

## Goodwill From Debt

### Abstract

**Objective:** The objective in this study is related to the figure of Goodwill deriving from a company's debt, that is, not the Goodwill normally originating in the intangible assets, which can produce abnormal profitability and which lead to the value of the company's going-concern being higher than the algebraic sum of its equity elements' fair values. This view may be considered a novelty to many, that is, the Goodwill deriving from a company's debt instead of its assets. Some companies are not even able to remunerate the risk their Assets entail, but may present Goodwill due to the form in which their assets are funded.

**Method:** In this essay, basic concepts and formulations are presented which are normally used in company valuation. Next, simulations are shown that objectively demonstrate the true technical sense of this formulation.

**Results:** Knowing that some public development agencies and the BNDES itself end up funding certain activities with generous interest rates, in this study, an actual case of Goodwill from debt in a Brazilian company is discussed.

**Contributions:** One of the main contributions in this essay is the exposition of a theme that is practically unknown in the academic world and completely ignored in accounting standards and legislations, but present in the world of better prepared analysts and investors, which is due to the non-dissemination of this concept in a form and writing that is accessible to all levels of readers.

**Key words:** Goodwill; Goodwill from Debt; Equity Economic Value; Cash Consuming Unit; Generous Interest Rates.

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## 1. Introduction

Whenever we talk about Goodwill (even in Brazilian legislation - Law 12.973/2013), we think of Assets. In Accounting Theory books, manuals, scientific papers, academic and professional works in general, this is also the case. The same happens in the accounting standards, such as the Technical Pronouncement CPC 04 (R1) – Intangible Assets and CPC 15 (R1) – Business Combinations.

But this link with the Assets does not only exist because, when accountable, this Goodwill is located under the Assets of the Acquiring Entity that paid for it, but also because it is always referenced to an Asset of the Acquired Entity, represented by its capacity to generate abnormal income. In fact, the Asset is only allocated to the acquiring entity because it is considered an Asset of the Acquired Entity unaccounted for in the latter, and consequently beyond the reach of the former's Equity.

But all of our considerations in this study do not refer to the Goodwill registered in an acquiring entity, but to the entity that is truly able to make abnormal profits, whether acquired by someone or not. In other words, we are referring to the entity that truly holds this intangible asset.

Anyway, let us use the formal Accounting concept. In simplified terms, Goodwill is measured as the surplus of the entity's fair value over the fair value of the algebraic sum of its identifiable Assets and Liabilities (Technical Pronouncement CPC 15 (R1), items 18 and 32). Hence, the definition will be: Goodwill corresponds to the difference between the fair value of the entity as a whole and the algebraic fair value of its individual identifiable Assets and Liabilities.

In other words, we are working here with what Edwards and Bell (1961) called Subjective Goodwill, depending on a measuring criterion accepted to determine the company value as a whole, functioning, different from the Objective Goodwill, defined by a particular transaction value. We will consider the fair value of the entity in going concern as the economic value based on the present value of the future cash flows (without detailing, for now, whether these refer to the dividend flow, cash flow to the firm, to the stockholders, etc.).

The standards and the literature have always attributed Goodwill to the existence of inseparable and individually tradable intangible attributes, such as reputation, image, product quality, workforce, market share, research proficiency, strategic positioning etc., specifically considering their role in the company's capacity to generate profit (and cash flow) beyond the normal business risk. Hence, all of these characteristics focus on these attributes, true "Assets" from the economic viewpoint, although their accounting disclosure is not possible.

We do not intend to go beyond these basic conceptual considerations here, also because we will work with extremely simplified hypotheses. What is fundamental is to preserve the idea of Goodwill as the most intangible of intangibles, representing the sum of these factors that constitute the abnormality of the entity's profitability. Besides the difficulty to determine the expected cash flows, another known difficulty is related to what a company's normal income should be, in view of the risks involved and the time factor. And as that is not our objective either, we will simply consider them as known values to develop what we intend to.

