



Comparative analysis between EVA[®] and traditional financial (accounting) indicators in Brazilian civil construction companies: a documentary study

Análise comparativa entre o EVA[®] e os indicadores financeiros (contábeis) tradicionais de empresas da construção civil brasileira: um estudo documental

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Abstract: Companies are required to make changes in order to face the competition and to keep up with the current economic scenario. Therefore, it is necessary to seek more reliable indicators that allow a better understanding of how much has been added to the business. This paper proposes to calculate EVA[®] and compare it with the traditional economic indicators when calculating accounting profit, checking the advantages and disadvantages of applying EVA[®] as a Value-based Management and financial control system. This study is important to recognize the best proposal that adequately measures the value of capital and its opportunity cost. The methodology proposed was based on the application of a metric to appropriately measure the value of the capital and the cost of its remuneration through a comparison between the traditional method and EVA[®] in ten civil construction companies extracted from the BM&FBOVESPA website. The result of this study suggests that the accounting profit does not represent the actual value of gain or loss for stakeholders, in which the loss itself does not imply damage because the traditional metric does not consider the cost of opportunity or equity compensation.

Keywords: EVA[®]; WACC; Capital cost; Value-based Management.

Resumo: *A fim de se adequarem à competitividade, as empresas estão realizando mudanças para acompanhar o cenário econômico atual. Nesse sentido é necessário buscar indicadores mais confiáveis que possibilitem uma maior compreensão do quanto foi agregado ao negócio. Este artigo propõe efetuar o cálculo do EVA[®] e compará-lo com os indicadores econômicos tradicionais na apuração do lucro contábil de empresas, verificando as vantagens e desvantagens da aplicação do EVA[®] como sistema de gestão baseado em valor e controle financeiro. A relevância deste estudo está em reconhecer a proposta que melhor mensura, adequadamente, o valor do capital e seu custo de oportunidade. A metodologia proposta baseou-se na aplicação e comparação de métricas para mensurar adequadamente o valor do capital e o custo da remuneração desse capital em dez empresas da construção civil, escolhidas do site da BM&FBOVESPA, utilizando o método tradicional e o EVA[®]. O resultado deste estudo aponta que o lucro contábil não representa o valor real de ganho ou perda para os stakeholders e que a própria perda não significa prejuízo, pois a métrica tradicional não contempla o custo de oportunidades ou remuneração do capital.*

Palavras-chave: EVA[®]; WACC; Custo de capital; Gestão baseada em valor.

1 Introduction

Companies are making numerous structural changes in order to face the current competitiveness, and because of this constant restructuring has been incorporated into the routine of the vast majority of them, bringing with this a search for management methodologies and techniques that adapt to what the

financial market demands to keep them in evidence and competitive.

Business performance evaluation methods supported only on accounting and financial indicators do not offer the real confidence that the market needs and has demanded, and neither do they take

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into consideration all the items that are necessary to carry out this evaluation, which in this case are long-term profitability drivers. This questioning led to the emergence of new competitive strategies of management based on the creation of value that would help in directing the organizations surrounded by this increasingly abysmal environment (Lueg & Schäffer, 2010).

Faced with this conclusion and observation, this research was directed to the study of EVA as a value-based management methodology for forming a financial-economic indicator and with the elaboration of its calculation across multiple companies in the construction industry, which made it possible to compare and measure the EVA calculation among them.

The EVA methodology meets the need for information from the shareholders and administrators, translating if there is or not a generation of wealth in this investment. Almost in opposition to EVA, the traditional indicators show only the financial performance obtained by the company and not the details required for this decision to be at the same time efficient, effective, and on a timely basis, as required for an ideal performance. In this sense, the following problem situation is proposed: How can a company, despite having a net profit originating from the Statements of Income, which considers the accounting aspect as a premise, have a negative, zeroed, or positive EVA, and what are the reasons for this to occur?

This research is justified in order to show the advantages and disadvantages in using EVA as a performance indicator for business growth and a value-based management tool.

Another aim is to show the importance of EVA for companies, for accounting students, and for researchers on the subject with the objective of describing and identifying, by comparing the EVA methodology, if the traditional indicators consider the profit on the accounting aspect as a decision-making indicator.

2 Literature review

2.1 Creating value for the shareholder

Companies that create value have greater accessibility to funds for growth and investment. In general, they cover businesses that deliver value to the customer and have a competitive advantage. Globalization has created an ever more challenging environment and sometimes more hostile. Because of this companies need to create strategies that enable them to survive and compete successfully. To adapt quickly and with agility to transformations that are taking place in the world is an essential requirement.

The longevity of a company is linked to it innovating every day, to constantly learning, and to adapting to changes that occur in the world around them.

Within this reasoning, what method of performance evaluation should be used by the company to make this observation?

It so happens that the methodology based on traditional indicators of economic performance assessment cannot answer if a creation or destruction of wealth is taking place and, consequently, an increase or decrease of the market value of the companies.

For this reason, a new system of evaluation has been submitted to respond to this need. It is the EVA, which through its methodology makes it possible to analyze with greater depth the economic result of the companies, including showing whether the company is creating or destroying wealth.

2.2 Economic Value Added (EVA) and NOPAT concept

EVA is a financial management system that measures the return that equity and debt capital provides for their owners. It measures the difference between the return on the capital of a company and the cost of that capital.

For Gitman (2006), EVA is a measure used to determine whether an investment contributes to the generation of wealth for the owners. According to him, EVA is calculated by subtracting the cost of the resources used to finance an investment from its operating profits after taxes.

For Harrison et al. (2011), the concept of economic value added aims to determine a company's real economic profit. To do this it adds the understanding of financial accounting to measure operations that contribute to the increase of wealth of the shareholders. Basically, it represents the residual income obtained by a company after deducting its capital costs. It specifically represents the operating profit minus the return money needed to form the capital employed. EVA is a registered trademark of the financial consulting firm Stern Value Management.

Ehrbar (2000, p. 1) states:

Put most simply, EVA, an acronym for economic value added, is a business performance measure that differs from most others because it includes a charge on the profit for the cost of all the capital that a company uses.

Figure 1 shows the understanding of the variables that make up the calculation of calculating EVA.

NOPAT = stands for "Net Operating Profit After Taxes". Its equivalent in traditional accounting is Net Operating Profit.

Putting it simply, NOPAT is equal to Net Income minus Operating Costs and Expenses (including Depreciation) minus some specific adjustments for each specific company and taxes.



Figure 1. NOPAT. Source: Prepared by the author (2013).

Capital Charge = Capital Employed × Cost of Capital.

Capital Employed: In the EVA methodology, Capital is the equivalent to the Accounting Balance Sheet. Just as the Balance Sheet, it can also be analyzed from two perspectives: the origin of the resources called Financial Capital and the allocation of the resources called Operating Capital.

