



USE OF THE METHODOLOGY OF THE CASH FLOW DISCOUNTED FOR EVALUATION OF THE SMALL AGRIBUSINESS COMPANY FROM THE QUESTIONED BALANCE: A CASE STUDY

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Abstract

In the analysis of a small agribusiness company, difficulties in the elaboration of accounting reports are faced, due to the inexistence of a structured accounting. In this article, a case study was developed in order to guide a small investor to know the economical value of his small agribusiness company, through the discounted cash flow. From the data provided by a company's administrator, through interview and field research along with institutions connected to the small agribusiness companies, the accounting demonstrations of the researched company were elaborated. Later, the obtained data through the interview was compared with the company official accounting demonstrations.

Key words: discounted cash flow, evaluation, questioned balance, agribusiness.



USE OF THE METHODOLOGY OF THE CASH FLOW DISCOUNTED FOR EVALUATION OF THE SMALL AGRIBUSINESS COMPANY, FROM THE QUESTIONED BALANCE: A CASE STUDY

1. Introduction – In the scenery of the global economy, competitiveness became a survival synonym. The companies noticed that to survive continuity it is necessary to assist, in the most efficient and possible way, the desires established by the market.

According to the data published by Brazilian Service of the Company Support – SEBRAE, the small and medium enterprises have a participation of 40% of Brazilian Gross Domestic Product – GDP. Besides that, these companies are responsible for: commercial sales – 80%, industrial production – 56%, services rendered revenue – 71%, offered jobs – 84%, mass of wages of the country – 71% (MATIAS and LOPES, 2002). Brazilian Institute of Statistics – IBGE – published that, from 2000 to 2001, the growth in the number of the registered companies was 11,4% higher than the growth rate in the previous year (6,5%). This movement was justified by increasing the birth rate from 18,7% to 21,8%, at the same time, the reduction in the companies' mortality rate, from 12,4% to 9%. In 2001, the companies and other legal units composed up to 19 people were responsible by employment generating of occupation and they represented 97% of the total of the companies.

According to the 2002 annual report from Global Entrepreneurship Monitor – GEM group, the rate of Total Activity Enterprising – TAE, that indicates the entrepreneurs' proportion in the adult population, presented values of 1,8% in Japan and 18,9% in Thailand, being 13,5% in Brazil, the 7° among the countries with larger entrepreneurship level. In the Asian continent are 77% of all entrepreneurs.

This work was developed after realizing the growth of small agribusiness companies, having the objective to use a specific evaluation form, a specific cash measure that is the assets evaluation, determined in a liquid operational way, also considering all the necessary investments to the company continuity. The chosen method analyzes the economical value of a small agribusiness company, using the cash flow free from the stockholder with provided data by the administrator and being the accounting demonstration was elaborated based on the obtained information.

2. Evaluation of the small agribusinesses companies – According to Copeland et al (2000), the justification for the use of the cash flow free from the stockholder in the agribusiness companies evaluation, is supported by the fact that the discount rate used should reflect the opportunity cost of each capital source, considered by the total company capital contribution. It is called Weighted Average Cost Capital – WACC. The opportunity cost for the investors class is equal to the return expected from them to receive in other investments of equivalent risk, being the cost for the company, equal to investors' cost less any benefits received by the company current of the payments done to the capital sources, as for example, the deduction of the expenses with interests.

2.1 The method of the discounted cash flow – DCF – This method was the one used to analyze the economical value of a small company, from data provided by the Questioned Balance, and not Market Value Added – MVA. According to Stewart (1990), the method calculates the company market value less its accounting value of invested capital, therefore the accounting value cannot be used to calculate MVA accurately. That indicator is calculated from market information and also information proceeding from the accounting. The difference between these two elements



constitutes the future expectation of results, which can be affected by the economy section as a whole, etc (STEWART, 1990).

2.2 Projections – The economical evaluation of a small agribusiness company has the objective to anticipate the most probable purchase or sale price, considering a possible transaction in peculiar circumstances of time and place, with the involved parts identification and the purposes of each one in the transaction. Economical evaluation is a complex exercise of subjective and private judgment, when it refers to a small agribusiness company in operation. The value of a business consists in its particular capital arrangement, technology and work that are different from the sum of its net obligations assets.