## 2. Objective

What we intend to do here is to present a novelty, perhaps to many, as well as to recall, to what we believe to be very few people, that Goodwill does not always figure among the entity's economic "Assets", such as those listed earlier and that sometimes, or in fact almost always, part of it figures among the entity's Debt. Many companies possess Goodwill, but may not have, in fact, any Assets capable of remunerating the risk they carry. This Goodwill derives from the Debt that funds their activities.

We want to broaden the idea that the accounting literature and standards and the equity valuers in general, always with some exceptions, have neglected this characteristic, which is much more present than one imagines: part of a company's Goodwill derives from how the company is funded, and not from its Assets' profit and cash producing capacity, considering tangible and intangible assets here. This failure is also completely present in the accounting standards, including the international ones, as the entire Asset Impairment test in an investing entity, considering the possible Goodwill impairment, is focused on this thought.

In items 65 to 90 of Technical Pronouncement CPC 01 (R1) – Reduction to Recoverable Value of Assets– basically, the following is discussed: if a certain specific Asset does not generate abnormal profitability, we look for the “cash generating unit” that generates this. This means that Goodwill is always related to an Asset or a set of Assets that may be presenting this abnormal income and cash generation. According to the standard, the intangible factors that normally support the Goodwill should always be linked to a particular Asset or certain set of Assets called “cash generating unit”.

It is not mentioned anywhere that the “cash generating unit” could actually be a “cash consuming unit”, which is the case of the Debt. This topic has been addressed very sparingly in the accounting literature, except that, of course, smart investors do notice it.

Nevertheless, in Brazil, there is an original model to identify and measure how much of a company's total Goodwill derives exclusively from its Debt. Therefore, we should not only disseminate it (actually disseminate the concept and the model) for academic as well as professional purposes. We should further spread it for the analysis and potential acceptance of accounting regulators and standardizers. That is our main motivation.

### 3. A Didactical Introduction to the Theme

#### 3.1 Background

What is noteworthy is that the world of practice is much more aware of the concept Goodwill from Debt than the academic world. To give an example, in some segments, company valuation and trading revolves around the Debt quality and volume. Traditionally, in some markets, such as mainly the North American, the trading of banks strongly and sometimes almost uniquely consider the quality and dimension of its Liability accounts that represent funding. In the more traditional commercial banks, Cash Deposits are in the spotlight, to the extent that some small banks specialize in this type of funding to sell this portfolio to other banks.

In Brazil, this specific case of Deposits, further discussed internationally, has been studied; an example is the Master's thesis by Martins (2002), under the suggestive title: *Contribution to Goodwill Valuation: Stable Deposits, an Intangible Asset*. In that thesis, the contemporary bibliography was cited, almost completely foreign. Another study stemming from the first: Leão and Vasconcelos (2010).

Shortly after, that same author introduced the generalization of Goodwill from Debt, and to our knowledge in the international sphere, in his doctoral dissertation *Interactions among Capital Structure, Company Value and Asset Value* (Martins, 2005). What is more, he introduced a specific formulation to dimension this Goodwill. The basic concepts of that study underlie what we are presenting next.

Apart from this, very few papers have addressed the matter. We have never been able to understand why. The main authors were Kane, Marcus and McDonald (1985), Choi (1988), Martins, Carvalho and Assaf Neto (2008), Cheng and Tzeng (2011) and Martins and Martins (2015). In fact, only the third and fifth address the subject directly.

### 3.2 Introducing Concept and Calculation

In the attempt to demystify the matter, some simplifying premises are admitted, as well as the following. Being:

- $A$  the book value of an Asset producing a perpetual flow of income and cash (reinvestments equal to depreciation for the sake of maximum simplification);
- $P$  the book value of the financial Debt and  $PL$  the book value of Equity, both of which completely fund  $A$ , also in perpetuity;
- $x$  the return rate of  $A$ ;
- $kd$  the interest rate of  $P$ , interests being paid as they are incurred;
- $ke$  the cost of own capital;
- $r$  the income rate; and,
- $L$  the net profit, the net cash produced by the company and the dividend value.

