

DEFINITIONS at Capital Market Data

November 22, 2007

Variable	Description
Asset Beta (Unlevered Beta)	This is the beta for the sector, unlevered by the market value debt to equity ratio for the sector: $\text{Asset Beta} = \text{Beta} / (1 + (1 - \text{tax rate}) (\text{Debt/Equity Ratio}))$ See also debt/equity (D/E) ratio and tax rate.
Cap Ex/ Depreciation	Estimated by dividing the capital expenditures by depreciation. For the sector, we estimate the ratio by dividing the cumulated capital expenditures for the sector by the cumulated depreciation and amortization.
Cost of Equity per sector	Estimated using the capital asset pricing model: $\text{Cost of Equity} = \text{Riskfree Rate} + \text{Beta} * \text{Market Risk Premium}$ The average beta for the sector is used. We use the long term treasury bond yield as the riskfree rate, and an estimate for the German market risk premium. (see market risk premium for detail) .
D/E Ratio	D/E Ratio is used to unlever estimated sector equity betas and calculate asset sector betas. It is estimated using cumulated market value of equity for the sector and cumulated total debt (pension reserves and interest bearing debt) for the sector.
Dividend Payout per sector	Estimated by dividing the cumulated dividends for the sector, by the cumulated net income for the sector.
Dividend Payout per sector	Estimated by dividing the cumulated dividends, for the sector, by the cumulated net income for the sector.
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest and taxes, depreciation and amortization. Estimated by adding depreciation and amortization back to operating income (EBIT).
Enterprise Value	Market value of equity + Market value of debt + Market value of pension reserves – Cash. Proxies the value of the firm's unlevered operating assets.

Equity Value/Market Cap	Market Value of Equity is proxied by Market Capitalization (No. of shares outstanding * shareprice).
EV-Value/EBIT	Multiple estimated by dividing the enterprise value by the EBIT Enterprise Value/EBIT = (Market Value of Equity + Value of Debt + Value of Pension Reserves - Cash) / EBIT See also EBIT, Enterprise Value
EV-Value/EBITDA	Multiple estimated by dividing the enterprise value by the EBITDA Enterprise Value/EBITDA = (Market Value of Equity + Value of Debt + Value of Pension Reserves - Cash) / EBITDA See also EBITDA, Enterprise Value
Firm Value	Market Value of Equity + Market Value of Debt + Market Value of pension reserves. Proxies the value of the firm's unlevered total assets.
Market Risk Premium	For the German Stock market we used an estimate taken from a study by Stehle (2004) of 5,5%
n	Number of companies included
Net-D/E Ratio	Net-D/E Ratio is used to unlever estimated sector equity betas and calculate the operating asset sector betas. It is estimated using cumulated market value of equity for the sector and cumulated total debt (pension reserves and interest bearing debt) minus cumulated cash for the sector.
Non-cash ROC (Return on Capital)	Estimated by dividing the EBIT by the book value of invested capital minus cash. We use the cumulated values for both variables, for the sector, to estimate the sector ROC. $ROC = EBIT / (BV \text{ of Debt} + \text{Pension Reserves} + BV \text{ of Equity} - \text{Cash})$
Non-cash ROE	Estimated by dividing the EBT minus income from cash by the book value of equity minus cash. We use the cumulated values for both variables, for the sector, to estimate the sector non-cash ROE. $(EBT - \text{Interest income from cash}) / (BV \text{ of equity} - \text{Cash and Marketable securities})$

operating Asset Beta	<p>This is the beta for the sector, unlevered by the market value net debt to equity ratio for the sector:</p> <p>Unlevered Beta = Beta / (1 + (1- tax rate) (net-Debt/Equity Ratio))</p> <p>See also net-debt/equity (Net D/E) ratio and tax rate .</p>
PE ratio	Forward and Trailing PE ratios are taken from I/B/E/S
Pension Reserves	Market Value Pension reserves is proxied by Book Value of Pension Reserves as found in the balance sheet
Riskless rate	Proxied by the 10y German government's bond yield provided by datastream.
ROC (Return on Capital)	<p>Estimated by dividing the EBIT + Interest Income by the book value of total invested capital. We use the cumulated values for both variables, for the sector, to estimate the sector ROC.</p> <p>ROC = (EBIT+interest income) / (BV of Debt + Pensions + BV of Equity)</p>
ROE (Return on Equity)	<p>Estimated by dividing the EBT by the book value of equity. We use the cumulated values for both variables, for the sector, to estimate the sector ROE.</p> <p>ROE = EBT / BV of Equity</p>
R-squared	Estimated from the daily return regression of sectors' stock returns against market returns, using the last 250 days of data. R-squared proxies the explanatory power of the regression equation being the percent of the variation in stock returns, that is explained by market returns.
Sector multiples	<p>Sector multiples are estimated by applying different (unweighted) aggregation methods:</p> <ul style="list-style-type: none"> - arithmetic mean: unweighted average over sector multiples - median: median value of distribution separates 50% lower from 50% upper values - harmonic mean: first the the unweighted average over the reciprocal values of the sectors multiples is calculated; the reciprocal value of the result is the harmonic mean
Sector Beta (Equity Beta)	Estimated by regressing daily returns on sector index against Prime all share index, using 250 days of data or listed period (if less than 250 days). If data is available for less than 50 days, the beta is not

	estimated.
Tax Rate	We used a tax rate of 35% to proxy the statutory German corporate tax rates (Körperschaftsteuer and Gewerbesteuer)
Trailing and forward multiples	Trailing multiples relate the most recently available earnings figure (EBT, EBIT) to the current market value. 1yForward multiples relate projected next periods earnings figure to current market value. 1yForward earnings estimates are obtained by I/B/E/S consensus beliefs.