatory assets and liabilities	Others	1,606	0.91%	11
8	Others (revenues and expenses)	CPC 00	1,580	0.90%	70
9	Proportional EBITDA	Others	1,575	0.90%	27
10	Measuring at fair value	CPC 46	1,416	0.81%	38
11	Non-recurring/extraordinary items	Others	1,395	0.79%	88
12	Restructuring, reorganization, donations and indemnities	Others	1,241	0.71%	9
13	Property for investment	CPC 28	934	0.53%	5
14	Tax credit / Retroactive PIS and Cofins	Others	822	0.47%	8
15	Operations involving joint-control entities	CPC 18	637	0.36%	1
16	Operating income	CPC 00	625	0.36%	3
17	Result of asset measuring or disposal	CPC 00	319	0.18%	26
18	Interest capitalization	CPC 20	251	0.14%	8
19	Consolidation	CPC 36	218	0.12%	6
20	Stock-based purchase and payment	CPC 10	203	0.12%	55
21	Prepaid expenses	CPC 00	164	0.09%	8
22	Discontinued operations	CPC 31	133	0.08%	11
23	Interests and fines on delays	Others	124	0.07%	16
24	Company investments (participations)	CPC 18	99	0.06%	10
25	Result of disposal of participations in joint ventures / associated companies	CPC 18	90	0.05%	8
26	Non-tax expenses	CPC 00	72	0.04%	9
27	Leasing (rent expenses)	CPC 06	65	0.04%	8
28	Hedge accounting	CPC 48	58	0.03%	12
29	Share-based incentives without cash disbursement	CPC 10	36	0.02%	8
30	Commercial agreement with suppliers	Others	32	0.02%	1

Item	Category	Related CPCs	Amount	%	Frequency
31	Reversal of interest on own capital	IN SRF 093/97	28	0.02%	4
32	Revenue from construction	CPC 17	21	0.01%	6
33	Debentures	CPC 08	19	0.01%	8
34	Benefits to employees	CPC 33	10	0.01%	8
35	Realization of attributed cost	ICPC 10 / CPCs 27, 28, 37 and 43	10	0.01%	2
36	Expenses on staff dismissal	CPC 00	9	0.01%	1
37	Expenses on M&A	CPC 00	9	0.01%	3
Total adjusted			175.906	100%	826

Source: elaborated by the authors.

Based on Table 3, it can be observed that the largest additional adjustments reported in the eight (8) periods analyzed were mainly Impairment and Error Correction, corresponding to 83.34% and 3.52% of the total amount of adjustments, respectively.

Next, Equity is observed, which ranks third in magnitude and first in frequency, representing 21.67% of the total adjustments made in the number of reports. Dividends received and Provisions rank 4th and 5th with, respectively, 1.35% and 1.29% of the total amount of adjustments.

4.2 Critical analysis of Additional Adjustments

Previous studies have shown that Impairment is one of the most commonly performed adjustments using non-GAAP measures (Malone et al., 2016) and is the most significant, according to Black et al. (2018b). Thus, the findings of this study confirm previous evidence of the frequency and relevance of this adjustment.

Impairment is but the recognition of the economic effect of an impairment loss on the financial statements under the scope of CPC 01 (R1) Asset Impairment. At least annually, entities need to assess whether their assets are recorded in accounting for amounts that exceed the amounts to be recovered from use or sale. This test aims to ensure that the amounts presented in the financial statements are true to the economic reality of the assets.

This economic effect is accounted for through profit or loss (except for assets that have been revalued in the past) against an asset-reducing account the loss relates to. It is easy to note that there is no cash impact on this accounting. Practice has claimed that one of the main reasons for the use and disclosure of "Adjusted EBITDA" would be precisely because some items accounted for under GAAP do not generate cash outflows in the reporting period and, as the company wishes to report its "gross cash generation potential" to the market, items such as Impairment should necessarily be excluded from the account. Malone et al. (2016) indicate that companies adjust Impairment expenses because the measuring of this item is uncertain, suggesting a possible utility of this adjustment, as it contributes to the assessment of the current and future performance of firms.

It should be kept in mind, however, that a devalued asset, and imagining that this loss will not be reversed at some future time, will lead the company to record a lower effective cash inflow due to this devaluation. For example, if an asset that had a devaluation of R\$ 10,000 at time T0 remains depreciated until the date of its realization for sale at the subsequent moment T1, that R\$ 10,000 would have financially impacted the company's cash, which in a previous period disbursed X + R\$ 10,000 to acquire it (cost of good, disregarding depreciation in the interval between T0 and T1). Looking at the performance of the reporting period T0 in isolation, it could be helpful for investors to understand this result without the reflection of non-cash items; it is noteworthy, however, that this effect is temporal, that is, it may be realized in the cash.