That methodology is based on the concept that the inherent economical value to financial assets is directly related to the amounts and to the times in which the cash flow free from the stockholder, originated from those assets, will be available for distribution. This is because the generated cash can be used in the payment of dividends or reinvestments. Therefore, for the stockholder, the value of his actions, is measured by the resources financial amount that is expected to be generated in the future, for the business, discounted to its present value, to reflect the time and risks associated in that distribution. For that methodology, therefore, tangible and intangible economical value of the operating assets can be considered.

The method of the DCF is the one that best represents the largest technical and conceptual rigidity to express the economical value of an agribusiness enterprise in operation. All the main factors that affect the enterprise acting, such as sales amount, prices, costs, expenses, taxes, working capital needs and capital investments, as well as the opportunity cost of the investment, are adequately contemplated in the economical value (ASSAF, 2003).

The elaboration of financial projections that represent the acting of the business in the future depends on the analysis of the external environment, on the indent of the main operational factors identification that determine the results on the companies and on the visualization, for the appraiser of the managerial strategies and investments of complemented character, that a potential buyer, interested and business expert, would undertake, with the expectation of gaining return on the investment. In this context, to understand the operational scenery, defined for ends of the economical evaluation, it should be elaborated fundamentally from the following aspects: Macroeconomic and scenery of Brazilian economy; Trends and perspectives of long period for the market; Historical results of the Society.

2.3 Free Operating Cash Flow – FCFE – According to Eitman et all (2002), the evaluation for the DCF refers to a common technique, demanding a complete group of financial demonstrative. According to Copeland (2000), the DFC technique captures all the elements that affect the value of the company in a comprehensive way, but direct. Besides, it finds strong support in researches on how the markets really evaluate the companies. Copeland (2000) defends the use of this model for no financial companies, due to the simplicity of the use and because it allows the user to develop a better economical-financial perspective of the researched company. Using the theoretical structure of a budget of domestic capital, the following basic steps are added: To identify the invested capital; To stipple the cash flow to be written off the project; To identify the discount rate adapted in the determination of the present value of the expected cash flows; To identify earning before interest; To identify free cash flow; To apply decision criteria of budget of traditional capital.

2.4 Fundamental Concepts



2.4.1 Cost of capital

Structure of capital – The capital structure concerns the form in which a company composes its financial resources, with the objective of sustaining its long-term investments. The capital structure of a small agribusiness company is the specific combination of third capital and own capital. Those financing sources can be separated into two groups: a) Third capital: are all the loan of long stated period obtained by the company; b) Own capital: are the long period funds supplied by the company owners and the stockholders to finance its operations.

The administrators should be capable to add value to optimizing the structure of the small agribusiness company reception of resources, in a way to minimize the cost of the capital captured by the company, but controlling its exposure degree. Many researches examined the less restrictive effect hypotheses in the relation between the capital structure and the company value. The result is a great capital structure, based on the balance benefits and in the loans cost (GITMAN, 2003).

Cost of capital – For Gitman (2003), the cost of capital “is the return rate that a company needs to obtain on its investments to maintain the value of market of its actions”. It is, still, the return rate demanded by the suppliers of capital of the market. The capital cost is calculated based on several financing sources of permanent and long period character that compose the structure of the company capital. For a connection of the finance markets, the domestic interest rate suffers the impacts of the economical measure adopted in other countries. The bigger the uncertainties, the bigger the risks; therefore, the bigger should be the investments returns. The interest rates oscillate a lot in the long period, fact that hinders the future rates estimate.

Cost of third capital (K_i) – Still according to Assaf (2003), “the cost of capital of third is represented by K_i , being the cost of the short or long term debt and the cost today, after the income tax (IT), to capture long term funds through the loans”, that could be represented by the expression: $K_i \text{ (after IT)} = K_i \text{ (before IT)} \times (1 - IT)$.

Cost of own capital (K_e) – According to Assaf (2003), “the cost of own capital, represented by K_e , indicates the return expected by the stockholders of a company in their decisions of own capital application”.

Weight average cost of capital – WACC – Determining the rate cost of the long period financial sources, the following step consists in the calculus of the average weight of those rates (the cost of total company capital). The weight of the cost rates should reflect the weight of the values of each funds type in relation to the total, in such a way that the sum of its weights is equal to 100% (ROSS et al, 2003).

According to Assaf (2003), “the WACC represents the considered cost of each capital source selected by the company, being used as discount rate of the available cash flows”, represented by the expression: $WACC = [K_e \times W_{pl}] + [K_i \times W_p]$, where W_{pl} represents the proportion of own capital and W_p the proportion of third capital invested.

