

**Corporate Finance in the Global Environment**  
**Value Management at Cosan S.A.**  
**within the Biofuel Industry**

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**Latin American Region**

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## Value Management at Cosan S.A. within the Biofuel Industry



*Source: Economist Staff, September 2<sup>nd</sup> 2010*

### Value Management Analysis

#### Value Creation / Destruction Trends

Cosan S.A. (NYSE: CZZ; Sao Paulo: CZLT11) is a firm engaged in the production, trade, and distribution of sugarcane-based processed sugar, ethanol, fuel, and lubricants. Founded in 1936, began a rapid expansion in the Brazilian sugarcane bioethanol sector in the 1980's, becoming the first vertically integrated bioethanol firm. The firm is majority controlled by Cosan Ltd., through which BoD Chairman Rubens Ometto Silveira Mello exerts a 24% ownership stake. His autocratic domination of the firm is controversial from an independence and transparency perspective. Operating 18 sugarcane mills which process 43m tons of cane annually, the firm both produces bioethanol along with sugar for both consumer and industrial use. Its current bioethanol production capacity is on the order of 1.7b liters per year (Cosan CC, 2010). Cosan, currently staffed by 38,600 employees, represents a mature and successful biofuel company relative to peers in the industry. The firm benefits from the mature state of the bioethanol industry in Brazil, which has been heavily developing for 30 years and is now the second largest producer of ethanol fuel and largest exporter in the world (Wikipedia, 2010). Brazil has a streamlined national ethanol production / supply infrastructure which lowers costs / realizes efficiencies along the biofuel value chain: inexpensive manual labor, abundant agricultural land, a high-yield tropical growing climate, high-energy yield crops (sugar cane and corn in particular), transport infrastructure, biofuel fermentation plants, end-product distribution networks, point-of sale depots (hybrid fueling stations), and vehicle engines designed and certified to work with high blend rates (Almeida, 2007). Nearly 20% of Brazil's transport infrastructure is supplied by sugarcane bioethanol, with the newer flexi-fuel vehicles able to run on both 25% ethanol / petrol blend and 100% pure ethanol fuel.

Concerning Working Capital Requirements (WCR) (Table 7), as opposed to younger, less mature firms in this sector, Cosan has a positive WCR balance, indicating mature supply-chain management. As a vertically integrated company, Cosan directly owns sugarcane feedstock production land, which not only lowers raw material prices, but negates the need to negotiate risky long-term supply contracts with agricultural producers. The lack of pre-negotiated supply contracts reduces the need for maintaining Accounts Payable (AP) balances with feedstock suppliers and raises the overall WCR quotient as a result (as inventory is owned while being grown and harvested). This shows up dramatically in the high Average Days Inventory (ADI) and Cash Conversion Cycle (CCC) periods (see table 4). While declining from levels as long as a full year, ADI stood at 145 days and CCC at 147 in 2009. This represents the company's "crop-to-tank" cycle in full. Although high relative to peers who purchase pre-harvested feedstock on the market, Cosan reaps great cost savings and control from this circumstance. It is quite a positive sign that these margins have halved in the space of just four years, displaying the fruits of intensive investments in improved supply-chain speed and efficacy, from sugarcane feedstock genetics, to agricultural practices, to plant processing techniques. AP, although initially kept at a longer duration than Receivables several years ago, is now in parity with Receivables, indicating a matching principle between short-term trade assets and receivables. Overall, the financial and operational optimization benefits of vertical value chain integration are apparent.

Concerning Return on Equity (RoE) components, the picture is less positive: there is a great deal of volatility apparent in these measures. Cosan's RoE measures shows the marks of an industry highly susceptible to the volatility of underlying commodity costs (feedstock, electricity byproduct, ethanol, and processed sugar prices) as well as heavy expenditures on acquisitions. Corporate taxes waiver heavily between rebates and charges, implying there is a great deal of regulatory wrangling and/or year-to-year accounting treatment variation. As the tax effect ratio turns positive in challenging years when profits are down, one might assume that Cosan actively chooses to book certain tax credits and rebates to defray losses some years (such as 2007 – 8) and to settle outstanding tax liabilities during bumper years (such as 2006 and 2009). Finally, variability in financials can be linked to heavy merger and acquisition activity over the past few years, pushed through by the authoritarian edicts of Chairman Ometto. As core value measures are consistently negative (RoE and EVA), Cosan is at a point where it must consider focusing on integration and operational efficiencies over growth by acquisition.

There has been a downward shift in the Financial Structure ratio in the past two years, indicating a narrowing of year-to-year proportional changes between Owner's Equity and Invested Capital. Although total Invested Capital has expanded nearly four-fold in just five years, the Capital Turnover ratio measure has remained fairly stable, with the last reported year, 2009, showing a doubled improvement. Again, this suggests that active managerial and capital investment attention into operational supply chain efficiencies are bearing fruit and are a cause for investor optimism. The Operating Profit margin has turned from a deficit in 2007 – 8 to an 8% premium in 2009, more evidence that investments in core operational efficiencies are bearing fruit.

Finally, Sales Growth exploded 176% in 2009, showing the results of an increasingly global export market along with its ability to enact natural hedging: to sell bioethanol *or* processed sugar as price benefits dictate. This practice also explains the long inventory holding period: holding ethanol or sugar stocks to time sales to price peaks. Some analysts even use such practices to classify Cosan as being in the 'crops' industry. A caveat is that this practice is showing signs of leading to Brazilian regulatory backlash (Economist Staff, September 2010). A negative, and item for improvement, is the Self-Sustainable Growth Rate, which is flat or negative over the past four years, indicating that the firm requires external investment to grow and a sign that capital has been allocated sacrificially to supply-

chain efficiency investments (as noted above). As the operational efficiencies have borne fruit, it is likely the SSGR profile will improve as operational margins increase, development expenses reduce, and retained earnings grow.

## Impact of Corporate Governance

Cosan S.A. is controlled by Cosan Ltd. via majority ownership and is supported by subsidiaries segmented by operational function: Cosan Açúcar e Álcool S.A. (operating company), Rumo Logística S.A. (port, storage, transport of sugar), Terminal Exportador de Alcool de Santos S.A. (ethanol port), Radar Propriedades Agrícolas S.A. (agricultural real estate management), Cosan Combustíveis e Lubrificantes (ESSO) (marketing and distributing fuel), Cosan S.A. Bioenergia and Barra Bioenergia S.A. (energy co-generation), DaBarra Alimentos Ltda. (sugar retailer), and Cosan Centro-Oeste S.A. Açúcar e Álcool (strategic operations).