Hence, the Assets, Debt and net profit being perpetual, and given the previous hypothesis, this net profit equals the net cash the company produces (because the investments equal the depreciation), and this net profit being fully distributed, the company will never accumulate cash, the balance sheet will eternally be  $A = P + PL$ , and the net profit will eternally be:

$A \times x =$  income and cash produced by Assets before income tax;  
 $P \times kd =$  financial expenses accrued and paid, also before income taxes.

$$L = (A \times x - P \times kd) \times (1 - r) \quad (1)$$

Or, for the sake of a clearer visualization of the net profit tax:

Net operating income from Asset = Net operating cash produced by Asset =  $A \times x \times (1 - r)$ ;  
 Financial expenses net from taxes =  $P \times kd \times (1 - r)$ .

$$L = A \times x \times (1 - r) - P \times kd \times (1 - r) \quad (2)$$

The *Economic Value of Equity* ( $V_{PL}$ ) will be given by the present value of the net profit, that is, the present value of dividends, equal to the present value of the net cash flow to stockholders (conditions valid for the adopted simplifications). Given the perpetuity,  $V_{PL}$  being this economic value, and recalling that  $ke$  is the cost of equity:

$$V_{PL} = \frac{L}{ke} \quad (3)$$

We now introduce the hypothesis that the individual fair values of the components of  $A$  and  $P$  are exactly equal to their book values. Hence,  $G$  being *Goodwill*, it will exist if this  $V_{PL}$  is higher than the  $PL$ . And let us assume here that  $V_{PL}$  will always be equal to or higher than  $PL$ , in order to avoid complications with the figure of gain from bargain purchase (jokingly denominated *Badwill*).

$$G = V_{PL} - PL \quad (4)$$

For the sake of greater simplification and maximum clarity, let us admit that this Asset  $A$  is capable of producing returns net from taxes equal to the cost of own capital. In fact, the opposite should be said: if the Asset is fully funded by Equity, the cost of own capital should contain exactly the only risk that exists, which is the risk of this Asset. Hence, in this condition:

$$ke = x \times (1 - r) \quad (5)$$

Also for the sake of simplification, let us admit that this cost of own capital  $ke$  does not change, not even in the presence of Debt within certain limits. We can then define that the Economic Value of Equity, previously given by (3), equals:

$$V_{PL} = \frac{L}{ke} = \frac{A \times x \times (1 - r)}{ke} - \frac{P \times kd \times (1 - r)}{ke} \quad (6)$$

The first term of Equation 6 is exactly the Economic Value of the Asset,  $V_A$ , as it represents the net cash flow produced by this Asset brought to present value at its opportunity cost, given by  $ke$  as admitted earlier. Hence, the first term of Equation 6 would be:

$$V_A = \frac{A \times x \times (1 - r)}{ke} \quad (7)$$

Except that, as  $ke = x \times (1 - r)$ , it is concluded, in fact, that:

$$V_A = \frac{A \times ke}{ke} \quad (8)$$

In other words, the Economic Value of the Asset in this case is exactly equal to its Book Value, which we also considered to be equal to its Fair Value.

$$V_A = A \quad (9)$$

If the Economic Value of the Asset is equal to its Book Value and Fair Value, this means that, under these hypotheses, there is no Goodwill in this Asset.

