

## Definitions &amp; Descriptions of commonly used financial metrics

## VALUATION MULTIPLES

Metric	Definition	Description
<b>EV/EBIT</b>	Enterprise value (Market capitalisation + net interest bearing debt + market value of minorities - market value of associated holdings) divided by adjusted EBIT.	A debt-neutral multiple approximating the value of the firm's cash flows irrespective of its capital structure. Use with caution when comparing the valuation of companies in different countries as it does not take differences in tax regimes into consideration.
<b>EV/EBITA2</b>	Enterprise value (Market capitalisation + net interest bearing debt + market value of minorities - market value of associated holdings) divided by adjusted EBITA before goodwill amortisation (but after amortisation of other intangibles).	A debt-neutral multiple approximating the value of the firm's cash flows irrespective of its capital structure. Use with caution when comparing the valuation of companies in different countries as it does not take differences in tax regimes into consideration.
<b>EV/EBITA</b>	Enterprise value (Market capitalisation + net interest bearing debt + market value of minorities - market value of associated holdings) divided by adjusted EBITA.	A debt-neutral multiple approximating the value of the firm's cash flows irrespective of its capital structure. Use with caution when comparing the valuation of companies in different countries as it does not take differences in tax regimes into consideration.
<b>EV/EBITDA</b>	Enterprise value (Market capitalisation + net interest bearing debt + market value of minorities - market value of associated holdings) divided by adjusted EBITDA.	A debt-neutral multiple approximating the value of the firm's cash flows irrespective of its financing and investment structure. Not a preferred multiple when comparing companies in different industries as differences in capex requirements are not considered.
<b>EV/NOPLAT</b>	Enterprise value (Market capitalisation + net interest bearing debt + market value of minorities - market value of associated holdings) divided by adjusted NOPLAT.	A debt-neutral multiple approximating the value of the firm's after-tax cash flows irrespective of its capital structure, i.e. an expression for a debt-free P/E ratio. Being an after-tax ratio, the problems with different tax regimes is eliminated.
<b>EV/S</b>	Enterprise value (Market capitalisation + net interest bearing debt + market value of minorities - market value of associate holdings) divided by sales.	Used primarily to compare the valuation of companies with no or negative earnings, such as start-ups. Also applicable for companies with highly volatile earnings, such as biotech. Note that since the multiple does not take into account differences in capital intensity or profitability, the multiple is relevant only if the compared companies are very similar in structure and industrial focus.
<b>P/BV</b>	Year-end (historical) or current share price divided by booked value of equity per share for the year.	Compares the booked value of equity to the market value of equity, i.e. a value below 1 indicates that the market value of the stock is less than what the company paid for its assets. Used primarily to compare the valuation of mature capital intensive companies. Use with caution when comparing companies across countries as book values vary depending on accounting standards.
<b>P/CFFO</b>	Year-end (historical) or current share price divided by cash flow from operations per share for the year. CFFO is free cash flow to firm (FCFF) before capital expenditure, i.e. cash flow after changes in working capital.	Similar to P/CEPS. Best used as complement to P/E in cyclical industries where capital expenditure is volatile, such as shipping and airlines. Comparisons between companies with big differences in capital intensity should be avoided.
<b>P/E adjusted</b>	Year-end (historical) or current share price divided by adjusted earnings per share for the year.	Preferred P/E multiple since it is based on earnings that are adjusted for non-recurring items, goodwill amortisation and other irregularities.  However, when comparing P/E multiples between companies in the same industry, it is important to understand that: - higher growth tends to result in higher P/E - higher risk tends to result in higher P/E - low reinvestment needs tend to lead to higher P/E  When comparing companies in different countries or over time, it is important to note that - a low interest rate environment tends to lead to higher P/E - a steeper yield curve tends to lead to higher P/E
<b>P/E reported</b>	Year-end (historical) or current share price divided by unadjusted earnings per share for the year	Most commonly used multiple in relative valuation. For usage comments, see P/E adjusted above.
<b>P/NAV</b>	Year-end (historical) or current share price divided by booked value plus surplus (hidden) values of equity per share for the year.	Compares the booked value of equity plus surplus (hidden) asset values less goodwill to the market value of equity, i.e. a value below 1 indicates that the market value of the stock is less than its intrinsic value. Commonly used multiple for real estate, investment, shipping companies and airlines, where the assets are marketable.
<b>P/opEPS</b>	Year-end (historical) or current share price divided by operating EPS defined as net income before financial net and the tax shield received on the same.	P/E-ratio of a debt free company. Useful as complement to P/E when comparing companies with different capital structures. EV/NOPLAT is preferred if differences in capital structure are significant.
<b>P/S</b>	Year-end (historical) or current share price divided by net sales per share for the year.	Can be used to compare the valuation of companies with no earnings. Use with caution as it will underestimate the valuation of highly leverages companies. A better multiple to use is EV/S.
<b>PEG <i>n</i> years</b>	P/E divided by the expected <i>n</i> -year CAGR of EPS.	Used to compare the valuation relative to growth amongst companies in the same or different sectors. Rule-of thumb is that a ratio less than one signifies a cheap stock.
<b>Yield - Ordinary</b>	The current year's dividend divided by the current share price.	Describes the actual shareholder's return for the specific year through direct transfer of funds. Used as a component in actual total return together with extraordinary dividend yield and share redemptions.
<b>Yield – Ordinary &amp; EO</b>	The current year's ordinary and extraordinary dividends divided by the current share price.	Used as a component in actual total return together with share redemptions.
<b>Yield – Buy-backs</b>	The value of share buy-backs divided by the market value of equity.	Used as a component in actual total return.
<b>Yield – Total cash distribution</b>	The current year's ordinary and extraordinary dividends and share buy-back value divided by the current share price.	Describes the actual shareholder's return for the specific year through direct and indirect transfer of funds. Used to describe the total transfer of funds from the company to the shareholders in a given period.
<b>Yield - FCFE</b>	Free cash flow to equity (FCFE) adjusted for non-recurring cash-flow, which is before acquisitions, divided by the market capitalisation + market value of minorities.	The theoretical distributable return the company generates for its shareholders adjusted for non-recurring cash-flow.  Used to measure the operating return available for debt service, dividend and buy-back capacity. This is the theoretical dividend yield, adjusted for non-recurring cash-flow.
<b>Yield - FCFF</b>	Free cash flow to firm (FCFF) adjusted for non-recurring cash-flow, which is before financial items and acquisitions, divided by the enterprise value.	Used to measure the operating return available for debt service, dividend and buy-back capacity and capex needs. Cash-flow equivalent to WACC adjusted for non-recurring cash-flow.