Moreover, considering the existing guidances about this kind of adjustment and as already discussed in the theoretical survey, it would not be appropriate to exclude the Impairment effect because it represents an operating expense for companies, even though many of them state otherwise. Deloitte (2019) points out that registrants with the US Securities and Exchange Commission are prohibited by paragraph 10 (e) from adjusting items as unusual, nonrecurring or infrequent when the nature of these items is likely to occur again within two years or if there has been a similar charge or gain in the previous two years. By assessing the non-recurrence of an accounting effect as an attribute to justify its non-operational nature, it could be argued that Impairment is non-operational. As pointed out by Webber et al. (2013), however, several companies adjust the same item in consecutive years (including Impairment in this analysis), suggesting that, in reality, such adjustments over time would be incorrect from the point of view of their recurrence and/or non-operational nature.

CPC 23 Accounting Policies, Changes in Estimates and Rectification of Errors defines the criteria for “the selection and change of accounting policies, together with the accounting treatment and disclosure of changes in accounting policies, the change in accounting estimates and the rectification of errors” (Comitê de Pronunciamentos Contábeis, 2009). The errors to which this statement refers, for correction or rectification purposes, are material errors, i.e. errors that may, individually or collectively, influence the economic decisions of the financial statement users. When a material error is not identified until the publication of the financial statements to which it belongs, such error shall be corrected in the comparative information of subsequent period’s financial statements.

A company is not expected to make corrections to previous errors over and over again, i.e. it is a one-off event and even an event the companies do not want for a variety of reasons (reliability in financial statement balances is one of them). Based on this, it can be understood that error correction is an extraordinary or non-recurring event, or even an event that does not concern the reporting period in question. This is confirmed by the observation of the nature of the adjustment, corresponding to R\$ 6,194 million, as indicated in Table 3 regarding “error correction”. It refers to a single adjustment made by Petrobras S.A. in the third quarter of 2014 to remove the effect of the write-off of “additional expenses improperly capitalized from property, plant and equipment arising from the undue payment scheme discovered by the Lava Jato investigations”.

Adjustments like this cannot represent the operating activities of a company because they stem from fraud and pollute the company’s performance. Although necessary for accounting purposes, including tax matters, it is reasonable to use a non-GAAP metric to measure business performance without the effect of error rectification.

In addition to the Impairment and Error Correction adjustments, which together account for almost 87% of the adjusted total, we also have similarly interesting results following adjustments from Equity Income, Dividends Received and Provisions, corresponding to 1.38%, 1.35%. and 1.29%, respectively, of the total.

Equity accounting is the method to recognize an investor’s interest in the net assets of an investee. Pursuant to CPC 18 Investment in Affiliates, Subsidiaries and Joint Venture (Accounting Pronouncements Committee, 2012), after an investment is initially recognized at cost, it is adjusted to reflect its share of the investee’s profit or loss in later periods. Accounting in the investor’s financial statements will depend on whether there has been an income or expense with equity accounting, i.e. whether the investee has made a profit or loss. Regardless of this result, it is interesting to note that the market justifies this adjustment because it is not operational, i.e. it depends on the results of operations of other entities and how they are being managed. Therefore, this result is often excluded in non-GAAP measures as, by doing so, issuers “isolate” the effect of their own unique operations.

An important fact that corroborates this is that, of the 28 companies that made adjustments deriving from equity results, none of them is from the Participations segment, a sector that naturally has as its business model or "end activity" the participation in other entities. This data is essential to understand whether or not adjustments made for the sake of equity accounting could be considered as non-operating items, which in the authors' view would be justifiable. It should be remembered, however, that although companies may classify these items as non-operating, they remain recurring items, as each position closes with changes in the investment position.

Finally, the recognition of this accounting fact also does not impact the investor company's cash. As explained in the example of the sale of undervalued property, plant and equipment, if the investing company decides to dispose of its investments, the effects that were recognized in assets would have impacted cash. Therefore, it is not at all reasonable to consider this item to be a "non-cash" item as it is non-cash only if the base date on which the effect was recognized is considered.

Following the same investment logic, Dividends Received are amounts that a company receives from equity interests and are registered against cash, as they are recognized as a result of their financial receipt. That is, it is non-operating revenue of the company and, from the above, it would make sense that companies do not evaluate its performance considering effects from other entities. This also discusses the regularity or frequency of these receipts, but it is possible that these adjustments come with justifications that prove the need for their exclusions

Provisions are liabilities of uncertain term or amounts. Under CPC 25 Provisions, Contingent Liabilities and Contingent Assets (Comitê de Pronunciamentos Contábeis, 2009), provisions are recognized as liabilities because they are present obligations and it is probable that an outflow of resources will be required to settle the obligation. The provision is recorded through profit or loss against a current or non-current liability account, depending on how long it will take for the obligation to be settled. Because these are accounting estimates, provisions should be revalued at each balance sheet date to reflect the best possible estimate.