Let us now look at the second term: it represents the Economic Value of the Debt as the company and its partners see it,  $V_p$ , according to Equation 10.

$$V_p = \frac{P \times kd \times (1 - r)}{ke} \quad (10)$$

The latter expression means that the Economic Value of a perpetual Debt is equal to the financial expense it generates, brought to present value by the cost of equity. And unless  $kd \times (1 - r)$  is also equal to  $ke$  (remote but nevertheless possible), the Economic Value of the Debt will not be equal to its Book Value; under the hypothesis that the financial expense rate, net from income tax, is lower than the cost of own capital, which is totally normal in a minimally organized economy and in a company that is not going to bankruptcy:

$$V_p < P \quad (11)$$

What does this mean? For the stockholders, the reasoning is as follows: the present value of this Debt's payment flow, brought to present value by the cost of own capital, is normally lower than this flow discounted by its own rate net from interests (as a rule, this flow is the fair value of the Debt).

Now, if the Economic Value of a Debt is lower than its Book Value, and its Book Value corresponds to its Fair (market) Value, this means that this Debt entails a gain for the stockholders, that is, the company's Goodwill lies in its Debt instead of the Asset. Economic Value of the Asset higher than its Fair Value means existence of *Goodwill*. The opposite happens for the Debt: Economic Value of the Debt lower than its Fair Value means existence of *Goodwill*. There are other ways to prove this, but let us first move on to a simulation to better set the concept.

#### 4. Introducing a Simulation

If we replace all of this algebra, although very simple, by simulated figures, the concept should become even clearer.

Let us admit, then, that company obtains the following performance in thousand *reais* and annual percentages, supposing perpetual values and periodical investments equal to the depreciations:

Assets ( <i>A</i> ) = R\$100,000 × Operating Income Before Taxes ( <i>x</i> ) = 15%	R\$15,000
Taxes on Operating Income ( <i>r</i> ) = 30%	(R\$4,500)
Net Operating Income ( <i>Lo</i> ) = Net Cash from Operations = 10.5%	R\$10,500
Debt ( <i>P</i> ) = R\$40,000 × Financ. Expenses Before Taxes ( <i>kd</i> ) = 10%	(R\$4,000)
Recovered taxes = 30%	R\$1,200
Financial Expenses Net from Taxes = 7%	(R\$2,800)
Net profit ( <i>L</i> ) =	R\$7,700

Equity (*PL*) = R\$60,000 à Return Rate of 12.8%

Let us admit that the cost of own capital (*ke*) equals 10.5%. Hence, the Economic Value of the company will be:

$$V_{PL} = \frac{L}{(ke)}, \text{ according to Equation 3.}$$

$$V_{PL} = \frac{R\$7,700}{10.5\%} = R\$ 73,333$$

If the Fair Value of the Assets and Debt equals their Book Value, according to Equation 4, this company's *Goodwill* will equal:

$$G = V_{PL} - PL = R\$73,333 - R\$60,000 = R\$13,333$$

But what is the origin of this *Goodwill*? What is the cash producing unit that generates it? The Assets as a whole?

Following the same logic as demonstrated, the Economic Value of the Asset is given by Equation 7:

$$V_A = \frac{A \times x \times (1 - r)}{ke} = \frac{R\$100,000 \times 15\% \times (1 - 30\%)}{10.5\%} = R\$100,000$$

In other words, the Economic Value of the Asset is exactly equal to its Book Value. Where is the *Goodwill* this Asset would contain? What abnormal profitability does it produce? Visibly none.

On the other hand, the Economic Value of the Debt is as follows, according to Equation 10:

$$V_p = \frac{P \times kd \times (1 - r)}{ke} = \frac{R\$40,000 \times 10\% \times (1 - 30\%)}{10.5\%} = R\$26,667$$

As the Book and Fair Values of the Debt equal R\$40,000, this Debt contains a gain of R\$13,333, and that is the origin of the company's *Goodwill*.