## DCF VALUATION

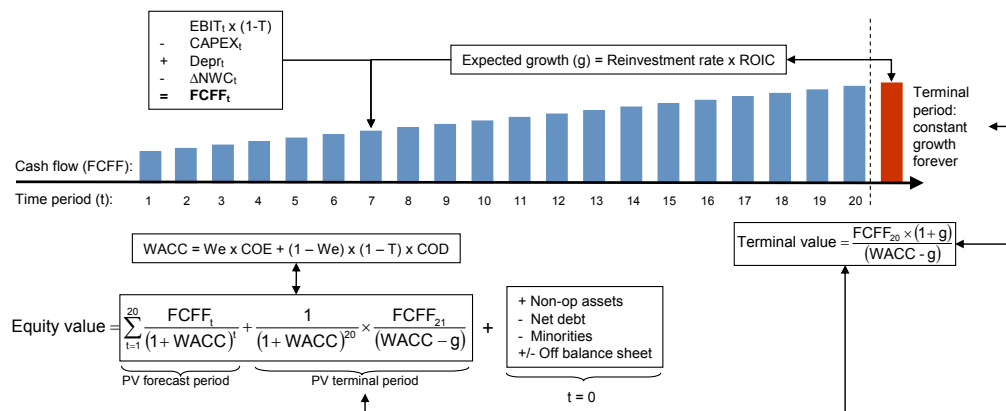
### Description

Handelsbanken equity research employs a fundamental valuation approach whereby the firm's operating cash flows (FCFF) are estimated over a 20 year explicit forecast period.

The cash flows are discounted to present value using the company's estimated WACC (weighted average cost of capital).

Following the explicit forecast period, the company is assumed to grow at a constant rate (g) in eternity, whereby the value of the residual period is calculated as a perpetuity.

In order to arrive at the equity value, the value of net debt and minorities are deducted from, while the market value of associated companies and other non-operating assets is added to the sum of the present values of the FCFF-streams.