This high segmentation of operations realizes focused performance management of specific supply chain components according to function-specific targets and metrics. However, 'roll-up' financial performance is a potential victim in this approach: aggregate financials suggest an operational management bullwhip effect due to uneven target-setting across the separately functioning components. Compared to peers, Cosan's financials display a dramatic volatility which ultimately raises risk premiums expected from debt providers and investors. Cosan S.A. could limit this phenomenon by applying concerted focus on forecasts from a firm-wide efficiency perspective, perhaps via an advanced supply chain management ERP implementation. Also, the firm shows little signs of being engaged in advanced Treasury-function based commodity hedging (or if pursued, it is implemented poorly, as there is a lack of year-to-year stability in profit line items). Cosan has 'natural hedging' capabilities via supply chain integration, but could supplement this with improved commodity market-making and financial hedging capabilities.

Concerning equity ownership of Cosan S.A., 129 institutions own 65% of the 0.27 billion outstanding common shares. Reuters analysts remark that this is much higher than is typical in the Crops Industry (14.5% institutional ownership), but lower than the US S&P 500 average (66.6%) (Reuters Company Research, 2010). However, significantly, the 2009 Annual Report reveals that 61% of this ownership is from the Cosan Ltd. Holding firm, indicating high centralized control of the Cosan S.A. operational firm. Cosan Ltd. holds 41.5% of Cosan S.A. total capital (class A & B shares combined), resulting in 86.1% voting capital. Cosan Ltd. has 270m shares trading on the NYSE, with Rubens Ometto Silveira Mello indicated as one of the main private shareholders. Cited as "dono" (owner) of Cosan, he is also Chairman of the Cosan Board of Directors since 2007 and a member of the Board of Executive Directors since 2007. From 2000 – 2009 he was CEO (Cosan Annual Report, 2009). Ometto exerts autocratic dominance over the firm via Cosan Ltd, a highly controversial factor from the standpoint of transparency and independence. Indeed many shareholders feel Ometto has driven acquisition activities too far and that it is now time to retrench to core value creation.

Cosan's central executive body is the Board of Executive Officers (BoEO), the firm's legal representative, responsible for internal organization, transactions, and implementing the policies and guidelines established by the BoD. Cosan S.A.'s BoD establishes general guidelines for the firm's businesses and is responsible for monitoring the BoEO. At least 20% of the BoD Directors must be independent members. This low proportion of independent members is not overwhelming in its suggestion of external oversight.

From this profile, ownership concentration and control can be said to be highly centralized, especially the singular influence of Chairman Ometto. There is little exposure to the market for corporate control and little risk of activist stakeholders gaining substantial voting power. This has been highly effective in pushing-through centralized decisions requiring authoritarian dictate, such as that of tight intra-group supply chain integration and growth through acquisitions. However, the functionally segmented nature of the component subsidiaries bear the mark of 'running in circles' to achieve dictated objectives without the benefit of advanced dynamic supply chain information optimization and centralized advanced commodity demand risk management (as observed previously). The firm would benefit were it to cede a degree of centralized operational control to specialized units with a charter to push the boundaries of advanced IT-based supply chain and commodity price (demand) forecasting and management. As well, demonstration of greater oversight over Ometto's decision making would be a positive sign in terms of demonstrating greater firm transparency. Thus, the highly centralized ownership, control, management, and oversight of the firm is a double-edged sword: effective in gaining brute force operational efficiency, but not evidencing an ability to smooth growth and earnings.

Concerning government support, Cosan is quite self-sufficient compared to peers in the industry, a sign of its relative strength and of the general maturity of the Brazilian biofuel sector. As opposed to biofuel companies in the US and Europe, Cosan has no direct subsidy, although it does evidence tax benefits. Indeed, the firm is considered a competitor of the state-supported Brazilian oil conglomerate, Petrobras, especially since Cosan acquired Esso and its network of 1,500 Brazilian fueling stations in April 2008.

## Reflection on Value Measures

Cosan Value Measures are cited on Table 5. There is tremendous volatility in historical Brazilian cost-of-debt and equity rates, making WACC calculations somewhat speculative. Many analysts as well as investors deem Brazil a far more stable national economy than 8 years ago (Economist Staff, October 2010). Cost of debt and equity return rates applied in the calculation of WACC imply a confidence in the stability achieved in the national economy over the last decade. Thus, Cosan, being considered a speculative investment even within Brazil, has a reasonable WACC of 12% averaged over the five year period cited.

As of the end of 2009, annual EVA and MVA were consistently negative, indicating value was being destroyed and that the market was skeptical concerning future growth opportunities. AT ROIC indicates a struggle for positive returns, having dipped into negative territory 2007 – 8 during the Economic Crisis. Even when positive, AT ROIC does not surmount WACC, leading to a negative Return Spread and a negative EVA. MVA follows in relatively tight synchronicity, indicating investors have not speculated on future growth to offset this loss-making trend.

However, within the global biofuel industry Cosan is remarkably mature in terms of operational development and overall stability. This was recognized recently by the vote-of-confidence placed in it when Shell announced a \$12B joint venture to produce sugar cane based ethanol (Shell CC, 2010). The negative EVA trend showed signs of abatement in 2009, displaying an EVA improvement from BR\$ -616k to BR\$ -57k, with MVA rising in close parallel. This can be explained by massive sales growth, a reduction in core operating expenses (reaped from concerted investments in supply chain efficiency measures), and connected improvements in operational profit.

As a post-script, fortunes have changed dramatically with the Shell joint-venture announcement: the stock being at a two-year high-point (in the BR\$25 range) as of September 2010, which is raising 2010 MVA as a sign of future expected performance and growth. As EVA and MVA have remained in tight synchronicity, one may assume that Cosan investors are fairly shrewd concerning growth prospects, the biofuel industry otherwise being a mature and commoditized industry within Brazil. The new confidence in the firm shown by investors will likely be rewarded in future real profit terms.