Cost of Capital: The EVA methodology uses the Weighted Average Cost of Capital (WACC), which represents the minimum return required by the providers of the capital to the company. It is the weighted average between the cost of equity capital and the cost of debt capital.

According to Morard & Balu (2009), the Capital Employed represents one of the three main components to measure EVA. In this methodology, capital is equivalent to that of the Accounting Balance Sheet. What differs it from the traditional is only the fact that the traditional method of measurement does not consider the costs for acquiring the capital employed.

For Assaf et al. (2008), capital is divided into equity (shareholders) and from third parties (debt) when calculating the cost of capital.

Unlike traditional indicators used that only consider the cost of capital of third parties, alleging that the profit is the remuneration on own capital, it also takes into account the cost of this capital.

For Seoki & Woo (2009), the concept of EVA can be used as an important instrument of control in the context of financial planning and control. It measures the value added during a set period of time by the increase in the margins and profitable reuse of the assets, in addition to being a tool that helps formulate strategies. It is also used to manage the financial performance. They begin to have generation of value as a performance measurement, which is the key to their sustainability.

Malvessi (2000, p. 43) presents the EVA methodology concept in a fully technical way. EVA presents the following formula for its calculation: NOPAT (Net Operating Profit After Taxes, depreciation, plus making some accounting adjustments) deducted from its respective WACC (Weighted Average Cost of Capital).

According to Backes (2002), in the Income Statement, the operating profit represents the result after the financial incomes and expenses in specific compliance with the accounting principles and to the legal aspect. The concept of EBIT (Earnings Before Interest and Taxes) is used for obtaining NOPAT (Net Operating Profit After Taxes) and EVA. It adequately represents the profit that really was obtained through the operations carried out by the company. This is independent of the financial structure because it is adjusted after the taxes paid, giving a more complex and deep vision to the cash basis.

Copeland et al. (2005) also considers NOPAT as the profit after taxes obtained through the net revenues minus the operating costs and expenses, depreciation, and taxes.

For Richard et al. (2009), NOPAT represents the net operating profit after taxes. This measure is similar to net operating profit, but it must be adjusted by removing several accounting distortions.

2.3 The use of EVA in the world and in Brazil

Although recent, there are already a large number of companies that are adopting its principles or seeking information for adopting them.

Ehrbar (2000, p. 3) says that EVA is causing a real revolution, and because of this there are a considerable number of companies on almost all the continents of the world that have been adopting this model. This is what he says:

The EVA revolution is already in full swing. More than 300 companies on all continents (except Antarctica of course) with revenues reaching close to a trillion dollars annually have already implemented the EVA structure of Stern Stewart for financial management and variable remuneration.

2.4 The use and limitations of accounting for calculating EVA

When you want to know the economic-financial data of a company, it is in the accounting department that you look for this data. The accounting records should include the historical entries of the accounting facts that take place on a daily basis in the company. Wernke & Lembeck (2000, p. 85), quoting Jorge S. G. Leone, states: "Accounting is the largest existing database in entities. They simply need to be organized in such a way that they produce information tailored to its users."

However, the most serious problem is not the lag of information, but the lack of consistency between the information recorded in accounting and the reality of companies. In the interest of paying

less taxes, companies often withhold information, presenting unrealistic results that distort their equity and economic-financial status.

2.5 Adjustments in the financial statements for calculating EVA

EVA portrays the economic reality of companies in a reliable and efficient way. The EVA calculation is, however, based on financial statements that in some cases distort this economic reality to serve other purposes (in the case of Brazil, to report to tax authorities).

For this reason, adjustments are made to the traditional financial statements in order to better reflect the company’s economic performance through an appropriate measure of creation of value for investors (shareholders and third parties).

Figure 2 provides a generic view for understanding and seeing the scope of the EVA methodology:

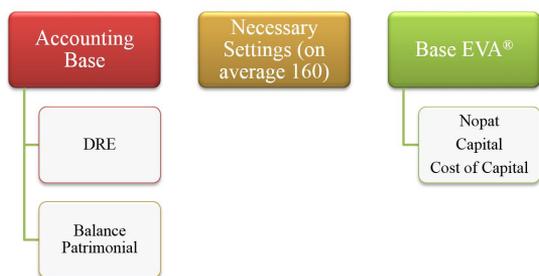


Figure 2. Adjustments needed for EVA. Source: Prepared by the author (2013).

For this reason, adjustments are made to the traditional financial statements in order to better reflect the company’s economic performance through an appropriate measure of creation of value for investors (shareholders and third parties).

The creators of the EVA model identified more than 160 potential adjustments in relation to the accounting criteria involving the time when recognizing income and expenses, the financing not entered into the balance sheet, the conversion of foreign currencies, the valuation of inventories, inflation, among others (Ehrbar, 2000, p. 131, 133).

2.5.1 Calculating NOPAT from the Income Statement

The following result is obtained according to the NOPAT concept, as described in topic 2.2, and comparing the traditional Income Statement against the NOPAT Statement:

An analysis of the Chart 1 brings us to the following conclusions:

- Financial Expenses are not a part of NOPAT because the cost of third-party capital is charged through Capital Charge.
- Financial revenues can (or not) be considered in its calculation if the characteristics of the company’s operations recommend the insertion (or not) of Cash as part of the company’s capital.

Chart 1. Income Statement vs. NOPAT.

Statement of Income	NOPAT
Gross Income	Gross Income
(-) Taxes and Deductions	(-) Taxes and Deductions
(=) Net Income	(=) Net Income
(-) Cost of Products Sold	(-) Cost of Products Sold
(=) Gross profit	(=) Gross profit
(-) Operating Expenses	(-) Operating Expenses
(=) EBITIDA	(=) EBITIDA
(-) Depreciation	(-) Depreciation
(=) EBIT	(=) EBIT
(+) Financial Revenue	
(-) Financial Expense	
(=) Operating Profit	(=) NOPBT
(+) Operating Income	
(+) Extraordinary Items	
(=) Profit Before Taxes	(=) NOPBT
(-) Income Tax and Social Contribution	(-) Operating Cash Flow Tax
(-) Minority Interest	(-) Minority Interest
(=) Net Profit	(=) NOPAT

Source: Stern Stewart & Co. (2001).

- In addition to the Financial Expenses, the Non-Operating Income and the Extraordinary Items are also excluded from NOPAT.
- The tax impact from the Financial Expenses, the Non-Operating Income, and from the Extraordinary Items are excluded from the Income Tax and Social Contribution calculated in the Income Statement.
- The Accounting Provisions, Income Tax, and Social Contribution are treated on a cash basis.