Metric	Definition	Description
<b>Corporate tax rate (T)</b>	The corporate tax rate in the country in which the company is domiciled adjusted for any deviations emanating from the taxation of foreign subsidiaries.	Used to calculate the after-tax operating cash flows, and to calculate the tax-shield received on interest payments when calculating WACC.
<b>Cost of debt (COD)</b>	The cost of borrowing before tax for a firm. The size is determined by the current and expected credit rating and the duration of the loan portfolio.	Used as one of the weighted capital cost components in the calculation of WACC.
<b>Cost of equity (COE)</b>	The risk free interest rate + the risk adjustment factor x equity market risk premium + small cap risk premium (if any)	Used as discount factor in the valuation of a company's equity (e.g. in the dividend discount model), and as one of the weighted capital costs in the calculation of WACC.
<b>DCF value per share</b>	The value per share as returned by the DCF model. The DCF value divided by the fully diluted issue adjusted number of shares. If the value of any incentive program is significant, undiluted number of shares must be used.	Used as a measure of the long term value of the company, not necessarily a target price.
<b>Equity risk adjustment factor (Be)</b>	The expected company specific risk coefficient, i.e. how much more (or less) risky an investment in the company is compared the equity market average. Not calculated as historical beta, but based on a calculated 10-year volatility and translated into an index.	Used to create a company specific risk premium in the calculation of cost of equity.
<b>Equity risk premium (Rp)</b>	The expected equity market risk premium, i.e. the average return expected over and above the return received on a risk free investment.	Used in the calculation of cost of equity.
<b>Equity weight used in WACC (We)</b>	The share of equity (market valued) in operating capital.	Used to calculate the weight of equity and debt in WACC.
<b>Growth in sustainable period (g)</b>	The expected nominal growth in sales, cash flow, the balance sheet, etc. in the terminal period, i.e. the period from the end of the explicit forecast period into eternity.	Used in the calculation of terminal value. May not be equal to or exceed WACC. Should not significantly exceed expected inflation if the forecast period is long.
<b>Risk free interest rate (Rf)</b>	The country-specific expected 10-year interest rate of a government bond.	Used in the calculation of cost of equity.
<b>Small Cap Premium (SCP)</b>	An extra risk premium added to cost of equity in order to compensate for small-company risk. Guideline ranges for market cap (EURm): <0.5bn = 4%, 0.5-1bn = 3%, 1-3bn = 2%, 3-5bn = 1%.	Used to adjust the cost of equity to extra risks relating to the size of the company being valued which are not incorporated in the risk adjustment factor or the estimates, such as illiquidity of the share. The size of the premium is subject to the analyst's discretion.
<b>Weighted average cost of capital (WACC)</b>	$We \times COE + (1 - We) \times (1 - T) \times COD$	The weighted demand placed on the company by the stakeholders. Used in the present value calculations of cash flows in firm valuation DCF. The denominator is FCFF.

## DCF CHECKPOINTS

Metric	Definition	Description
<b>Economic break-even EBITA-margin</b>	$WACC \times \text{invested capital} / \text{sales} \times (1-T)$	The EBITA-margin required to generate cash flow so that ROIC = WACC, i.e. for the company to reach economic break-even.
<b>Implicit ROIC</b>	$g / (1 - FCFF/NOPLAT)$	Shows the implicit ROIC assumed during the terminal/sustainable period. Assumes that FCFF-NOPLAT in the last explicit forecast year is less than zero and that the difference is a measure of the investments required to generate the growth (g). Should not deviate much from WACC. Not a very useful measure for capital unintensive companies.
<b>Implicit Equity weight</b>	The DCF value divided by the DCF plus net debt.	The equity weight if equity is valued according to the DCF model. Should not deviate much from the We used in the calculation of WACC (unless very small companies with high financial leverage, in which case the implicit equity weight would underestimate WACC).
<b>Sustainable period value/total DCF value</b>	The present value of the cash flows generated in the sustainable period divided by the total firm DCF value.	A measure of how much of the company's present value is assumed to be generated in the terminal/sustainable period. Typically, for a company with an explicit forecast period of 20 years, the figure should be around 35-40%.