Rate of discount – The discount rate necessary to calculate the present value of the projected cash flows is the function of the return on the investment requested by an initial computer, considered the time and the inherent risk to the projected cash flows. For Damodaran (2002), the foreseen cash flows need to be discounted from the present to a rate that reflects its financing cost.

2.4.2 Return on capital

Return on investment – ROI – It portrays the applied operational capital profitability in the business. The strategies of increasing this director are formed by the investment turn (the stock levels adjustments, reduction of the idle capacity,



collection politics, etc.) and for the operational margin (price politics, distribution costs, production rate, quality, etc.), (ASSAF, 2003), represented by the expression:
ROI = Operating Profit.

Investment

RROI = Residual ROI – According to Assaf (1999) the expression [ROI – WACC] is known as residual ROI, indicating how much the return of the investments overcame the expectations of the capital proprietors' remuneration. It can still be understood by economical spread of the small agribusiness company.

2.4.3 Value

Economic value added – EVA – Created by G. Bennett Stewart (1990), this term refers to a measure used by several companies to determine if an investment, own or existent, contributes positively to the proprietors' wealth. EVA is calculated subtracting the cost of the resources used to finance an investment of operational profits, after the IT (GITMAN, 2003). It is the measure of residual profit that subtracts the capital cost of the operational earnings generated by the company, calculated by the spread between the rate of returned capital and the capital cost and then multiplied by the accounting value of the capital used in the business, represented by: **EVA = (return rates – cost of capital) × invested capital**, that is: **EVA = (ROI – WACC) × Investment**.

The EVA can be understood as the obtained result by the society that exceeds the minimum remuneration demanded by the capital proprietors. In the beginning of last century it was defined by David Ricardo as supernormal result. Its popularization came with EVA's denomination – economic value added. Its calculation demands the knowledge of the small agribusiness company total capital cost, which is determined by the cost of each financing source (own and of third) weighted by the participation of the respective capital in the total of the investment. According to Assaf (1999), the basic structure of EVA calculus is presented by:

Operating profit (net of tax)	XXX
(-) Cost Total of Capital (WACC × Investment)	XXX
(=) ADDED ECONOMIC VALUE	XXX

EVA can be calculated through the analytic formulation to proceed:

$$\mathbf{EVA = (ROI - WACC) \times investment.}$$

Market value added – MVA – According to Stewart (1990), MVA is the measure of value that the company created by exceeding the resources committed in the business, being considered the measure that represents the present value of the benefits generated by all the implemented projects and that to be implemented, indicating the success of the last investment such as the new investments success that still will have future benefits. It represents the own goodwill of the company, obtained by deducing from its market value (market value) the respective amount of the investment. According to Assaf (1999), an evaluation methodology of MVA can be calculated through the present value of EVA, according to: **MVA = EVA/WACC**.

3. Financial Fact-Finding – Having as an objective the financial fact-finding to credit concession for small agribusinesses companies, the financial and credit institutions verified that the credit process always suffered due to the lack of information, in relation to the analyzed businesses and sections of performance, while the credit was based on the companies proprietors.

This work uses a simplified way of collection of objective information, that was used initially through the financial fact-finding destined to the analysis of credit of the small agribusiness companies, denominated Questioned Balance (QB), where the



information are gathered according with its own characteristics, accounting-financial, qualitative and macroeconomics information. In order to collect the information, the questions were elaborated in a priority criterion, because in the assets the degree of liquidity of the items was prioritized, in other words, the applications that will be turned into financial resources in first place. While in the liability the questions should gather the answers with the obligations expiration, being the most recent in first place and those ones with future expiration to proceed.

3.1 Financial accounting information – The Balance Sheet portrays the position of the company in certain moment of the exercise and is composed by the assets and liabilities, positioning the applications of the company on the right side, the origins of those applications on the left side, such as third or own capital. The Demonstrative of Result presents in a summarized way the operations accomplished by the small agribusiness company, evidencing the formation of the net profit, or loss, in the analyzed period. Through that demonstration it can be analyzed the generation the company cash, which is connected to the net profit.

Dynamics of the company – The dynamics of the analyzed agribusiness company is evaluated through the indicators of average periods, the operating cycle and the financial cycle of the company. The indexes of average periods, analyzed together, evidencing the adaptation of the financial cycle of the company, in other words, they are linked directly to the administration of the working capital.