2.5.2 Capital Charge

Capital Charge should be understood as the return or minimum remuneration due to shareholders (K_e) and to the capital from third parties (K_i) who lend funds to the company at a pre-established cost (interest), called the Cost of Capital. The amount of the Capital Charge is represented by the result of the product between the Capital Employed (equity capital and debt capital) and the Cost of Capital, where:

- The Capital Employed or Financial Capital corresponds to the right side of the Accounting Balance Sheet (Liabilities) represented by the source of the funds (equity capital and debt capital). Likewise, the Operating Capital corresponds to the left side of the Balance Sheet (Assets) and represents the investments of the funds (goods and rights).
- The Cost of Capital or Weighted Average Cost of Capital (WACC), which represents the minimum return required by the providers of the capital to the Company. It is the weighted average between the cost of equity capital and the cost of debt capital.

According to Ross et al. (1995, p. 358), the Weighted Average Cost of capital method, or WACC, is defined as follows:

The WACC approach is based on the assumption that indebted companies' projects are financed with both debt capital and equity capital. The cost of capital is a weighted average between the cost of debt capital and the cost of equity.

For Guthrie (2012), the conceptual understanding of WACC is used as a key aspect and milestone to determine all the work where the total economic cost of an individual project is not only the capital expenses involved, but also the reduction of the value of this cost of capital for the company's appropriate growth. The investment becomes ideal only when this

internal rate of return exceeds the project's weighted average cost of capital, known as WACC.

Liapis (2010) in his article developed the differentiation between the value-based management models such as Residual Model of Value (RMV), EVA, Cash Value Added (CVA), with the main components of Residual Income (RI), Free Cash Flow (FCF), and the Weighted Average Cost of Capital (WACC). These metrics and methodologies have raised interest among scientists, professionals, and organizations in recent years.

For Jung (2008), the article discusses the concept of the average cost of capital, which is WACC, through a simple proposal that aims to evaluate the performance from a value perspective. He uses two different models for understanding the weighted average cost by using different functions for its understanding and use, the Du Pont model (Return on Asset) and the use of the weighted average cost of capital.

For Morard & Balu (2009), the cost of debt must be considered after taxes to exclude the tax benefit generated by the interests allocated in the traditional Income Statement. Thus, this benefit must be considered in the calculation of the Charge of Capital through WACC.

2.5.3 Capital Employed

The Capital Employed, or simply Capital, is represented by the volume of resources delivered to the company by the investors (shareholders and third parties) for generating the NOPAT over the period. Thus, the calculation of Capital must be consistent with the calculation of NOPAT (Figure 3):

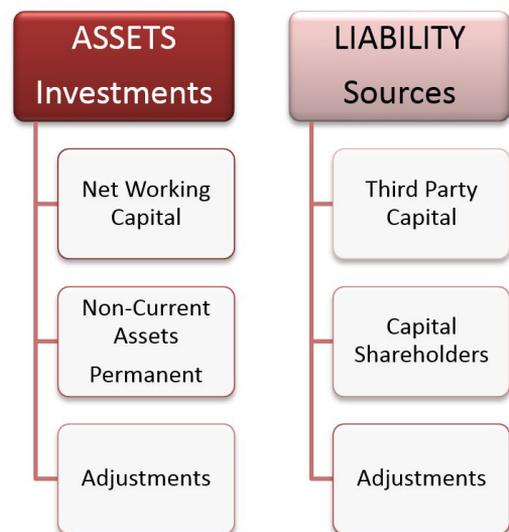


Figure 3. Investments and origins, structure of the Balance Sheet for Calculating NOPAT. Source: Prepared by the author (2013).

The value of Capital is taken from the Balance Sheet and stated in two approaches in the EVA methodology, similarly to what takes place in traditional accounting:

- Operating Capital, represented by the funds invested in the Asset, consists in Net Working Capital plus Long-Term Assets and adjustments minus Non-Interest-Bearing Long Term Liabilities.

The Net Working Capital (Figure 4) consists of the Operating Current Assets (excluding Cash) minus the Non-Interest-Bearing Short Term Liabilities. The latter represents the portion of the debt capital that the Company does not need to explicitly pay and whose main accounts are Suppliers, Taxes Payable, Wages Payable, and Other Accounts Payable. This capital is considered non-interest-bearing because its cost is already included in the price of the products/ services purchased by the company:

- Financial Capital represented by the resources from shareholders and third parties (Liabilities), considering the adjustments needed. The Debt Capital includes all the company’s onerous debts including those not recorded in the Balance Sheet, such as operating lease transactions, debt to pension funds, gas contracts with take-or-pay provisions, etc. The Equity Capital comprises the Shareholders’ Equity.
- It should be pointed out that Non-Interest-Bearing Liabilities do not appear in the Financial Capital, contrary to what occurs with the Liabilities of the Balance Sheet. These liabilities are excluded

from the company’s Operating Capital because they represent a spontaneous source of funds whose cost is already accounted for in the cost of goods purchased by the company.

2.5.4 Cost of Capital - WACC

The Weighted Average Cost of Capital (WACC) is the minimum return required by the Company’s capital providers. It is the weighted average of the cost of equity and debt capital:

WACC is composed of two parts: the Cost of Debt Capital and the Cost of Equity or Shareholders’ Capital, and is calculated by the following Formula 1:

$$WACC = CD \times (D/C) + CE \times (E/C) \tag{1}$$

where:

CD = Cost of Debt after taxes in US Dollars

CE = Cost of Equity in US Dollars

D/C = Debt / Total Capital (at market or book values)

E/C = Equity / Total Capital (at market or book values)

Total Capital = Equity Capital + Debt Capital (at market or book values)

Figure 5 below shows how the Weighted Average Cost of Capital (WACC) is calculated:

Here is an example: the total funds invested in the activities of a company (\$ 1,000) are financed by third parties (\$ 400) and by shareholders (\$ 600), and the return on capital invested that they require is 4.8% p.a. and 13.5% p.a., respectively.

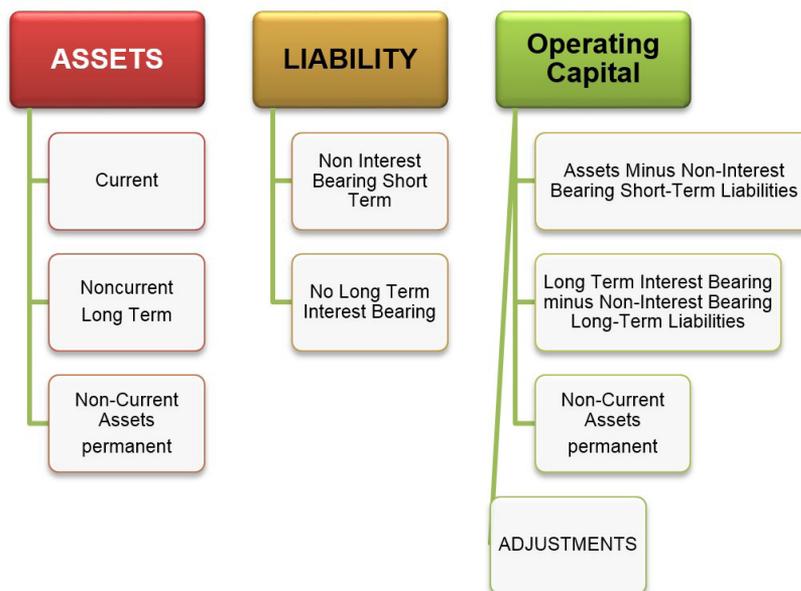


Figure 4. Operating Capital. Source: Prepared by the author (2013).