A simple way to prove this is:

- a. If the Asset were solely funded by Equity, the Net profit would equal the Net Operating Income (equal to the Net Operating Cash the Asset produces) and would correspond to R\$10,500; and the Equity would equal R\$100,000, with the stockholders gaining exactly 10.5%, equal to its *ke*, which would mean that no *Goodwill* exists;
- b. As the stockholders only invested R\$60,000 and gained R\$7,700, they obtained a return rate of 12.8%, superior to their cost of own capital corresponding to 10.5%. Hence, an abnormal income exists that produces *Goodwill*. And the only distinguishing factor between a) and b) is the presence of the Debt. It generates the *Goodwill*, and not the company's Assets.

An alternative form of proof is:

- a. The stockholders invested R\$60,000 and this amount produced a net return rate of 10.5% in the Asset, which corresponds to R\$6,300;
- b. They borrowed R\$ 40,000 which, invested into the Asset, produced:
  - iii. Return net from taxes equal to  $10.5\% \times R\$40,000 = R\$4,200$ ;
  - iv. Cost, net from taxes,  $7\% \times R\$40,000 = (R\$2,800)$ ;
  - v. Hence, the stockholders gained, in addition, R\$1,400 of net profit. These, added up to the R\$6,300 produced by their own capital, resulted in a total net profit of R\$7,700;
  - vi. Hence, if the company gains, because of the debt, an additional R\$1,400 per year, discounted by the perpetual cost of own capital equal to 10.5%, this means a gain of  $R\$1,400/10.5\% = R\$13,333$ ;
  - vii. This reveals the *Goodwill* produced by the company's Debt.

Yet another form of proof: the gain from Debt, or its *Goodwill*, that is, the value added to the Economic Value of Equity, is the difference between a) the total service of the debt discounted by the net cost of that debt and b) this same total service discounted by the cost of own capital if the only service of the debt is the annual financial expense net from taxes. Thus, calling the Financial Expense Net from Taxes *DFL* and the Cost of Debt Net from Taxes *kdL*:

$$\text{Goodwill from Debt } (G_p) = \text{Gain on Debt} = \frac{DFL}{kdL} - \frac{DFL}{ke} \quad (12)$$

$$G_p = \frac{R\$2,800}{10\% \times (1 - 30\%)} - \frac{R\$2,800}{10.5\%} = R\$ 40,000 - R\$26,667 = R\$13,333$$

## 5. *Goodwill* from Assets simultaneous with *Goodwill* from Debt and some Confusion

The true Economic Value of an Asset is the present value of the net cash flow it produces, brought to present value by the discount rate that considers the time factor and the exclusive risk of that Asset. Introducing the effect of part of it being financed at a cost other than the cost of equity into the Asset Value means that the asset (a car, for example) is worth more or less, per se, depending on how it was financed. If a car is worth R\$ X for prompt payment, and if it has a higher market value because it is financed at a fully subsidized rate, and the debt is transferable to the new acquirer, it should be considered that the transaction value is relating not only to the vehicle, but to the combination of the vehicle and its debt. And one needs to be separated from the other. This is what has not been done in company valuations in general and not in accounting either: how much the Asset is worth and how much the Debt is worth, in economic terms, based on the present value of its reflexes in the company's cash, and the determination of whether *Goodwill* exists in the Assets or Debt or both.

In the previous topic, we only assumed that the net rate of return of the Assets is equal to  $k_e$  to isolate the *Goodwill* from Debt. But if the Asset produces more than the  $k_e$ , it will also generate *Goodwill*. Let us repeat the calculations of the same previous simulation, but assuming that the gross rate of return  $x$  of the Asset is 18% instead of 15%. When we repeat the calculation, the Net Operating Profit, equal to the Net Operating Cash Flow, will then equal R\$ 12,600 and not R\$ 10,500 anymore. Net Income will be R\$ 9,800, and the Economic Value of Company Equity will be R\$ 93,333 (R\$ 9,800/10.5%), generating *Goodwill* of R\$ 33,333, not R\$ 13,333.

And it is clear that this *Goodwill* has now increased because, if the Asset produces R\$ 12,600, it is worth R\$ 120,000 in "economic terms", and not R\$ 100,000. That is the genuine *Goodwill* from the Asset of one or several of its cash generating units.