Typical of most firms, Cosan does not capitalize R&D expenses. While useful for proper firm valuation, comprehensive R&D figures were not available. However, two observations can be made: 1) producing first-generation biofuels, Cosan is not investing heavily in second- or third-generation fuels, but is rather focusing on lower-cost feedstock (sugarcane) development (Cosan CC, 2010), and 2) the modest R&D expenditures (relative to other biofuel players attempting to advance second-generation cellulosic technology) would raise profits slightly (by reducing expenses) and would cause a decline in RoA measures, including ROIC and EVA (as Invested Capital would inflate).

In conclusion, Cosan can be considered profitable; however, liquidity is not a value driver in of itself, but a sign of the potential for value creation. Core economic value creation depends on operational margins surmounting economic hurdle rates to evidence true capital creation. Operating margins and expected growth rates are key to increasing firm value. Based on Cosan's streamlined vertical supply-chain efficiencies and relative maturity, Shell has vested a vote-of-confidence in the firm. Investors have followed suit and the influx of capital must now be allocated by management to achieve higher volumes, prices, and, ultimately, margins to surmount firm WACC and to realize EVA. Chairman Ometto must now focus on core firm value creation and scale down growth via acquisition.

## REFERENCES

- Almeida, C. (December 2007). *Sugarcane ethanol: Brazil's biofuel success*. SciDev.net. Retrieved September 2010 from <http://www.scidev.net/en/features/sugarcane-ethanol-brazils-biofuel-success.html>
- Answers.com. (September 2010). *Cosan Ltd. Profile*. Answers.com. Retrieved September 2010 from <http://www.answers.com/topic/cosan-limited>
- Brigham, E. and Daves, P. (2004). *Intermediate Financial Management*. Thompson South-Western: Mason, Ohio.
- Cosan Annual Report. (2009). *Cosan Annual Reports*. Cosan Corporate Website. Retrieved September 2010 from [http://www.cosan.com.br/cosan2009/web/conteudo\\_en.asp?idioma=1&conta=44&tipo=26559&img=26539](http://www.cosan.com.br/cosan2009/web/conteudo_en.asp?idioma=1&conta=44&tipo=26559&img=26539)
- Cosan Corporate Communications. (September 2010). *Cosan Company Profile*. Retrieved September 2010 from [http://www.cosan.com.br/cosan2009/web/conteudo\\_eni.asp?idioma=1&conta=46&tipo=26652&img=26644](http://www.cosan.com.br/cosan2009/web/conteudo_eni.asp?idioma=1&conta=46&tipo=26652&img=26644)
- Demirbas, A. (2009). *Biofuels*. Springer, Green Energy and Technology Series: London.
- Economist Staff. (June 2010). *Inhuman genomes*. The Economist, June 17, 2010. Retrieved September 2010 from <http://www.economist.com/node/16349380>
- Economist Staff. (September 2010). *Ethanol's mid-life crisis*. The Economist, September 2<sup>nd</sup> 2010. Retrieved September 2010 from [http://www.economist.com/node/16952914?story\\_id=16952914](http://www.economist.com/node/16952914?story_id=16952914)
- Economist Staff. (October 2010). *Lula's legacy*. The Economist, October 2<sup>nd</sup> 2010.
- Graham, J., and Harvey, C. (2002). *How Do CFOs Make Capital Budgeting and Capital Structure Decisions?* Journal of Applied Corporate Finance: Spring 2002, 15, 1.
- Hawawini, G. and Viallet, C. (2007). *Finance for Executives. Managing for Value Creation*. South-Western Cengage Learning, ISBN-13 978-0-324-27431-8.
- Koller, T., Goedhart, M., & Wessels, D. (2005). *Valuation: Measuring and Managing the Value of Companies*. John Wiley & Sons, Inc., New Jersey, USA.
- Parkinson, J., and Draimin, C. (2007). *Accounting for Non-Financial Managers*. Captus Press, Revised Second Edition, ISBN-13 978-1-55322-173-9.
- Reuters Company Research. (August 9, 2010). *Cosan Limited (CZZ)*. Reuters. Retrieved September 2010 from [www.etrade.com](http://www.etrade.com)
- Reuters UK. (July 24, 2010). *Cosan SA Industria e Comercio*. Reuters UK. Retrieved September 2010 from [www.etrade.com](http://www.etrade.com)
- Reuters Financials. (September 2010). *Cosan S.A. Industria e Comercio (CSAN3.SA)*. Retrieved September 2010 from <http://www.reuters.com/finance/stocks/financialHighlights?symbol=CSAN3.SA>
- Shell Corporate Communications. (August 2010). *Shell and Cosan sign joint venture*. Retrieved September 2010 from

[http://www.shell.com/home/content/investor/news\\_and\\_library/2010\\_media\\_releases/shell\\_cosan\\_sign\\_joint\\_venture\\_25082010.html](http://www.shell.com/home/content/investor/news_and_library/2010_media_releases/shell_cosan_sign_joint_venture_25082010.html)

Wikipedia. (September 2010). *Ethanol Fuel in Brazil*. Retrieved September 2010 from [http://en.wikipedia.org/wiki/Ethanol\\_fuel\\_in\\_Brazil](http://en.wikipedia.org/wiki/Ethanol_fuel_in_Brazil)

XEC Internet. (September 2010). *Biofuel History*. Retrieved September 2010 from <http://biofuel.org.uk/history-of-biofuels.html>

## APPENDIX

Table 1: Income Statement (5 years)