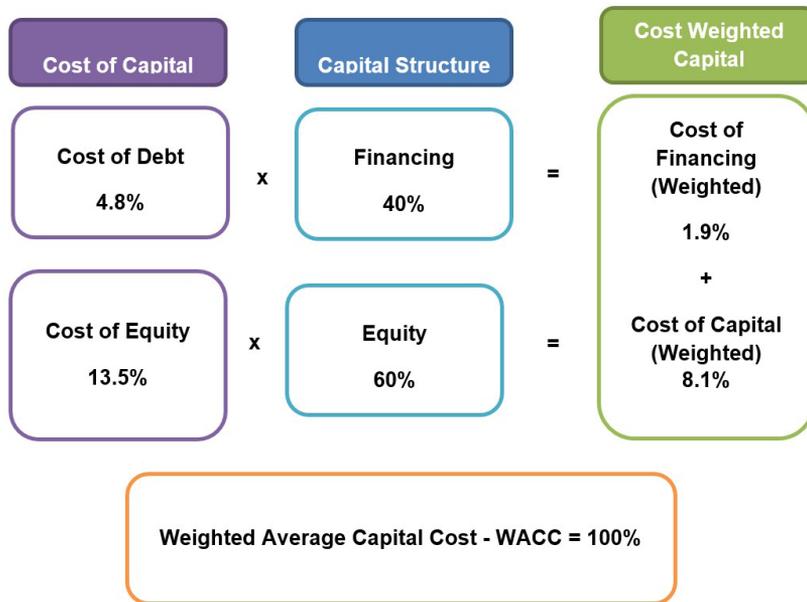


Figure 5. Calculation of WACC. Source: Stern Stewart & Co. (2001).

At the end of one year, the value of the capital charge of this company will be \$ 100 [(\$ 400 x 4.8%) + (\$ 600 x 13.5%)] or 10% of the total resources invested (\$ 1,000).

If that same company had reached a NOPAT of \$ 90, then for that year it would have a negative EVA of \$ 10 (NOPAT minus WACC), which would be destroying value for shareholders. This destruction of shareholder value can be explained when we consider that they have neither obtained the minimum return nor the opportunity cost required for the capital invested of \$ 81 (\$ 600 x 13.5%) because after the return of debt capital of \$ 19 (\$ 400 x 4.8%), only \$ 71 remained from the NOPAT for the company's shareholders, thus leaving \$ 10 (negative EVA) "missing" from the minimum return of \$ 81 for shareholders.

2.5.5 EVA adjustments

The creators of the EVA model identified more than 160 potential adjustments in relation to the accounting criteria involving the time when recognizing income and expenses, the financing not entered into the balance sheet, the conversion of foreign currencies, the valuation of inventories, inflation, among others (Ehrbar, 2000, p. 131, 133).

There are two main reasons for adjustments to be made when calculating the EVA of a company:

- To portray the economic reality, removing accounting distortions, which improves the correlation of the EVA measurement with the company's market value.
- To distinguish operating activities from financial activities, highlighting the results of each.

This effect is already embedded in the EVA concept itself, which measures the operating performance through NOPAT and the financial performance through Capital Charge.

The main adjustments required in the financial statements are listed in Figure 6 below:

2.6 Calculating the EVA

According to Vogel (2011), the Economic Value Added - EVA is calculated based on the following Formula 2:

$$\text{EVA} = \text{NOPAT} - (\text{Capital Employed} \times \text{WACC}) \quad (2)$$

Where:

NOPAT = represents the opportunity cost Capital Employed

WACC: Weighted Average Cost of Capital: this is the capital invested, both equity and debt capital. In this formula, the EVA is the residual income, which is the Net Operating Profit after tax minus the cost of the capital employed in the investment.

Calculation of Economic Value Added - EVA is calculated based on the following formula 03, adapted from Stewart (1990, p. 137):

$$\text{NOPAT} = \text{Net Operating Profit After Taxes} \quad (3)$$

where:

NOPAT: Net Operating Profit After Tax, in which the financial costs are not included in WACC: Weighted Average Cost of Capital: this is the capital invested, both equity and debt capital. In this formula, the EVA

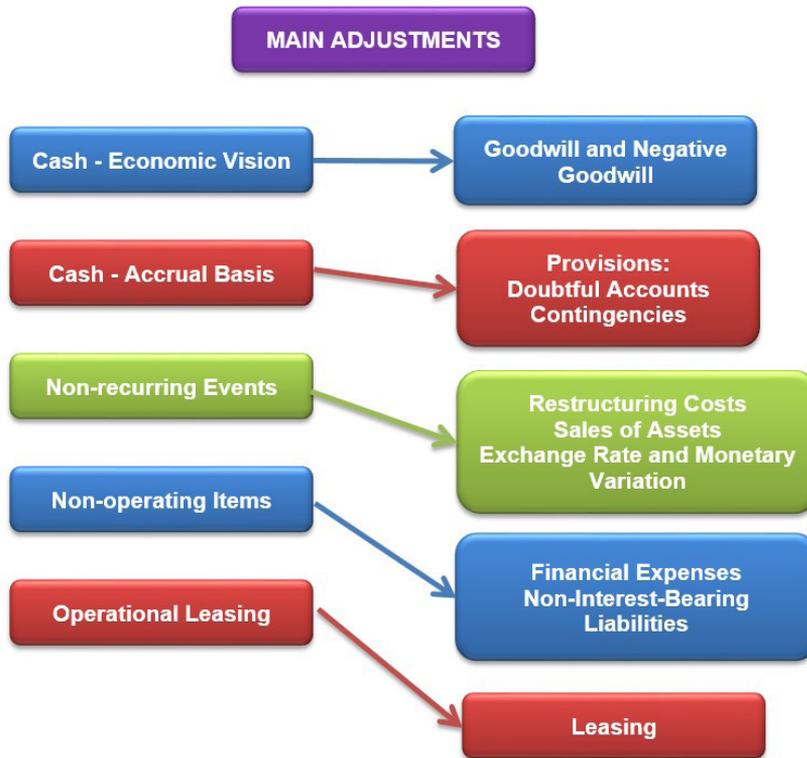


Figure 6. Main adjustments. Source: Prepared by the author (2013).

is the residual income, which is the Net Operating Profit after tax minus the cost of the capital employed in the investment. Some adjustments are required to determine the NOPAT and the Capital. Based on the accounting result to find the economic income, Frezatti (1999, p. 51, 60) classifies the necessary adjustments as follows: $EVA = NOPAT - WACC \times Capital$.