Thus, if someone pays R\$ 93,333 for the total Equity, which in "accounting terms" and in terms of the Fair Value of its Assets and debt equals R\$ 60,000, that person pays goodwill for expected future profitability deriving from two sources. The Investment account in the investor's balance sheet should present:

Equity of Controlled Company	R\$60,000
<i>Goodwill</i> from Assets of Controlled Company	R\$20,000
<i>Goodwill</i> from Debt of Controlled Company	<u>R\$13,333</u>
Total investment	R\$93,333

If, unlike the simplified hypothesis of perpetuity admitted here, we had the reality of life, the *Goodwill* from Assets would clearly behave in one way, and the *Goodwill* from Debt in another way. If the Debt were settled over time, for example, this *Goodwill* would be lower, merely related to the length of existence of funding that costs less than the Asset where these resources produce, and would have to be "amortized" gradually, even if through impairment, as its value would decrease over time.

It is interesting to note, and this is not at all difficult to find in Brazilian practice, that a company whose Asset contains a genuine "*Badwill*", because of the inability of this Asset to produce a net return compatible with the cost of own capital, but with a Debt that subsidized that its Equity has an Economic Value where *Goodwill* appears. Under current accounting rules, this *Goodwill* will be allocated to a cash generating unit of the controlled company's Asset (sic); How crazy! In fact, it is derived from Debt and is greater than that considered in the negotiation; in other words, the net balance of the *Goodwill* is positive, but because the *Goodwill* deriving from the Debt is higher than the *Badwill* from the Assets, And is it not necessary to perform the impairment of the Asset that does not produce consistent return?

## 5.1 The use of the Company's WACC and Cash Flow

The question could be raised: but is the Asset not usually valued by the cash flow it produces discounted by the Weighted Average Cost of Capital? After all, the traditional and most used valuation method of non-financial corporations is based on the Company's (or Firm's) Cash Flow and, not, on the Equity Cash Flow. To date, in this work, we only use the latter, valuing the company for what it produces as a whole, discounted by the cost of equity, and we also value the Asset discounted by the cost of equity.

But the Company's Cash Flow model differs, using the WACC (Weighted Average Cost of Capital), the average between the cost of debt and equity. It is common practice and in some sources to see the enormous error of calculating the WACC based on the "book" values of Debt and Equity. Since the origin of this concept, Nobel Prize Laureates Modigliani and Miller, 1950s, this is untrue. The WACC can only be calculated based on the Fair Value of the Debt (market value, according to the contemporary expression) and the *Economic Value* of Equity (never based on its book value). Hence the circular process: we need the Economic Value of Equity to calculate the WACC, to be used in the calculation of the Economic Value of Stockholders' Equity (?).

Very quickly, and suggesting the already mentioned doctoral dissertation by Martins (2005) and the also cited article by Martins and Martins (2015) for further details, let us see how the calculation would look, according to this erroneously applied Company Cash Flow model, and use the data from the second simulation, with the Asset truly producing more than the equity.

The – mistaken – WACC calculation, based on the "book" values of Debt and Equity, would be given by:

$$\text{False WACC} = \frac{kd \times P}{(P + PL)} + \frac{ke \times PL}{(P + PL)} \quad (13)$$

$$\text{False WACC} = 7\% \times 40\% + 10.5\% \times 60\% = 9.1\%$$

Economic Value of the Company,  $V_E$  (as if assessing Asset Value):

$$\text{False } V_E = \frac{Lo}{\text{False WACC}} = \frac{R\$12,600}{9.1\%} = R\$138,462$$

<i>False</i> $V_E$	R\$138,462
(-) Debt Value ( $P$ )	<u>(R\$40,000)</u>
<i>False</i> $V_{PL}$ =	R\$98,462

In other words, the Equity Value, which we calculated at R\$93,333, would thus correspond to R\$98,462. Invest that and see if you manage to gain the 10.5% defined as the cost of own capital. That entails the need for a Net Profit of R\$10,339, but it only amounts to R\$9.800. That means that the value calculated in this way is wrong.