<b>COSAN</b>				
<b>CONSOLIDATED INCOME STATEMENT</b>				
<b>(in thousands of BRL (R\$))</b>				
<b>INCOME STATEMENT</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
<b>Gross Operating Revenue (Net Sales)</b>	<b>2,533.64</b>	<b>916.39</b>	<b>755.42</b>	<b>818.04</b>
Sales Taxes (-)	183.85	73.37	73.34	70.57
<b>Net Operating Revenues</b>	<b>2,349.79</b>	<b>843.02</b>	<b>682.08</b>	<b>747.46</b>
Cost of Goods Sold (-)	2,109.89	693.62	511.81	507.26
<b>Gross Profit</b>	<b>239.90</b>	<b>149.41</b>	<b>170.26</b>	<b>240.21</b>
Sales Expenses (+)	101.48	74.88	75.17	46.36
Administrative Expenses (+)	78.25	57.71	97.72	44.89
Operating Expenses (-)	179.73	132.58	172.89	91.25
Other operating income (+)	199.86	-	(40.74)	-
Other operating expenses (-)	50.04	40.33	20.57	58.13
Other operat incm. (expns.) (+)	149.82	(40.33)	(61.31)	(58.13)
<b>Operating Profit</b>	<b>209.98</b>	<b>(23.51)</b>	<b>(63.94)</b>	<b>90.82</b>
Extraordinary Items	-	-	-	-
<b>Earnings Before Interest and Tax (EBIT)</b>	<b>209.98</b>	<b>(23.51)</b>	<b>(63.94)</b>	<b>90.82</b>
Financial Income (+)	198.25	102.99	372.88	250.69
Financial Expenses (-)	391.64	101.98	39.29	336.09
Net Financial Income (+)	(193.39)	1.01	333.59	(85.40)
Net equity income (+)	0.52	6.36	(0.51)	0.05
<b>Net Non Operating Inc and Expenses</b>	<b>(116.61)</b>	<b>3.69</b>	<b>0.36</b>	<b>2.14</b>
Operating + Other Inc (+)	17.11	(16.14)	269.14	5.48
<b>Pretax income (EBT)</b>	<b>(99.50)</b>	<b>(12.44)</b>	<b>269.50</b>	<b>7.62</b>
Income Tax charge (-)	(227.59)	7.39	26.16	16.56
<b>Earnings After Tax (EAT)</b>	<b>128.09</b>	<b>(19.84)</b>	<b>243.34</b>	<b>(8.95)</b>
Deferred Income Tax (+)	167.95	(14.04)	76.36	(13.92)
Minority interest (+)	0.37	(0.53)	2.26	5.84
<b>Net Income</b>	<b>(40.23)</b>	<b>(5.27)</b>	<b>164.73</b>	<b>(0.87)</b>
<b>Net Operating Profit After Taxes (NOPAT)</b>	<b>437.57</b>	<b>(30.90)</b>	<b>(90.10)</b>	<b>74.26</b>

Table 2: Balance Sheet (5 years)

<b>COSAN</b> <b>CONSOLIDATED BALANCE SHEETS</b> <b>Years Ending: Dec 31, 2005 - 2009</b> <b>(in thousands of BRL (R\$))</b>					
ASSETS	2009	2008	2007	2006	2005
<b>Current Assets</b>					
Cash & ST Investments	719.36	1,010.09	1,217.13	831.52	39.98
Commercial Credits ST	1,199.09	215.24	112.28	212.60	119.06
Accts Receivable Net	599.16	215.24	112.28	212.60	119.06
Various credits	599.93	-	-	-	-
Inventories	1,106.19	570.52	503.35	523.97	426.71
Other Assets ST	50.28	487.76	391.98	578.47	215.03
<b>Total current assets</b>	<b>3,074.91</b>	<b>2,283.61</b>	<b>2,224.75</b>	<b>2,146.57</b>	<b>800.78</b>
<b>Non-Current Assets</b>					
Assets LT	1,381.57	1,052.58	796.57	620.80	153.80
Permanent Assets	6,190.91	4,057.28	3,242.04	2,892.04	1,767.79
Inv in subs and others	278.21	120.31	93.17	13.41	13.13
Prop Plant & Equip Net	3,493.95	2,771.36	2,013.14	1,523.27	1,394.66
Intangibles & Good Will	2,418.75	1,160.67	-	-	-
Deferred Charges	-	4.94	1,135.74	1,355.36	360.00
<b>Total Non-Current Assets</b>	<b>7,572.48</b>	<b>5,109.86</b>	<b>4,038.61</b>	<b>3,512.84</b>	<b>1,921.59</b>
<b>Total Assets</b>	<b>10,647.39</b>	<b>7,393.47</b>	<b>6,263.35</b>	<b>5,659.40</b>	<b>2,722.38</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>2,009.00</b>	<b>2,008.00</b>	<b>2,007.00</b>	<b>2,006.00</b>	<b>2,005.00</b>
<b>Current Liabilities</b>					
Debt ST	1,449.50	83.34	88.99	68.78	38.14
Debentures ST	-	-	-	-	-
Accounts Payable ST	456.12	190.99	113.77	201.72	94.88
Due Taxes ST	168.60	116.09	126.20	111.12	88.07
Dividends Due ST	-	-	75.82	-	-
Provisions ST	93.16	80.70	63.27	49.73	30.14
Due to Subsidiaries ST	5.17	-	0.67	0.08	1.43
Other ST Liabilit	152.69	106.56	123.01	238.56	241.491
<b>Total Current Liabilities</b>	<b>2,325.23</b>	<b>577.69</b>	<b>591.73</b>	<b>669.98</b>	<b>494.15</b>
<b>Non-Current Liabilities</b>					
Liabilities LT	4,925.54	3,472.26	4,020.43	3,619.99	1,461.89
Deferred Income	-	-	-	-	-
<b>Total Non-Current Liabilities</b>	<b>4,925.54</b>	<b>3,472.26</b>	<b>4,020.43</b>	<b>3,619.99</b>	<b>1,461.89</b>
<b>Total Liabilities</b>	<b>7,250.77</b>	<b>4,049.95</b>	<b>4,612.16</b>	<b>4,289.96</b>	<b>1,956.04</b>
<b>Noncontrolling Interest</b>					
Min interest consl subs	30.88	17.72	20.19	14.02	3.46
<b>Total Noncontrolling Interest</b>	<b>30.88</b>	<b>17.72</b>	<b>20.19</b>	<b>14.02</b>	<b>3.46</b>
<b>Stockholders' Equity</b>					
Capital Stock	3,819.77	2,935.27	1,192.69	1,185.77	301.01
Capital Reserves	41.66	-	-	-	-
Revaluation Reserves	-	194.37	195.00	195.86	326.63
Earnings Reserve	-	196.16	243.30	-	7.07
Adjustments securities	-	-	-	-	-
Retained earnings	(495.68)	-	-	(26.21)	128.17
Prov for future cap incr	-	-	-	-	-
<b>Total Cosan Stockholders' Equity</b>	<b>3,365.75</b>	<b>3,325.80</b>	<b>1,631.00</b>	<b>1,355.42</b>	<b>762.88</b>
<b>Total Liab, Noncontrolling Int and SHs' Equity</b>	<b>10,647.39</b>	<b>7,393.47</b>	<b>6,263.35</b>	<b>5,659.40</b>	<b>2,722.38</b>
<b>Debt as Foreign Currency (not included in Liabilities)</b>					
Debt Foreign Currency	2,334.85	1,620.15	2,314.05	-	525.44
<b>Total Debt Foreign Currency</b>	<b>2,334.85</b>	<b>1,620.15</b>	<b>2,314.05</b>	<b>-</b>	<b>525.44</b>