**PROFITABILITY**

Metric	Definition	Description
<b>ROE excl minorities</b>	Net income less discontinued operations divided by average shareholders' equity excluding minorities.	A measure of how well a company uses reinvested earnings - i.e. what's left after funds have been distributed to the shareholders - to generate new earnings adjusted for non-recurring events.
<b>ROE incl minorities</b>	Net income before minority interests excluding discontinued operations divided by the average shareholders' equity including minority interests.	A measure of how well a company uses reinvested earnings - i.e. what's left after funds have been distributed to the shareholders - to generate new earnings adjusted for non-recurring events.
<b>After-tax ROIC excl goodwill</b>	Net operating profit less adjusted taxes (NOPLAT) divided by the average invested capital excluding goodwill.	A measure of how effectively a company uses the invested capital. Useful when comparing operating performance over time and between companies in different tax regimes.
<b>After-tax ROIC incl goodwill</b>	Net operating profit less adjusted taxes (NOPLAT) divided by the average invested capital including goodwill.	Used as a measure of how effectively a company uses the invested capital. The after-tax ROIC is also used against WACC as a measure of value creation.
<b>ROIC excl goodwill</b>	EBITA before goodwill amortisation divided by average invested capital excluding goodwill.	Useful when comparing operating performance over time and between companies in the same tax regime.
<b>ROIC incl goodwill</b>	Adjusted EBITA before goodwill amortisation divided by the average invested capital including goodwill.	Differs from ROCE (return on capital employed) in that ROIC is net of cash.  Used as a measure of how effectively a company uses the invested capital.  The after-tax ROIC is also used against WACC as a measure of value creation.
<b>ROA</b>	Net income before minorities and excluding discontinued operations divided by average total assets.	Used to compare the profitability of companies in the same sector. The figure will vary significantly across sectors depending on the level of capital intensity. A low asset turnover will result in a low ROA.

**CAPITAL MEASURES**

Metric	Definition	Description
<b>Enterprise value (EV)</b>	Market capitalisation plus net interest bearing debt less the market value of associated companies plus the market value of minorities less the market value of other operating assets.	The market value of the firm irrespective of capital structure, i.e. the market value of the companies invested capital. Used in the calculation of EV-multiples, i.e. so called debt neutral multiples such as EV/S, EV/EBITDA or EV/EBIT.
<b>Invested capital excluding goodwill.</b>	Tangible fixed assets + intangible fixed assets + net working capital (excluding cash) - goodwill.	A measure of all capital invested into the company's operations, i.e. assets that generate operating cash flow. Average invested capital is used as nominator in the calculation of ROIC excluding goodwill.
<b>Invested capital including goodwill</b>	Tangible fixed assets + intangible fixed assets + net working capital (excluding cash).	A measure of all capital invested into the company's operations, i.e. assets that generate operating cash flow. Average invested capital is used as nominator in the calculation of ROIC.
<b>Market capitalisation</b>	Calculated as the company's diluted number of outstanding of shares multiplied by the share price.	The value of the equity priced at the current share price.
<b>Market value of minorities' stakes in subsidiaries.</b>	If the subsidiaries are listed, the market capitalisation is used, otherwise, if the assessed values are substantial, a calculated value based on DCF, sum-of-the-parts or other valuation methodologies are used. Otherwise, the booked value is applicable.	Used in the calculation of enterprise value and as a component in DCF valuation.
<b>Market value of shares &amp; associated companies</b>	If the assessed value is substantial and a liquid market does not exist, a fair value based on DCF, sum-of-the parts or other valuation methodologies should be used. Otherwise, the booked values will be used.	Used in the calculation of EV-multiples and as a component in a DCF calculation.
<b>NAV - Net asset value</b>	Shareholders equity plus convertible debt less goodwill plus surplus values.	A measure of the market value of equity based on the market value of the underlying assets.
<b>Net interest bearing debt</b>	Short and long term interest bearing debt + pension provisions + convertible debt less cash and marketable financial holdings.	The net capital provided by debt lenders.
<b>Net working capital</b>	Current non-interest bearing liabilities less current non-interest yielding assets.	Non-interest bearing short-term assets and liabilities necessary for or available to the company.

**CASH FLOW**

Metric	Definition	Description
<b>Cash flow from operations (CFFO)</b>	Cash flow before capital expenditures, net acquisitions and corporate actions, i.e. FCFE before capital expenditures.	A measure of how much cash is available for reinvestment.
<b>Free Cash Flow to Equity (FCFE)</b>	FCFF less financial net, less paid tax on financials.	After-tax free cash flow available for distribution to shareholders, i.e. the amount of cash the firm theoretically can distribute as dividends. Used as basis for equity valuation when valuing the company's equity according to the dividend growth model.
<b>Free Cash Flow to Firm (FCFF)</b>	NOPLAT less increases in net working capital less capital expenditure, plus depreciation & amortisation.	The after-tax free cash flow generated by the firm, attributable to the stakeholders (debtors and shareholders). Used as basis in firm valuation according to DCF. As opposed to NOPLAT, FCFF is assumed to contain (economic) growth investments. The nominator in the present value calculations is WACC.
<b>Funds from operations (FFO)</b>	After-tax cash flow before capital expenditure and increase in net working capital, i.e. FCFF + capex + increase in net working capital	Used primarily as the denominator in financial ratios expressing a company's ability to service its debt obligations, such as FFO interest coverage, FFO/Total debt, FFO/Net debt.
<b>NOPLAT</b>	Operating profit after imputed tax on operating income, i.e. EBITA less tax on EBITA.	Used as a proxy for after-tax operating cash flow before growth investments. If ROIC is assumed to equal WACC (in the residual period), the residual value is calculated as NOPLAT/WACC, i.e. growth investments = 0. Used in the calculation of DCF-related ratios, such as implicit ROIC.