If we recalculate this formula based on the actual WACC, calculated using the Economic Value of Equity equal to R\$93,333, then:

$$\text{True WACC} = \frac{kd \times P}{(P + V_{PL})} + \frac{ke \times V_{PL}}{(P + V_{PL})} = 9.45\% \quad (14)$$

<i>True</i> WACC	9.45%
<i>True</i> $V_E$ (R\$ 12,600/9.45%)	R\$133,333
(-) Debt Value ( $P$ )	<u>(R\$40,000)</u>
<i>True</i> $V_{PL}$ =	R\$93,333

## 5.2 A more Complete Model

The latter description of the Economic Value of Equity at the end of the previous item also entails a problem: it establishes that the Company value as a whole, before the debt, equals R\$133,333. But this hides that this figure consists of two parts: the true Asset value, corresponding to R\$120,000, and the *Goodwill* from Debt, our by now old friend, corresponding to R\$13,333. Thus, the dissertation mentioned suggests, with some adaptations:

$$\begin{array}{r}
 \text{Fair Value of Asset (A)} \\
 \text{Goodwill from Asset} = \text{Economic Value of Asset} - \text{Fair Value of Asset} \\
 \\
 G_A = V_A - A = \frac{Lo}{ke} - A = \frac{R\$ 12,600}{10.5\%} - R\$100,000 \\
 \\
 \text{Gain on Debt} = \text{Goodwill from Debt} = \frac{DFL}{kdL} - \frac{DFL}{ke} \\
 \text{Economic Value of Company} \\
 (-) \text{ Fair Value of Debt (P)} \\
 \text{Economic Value of Equity (V}_{pl})
 \end{array}
 \begin{array}{r}
 = R\$100.000 \\
 \\
 = R\$20.000 \\
 \\
 = R\$13.333 \\
 = R\$133.333 \\
 = (R\$40.000) \\
 = R\$93.333
 \end{array}$$

## 5.3 Additional Considerations

There are many points to discuss, but we would like to draw attention to some, mainly concerning the argument made in this paper that the Economic Value of the Asset should be calculated with the discount rate represented by *ke*. This is genuinely true if the Equity is the sole funder of the Asset. But when there is a first debt taken, it is to be expected that if, on the one hand, there is usually a Gain from Debt, on the other, there is an increase in *ke* due to the increased risk of the shareholders.

Therefore, the Economic Value of the Asset needs to be calculated based on the *ke* of the unleveraged company, with two components: loss of Equity value due to the increase in *ke*, and Gain on Debt, expecting the latter to be higher than the former (Modigliani and Miller, 1958 argued that, in theory, they should be equivalent, except for the fiscal effects of the cost of debt, but we will not discuss that here).

In fact, there would always be ‘cascades’ of Loss of Equity with each new Debt installment and also variation in the Gain from Debt.

Another aspect: one has to consider the tax figure of Interest on Own Capital, which produces changes in the *ke* because of its tax interference and, consequently, in the Economic Value of the Asset and Equity (not to forget that the company pays less tax, but the shareholder is taxed on this “Interest”, and the calculation needs to cover both).

In addition: the Suppliers account should always be understood as an Interest-Bearing Liability and treated at present value and with the interest calculated in the financial expense and not in the cost of goods sold. This is not always applied in the accounts though, nor are discount rates properly described to the extent of producing a reasonable degree of acceptance. Therefore, this account is usually treated as part of Non Interest-Bearing Liabilities, which obviously produces some distortions.

But let us stop with these additional considerations, despite knowing there are others.

