

(**Disclosure:** i do not own any KO shares, I welcome all feedback. raytoei@gmail.com, August 8th 2009
Addendum: 16th August 2009: Modified and expanded the Peer valuation to include General FMCG Food & Beverage companies)

Relative valuation of Coca-Cola

I bought KO between in 2005 and sold it in 2007. Since last September, the sentiments has grown significantly darker on KO, for example in Dec 2007, Morningstar rated KO as a 4 Star stock at \$51, and gave it an intrinsic value of \$64. However, at the current price of \$49, KO is a 3 star stock, with an intrinsic value of \$55, despite an overall improvement in the business. The focus of this article is to use the relative valuation method to evaluate KO, with the underlying objective of finding out if Coca-Cola is cheap to buy, and calculating the price to buy this blue-chip stock.

In Relative Valuation, the worth of an asset is derived from comparing it against a benchmark. It is similar to the process of buying a house, we derive the buy price from a few sources: we can compare the price against what was sold previously adjusted for inflation; we can also compare the price against the houses with similar characteristics and features, lastly, we can compare it against prices in the neighborhood.

Relative Valuation is different from Cash flow valuation where the value of an asset is the sum of the future cash flows that is generated from the asset discounted to the present. In the example of the house buying, the buy price using the cash flow method could be calculated as the sum of all the monthly rental income that could be derived discounted back to the present. (also referred to as the Bird in Hand principle, a rental income of \$1000 upfront is worth more than a \$1000 rent income two years from now)

Some of the common ratios are listed below.

Ratios	Suitable for	Issues	Who uses it	Comments
Price / Earnings (PER)	Most companies	Does not work with Cyclical companies, and may give false sense of cheapness.	John Neff, Peter Lynch	Earnings should be consistent.
Price / Sales (PSR)	Small companies that are not profitable yet.	Can't ignore profitability or cash flow forever.	Charles Royce	Revenue is more predictable than Earnings.
Price / Book (PBR)	Industrial companies, Financial services ccompanies.	Not suitable for asset light companies: high-tech, brand-heavy.	Walter Schloss	Most conservative
EV/EBITDA	Comparing multiple companies with different depreciation methods.	Usually forward EBITDA are used, which are estimates and not actual earning.	Wall Street	Data may not be readily available.
Dividend Yield	Companies who distributes consistent dividends	Very narrowly focused	Only me :)	Useful as confirmation ratio.

The two questions critical in relative valuation are:

a. Which ratios are relevant for Coca-Cola ?

Some ratios are more suitable than others. The popular ratios and their usage are highlighted below:
 I would select Price to Earnings Ratio (PER), and Dividend Yield as the two common valuation ratios for Coca-Cola. I would use EV/EBITDA if I have access to data of Coca-Cola and its peer companies.

Coca-Cola	Values	Comments	Source
P/E Ratio	18.30x	Trailing12 months	Morningstar
Dividend Yield	3.20%	Trailing12 months	Morningstar
EV/EBITDA	12x	FY 2009	See below

Source of Data	EV/EBITDA 2009 Estimates	Date
Credit Suisse	12.2	21 st July
Deutsche Bank	11.8	21 st July
Average	12x	

b. Which benchmark should the ratios be compared against?

The three most common benchmarks are historical values, overall market values and lastly comparisons against similar companies in the same industry. Each has pros and cons, ideally we want a stock that is cheap against all three benchmarks. There are usually reasons why a stock is cheap, perhaps it is because of pessimism affecting the whole industry, sometimes there is a sell-off in the broader market affecting all stocks, sometimes the issues is specific to the company, what we should look for are temporary problems depressing the share price, problems that do not result in a permanent loss in the business dynamics.

Benchmark	The Ratios Relevant	Comments
Historical Ratios	PER, Dividend Yield,	Comparing against historical company P/E ratio
S&P 500	PER,	Comparing against the overall market
Peer Group / Industry	PER, EV/EBITDA	Comparing against peer companies or companies within the same industry

Relative Valuation is based on the concept of the Reversion to the Mean, if a stock has been selling at an average of 23.8 times earnings for the previous eight years, and it is now selling only at 18.3 times earning with an business model that is still intact, then it is reasonable to expect that the market will recognize this and trade up to the 23.8x times earnings. Of course, one issue with this assumption is that is it rear-mirror looking and not forward looking.

Historic Benchmark	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	TTM
P/E Ratio	59.5	69.4	29.5	27.4	28.7	20.8	19.8	22.3	23.9	18.2	18.3
Average PER	Signature PER is calculated from 2001 to 2008. Excluded are 1999 ~ 2000 as the values are outliers										23.83x

Looking at the P/E Ratio, we can see that the trailing twelve months P/E is at a ten year low. Based on this average P/E, Coca-Cola should be valued at 23.83 times Trailing 12 months EPS of 2.70 = 2.7 x 23.83 = \$64.34.