## PER SHARE DATA

Metric	Definition	Description
<b>EPS, adjusted</b>	Net profit after minorities, including discontinued activities, adjusted for non-recurring items, such as capital gains, impairment write-offs and some restructuring charges not deemed a part of the ongoing business, i.e. items that have none or little impact on future cash flows or future reported income, divided by the average diluted and issue adjusted number of shares.	Used to portray the company's normalised earnings attributable to the shareholders.
<b>EPS, reported</b>	Net income after minorities, excluding discontinued operations, divided by the fully diluted, issue adjusted average number of shares.	Used to portray the actual earnings attributable to the company's shareholders.
<b>EPS, operating</b>	Net income after minorities but before discontinued operations plus interest on warrants with the tax shield on financial net added back.	A measure of net profits as if the company were debt free, i.e. earnings attributable to both share holders and debt holders.
<b>DPS, ordinary</b>	Ordinary dividend divided by the average diluted and issue adjusted number of shares.	The ordinary distribution of funds to the shareholders as stipulated by the company's dividend policy. A measure of the company's earnings that are not needed for reinvestment.
<b>CFFO/share</b>	CFFO (see definition of CFFO) divided by the fully diluted, issue adjusted average number of shares.	Used as a measure of how much cash from operations is attributable to the shareholders. Differs from FCFE/share in that it CFFO is before capital expenditures.
<b>FCFE/share</b>	FCFE (see definition of FCFE) divided by the fully diluted, issue adjusted average number of shares.	FCFE/share is the cash that the company in theory can distribute to its shareholders, i.e. a theoretical dividend.
<b>FCFF/share</b>	FCFF (see definition of FCFF) divided by the fully diluted, issue adjusted average number of shares.	The free cash flow per share attributable to the owners of the firm (shareholders plus debt holders), i.e. the cash available for payment of interest on debt and dividends to shareholders.

## EFFICIENCY

Metric	Definition	Description
<b>Cash conversion cycle (CCC)</b>	Days inventory outstanding plus days sales outstanding minus days payable outstanding ( $CCC = DIO + DSO - DPO$ ).	A measure of the company's cash conversion efficiency. Shows the average number of days it takes for the company to convert its working capital (or resource input) to cash flows. Expressed another way, the average number of days money is tied up in production and sales before cash is generated.
<b>Days inventory outstanding (DIO)</b>	Inventories divided by cost of goods sold (COGS), multiplied by 365 if annual COGS.	One of three measures of cash conversion efficiency (CCC). The average number of days it takes to turn inventories (raw materials) into cash.
<b>Days payable outstanding (DPO)</b>	Accounts payable divided by cost of goods sold (COGS), multiplied by 365 if annual COGS.	One of three measures of cash conversion efficiency (CCC). Measures the average number of days before trade creditors are being paid.
<b>Days sales outstanding (DSO)</b>	Accounts receivables divided by net sales, multiplied by 365 if annual sales.	One of three measures of cash conversion efficiency (CCC). Shows the average number of days required to turn receivables into cash.
<b>Sales to invested capital incl GW</b>	Sales divided by average invested capital including goodwill.	Used to measure how effectively a company's invested capital create revenue. Less useful for trend analysis and when comparing companies because of the goodwill.
<b>Sales to invested capital excl GW</b>	Sales divided by average invested capital excluding goodwill.	Used to measure how effectively a company's operating assets create revenue. Useful for trend analysis and when comparing companies.
<b>Net working capital to sales</b>	Average net working capital divided by sales.	Used to measure the additional working capital needed to generate new revenue.
<b>Current ratio</b>	Current assets (less cash) divided by current liabilities.	A measure of short-term financial stability, i.e. a company's ability to meet short-term obligations with assets that should be possible to turn into cash in the near term.
<b>Quick ratio</b>	Current assets excluding cash and inventories divided by current liabilities.	Also known as "acid test". A measure of short-term financial stability, i.e. how well a company is able to meet its shortest-term liabilities with assets are quickest to turn into cash (inventories are not considered in this ratio).
<b>Turnover - Net working capital</b>	Sales divided by average net working capital.	Important measure of how well a company manages its working capital. An improving (higher) turnover indicates that the company is able to generate more sales from its working capital.
<b>Turnover - Invested capital</b>	Net sales divided by average invested capital including goodwill (see definition of invested capital).	A metric describing a company's capital intensity. Measures how effectively a company's sales are generated by investments in operating assets. Useful in intracompany as well as intercompany comparisons.
<b>Turnover - PP&amp;E</b>	Tangible assets divided by average total assets.	A metric used to describe a company's capital intensity. Useful when comparing how effectively sales are generated by investments in fixed assets between capital intensive companies.
<b>Turnover - Total assets</b>	Net sales divided by average total assets.	A metric used to describe a company's capital intensity. Less useful in an interfirm comparison due to the numerator's mix between tangible and intangible assets.