2.7 Determining the average cost of capital

Determining the cost of debt capital can be done in a more direct manner for Stewart (1990, p. 435).

The cost of debt capital is the rate that a company should pay on the current market for being granted new long-term financing. Its best indication is the prevailing rate when negotiating the company's debts on the public and open market. In the absence of a quote for its debts, the cost of debt capital of a company can be approximately determined based on the current rate that is being paid on the acquisition of debts from companies with the same review.

Example of calculating the Weighted Average Cost of Capital (WACC):

Note: The cost of financial and long-term liabilities should be after taxes because these types of funds result in a tax break; therefore, its cost should be reduced proportionately to this saving (an effect named financial leverage). In this example, the income tax rate is 30%.

Below is the capital structure of the company in the example and its costs:

- Short-term financial liabilities with 15% of the total with a cost of 25%;

- Long-term liabilities with 30% of the total with a cost of 20%;

- Shareholders' equity capital with 55% of the total with a cost of 30%.

Chart 2 shows the calculation of capital Weighted average cost for understanding.

2.8 Advantages and disadvantages of EVA

According to Saurin et al. (2000), all economic performance measurements or indexes have advantages and disadvantages. For these authors, the EVA is no different and one of its advantages as an economic measurement is its capacity of utilization since it can be implemented in all types of companies, except for financial institutions, which by regulation have to build capital reserves.

EVA is also limited as an indicator for companies with a focus on intellectual capital. According to these authors, it is noticeable that businesses today have a very different profile from the past with industries being increasingly more intensive in intellectual capital. For them, this incompatibility between practice and the accounting reports produced causes distortions that are observed in the equity results by Accounting. It so happens though that the EVA based

on traditional accounting reports ends up neglecting this change, ignoring the relevance of intellectual capital (Saurin et al., 2000).

Figure 7 below illustrates the advantages of the conversion for an economic measurement of value-based management, through EVA, presented by Stern Stewart & Co.

3 Study's methodology

Considering the problem and the objective proposed, the option was made to carry out an exploratory, document-based study as the investigation method. Hence, some procedures were developed for gathering and processing data.

Within the exploratory aspect, publications were used on the subject through monographs, dissertations, theses, and national and international articles, seeking to analyze and compare EVA in several companies that adopt this methodology, as well as the possible causes of its variations. The Master's Degree thesis paper by Leonardo Soares Francisco de Almeida was used as the documentary basis of this paper on EVA as an economic analysis in the civil construction sector.

To support this choice, Gil (2008) defines the concepts as to the types of research according to the following objectives:

- Exploratory Research: its primary objective is to develop, clarify, and change concepts and ideas based on the formulation of the problem or researchable hypotheses for further studies.
- Descriptive Research: has the purpose of describing the characteristics of a given population or phenomena, or of establishing relationships between variables.
- Explanatory Research: it has the concern of identifying the causes that contribute to the occurrence of the phenomenon.

With this understanding, this research was carried out considering these three aspects: being Descriptive because it describes the evolution; analysis and understanding of the EVA tool; and Explanatory because of the explanation given about the comments and quotes from authors researched and discussed.

For Gil (2008, p. 54), researches that are document-based are important not because they give answers to a problem, but because they provide a better insight that leads to a hypothesis by other means. So for him,

In connection with this problem, it is worth remembering that some document-based researches

Chart 2. Example of calculating the Weighted Average Cost of Capital.

Source of capital	Weight A	After tax cost B	Weighted cost C=A*B
Financial liability	0.15	25% x (1 - 0.3)	2.63
Long-term liabilities	0.30	20% x (1 - 0.3)	4.20
Equity	0.55	30%	16.5

Source: prepared by the author (2013).

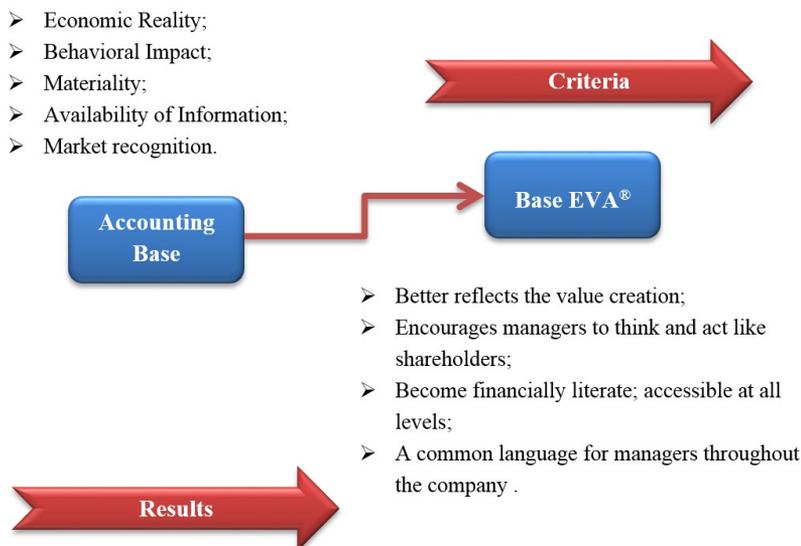


Figure 7. Advantages of Adopting the Economic Measurement through EVA. Source: Stern Stewart & Co. (2001).

are important not because they give final answers to a problem, but because they provide a better view of this problem or bring hypotheses that lead to their verification by other means.

This research used the financial statements of ten companies from the construction industry for the years 2010, 2011, and 2012 as its documentary basis, which were all taken from the BM&FBovespa (2014) website. The consolidated financial statements were considered in this documentary analysis and were divided into Balance Sheet and Income Statement.

For Gil (2008), the documentary research resembles the bibliographic research. It is based on the nature of the sources because this form uses materials that have not undergone an analytical treatment or that need to be redone according to the research's objects. Besides examining the "first hand" documents (documents from files, unions, institutions, etc.), there are also those that have already been processed, but can still receive other interpretations such as company reports and tables.