It is clear that, in this case, there is also no outflow of funds from the entity on the base date on which the provision is generated; what happens is the recognition of an economic fact to reliably present in the financial statements other obligations that the company has, even if the amounts or terms of these obligations cannot be 100% confirmed on the reporting date. As this is an accounting estimate that involves judgment and subjective assumptions, it is possible that some provisions or part of them may be fully reversed in the near future due to changes in the expected scenario, for example.

Following the same rationale of presenting an entity's gross cash generation potential, Provisions recognized in the reporting period could also be subject to adjustments to "Adjusted EBITDA". It is noteworthy that, considering all classes of provisions in this indicator, future cash disbursements, if the expected scenario is confirmed, are also disregarded, making a broader analysis of whether an entity expects or does not expect these provisions to impact the cash in the future.

Looking at Table 3, it is interesting to note that, of the 37 adjustment categories, only 9 (9) do not directly refer to an accounting standard. The result of this finding is enriching and relevant, as it points out that almost 76% of the types of adjustments made by companies are the result of required accounting principles and rules, but were considered by companies as items that should be excluded or included in the calculation of the Adjusted EBITDA.

Overall, the results presented and discussed are in line with the results obtained by Malone et al. (2016), in that companies adjust items not yet realized in the reporting period and items considered non-recurring. Nevertheless, companies need to reflect their non-GAAP disclosures, as Webber et al. (2013) conclude that the justifications for the adjustments are in fact generic, not containing informative content because they do not present perceptions about the nature of the adjustments made.

More specifically on the adjustment types of Error Correction, Equity, Dividends received and Provisions, no previous descriptive results could be found that could be confirmed or not, which can be explained by: (i) the lack of research focusing on non-GAAP descriptive analysis; (ii) differences in the categorization of adjustments in each study; (iii) the differences in practices in the different markets surveyed; (iv) by different samples and investigated periods; and (v) because Adjusted EBITDA has not been studied as compared to EBITDA, for example.

5. Conclusions

It could be concluded that the largest additional adjustments the companies reported in the analyzed periods were Impairment and Error Correction, with 83.34% and 3.52% of the total amount of adjustments disclosed. Subsequently, the adjustments resulting from Equity Income, Dividends Received and Provisions represent an additional 4% of the adjusted total.

Although the other types of adjustments made are not relevant to the total adjusted amount, it was observed that almost 76% result from the effect of an accounting standard on the financial statements, such as: Fair Value Measurement, Capitalization of Interest, among others.

Practice has pointed out that one of the reasons for disclosing Adjusted EBITDA would be because some items accounted for by GAAP do not generate cash outflow for companies: both Impairment and provisions are items that affect the accounting result, but do not generate cash impact when they are constituted. In principle, it makes sense that these items are disregarded in the performance from the perspective of the preparers.

Error correction, as discussed, can be characterized as an event of a one-off nature and, therefore, it can be understood as a non-recurring event that does not concern the reporting period in question. Equity income and dividends received may not represent an operating result for the investor as they do not depend on actions taken by the investor and lie beyond his management control.

Based on the critical analysis of the adjustments, the authors understand that the survey results suggest that the market has legitimate claims about the need to use measures complementary to GAAP figures, but that caution should be exercised in disclosing non-GAAP measures, seeking conceptual justification to avoid discretionary use. For this, and as the Regulation theory, market interventions are necessary when there are possible failures arising from informational asymmetry and inefficiency in the markets. As discussed throughout the text, previous research has identified the potential misuse of non-GAAP measures in financial reporting and how this behavior could negatively impact markets. Heflin and Hsu (2008) indicated that disclosures of non-GAAP measures have increased in quality after regulation, which is a mechanism to avoid problems in non-GAAP disclosures.

This study differs from previous publications in that it is the first to critically analyze the adjustments made through non-GAAP measures in Brazil, based on the existing literature on the subject and its normative concepts. For investors, who have the potential to be misled by the misuse of non-GAAP measures (Marques, 2017; Black et al., 2018a), scientific research on the subject may suggest the most appropriate types of disclosure if markets and companies in the US which they invest are in compliance with available regulations and guidances or if evidence points to opportunistic behaviors in the use of non-GAAP measures, drawing attention to such issues to enable them to distinguish good from bad disclosures in their assessments.

For Brazilian regulators, standardizers and supervisors, this research may contribute to the understanding of how listed companies have been disclosing one of the most widely disseminated non-GAAP measures in the domestic scenario, and may complement the existing standard to include additional investor protection requirements.

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