## 6. An Actual Brazilian Case

It is clear that, under normal conditions, debts being taken at a cost net from income tax (obviously considering the sum of this tax and the social contribution on net income) lower than the return of the Asset, all companies in these conditions have *Goodwill* deriving from their Debt.

Of course, in Brazil, the interest rates have sometimes exceeded the rates of return of the Assets where these Liabilities are applied, destroying the Economic Value of Equity.

On the other hand, the generous interest rates charged mainly by the BNDES and some state agencies that foster development (and sometimes abusive privileges) have led to a proliferation of Economic Values of Equity, largely and sometimes completely based on the *Goodwill* of these Debts.

And we have seen how easy it is to calculate this *Goodwill* that has nothing to do with any cash-generating unit. It is enough to have access to the Debt, its financial cost, its profile over time (so as not to admit the oversimplified idea of perpetuity) and the cost of equity. It is logical that the latter is the most complicated of all, being instable, subjective, determined by the partners (and each with its own *ke*), but there are several sources that seek to approach this cost of equity with reasonably successful approximation (expected, at least).

Therefore, we can risk a real example, without any concern with meticulous accuracy, but much more to show the potential of this analysis.

Consider the case of Vale which, in its financial statements for 2016, shows the simple average of the year in millions of *reais*:

Financial Debt ( <i>P</i> )	R\$104,115
Equity ( <i>PL</i> )	<u>R\$136,561</u>
Total Assets less Non-Financial Debt ( <i>A</i> )	R\$240,676

This Debt, according to the company's explanatory notes and the income statement, and excluding inflation and foreign currency variations (exaggerated but deliberate simplification - we are working with real rates, exempt from the effects of inflation, and admitting exchange variation equal to inflation to avoid other deviations and adjustments), was subject, during 2016, to the average real annual financial burden rate, net from the assumed rate of 34% of taxes on profit, corresponding to 3.90%, producing financial expenses of R\$4,060 million (R\$ 6,152 before taxes). The *ke*, estimated by the Capital Markets Research Center (CEMEC), in real terms (taking the IPCA as deflator), corresponded to 7.88% p.a.

If this debt were perpetual, or if the company were able to replace it forever with others of the same profile in terms of charges, the economic value of this debt would be R\$51,523 million, with Goodwill of R\$52,592 million.

As the company presents in its financial statements the maturity profile of these debts, assuming that the company would pay them all at their maturities and not renew them, and maintain the same interest rate (an administration would never do so if it got these rates!), the Goodwill from Debt would amount to R\$17,905 million.

In order to have an idea of how significant this value is, as of 12/31/2016, Vale's market value was R\$127,734 million, that is, based on these data, we see that the largest individual component of Vale's Goodwill seems to be concentrated in its Debt, and not in its Assets!

## 7. Conclusions

In this work, in a simplified and didactic way, we presented this figure, apparently disregarded almost completely in the academic world, totally disregarded in the normative accounting world, but present in the heads of the most informed investors and analysts, which is the figure of *Goodwill* deriving from a company's Debt, and not from its tangible and intangible Assets.

We revisited the scarce bibliography about it and highlight the Brazilian model developed by Prof. Vinícius Aversari Martins, created for a relatively fast design of this *Goodwill*, which separates a company's total *Goodwill* into its two components: a) how much is formed by the Assets' ability to generate abnormal profits, and b) how much is formed by having a financial debt with a burden net from taxes lower than the cost of equity. We also show that this model produces a much more appropriate measure of a company's Firm Value, which cannot be achieved by using the traditional WACC.

It can be concluded, in view of the importance of the subject, the very scarce bibliography, the poor treatment of the subject in accounting education and research and the total absence of this concept in international accounting standards, that there is much to investigate, develop, teach and rule on the subject. There is a need for a change in both the academic and regulatory fields. But while this matter is best known in the world of practice, a more appropriate and more transparent development of the idea and calculation of this *Goodwill* from Debt is also urgently needed.

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