Hence, this research used as its documentary basis ten Civil Construction companies, all of which had their Financial Statements published in the public domain,

taken by the author from BM&FBovespa's (2014) website. In this sense, the Consolidated Financial Statements were used represented by the Balance Sheet and the Income Statement for the financial years 2010, 2011 and 2012 and from these the amounts of Total Assets and Net Income for the year were considered. NOPAT was considered for calculation purposes. The WACC was prepared considering a rate of attractiveness and return compiled by the author prepared for each year by the composition of the IGPM-DI and the Selic Rate for the years studied, and the EVA calculation was finally done taking into consideration these variables presented.

4 Analysis of the variables studied

4.2 Calculating Capital, Net Income.

Calculating NOPAT, WACC, and EVA.

Once the Analysis of the Results had been done, it was possible to calculate the variables studied for the years 2010, 2011, and 2012, below in Tables 1, 2 and 3 these are presented for understanding other details expressed in Appendix A.

Table 1. Variables studied by company – 2010.

Company	Capital	Cost of Capital %	WACC	Net Income	NOPAT	EVA
Brookfield	10,279,040	0.11	1,172,131	(388,004)	(242,683)	(1,414,814)
Const A Lind	28,943	0.11	3,300	3,031	4,236	936
Cr2	669,990	0.11	76,400	(26,540)	(11,834)	(88,234)
Cyrela Real	13,829,895	0.11	1,577,039	778,719	760,564	(816,475)
Direcional	3,027,111	0.11	345,185	230,167	206,525	(138,660)
Even	3,773,681	0.11	430,317	270,564	279,080	(151,237)
Eztec	2,142,761	0.11	244,342	338,220	294,368	50,026
Gafisa	9,070,994	0.11	1,034,376	(76,363)	130,577	(903,799)
Helbor	3,449,668	0.11	393,370	272,116	238,837	(154,533)
Jhsf Part	3,266,354	0.11	372,466	184,163	232,296	(140,170)

Source: Prepared by the author (2014).

Table 2. Variables studied by company – 2011.

Company	Capital	Cost of Capital %	WACC	Net Income	NOPAT	EVA
Brookfield	8,842,604	0.05	453,515	161,547	334,128	(119,387)
Const A Lind	24,477	0.05	1,255	(5,142)	(2,314)	(3,569)
Cr2	787,859	0.05	40,407	13,312	26,035	(14,372)
Cyrela Real	13,644,677	0.05	699,801	592,186	542,567	(157,234)
Direcional	2,451,913	0.05	125,752	181,590	152,672	26,920
Even	3,489,080	0.05	178,946	232,782	219,774	40,828
Eztec	1,774,278	0.05	90,998	330,741	266,152	175,154
Gafisa	9,506,624	0.05	487,571	(905,189)	(745,286)	(1,232,857)
Helbor	2,630,337	0.05	134,903	213,345	176,007	41,104
Jhsf Part	3,266,354	0.05	167,523	184,163	232,296	64,773

Source: Prepared by the author (2014).

Table 3. Variables studied by company – 2012.

Company	Capital	Cost of Capital %	WACC	Net Income	NOPAT	EVA
Brookfield	7,370,875	0.08	604,168	363,669	480,449	(123,719)
Const A Lind	12,415	0.08	1,018	(4,698)	520	(498)
Cr2	814,146	0.08	66,733	54,281	63,495	(3,238)
Cyrela Real	12,042,561	0.08	987,092	685,066	619,834	(367,258)
Direcional	1,679,543	0.08	137,667	180,442	151,837	14,170
Even	3,060,645	0.08	250,872	255,044	267,357	16,485
Eztec	1,381,471	0.08	113,235	245,462	204,534	91,299
Gafisa	9,040,791	0.08	741,046	288,484	370,601	(370,445)
Helbor	2,099,216	0.08	172,066	182,058	149,869	(22,197)
Jhsf Part	2,545,388	0.08	208,638	220,769	243,016	34,378

Source: Prepared by the author (2014).

4.2.1 Summary of results

EVA behaves differently in relation to Net Income mainly due to the fact that EVA considers as its calculation basis the opportunity cost or the weighted average cost, which confirms the understanding of the authors on WACC and the formula for calculating EVA (Seoki & Woo, 2009; Malvessi, 2000; Ross et al., 1995; Morard & Balu, 2009; Frezatti, 1999; Guthrie, 2012; Jung, 2008; Paulo, 2003; Tsuji, 2006; Liapis, 2010).

NOPAT, when positive, presented higher amounts than the net income, and when negative, as in the Brookfield and CR2 case, it presented amounts lower than the net income. This occurs because NOPAT does not consider the financial result in its composition, thus confirming the understanding of many authors studied from the bibliography in this paper (Backes, 2002; Copeland et al., 2005; Richard et al., 2009).

For the year 2010, by analyzing the graph and understanding the variables composition table, only the Civil Construction companies Const. A Land and Eztec presented positive EVAs after the calculation, while the remaining companies from the construction industry presented negative EVAs.

The EVA differs from the Net Income because it considers the cost of capital or the opportunity cost, or even the weighted average cost, WACC, in the formula for its calculation, as understood by the authors chosen in the literature review presented in this paper in relation to the formula of EVA and WACC (Seoki & Woo, 2009; Malvessi, 2000; Ross et al., 1995; Morard & Balu, 2009; Guthrie, 2012; Jung, 2008; Tsuji, 2006; Liapis, 2010).

In the composition of NOPAT and EVA for the year 2011, by analyzing the graph and understanding the variables composition table, only the Civil Construction companies Direcional, Even, Eztec, Helbor, and Jhsf Part presented positive EVAs after the calculation, while the remaining companies from the construction industry presented negative EVAs.

The EVA behaves differently from the Net Income mainly because it considers the cost of capital or the opportunity cost, or even the weighted average cost, WACC, as part of the formula for calculating the EVA, as understood by the authors chosen in the literature review presented in this paper (Seoki & Woo, 2009; Malvessi, 2000; Ross et al., 1995; Morard & Balu, 2009; Guthrie, 2012; Jung, 2008; Tsuji, 2006; Liapis, 2010).

Another important detail that should be highlighted is that in the Companies where the EVA was positive, this fact occurred mainly because the EVA considers the amount of the cost of opportunities or the weighted average cost, WACC, in its composition. As the WACC amount in these cases was lower than in the Net Income and NOPAT, this contributed to reaching a positive EVA.

This occurred because the financial-accounting statements and other accounting adjustments needed were excluded for the composition of NOPAT, which reinforces the conceptual understanding of the various authors studied in this research and according to the theoretical basis presented in the composition of the bibliographic review (Stern Stewart & Co., 2001; Backes, 2002; Copeland et al., 2005; Richard et al., 2009).