Market Benchmark	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	TTM
P/E Ratio	59.5	69.4	29.5	27.4	28.7	20.8	19.8	22.3	23.9	18.2	18.3
S&P 500	28.2	24	23.6	19.8	21.1	19	17.3	16.8	16.5	10.9	17.2
Relative to Mkt	2.11	2.89	1.25	1.38	1.36	1.09	1.14	1.33	1.45	1.67	1.06

Calculating the average Relative Market ratio, we get a ratio of 1.33, excluding 1999 and 2000 outliers. This means, the P/E Ratio of KO should be 1.33 times of the S&P P/E ratio, ie. 1.33 x 17.2 or 22.96.

With a calculated P/E ratio of 22.96, KO should trade at 22.96 x 2.70 Trailing EPS or \$62 a share.

Dividend Comparison	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	TTM
Dividend Yield	1.10%	1.10%	1.50%	1.80%	1.70%	2.40%	2.80%	2.60%	2.20%	3.40%	3.20%

Dividend Yield is calculated as Dividend Payout / Share Price. Hence, the 3.20% dividend payout in the trailing twelve months can be interpreted as “for every \$100 invested in Coca-Cola, the shareholder will receive \$3.20 in dividend before taxes”.

The TTM Dividend yield is at the highest for the past ten years, this is due to Coca-Cola increasing its Dividend payout every year (an increase of 11% annually) and as well as a low share price. This validates the P/E ratio that the share price is cheap historically.

Lastly, we complete the Relative valuation by comparing Coca-Cola with its peers. In the previous attempt, I compared KO against other beverage companies such as Pepsico, Hansen Natural and Cott Corp., I also used various data source to blend the EV/EBITDA 2009 estimates. This resulted in a Intrinsic value of \$32.

Refining this further, I decided to expand the peer group to include food and beverage companies in the Fast Moving Consumer group industry (this list comes from the previous Unilever report). The companies are listed in the table below. To be consistent, I used the data from a single data, infinancials.com; the 2009 EBITDA/EV estimates derived in infinancials.com comes from factset consensus estimates.

Peer Valuation / Food and Beverage Industry		EV/EBITDA 2009
Nestle	NESN.VX	9.08
Danone	BN	11.68
Cadbury	CBRY	10.15
Kellogg	K	9.64
General Mills	GIS	8.67
Heinz	HNZ	9.25
Cambell Soup	CPB	8.69
Associated British Foods plc	ABF	7.77
Hershey	HSY	10.62
Lindt	LISN	13.98
Givaudan	GIVN.VX	11.36
Tate & Lyle	TATE	7.39
Barry Callebaut	BARN	8.9
Dr. Pepper Schweppes	DPS	8.11
Pepsi Co	PEP	9.82
Hansen Natural	HANS	7.94
KRAFT ** (newly added from Unilever List)	KFT	9.49
Simple Average		9.56
Coca-Cola	KO	11.87

(Source: Infinitals.com)

Enterprise Value of Coca-Colas is 116,659m, EBITDA of Coca-Cola in 2009 is 9,827m

At the new multiple of 9.56 times, the new EV of Coca-Cola should be 9,827m x 9.56 or 93,947m

Enterprise Value (EV) is defined as = MarketCap + LT Debt Less Cash.;

93,947m = MarketCap + 5,621m – 4500m, New MarketCap become 92,826m

Divide the new marketcap by 2319m shares and the new share price is **\$40.0 per Share.**

Based on industry peer mutiple, KO appears overvalued where it should trade at a fair value of \$40.

Summary

	Historical P/E	Relative to Market	Dividend Yield (Higher = Cheaper)	Relative to Peer / Industry Multiple
Intrinsic Value	\$64.34	\$62	High	\$40

Coca-Cola at the recent price of \$49 trades at a discount of about 25% to its intrinsic value of \$64 calculated using the P/E Ratio analysis. The Market Benchmark analysis and the Dividend yield analysis further strengthens the case that Coca-cola is discounted compared to the S&P Market benchmark and the dividends dished out.

However, Coca-Cola is selling at a premium when compared to its industry peers such as Nestle, Associated British Foods plc, KO has only in a few instances fallen below \$40 in the past 10 years. I would not be too troubled by this valuation metric. This is because KO has one of the best margins in the business and is one of the most recognisable brands in the world.

Valuation is not an exact science, by triangulating several other valuation methods, such as Discount Cash Flow, we can reasonably work out a more complete intrinsic value of Coca-cola.

Ideally, we want to invest in an attractive business at a low price. But as a wise man once said, an attractive business at a reasonable price beats a lousy business at a cheap price, it is imperative that a business analysis is conducted to answer the question of whether Coca-Cola is great business to invest in.