Table 3: Statement of Changes of Financial Position (5 years)

<b>COSAN</b>					
<b>CONSOLIDATED STATEMENT OF CASH FLOW</b>					
<b>Years Ending: Dec 31, 2005 - 2009</b>					
<b>(in thousands of BRL (R\$))</b>					
<b>Cash Flow</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>
<b>Cash generated from operations</b>	-148.93	16.76	133.53	231.91	81.01
<i>Net income</i>	-40.23	-5.27	164.73	5.38	-6.19
<i>Deprec, amortiz &amp; deplet</i>	72.50	69.74	192.37	126.69	86.25
<i>Los(gain) FX &amp; monet chg</i>	89.00	-37.20	-26.57	116.78	-3.46
<i>Los(gain) sale perm asst</i>	-208.94	0.00	0.00	0.00	0.00
<i>Sold asset value(net dep</i>	-8.65	4.11	3.80	2.04	2.82
<i>Los(gain) equity of subs</i>	-0.52	-6.36	0.51	-0.26	0.00
<i>Deferred taxes</i>	-68.45	45.44	-38.86	0.13	-3.41
<i>Gain(los) of minority in</i>	0.37	-60.01	117.48	1.58	0.39
<i>Other non cash exp(inc)</i>	16.00	6.30	-279.93	-20.43	4.61
<b>Decr(incr) assets &amp; liabilities</b>	434.74	334.17	397.32	-65.29	-52.18
<i>Decr(incr) receivables</i>	-142.09	-111.27	96.95	-17.65	-21.07
<i>Decr(incr) inventories</i>	530.72	464.25	278.84	-420.49	-115.19
<i>Decr(incr) other assets</i>	71.14	-23.76	-33.73	168.24	7.35
<i>Incr(decr) suppliers</i>	-62.07	-161.85	0.00	177.89	69.55
<i>Incr(decr) taxes</i>	-63.94	38.21	25.43	32.45	-18.52
<i>Incr(decr) other liabil</i>	100.99	128.58	29.82	-5.73	25.69
<b>Total CF - Operating Activities</b>	<b>285.81</b>	<b>350.92</b>	<b>530.85</b>	<b>166.62</b>	<b>28.82</b>
<b>Cash Flows - Investing Activities</b>					
<b>Purchase of perman asset</b>	-559.98	-642.67	-445.14	-84.43	-49.86
<i>Purchase of perman inves</i>	-225.39	-167.50	-80.00	0.00	0.00
<i>Purchase fix &amp; dif asset</i>	-334.58	-475.17	-365.14	-84.43	-49.86
<b>Net sale (acquis) of inv</b>	-481.17	394.57	197.17	0.00	0.00
<i>Sale of permanent asset</i>	372.06	0.00	0.00	0.00	0.00
<i>Other investing CF items</i>	-2.34	3.26	-0.39	-3.94	0.35
<b>Total CF - Investing Activities</b>	<b>-671.43</b>	<b>-244.84</b>	<b>-248.35</b>	<b>-88.37</b>	<b>-49.51</b>
<b>Cash Flows - Financing Activities</b>					
<b>Proceeds(repaym) of debt</b>	-88.15	-77.66	-72.89	-99.96	53.70
<i>Proceeds from debt</i>	-37.14	-25.49	-46.98	3.21	258.43
<i>Repayment of debt</i>	-51.00	-52.18	-25.91	-103.17	-204.73
<b>Proc from (repur) equity</b>	16.40	0.00	0.00	0.00	0.00
<i>Proc from issu of equity</i>	16.40	0.00	0.00	0.00	0.00
<b>Dividends paid</b>	0.00	-75.82	-75.78	0.00	0.00
<b>Oth Fin Cash Flow Items</b>	5.90	-2.42	0.00	0.00	0.00
<b>Total CF - Financing Activities</b>	<b>-65.84</b>	<b>-155.90</b>	<b>-148.67</b>	<b>-99.96</b>	<b>53.70</b>
<b>NET CHANGE IN CASH</b>	<b>-451.46</b>	<b>-49.82</b>	<b>133.82</b>	<b>-21.71</b>	<b>35.17</b>
<b>Cash &amp; Equivalents, Begin Year</b>	<b>999.46</b>	<b>886.15</b>	<b>1,280.48</b>	<b>831.52</b>	<b>39.98</b>
<b>Cash &amp; Equivalents, End Year</b>	<b>547.99</b>	<b>836.33</b>	<b>1,414.30</b>	<b>809.81</b>	<b>75.15</b>
<b>BS Cash</b>	<b>719.36</b>	<b>1,010.09</b>	<b>1,217.13</b>	<b>809.81</b>	<b>75.15</b>
<b>* NOTE: Some discrepancies between BS and CFS Cash Balance based on differences in reporting periods</b>					

Table 4: Value Drivers

COSAN					
VALUE DRIVERS					
YEARS 2005 - 2009					
(in thousands of BRL (R\$))					
	2009	2008	2007	2006	2005
<b>Liquidity Ratios</b>					
Current Ratio	1.32	3.95	3.76	3.20	1.62
Quick Ratio	0.85	2.97	2.91	2.42	0.76
Liquidity Ratio	0.30	2.22	3.33	2.09	1.01
<b>Operating Efficiency Ratio</b>					
Average Days Receivables	58.66	65.23	78.49	73.99	-
Average Days Inventories	145.03	282.55	366.32	342.03	-
Average Days Payable	55.97	80.19	112.50	106.71	-
Cash Conversion Cycle	147.72	267.59	332.31	309.32	-
Fixed Asset Turnover	0.81	0.38	0.43	0.56	-
<b>Return on Equity Components</b>					
Return on Equity (ROE)	3.83%	-0.80%	16.30%	-0.84%	-
Tax Effect Ratio	(1.29)	1.59	0.90	(1.17)	-
Financial Cost Ratio	(0.47)	0.53	(4.21)	0.08	-
Operating Profit Margin	0.08	(0.03)	(0.08)	0.11	-
Capital Turnover	0.31	0.15	0.14	0.22	-
Financial Structure Ratio	2.42	2.55	3.61	3.45	-
RoE	3.83%	-0.80%	16.30%	-0.84%	-
ROIC <sub>BT</sub>	2.59%	-0.37%	-1.19%	2.49%	-
ROIC <sub>AT</sub>	5.40%	-0.49%	-1.67%	2.03%	-
Financial Leverage Multiplier	1.48	2.15	(13.74)	(0.34)	-
Gross Margin	9.47%	16.30%	22.54%	29.36%	-
Times Interest Earned	0.54	(0.23)	(1.63)	0.27	-
<b>Growth and Reinvestment</b>					
Annual Sales Growth	176.5%	21.3%	-7.7%	-	-
Equity Retention Rate	-387.0%	0.0%	10.8%	-1725.8%	-
Self-Sustainable Growth Rate	-14.7%	0.0%	0.0%	-1.9%	-
Effective Tax Rate (inferred)	13.1%	0.0%	6.1%	27.6%	-