3.2 Qualitative information – The qualitative information should be collected by people that are in direct contact with the researched company and they refer to information that qualify the same, being the QB the instrument used for that purpose, the information are related to: The partners and graduation; Products and services sold; The potential of purchases of the products industrialized by the company; The covered geographical area; Growth in the last years.

3.3 Sectorial information – The sectorial information is important to have a more discerning evaluation of the analyzed small agribusiness company, therefore it will supply subsidies to confirm the company's administrator enterprising vision of the small agribusiness company, his vision of the competitive market and his behavior before the same, those information are: Which is the market share of the analyzed company; Which is the medium price of the competitors; What are exported products; How are the competitors of the same category.

3.4 Questioned Balance – QB – Regarding to small agribusiness company, there are difficulties in the elaboration of appropriate accounting reports, for the inexistence of a structured accounting; the QB has not only the purpose of obtaining of investments, but also to assist in the process of the economical administration in the company.

The method used for the elaboration of the company research information comes from a study accomplished for the Caixa Economica Federal, where occurs the finding-fact information through a questionnaire previously elaborated that allows to diagnose the economical and financial situation of a certain company, also serving as a managerial planning tool. It appeared, probably, in the verification of the accounting reports presented by a small agribusiness company could not show the reality, being the initial suspicion that divergence to be related to the acts of tax evasion, or for illicit means of non taxes payment.

Justification for its use – The QB is justified through other arguments, because even the accounting reports, elaborated according to the ethical principles and also in agreement with the accounting and partnership norms, it cannot express the reality



of the businesses. Being the QB surveyed directly with the company owner, it allows the adoption of simple and objective criteria, and the closest possible of the economical small agribusiness company reality. It breaks up the rigidity of the fundamental accounting principles, replacement price is used (MATIAS, 1995).

3.5 Accounting sheet

Accounting information – The accounting report was elaborated by an accounting office, which has as responsible an accountant with registration in the Regional Council of Accounting (São Paulo). The balance sheet and the necessary information were provided in order to calculate the average period of inventory renewal, average sale period, average purchase payment period, operational cycle and cash cycle.

4. Research Method – The selected methodology for the research was a case study, strategy widespread used in the academic research. Infinity of papers and books has been published lately in defense of the case study. Yin (1994), whose case strategy has been more published as research form, points the tendency to the use of case studies as research strategy in the administration schools. By the time the author analyses multiple cases, considers that the logic of the replying and not of the sampling should be considered. Roesch (2000) comments that the logic of the replication is similar to those used in experiments of multiple cases. Applied to the study of multiple cases, it means that each case should be selected carefully to predict similar results. Yin (1994) considers some circumstances in which this case is appropriate when it is a reveling case that offers the opportunity to observe and to previously examine an inaccessible phenomenon to the scientific investigation. In agreement with the author, the research will be descriptive, exploratory and at convenience.

Collects of data – The primary data were obtained through interview with the director of the studied agribusiness company, being used structured questionnaire, similar to the one used by Caixa Economica Federal, where the responsible by the business was interviewed and, later, for the collection of the accounting data the responsible by the accounting office of the researched company was interviewed. The secondary data of this research were obtained in books, newspapers, dissertations, annals of Congress and linked institutions to the section.

5. Evaluation of a micro and small agribusiness company: a case study – The analyzed company was founded in 1999, formed by highly qualified professionals in the swine's farming sector. It has great amount of customers and uses direct advertising, spreading in specialized magazines and in the Internet and participating of fairs and events in national level.

5.1 Accounting fact-finding – The accounting fact-finding was obtained with the accountant of the researched company:

Balance Sheet – 31/12/02				Income Statement – 31/12/02		
Asset		Liability				
Current		Current				
Monetary asset	158.569	Trade payable	24.826	Gross sales revenue	819.311	126%
Trade receivable	85.284	House account	1.990	(-) Return to sales	18.900	3%
Inventories	21.654	Tax Liability	7.025	(-) Sales tax	149.875	23%
Total liquid asset	265.507	Short-term	-	(=) Net sales revenue	650.536	100%
		Others	2.323	(-) Cost of sales	310.888	48%
		Total liquid	36.164	(=) Gross profit	339.648	52%
				(-) Selling expenses	137.719	21%
Long-term asset				(-) Adm. overhead	94.361	15%
Property		Net equity		(-) Traveling expenses	28.625	4%
				(-) General expenses	3.497	1%



Furniture/fixtures	6.122	Capital Stock	3.000	(-) Depreciation	-	0%
Equipments	50.000	Retained	197.561	(=) Operating profit	75.446	12%
Vehicles	-	Net income	84.903			
				(+) Financial revenue	9.457	1%
Total asset	321.628		321.628	(=) Net profit	84.903	13%

Table 1. Balance sheet of the small agribusiness company. Parity of the Dollar for the Real = 2,86.