For the year 2012, in the NOPAT and EVA composition of shareholders, by analyzing the graph and understanding the variable composition table, only the Civil Construction companies Const. A Land, Direcional, Even, Eztec, and Jhsf Part presented positive EVAs after the calculation while the remaining companies from the construction industry presented negative EVAs, following the same reasoning presented in the global EVA and NOPAT of companies for 2012, taking into account of course the level of ownership in the Company's equity.

The EVA behaves differently than the Net Income mainly due to the inclusion of the cost of capital or the opportunity cost, or even the weighted average

cost, WACC, in the composition of the formula for calculating the EVA. This is in agreement with the authors chosen in the literature review presented in this paper (Seoki & Woo, 2009; Malvessi, 2000; Ross et al., 1995; Morard & Balu, 2009; Guthrie, 2012; Jung, 2008; Tsuji, 2006; Liapis, 2010).

Another fact detected in this year is that the NOPAT was greater than the Net Income when the latter is mostly positive. This is explained by the fact that the financial-accounting results and other necessary accounting adjustments were left out of the NOPAT calculation, which reinforces the conceptual understanding of the various authors studied in this research and according to the theoretical basis presented in the composition of the bibliographic review (Stern Stewart & Co., 2001; Backes, 2002; Copeland et al., 2005; Richard et al., 2009).

5 Conclusion

The following conclusions were reached while writing this paper: In theory, to determine the EVA implies in calculating the Operating Profit (NOPAT) and the company's Capital Invested from the Financial Statements, applying to this a cost of capital to find the value that was added to the capital.

Determining the EVA of several companies from the civil construction industry was not a simple exercise in rearranging numbers and formulas from the Financial Statements. It was necessary to adapt them to the EVA methodology, which is a complex task that requires several adjustments (160 on average).

It is possible to affirm that in the various companies from the civil construction industry, their EVA showed mostly negative amounts in 2010, experiencing an improvement in 2011 followed by a retreat in 2012, as determined in the analysis of results. An annual opportunity cost was considered in the calculation, which is represented according to Chart 3.

One disadvantage when calculating the EVA is related to the difference between the economic-financial environment of the US and Brazil. The EVA calculation methodology was developed in an environment of low inflation rates, in a simplified tax system, and in a high liquidity capital market, which facilitates its determination. Brazil's reality is quite different, which ends up hindering EVA's proper calculation due to the constant variations caused by country's economic instability.

Chart 3. Composition of the interest rate applied.

YEAR	IGPM-DI	SELIC	Interest Rate Applied
2,010	11.3058	0.0973	11.4031
2,011	5.0125	0.1162	5.1287
2,012	8.1121	0.0846	8.1967

Source: Prepared by the author (2013).

The great advantage of applying this methodology would be to understand the composition of costs for generation of capital and where these costs do not add value to the company.

The Brazilian tax system, especially when it comes to tax incentives, has a direct impact on the way to calculate operating taxes that are part of the calculation basis for the company's NOPAT. It was not possible to calculate the operating taxes as suggested by the EVA methodology because most companies from the construction industry close business deals in several regions with different tax systems.

Determining the cost of capital by the WACC method also involved another series of adjustments. We recommend a value of cost close to the reality of our country, such as the IGPM-DI plus the Selic rate. It is worth noting that we only changed the costs of capital without changing however its method of calculation, which has remained intact and metrically complete.

The value based management system used by the EVA methodology evaluates how much wealth was generated for a given capital. In this sense, the EVA can help improve the understanding of what is really being generated as wealth in companies. This can contribute to improving their performance since decisions will be made based on information collected on the cost from generating capital.

Through the increasing dissemination of the business and finance culture throughout the company, employees now have a clearer view of how to improve the business' performance, highlighting the awareness of the employees that every capital employed has an owner who should manage and pay for it accordingly. This shows to all stakeholders whether the proposal used by the system is advantageous or not, mainly depending on the type of Company and the corporate policies adopted.

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Appendix A. Variables incidents for the calculation of EVA® in the studied companies.

The charts below show each one of the variables and their variations for the periods studied:

Chart 1A below shows the variation in Capital.

Chart 1A. Variation in Capital for the years 2010, 2011, and 2012.

Company	Capital			Variation Held (%)		Variation of Capital	
	2010	2011	2012	2011/2010	2012/2011	2011/2010	2012/2011
Brookfield	10,279,040	8,842,604	7,370,875	(14)	(17)		
Const A Lind	28,943	24,477	12,415	(15)	(49)		
Cr2	669,990	787,859	814,146	18	3		
Cyrela Real	13,829,895	13,644,677	12,042,561	(1)	(12)		
Direcional	3,027,111	2,451,913	1,679,543	(19)	(32)		
Even	3,773,681	3,489,080	3,060,645	(8)	(12)		
Eztec	2,142,761	1,774,278	1,381,471	(17)	(22)		
Gafisa	9,070,994	9,506,624	9,040,791	5	(5)		
Helbor	3,449,668	2,630,337	2,099,216	(24)	(20)		
Jhsf Part	3,266,354	3,266,354	2,545,388	-	(22)		

Source: prepared by the author (2013). Chart 2A. Below shows the variation in Net Income.

Chart 2A. Variation in Net Income for the years 2010, 2011, and 2012.

Company	Net Income			Variation Held (%)		Variation of Net Income	
	2010	2011	2012	2011/2010	2012/2011	2011/2010	2012/2011
Brookfield	(388,004)	161,547	363,669	(142)	125		
Const A Lind	3,031	(5,142)	(4,698)	(270)	(9)		
Cr2	(26,540)	13,312	54,281	(150)	308		
Cyrela Real	778,719	592,186	685,066	(24)	16		
Direcional	230,167	181,590	180,442	(21)	(1)		
Even	270,564	232,782	255,044	(14)	10		
Eztec	338,220	330,741	245,462	(2)	(26)		
Gafisa	(76,363)	(905,189)	288,484	1,085	(132)		
Helbor	272,116	213,345	182,058	(22)	(15)		
Jhsf Part	184,163	184,163	220,769	-	20		

Source: Prepared by the author (2013). Chart 3A below shows the variation in NOPAT.

Chart 3A. Variation in NOPAT for the years 2010, 2011, and 2012.

Company	Nopat			Variation Held (%)		Variation of Nopat	
	2010	2011	2012	2011/2010	2012/2011	2011/2010	2012/2011
Brookfield	(242,683)	334,128	480,449	(238)	44		
Const A Lind	4,236	(2,314)	520	(155)	(122)		
Cr2	(11,834)	26,035	63,495	(320)	144		
Cyrela Real	760,564	542,567	619,834	(29)	14		
Direcional	206,525	152,672	151,837	(26)	(1)		
Even	279,080	219,774	267,357	(21)	22		
Eztec	294,368	266,152	204,534	(10)	(23)		
Gafisa	130,577	(745,286)	370,601	(671)	(150)		
Helbor	238,837	176,007	149,869	(26)	(15)		
Jhsf Part	232,296	232,296	243,016	-	5		

Source: Prepared by the author (2013). Chart 4A below shows the variation in WACC.