Table 5: Value Measures

VALUE MEASURES					
YEARS 2005 - 2009					
(in thousands of BRL (R\$))					
Economic Value Added (EVA)	2009	2008	2007	2006	2005
COST OF CAPITAL					
1 After-Tax Cost of Debt					
BRZ RFR (BRZ Gov't Sec 10Y)	5.13%	6.47%	5.67%	6.13%	6.91%
BRZ AAA 10Y Bond Premium	1.31%	1.31%	1.31%	1.31%	1.31%
BRZ BA3/BB- 10Y Premium	2.75%	2.75%	2.75%	2.75%	2.75%
Cosan (BRZ BA3/BB-) Implied Yield	9.19%	10.53%	9.73%	10.19%	10.97%
Cosan Annual Marginal Tax Rate	13.15%	0.00%	6.08%	27.57%	11.70%
AT Cost of Debt	7.98%	10.53%	9.14%	7.38%	9.68%
2 Cost of Equity					
RFR (BRZ Gov't Sec 10Y)	5.13%	6.47%	5.67%	6.13%	6.91%
Equity Market Premium	6.00%	6.00%	6.00%	6.00%	6.00%
Aggregate BRZ Market Return	11.13%	12.47%	11.67%	12.13%	12.91%
Beta Cosan (CSAN3 vs. BVSP)	1.027	1.027	1.027	1.027	1.027
Cost of Equity	11.29%	12.63%	11.83%	12.29%	13.07%
3 Weights D/E					
Book Val LT Debt (bonds + debt)	2,885.46	2,191.23	2,825.50	2,057.75	798.44
# Implied 1000 face value bonds	2,885.46	2,191.23	2,825.50	2,057.75	798.44
Implied periods	10.00	12.00	14.00	16.00	18.00
Market rate return (implied CoD)	9%	11%	10%	10%	11%
Coupon payments	109.67	109.67	109.67	109.67	109.67
Principal repayment	1,000	1,000	1,000	1,000	1,000
Implied market price proxy bond	\$1,113.09	\$1,029.02	\$1,092.48	\$1,060.19	\$1,000.00
Implied Mkt Val Debt	3,211,784	2,254,812	3,086,814	2,181,608	798,438
Share price (BRL)	20.88	10.29	26.94	39.39	28.79
Shares outstanding ('000s)	327,205	272,548	188,886	62,584	318,520
Market Value Equity	6,832,040	2,804,519	5,088,589	2,465,184	9,170,191
Debt + Equity (combined mkt val)	10,043,825	5,059,331	8,175,403	4,646,792	9,968,629
Debt Proportion	32%	45%	38%	47%	8%
Equity Proportion	68%	55%	62%	53%	92%
4 WACC					
AT Cost of Debt	0.080	0.105	0.091	0.074	0.097
Debt Proportion	32%	45%	38%	47%	8%
Cost of Equity	0.113	0.126	0.118	0.123	0.131
Equity Proportion	68%	55%	62%	53%	92%
WACC	10.23%	12.63%	11.83%	12.29%	13.07%
ROIC & IC					
NOPAT <small>END PERIOD</small>	437.571	(30.899)	(90.098)	74.260	-
Invested Capital <small>BEGIN PERIOD</small>	6,881.40	5,740.42	5,042.84	2,262.29	-
ROIC <small>AT</small>	6.36%	-0.54%	-1.79%	3.28%	-
Return Spread	-3.87%	-13.17%	-13.62%	-9.01%	-
Economic Value Added (EVA)	2009	2008	2007	2006	2005
EVA (000's BRL)	(267)	(756)	(687)	(204)	-
Market Value Added (MVA)	2009	2008	2007	2006	2005
Market Value Added (MVA) per year	(241.82)	(671.17)	(614.05)	(181.46)	-
MVA Delta	178%	-9%	-70%	-	-
Standard BRZ Co. Growth Rate	0.06	0.06	0.06	0.06	-
MVA (with BRZ Co. growth rate)	(6,676)	(12,085)	(12,484)	(3,434)	-
MVA w/growth Delta	81%	3%	-72%	-	-

## Table 6: Corporate Governance

### Ownership

On August 30, 2009, the Company's capital stock consisted of 372,810,142 common shares, of which Cosan Limited held 226,707,234, or 60.81%, and Rezende Barbosa Participacoes held 44,300,389, or 11.88%.

Cosan Ltd. itself had 270,687,385 shares traded on the New York Stock Exchange – NYSE on September 30, 2009. The controlling group holds all the class B shares and 16,111,111 class A shares, totaling 41.5% of the Company's total capital and 86.1% of its voting capital.

Source: *Annual Report 2009 Cosan*, p. 76 - 77

Rubens Ometto Silveira Mello seems one of the main private shareholders to be. He is cited as “dono” = owner of Cosan in many websites the internet. He is also Chairman of the board of directors (since 2007) and member of the Board of Executive Directors (since 2007). From 2000 – 2009 he was CEO.

Source: *Annual Report 2009 Cosan*, p. 60

### Board of Directors

Cosan S.A.'s Board of Directors is composed of a minimum of seven and a maximum of 20 members, who establish the general guidelines for the Company's businesses and are also responsible for monitoring the activities of the Board of Executive Officers. At least 20% (twenty percent) members of the Board of Directors must be independent members, as established at Rules of the Novo Mercado, being considered also independents, the members elected by rules of article 141, paragraphs 4 and 5, from Law 6.404/76.