## FINANCIAL RATIOS

Metric	Definition	Description
<b>Interest coverage - traditional</b>	EBIT + interest income divided by interest cost.	A measure of a company's ability to pay interest on its debt obligations.
<b>Interest coverage - EBIT</b>	EBIT divided by net financial items.	A measure of a company's ability to pay interest on its debt obligations (net of cash).
<b>Interest coverage - EBITDA</b>	EBITDA divided by net financial items.	A more cash flow-like measure of a company's ability to pay interest on its debt obligations (net of cash) than EBIT interest coverage.
<b>Interest coverage - FFO</b>	FFO (funds from operations) divided by net financial items.	A measure of a company's ability to pay interest on its debt obligations (net of cash) with cash flow from its operations (before changes in working capital and capital expenditures).
<b>Equity (incl Minorities) to Total assets</b>	Equity including minorities divided by total assets.	A measure of long-term financial strength. Used as a measure to describe a company's ability to meet its long-term obligations and withstand troughs in the business cycle. Not so useful in intercompany comparisons due to its inclusion of goodwill in the numerator.
<b>FCFF/Total debt</b>	Free cash flow to firm divided by total interest bearing debt.	A measure of a company's ability to service all interest bearing debt (including pensions and convertible debt) through its operations.
<b>FFO/Net debt</b>	Funds from operations divided by net interest bearing debt.	A measure of a company's ability to service its debt obligations (net of cash) through cash flow from operations (excluding changes in working capital and before capital expenditures).

**FINANCIAL RATIOS (continued)**

<b>Metric</b>	<b>Definition</b>	<b>Description</b>
<b>FFO/Total debt</b>	Funds from operations divided by total interest bearing debt.	A measure of a company's ability to service its debt obligations with operating cash flow (excluding changes in working capital and before capital expenditure).
<b>Net cash flow/Capex</b>	Net cash flow divided by capital expenditure.	A measure of a company's ability to reinvest funds into its operations after all claims have been serviced.
<b>Net debt/ market capitalisation</b>	Net interest bearing debt divided by market capitalisation.	A company's financial leverage based on market value of equity.
<b>Net int bearing debt/ EBITDA</b>	Net interest bearing debt divided by EBITDA (earnings before interest, taxes, depreciation and amortisation)	A close-to-cash based measure of a company's ability to service its debt obligations through its operations.
<b>Net int bearing debt/ Equity &amp; Minorities</b>	Net interest bearing debt divided by shareholders equity including minorities.	A measure of a company's long-term financial strength and financial gearing/leverage. Use with caution in the presence of a large intangible asset base and/or where the booked values of assets deviates significantly from the market values.
<b>Net int payments/ Net debt</b>	Financial net divided by average net debt.	A company's average net cost of debt.
<b>Operating assets gearing</b>	Invested capital excluding goodwill divided by equity including minorities.	A measure of how much of the capital invested into the firm is attributable to the shareholders.
<b>Short term debt/ Capitalisation</b>	Short term interest bearing debt divided by market capitalisation.	Short-term financial gearing based on market value of equity.
<b>Long term debt/ Capitalisation</b>	Long term interest bearing debt divided by market capitalisation.	Long-term financial gearing based on market value of equity.
<b>Total debt/ Capitalisation</b>	Total interest bearing debt divided by market capitalisation.	A measure of a company's financial gearing based on market value of equity. Besides interest bearing borrowings, total debt includes pensions and convertible debt.