The Accounting Balance (AB), obtained through accounting records, obtained with the accountant of the researched company, demonstrates that the gross profit reaches 52% of the liquid revenue of sales, the operating profit reaches 12% of the net sales revenue, being the net profit of 13% of the net sales revenue.

5.1.2 Questioned Balance – QB – After the tabulation of the obtained financial fact-finding and collection of information, described in the item 3 of this work, the accounting report was elaborated as following:

Balance Sheet – 31/12/02				Income Statement – 31/12/02		
Asset		Liability				
Current		Current		Gross sales revenue	800.000	127%
Monetary asset	135.000	Trade payable	25.000	(-) Return to sales	20.000	3%
Trade receivable	85.000	House account	6.000	(-) Sales tax	150.000	24%
Inventories	22.000	Tax Liability	7.000	(=) Net sales revenue	630.000	100%
Total liquid asset	242.000	Others	2.000	(-) Cost of sales	310.000	49%
		Total liquid	40.000	(=) Gross profit	320.000	51%
				(-) Selling expenses	140.000	22%
		Long-term		(-) Administrative	95.000	15%
		Long-term	45.000	(-) Traveling expenses	28.000	4%
Long-term asset		Total liquid	45.000	(-) General expenses	3.000	0%
Property		Net equity		(-) Depreciation	-	0%
Furniture / fixtures	6.000	Capital Stock	3.000	(=) Operating profit	54.000	9%
Equipments	50.000	Ret. earnings	210.000			
Vehicles	-			(+) Financial revenue	9.000	1%
Total asset	298.000	Total liability	298.000	(=) Net profit	63.000	10%

Table 2. Balance sheet of the small agribusiness company. Parity of the Dollar for the Real = 2,86.

The QB, selected through information obtained at interview with the administrator of the small agribusiness company demonstrates that the gross profit reaches 51% of the net sales revenue, the operating profit reaches 9% of the net sales revenue, being the net profit of 10% of the net sales revenue.

5.1.3 Comparison – Comparing the QB, obtained through information at interview with the administrator of the small agribusiness company with the AB, select through accounting records, was verified that the operating profit was of 9% of the net sales revenue, in the QB, being 12% of the net revenue of sales in the AB. A bigger result of 3% was verified in the AB, in function that some liabilities accountings became smaller, representing the reduction of 1% in the cost of the sold products, 1% in the commercial expenses and 1% in the administrative expenses.

In this way, the profit after the expenses and financial revenues is 10% of the net sales revenue in the QB and 13% of the net sales revenue in the AB, which demonstrates that the small agribusiness company, in spite of not having updated accounting records, makes an efficient administrative control of the information about its revenues and operational and financial expenses.

5.2 DCF – To find the FCFE, in other words, the DCF of the present value, some adjustments were made in the trade account receivable, trade account payable and stocks, identifying the variations occurred in the working capital. After obtain the net



value of the operational activities and net cash generation, this same net cash generation is distributed to the capital detainees under the dividends payment term, according to FCFE of the Operations.

5.2.1 Trend analysis – Using the accounting reports obtained through the QB, follow the premises of the projections, for a period comprehended between January 1^o, 2003 and December 31, 2012, for the analyzed company. The small agribusiness company manager estimated those premises, based on the analysis of the previous income. The projections follow the trends of the section in which the small agribusiness company is inserted.