### Board of Executive Officers

The Board of Executive Officer is Cosan's executive body. The executive officers are its legal representatives, responsible for the Company's internal organization and routine transactions, as well as for implementing the policies and general guidelines established from time to time by the Board of Directors.

Source: *Annual Report 2009 Cosan*, p. 61 - 62

### Dividends Policy

As defined by Cosan's by-laws at least 25% of its adjusted net income should be distributed as mandatory annual dividend. Adjust net income is the income which may be distributed before any deductions for statutory provisions and provisions for investment projects.

Source: [http://www.cosan.com.br/cosan2009/web/index\\_pt.html](http://www.cosan.com.br/cosan2009/web/index_pt.html), accessed September 30<sup>th</sup>, 2010

The remuneration of the members of the Board of Directors and Board of Officers shall be established at the General Shareholders' Meeting, individually or globally. In such case the Board of Directors shall decide on the allocation of such remuneration between the members of the Board of Directors and the members of the Board of Officers.

Source: By laws of Cosan, Art. 15, retrieved from: [http://www.cosan.com.br/cosan2009/web/index\\_pt.html](http://www.cosan.com.br/cosan2009/web/index_pt.html), accessed September 30<sup>th</sup>, 2010

### Non-equity stakeholders:

#### Employees

Cosan employs approximately 43,000 people at the peak of harvest and strictly complies with labor legislation. All its employees have employment contracts governed by the Brazilian Consolidated Labor Laws – CLT

#### Community

Cosan consistently invests in the communities in which it operates, developing educational, cultural and health programs with hospitals, blood banks and laboratories.

Since 2002, the Cosan Foundation, a non-profit organization, has carried out several programs in its education and professional centers, including in partnerships with several public and private entities, serving children, teenagers, employees' children and members of the communities where it operates.

#### Environment

Committed to environmental responsibility, Cosan manages its impacts and works to minimize them, adopting intelligent and sustainable means of producing clean, renewable energy for Brazil and the world.

Source: *Annual Report 2009 Cosan*, p. 81 - 90

**Table 7: Working Capital Requirements and Managerial Balance Sheet**

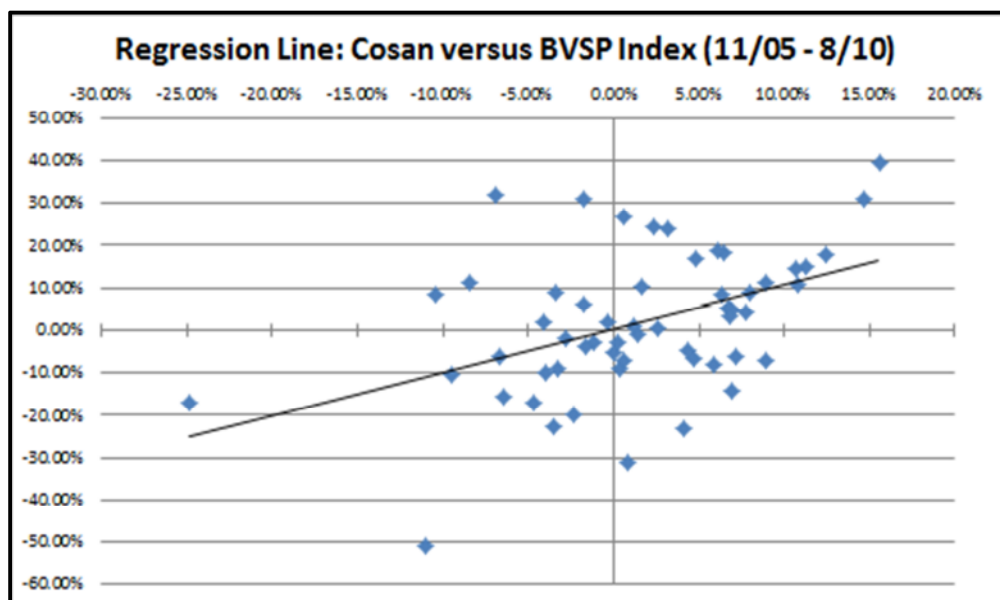
COSAN					
CONSOLIDATED MANAGERIAL BALANCE SHEETS					
Years Ending: Dec 31, 2005 - 2009					
(in thousands of BRL (R\$))					
INVESTED CAPITAL OR NET ASSETS	2009	2008	2007	2006	2005
Cash	719.36	1,010.09	1,217.13	831.52	39.98
Working Capital Requirements (WCR)	1,043.79	761.45	484.68	698.48	300.71
Net Fixed Assets	7,572.48	5,109.86	4,038.61	3,512.84	1,921.59
Total Invested Capital or Net Assets	9,335.63	6,881.40	5,740.42	5,042.84	2,262.29
CAPITAL EMPLOYED	2009	2008	2007	2006	2005
Short-term debt	1,449.50	83.34	88.99	68.78	38.14
Long-term debt	4,520.38	3,472.26	4,020.43	3,618.64	1,461.28
Owners' equity	3,365.75	3,325.80	1,631.00	1,355.42	762.88
Long-term financing	7,886.12	6,798.06	5,651.43	4,974.06	2,224.15
Non-Current Liabilities	9,335.63	6,881.40	5,740.42	5,042.84	2,262.29
Working Capital Requirements (WCR)					
Liabilities LT	4,925.54	3,472.26	4,020.43	3,619.99	1,461.89
- Due to Subsidiaries LT	405.16	-	-	1.35	0.62
+ Total Cosan Stockholders' Equity	3,365.75	3,325.80	1,631.00	1,355.42	762.88
- Total Non-Current Assets	7,572.48	5,109.86	4,038.61	3,512.84	1,921.59
Net Long-Term Financing	313.65	1,688.20	1,612.82	1,461.22	302.56
Debt ST	1,449.50	83.34	88.99	68.78	38.14
Cash & ST Investments	719.36	1,010.09	1,217.13	831.52	39.98
Net Short-Term Financing	730.15	(926.74)	(1,128.14)	(762.74)	(1.85)
WCR	1,043.79	761.45	484.68	698.48	300.71