Chart 4A. Variation in WACC for the years 2010, 2011, and 2012.

Company	Wacc			Variation Held (%)		Variation of Wacc	
	2010	2011	2012	2011/2010	2012/2011	2011/2010	2012/2011
Brookfield	1,172,131	453,515	604,168	(61)	33		
Const A Lind	3,300	1,255	1,018	(62)	(19)		
Cr2	76,400	40,407	66,733	(47)	65		
Cyrela Real	1,577,039	699,801	987,092	(56)	41		
Direcional	345,185	125,752	137,667	(64)	9		
Even	430,317	178,946	250,872	(58)	40		
Eztec	244,342	90,998	113,235	(63)	24		
Gafisa	1,034,376	487,571	741,046	(53)	52		
Helbor	393,370	134,903	172,066	(66)	28		
Jhsf Part	372,466	167,523	208,638	(55)	25		

Source: Prepared by the author (2013).

Chart 5A. Variation in EVA for the years 2010, 2011, and 2012.

Company	Eva			Variation Held (%)		Variation of Eva	
	2010	2011	2012	2011/2010	2012/2011	2011/2010	2012/2011
Brookfield	(1,414,814)	(119,387)	(123,719)	(92)	4		
Const A Lind	936	(3,569)	(498)	(482)	(86)		
Cr2	(88,234)	(14,372)	(3,238)	(84)	(77)		
Cyrela Real	(816,475)	(157,234)	(367,258)	(81)	134		
Direcional	(138,660)	26,920	14,170	(119)	(47)		
Even	(151,237)	40,828	16,485	(127)	(60)		
Eztec	50,026	175,154	91,299	250	(48)		
Gafisa	(903,799)	(1,232,857)	(370,445)	36	(70)		
Helbor	(154,533)	41,104	(22,197)	(127)	(154)		
Jhsf Part	(140,170)	64,773	34,378	(146)	(47)		

Source: Prepared by the author (2013). Chart 5A below shows the variation in EVA.

Analysis of results

The charts below list all the variables studied and the analysis developed for purposes of understanding, depending on the approach for understanding the synthesis of the results presented:

Chart 6A. Variation in EVA for the year 2010.

Company	Variables Studied - 2010					Result Summary
	Capital	Net Income	Nopat	Eva	Wacc	
Brookfield	10,279,040	(388,004)	(242,683)	(1,414,814)	1,172,131	It can be noticed that the Net Profit is greater than the NOPAT and smaller than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Loss less than the one calculated by the EVA Methodology.
Const A Lind	28,943	3,031	4,236	936	3,300	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Cr2	669,990	(26,540)	(11,834)	(88,234)	76,400	It can be noticed that the Net Profit is greater than the NOPAT and smaller than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Loss less than the one calculated by the EVA Methodology.
Cyrela Real	13,829,895	778,719	760,564	(816,475)	1,577,039	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Direcional	3,027,111	230,167	206,525	(138,660)	345,185	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.

Source: Prepared by the author (2013).

Chart 7A. Variation in EVA for the year 2010.

Company	Variables Studied - 2010					Result Summary
	Capital	Net Income	Nopat	Eva	Wacc	
Even	3,773,681	270,564	279,080	(151,237)	430,317	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Eztec	2,142,761	338,220	294,368	50,026	244,342	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Gafisa	9,070,994	(76,363)	130,577	(903,799)	1,034,376	It can be noticed that the Net Profit is less than the NOPAT and less than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Loss less than the one calculated by the EVA Methodology.
Helbor	3,449,668	272,116	238,837	(154,533)	393,370	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Jhsf Part	3,266,354	184,163	232,296	(140,170)	372,466	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.

Source: Prepared by the author (2013).

Chart 8A. Variation in EVA for the year 2011.

Company	Variables Studied - 2011					Result Summary
	Capital	Net Income	Nopat	Eva	Wacc	
Brookfield	8,842,604	161,547	334,128	(119,387)	453,515	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Const A Lind	24,477	(5,142)	(2,314)	(3,569)	1,255	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Loss greater than the one calculated by the EVA Methodology.
Cr2	787,859	13,312	26,035	(14,372)	40,407	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Cyrela Real	13,644,677	592,186	542,567	(157,234)	699,801	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.

Source: Prepared by the author (2013).

Chart 9A. Variation in EVA for the year 2011.

Company	Variables Studied - 2011					Result Summary
	Capital	Net Income	Nopat	Eva	Wacc	
Direcional	2,451,913	181,590	152,672	26,920	125,752	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Even	3,489,080	232,782	219,774	40,828	178,946	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Eztec	1,774,278	330,741	266,152	175,154	90,998	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Gafisa	9,506,624	(905,189)	(745,286)	(1,232,857)	487,571	It can be noticed that the Net Profit is greater than the NOPAT and smaller than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Loss less than the one calculated by the EVA Methodology.
Helbor	2,630,337	213,345	176,007	41,104	134,903	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Jhsf Part	3,266,354	184,163	232,296	64,773	167,523	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.

Source: Prepared by the author (2013).

Chart 10A. Variation in EVA for the year 2012.

Company	Variables Studied - 2012					Result Summary
	Capital	Net Income	Nopat	Eva	Wacc	
Brookfield	7,370,875	363,669	480,449	(123,719)	604,168	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Const A Lind	12,415	(4,698)	520	(498)	1,018	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Loss greater than the one calculated by the EVA Methodology.
Cr2	814,146	54,281	63,495	(3,238)	66,733	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Cyrela Real	12,042,561	685,066	619,834	(367,258)	987,092	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Direcional	1,679,543	180,442	151,837	14,170	137,667	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Even	3,060,645	255,044	267,357	16,485	250,872	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.

Source: Prepared by the author (2013).

Chart 10A. Continued...

Company	Variables Studied - 2012					Result Summary
	Capital	Net Income	Nopat	Eva	Wacc	
Eztec	1,381,471	245,462	204,534	91,299	113,235	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.
Gafisa	9,040,791	288,484	370,601	(370,445)	741,046	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Helbor	2,099,216	182,058	149,869	(22,197)	172,066	It can be noticed that the Net Profit is greater than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit and that it presents a Loss by the EVA Methodology.
Jhsf Part	2,545,388	220,769	243,016	34,378	208,638	It can be noticed that the Net Profit is less than the NOPAT and greater than the EVA in the period and that the WACC corresponds to 11% of the company's Total Capital available. It can be seen that the company demonstrates through the traditional methodology by Net Profit a Profit greater than the one calculated by the EVA Methodology.

Source: Prepared by the author (2013).