5.2.2 Projections – The main projections assumptions related to the evolution of the operational results of the researched company are:

a) Gross sales revenue: From the observations obtained with the manager, from the company profits in the last 03 years, besides survey accomplished for the section, was considered a growth in the sales volume: for the year 2004, 20% above the volume verified in 2003, and, for the remaining period, from 2005 to 2013, a growth of 10% a year.

b) Net sales revenue: It results from the respective volume of sales, deduced the taxes over the sales and devolutions, being it the comparison base to other projected accounts; therefore, it will be equal to 100%.

c) Cost of sold products: This cost comprehend the costs and expenses made by the Company Behavior, in the purchase of raw materials and services destined to the production, representing 49% of the net sales revenue.

d) Gross profit: After deducing the costs of sold products, from the net revenue sales, it was obtained the gross profit, which represent 51% of the net sales revenue.

e) Operating expenses: It is classified as selling expenses (payroll of the industrial area, packing, outsourcing services, water, light, etc.) and administrative overhead (office payroll, meals, cup, office material, property maintenance, hardware maintenance, general expenses and other expenses), that added represent 42% of the net sales revenue.

f) Operating profit: The operating profit represents the profit before the interests, tax (over the profits) and depreciation; demonstrating the genuine capacity of payment of the company, it reaches 9% net sales revenue.

g) Operating profit after depreciation: As depreciation was not made in the period, the operating profit, after the deduction of the equipments and machines depreciation used by the company, is represented by the depreciation kept in 9% of the net sales revenue.

h) Financial expenses: The revenues and financial expenses also reflect the “modus operandi” (the way in which the company operates) of the company. The financial expenses refer to the use of guaranteed account, obtained through the maintenance of the capacity of small agribusiness company turnover, plus the result obtained with the application of the available resources, resulting in a credit, representing 1% of the net sales revenue.

i) Taxes: In this study, the incident taxes were considered on the sales: Value Added Tax Sales and Services-ICMS (that reaches up to 3,10% about the accumulated revenue), Simple Tax (whose table is about 5,4% to 8,1% on the account total) and Services Tax-ISS (5% on the services rendered volume), and the total taxes represent 24% above the net sales revenue.

j) Net profit: The small agribusiness company obtains, therefore, a net profit of 10% of the net sales revenue.



k) Adjustments on the Departure Balance and Opening Balance: The items of the balance sheet of the researched agribusiness company, in 31/12/02, considered as no operating, but that affect the sales value of the company, don't depend on the projections for its accomplishment. Those items are not projected for the calculation of the economical value of the operating assets, and its accounting values are added at the end of the evaluation as illustrated in the Departure Balance and Opening Balance. The items that don't affect the value are those that reflect a new classification, accounting extra adjustments, or whose registration value in the books, will be replaced by the calculated economical value. The sheet adjustment, in accordance to the Departure Balance, Table 1, for a value of R\$ 90.000,00, refers to the positive difference among assets and liabilities, to be considered in the calculus spreadsheet of net present value, Enclosure 1.

5.3 Company valuation

5.3.1 Capital structure – According to Matias (1995), the total of the investment should be considered. Therefore, this is the base value for the investments analyses and, as it is observed, it was financed in its major part with own capital (82,5%).

Following the QB methodology a total of the investment was verified, obtained through the assets total (R\$ 298.000) minus the operation liability (R\$ 25.000 + R\$ 6.000 + R\$ 7.000 + R\$ 2.000), or, still, added the current value of the respective own capital installments and third capital.

Third Capital	R\$ 45.000	17,5%
Own capital	R\$ 213.000	82,5%
Total Investment	R\$ 258.000	100,0%

Observation: parity of the Dollar for the Real = 2,86.

5.3.2 Capital cost – The total capitals cost used to finance the investments (R\$ 258.000) of the researched agribusiness company, K_i was considered about 15,50% per year. When interrogated about the return rate of the invested K_e , the manager demonstrated to expect return rate above than rate of the savings account; it was, then, defined the return rate of the K_e in 13% a year.

K_i (third capital cost)	15,50% a.a.
K_e (own capital cost)	13,00% a.a.
WACC (weighted average cost of capital)	13,44% a.a.

Like this, the considered WACC is 13,44% a year, being a result of the simple consideration of the capitals participation used with the respective involved costs. This means that, for the small agribusiness company be economically viable, needs to have necessarily, the investment return superior than the cost.

5.3.3 Investment – The investment considered for finding-fact was calculated by calculates the total of the assets (\$298.000) minus the operating liabilities or not onerous (R\$ 25.000 + R\$ 6.000 + R\$ 7.000 + R\$ 2.000), or, still, adding the current value of the respective own capital parcels (owner) and third capital (installments).