Table 9: Cosan (CSAN3.SA) Equity Analysis

<b>COSAN</b>					
<b>SHARES OUTSTANDING</b>					
<b>Years: 2005 - 2009</b>					
Number of Shares	2009	2008	2007	2006	2005
Outstand shares	327,205	272,548	188,886	62,584	318,520
Balance date	3/31/2009	4/30/2008	4/30/2007	4/30/2006	4/30/2005
Release date	6/26/2009	7/30/2008	6/19/2007	11/29/2006	11/1/2005
Account method	L.S.	L.S.	L.S.	L.S.	L.S.
Consolidated	Yes	Yes	Yes	Yes	Yes



\* Source: Reuters (Reuters Financials, 2010)



\* Source: own analysis (Beta = 1.027,

**Table 9: Biofuel Industry Overview**



*Source: Cosan Corporate Website (Cosan CC, 2010)*

### **Biofuel Industry Overview**

Biofuel, a rapidly evolving industry, sits at the nexus of change: climate change, growing enthusiasm for sustainability, government policies, the quest for alternative energy sources, expansion in developing economies, and the emergence of new technologies, especially bio-industrial processes and genetic engineering. Biofuel is a broad term used to describe combustible fuel produced via the conversion of (or via the agency of) biomass / organic material. Depending on the particular biomass source and conversion processes applied, resulting derived fuels include ethanol, diesel, bio-oils, bioethers, biogas, syngas, biohydrogen, and solid biofuels (Demirbas, 2009). First generation biofuels derive from processed sugar, starch, vegetable oils, or animal fats, typically extracted from feedstock materials such as sugar cane, maize (corn), wheat, and various seeds.

The global growth of biofuel production has controversially caused the prices of many associated otherwise-edible commodities to soar to parity with oil, resulting in a political backlash based on ethical grounds (Jarrett, 2009). Advancements in process science and intermediaries have led to second generation biofuels, a still developing approach which involves converting non-edible feedstock to biofuel (cellulosic biomass principally). Third generation biofuels, though still in the early development stages, results from advanced genetically engineered organisms producing fuel directly as an output of biotic synthesis (Economist Staff, 2010).

The larger challenge for this nascent industry is that oil is 'baked-in' or systematized into the globalized economy to such a degree that massive systemic supply chain engineering is needed to make biofuel economically feasible. It is worthy to observe that the strongest national biofuel industry is in Brazil, having flourished due to the ability of the Brazilian government to push through systemic, horizontally integrated supply chain solutions (Almeida, December 2007).

**Table 10: Cosan Value Drivers (Reuters)**

<b>Valuation Ratios</b>	<b>Company</b>	<b>Industry</b>	<b>Sector</b>	<b>S&amp;P 500</b>
P/E Ratio (TTM)	16.00	9.87	18.29	16.88
P/E High - Last 5 Yrs.	--	0.01	1.09	24.64
P/E Low - Last 5 Yrs.	--	0.02	0.44	6.17
<b>Growth Rates</b>	<b>Company</b>	<b>Industry</b>	<b>Sector</b>	<b>S&amp;P 500</b>
Sales (MRQ) vs Qtr. 1 Yr. Ago	12.16	14.38	14.33	10.73
Sales (TTM) vs TTM 1 Yr. Ago	71.47	12.11	5.49	5.47
Sales - 5 Yr. Growth Rate	51.84	16.33	10.72	9.96
EPS (MRQ) vs Qtr. 1 Yr. Ago	-97.63	81.00	-3.05	146.48
EPS - 5 Yr. Growth Rate	79.82	8.31	7.51	7.30
Capital Spend - 5 Yr. Growth Rate	57.27	31.00	8.10	7.84
<b>Financial Strength</b>	<b>Company</b>	<b>Industry</b>	<b>Sector</b>	<b>S&amp;P 500</b>
Quick Ratio (MRQ)	1.12	0.70	0.68	0.82
Current Ratio (MRQ)	1.71	1.12	0.92	0.99
LT Debt to Equity (MRQ)	103.58	32.69	24.57	126.85
Total Debt to Equity (MRQ)	120.32	85.10	36.75	182.83
Interest Coverage (TTM)	--	0.04	0.70	28.38
<b>Profitability Ratios</b>	<b>Company</b>	<b>Industry</b>	<b>Sector</b>	<b>S&amp;P 500</b>
Gross Margin (TTM)	14.36	20.56	20.64	32.20
Gross Margin - 5 Yr. Avg.	16.94	28.60	36.37	29.02
Operating Margin (TTM)	6.06	6.23	5.78	--
Operating Margin - 5 Yr. Avg.	3.75	7.64	9.66	16.57
Pre-Tax Margin (TTM)	6.06	6.30	5.82	14.65
Pre-Tax Margin - 5 Yr. Avg.	3.74	8.52	9.75	16.11
Net Profit Margin (TTM)	4.20	5.23	4.35	11.27
Net Profit Margin - 5 Yr. Avg.	2.50	6.48	6.62	11.83
Effective Tax Rate (TTM)	30.79	-54.11	11.00	19.83
Effective Tax Rate - 5 Yr. Avg.	33.24	37.21	31.05	25.68
<b>Efficiency</b>	<b>Company</b>	<b>Industry</b>	<b>Sector</b>	<b>S&amp;P 500</b>
Revenue/Employee (TTM)	408,432	294,176	7,867,117	645,363
Net Income/Employee (TTM)	17,145	25,886	281,531	80,550
Receivable Turnover (TTM)	26.18	0.86	11.96	8.81
Inventory Turnover (TTM)	10.45	0.82	1.79	6.72
Asset Turnover (TTM)	1.16	0.07	0.30	0.55

<b>Management Effectiveness</b>	<b>Company</b>	<b>Industry</b>	<b>Sector</b>	<b>S&amp;P 500</b>
Return on Assets (TTM)	4.88	0.65	2.22	5.88
Return on Assets - 5 Yr. Avg.	1.99	3.33	7.24	5.64
Return on Investment (TTM)	5.95	0.85	4.11	7.49
Return on Investment - 5 Yr. Avg.	2.33	4.28	12.14	7.26
Return on Equity (TTM)	14.33	1.29	6.48	16.60
Return on Equity - 5 Yr. Avg.	6.01	5.92	15.71	10.17

\* *Source: Reuters (Reuters Financials, 2010)*