5.3.4 Return on investment – ROI – Calculated by the division of the operational profit (R\$ 54.000) by the investment (R\$ 258.000,) presenting itself in 20,93%, according to: **ROI = R\$ 54.000 / R\$ 258.000 = 0,2093 or 20,93%**

Residual ROI, or RROI – Calculated by the subtraction of WACC (13,44%) of the ROI (20,93%), resulting in 7,49%, according to: **RROI = 20,93% - 13,44% = 7,49%**

5.3.5 Economic value added – EVA – The EVA is calculated through: **EVA = (K_e + K_i) × RROI. EVA = (R\$ 213.000 + R\$ 45.000) × 0,0749 = R\$ 19.324**

5.3.6 Market value added – MVA – MVA, considered as goodwill, is found through EVA's division (R\$ 19.324) for WACC (13,44%), totalizing R\$ 143.780, according to:



$$\text{MVA} = \frac{\text{R\$ } 19.324}{0,1344} = \text{R\$ } 143.780$$

5.3.7 Value of the company – The cash flows, projected for the period from 31/12/2003 to 31/12/2012, were brought to the present value, considered the WACC between the cost of K_e and the cost of K_i , representing a rate of 13,44% a year, according to spreadsheet of calculation of liquid present value, Enclosure 1.

Result of the economical evaluation study – Based on the hypotheses and assumptions presented previously and in the results of the methodology in the applied evaluation, follows, the estimate of the economical value of the researched company. It is important to observe that the calculation of the company final value, whenever applicable, includes the adjustments of the value accomplished in the initial Balance Account of the Departure Balance.

Economical value of the Operational Assets	R\$ 506.975
(+) Perpetuity	R\$ 39.259
(+) Adjusts of the swinging of departure	<u>R\$ 90.000</u>
Economical Value of the company	R\$ 636.234

Sensitive Analysis – The Sensitive Analysis was made based on base scenery projections and using a rate of discount of 18% to year. The used technique measures the impact in the economical value of alterations in certain variables, maintaining constant the other premises. Considering the context for the base scenery, the variation found and the correspondent impact in Company Behavior is:

Economical value of the Operational Assets	R\$ 413.496
(+) Perpetuity	R\$ 25.448
(+) Adjusts of the swinging of departure	<u>R\$ 90.000</u>
Economical Value of the company	R\$ 529.411

5.3.8 Considerations on the value – Through the study of economical evaluation, accomplished by the methodology of the DCF, it demonstrates that the researched agribusiness company was evaluated in R\$ 636.234,00, and it was observed in the research, that the partners ignore the real value of the organization, once its sale was proposed to the proprietors of the company, and the same ones estimated a value of R\$ 400.000,00, while, after the adjustments, the company is evaluated in R\$ 636.234,00. However, applying the methodology of evaluation of the company researched by its MVA value, it was obtained the value of R\$ 441.780,00.

6. Conclusion – It is concluded that it is possible to apply of the methodology of the FCFE to make a study of economical-financial evaluation of a small agribusiness company, using the accounting reports, obtained through the QB. The research also demonstrated that the QB can be used as tool for this type of evaluation, because, by the time a comparison is done among the results obtained through the QB, it totalizes R\$ 636.234,00, while R\$ 877.677,00, is obtained through the AB. The research also showed that the evaluation of the company made by the methodology of MVA, is R\$ 441.780,00, inferior, therefore, to the select value through the methodology of the DCF. It is verified to real operational capacity of cash generation, in other words, the financial efficiency determined by the adopted operational strategies and the capacity of wealth generation to the partners of the studied company.

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Enclosure 1 – Observation: parity of the Dollar for the Real = 2,86.

Discounted cash flow valuation – company behavior (in thousands of Reais)

Fiscal year	Cash flow in the year	N. Year	Discount factor	Present value of the free cash flow
31/12/02	53.550			
2003	59.200	1	1,134400	52.186
2004	73.320	2	1,286863	56.976
2005	80.652	3	1,459818	55.248
2006	88.717	4	1,656017	53.573
2007	97.589	5	1,878586	51.948
2008	107.348	6	2,131068	50.373
2009	118.083	7	2,417484	48.845
2010	129.891	8	2,742393	47.364
2011	142.880	9	3,110971	45.928
2012	157.168	10	3,529085	44.535
2013	157.168	11	4,003395	39.259

Calculation of the economic value

Present value of the cash flow from 2003 to 2012	506.975
Present value of terminal value	39.259
Discount tax terminal value	4,003395
Economic value of operational assets	546.234
Adjust of departure balance sheet	90.000
Present value of the cash flow before adjusts	636.234

Discount rate simulation

Discount rate	Economic value of the operational	Economic value before
13,44	546.234	636.234