



EUROPEAN SECURITIES NETWORK

Definition Guide

(Data, Ratios and Methodologies)

32° RELEASE

8 September 2025



Index

OVERALL DEFINITIONS.....	3
PER SHARE ITEMS (if not differently specified all items are (EUR))	6
MARKET CAPITALISATION (if not differently specified all items are (EUR m))	7
ESN ACTIVE COVERAGE DEFINITION	8
ESN INDUSTRIAL SECTOR DEFINITIONS	9
ESN INSURANCE SECTOR DEFINITIONS.....	25
ESN BANKING SECTOR DEFINITIONS	31
ESN REAL ESTATE SECTOR DEFINITIONS	38
WACC & “g” calculation guidelines for ESN Members	43
ESN DCF (Discounted Cash Flow) Model	45
Definition of Zero Growth Value (ZGV).....	46
Zero Growth Value (ZGV) vs. Value of Growth	47
Methodology for the calculation of the “Levered Beta”	49



OVERALL DEFINITIONS

Senior analysts

“Senior” analysts are those analysts who have more than **5 years of experience** in the industry. An analyst is not allowed to define himself/herself as “senior” if he/she has less than 5 years experience in the industry and if his/her seniority is not confirmed by the local Head of Research.

ESN stocks subdivision

- **Blue Chips:** stocks **over EUR 5bn** of market capitalisation
- **Mid Caps:** stocks **less than EUR 5bn** and **more than EUR 0.5bn** market capitalisation
- **Small Caps (and Micro Caps):** stocks **less than EUR 0.5bn** market capitalisation

ESN Recommendation System (or ESN Rating System)

The ESN Recommendation System is **Absolute**. It means that each stock is rated based on **total return**, measured by the upside/downside potential (including dividends and capital reimbursement) over a **12-month time horizon**. The final responsible of the recommendation of a listed company is the analyst who covers that company. The recommendation and the target price set by an analyst on one stock are correlated but not totally, because an analyst may include in its recommendation also qualitative elements as market volatility, earning momentum, short term news flow, possible M&A scenarios and other subjective elements.

The ESN spectrum of recommendations (or ratings) for each stock comprises 5 categories: **Buy, Accumulate (or Add), Neutral, Reduce and Sell (in short: B, A, N, R, S)**.

Furthermore, in specific cases and for a limited period of time, the analysts are allowed to rate the stocks as **Rating Suspended (RS)** or **Not Rated (NR)**, as explained in the box below.

Meaning of each recommendation/rating and expected total return

Buy:	the stock is expected to generate total return of over 15% during the next 12 months.
Accumulate:	the stock is expected to generate total return of 5% to 15% during the next 12 months.
Neutral:	the stock is expected to generate total return of -5% to 5% during the next 12 months.
Reduce:	the stock is expected to generate total return of -5% to -15% during the next 12 months.
Sell:	the stock is expected to generate total return under -15% during the next 12 months.
Rating Suspended:	the rating is suspended due to: a) a capital operation (take-over bid, SPO, etc.) where a Member of ESN is or could be involved with the issuer or a related party of the issuer; b) a change of analyst covering the stock; c) the rating of a stock is under review by the Analyst.
Not Rated:	there is no rating for a stock when there is a termination of coverage of the stocks or a company being floated (IPO) by a Member of ESN or a related party of the Member.

Certain flexibility on the limits of the total return bands is permitted especially during higher phases of volatility on the markets.



Total return

Total return is measured as **Upside or Downside Potential** of a stock calculated mathematically as % difference between target price and current price.

Upside or Downside potential (%) = (Target Price/Current Price-1)*100 (%)

The upside potential includes also dividends and might include other qualitative elements subjectively considered by the analyst.

“Fair Value” of a stock

Fair Value is the intrinsic present value of a stock resulting from specific fundamental financial analysis methodologies; mainly it comes from Discounted Cash Flow (DCF) models. This implicitly assumes that the financial markets are efficient.

“Target Price” of a stock

Target Price is the intrinsic present level of the potentially reachable price by a stock within a foreseeable time horizon (12 months), taking into consideration the financial market conditions and the analyst personal feeling on the stock. This implicitly assumes that the financial markets are not efficient.

Benchmark Index

Local Benchmark index is the pertinent Index in the Stock Exchange of the listed Company: e.g. BC, MSC, main or segment index (to be cross checked with Refinitiv or Bloomberg code vs. index components).

Sector Benchmark index is the pertinent STOXX European TMI Sector Index of the listed Company (to be cross checked with Refinitiv or Bloomberg code vs. STOXX classification).

Termination of Coverage procedure

When an analyst ends the coverage of a stock, he must:

- 1) produce an Analyser to officially communicate the Termination of Coverage of the stock and, possibly, the motivation
- 2) upload the Input Sheet of the stock in the ESN Database changing a) the recommendation to "Not Rated" and b) setting the target price = 0.

Years to be presented (i.e. in the quantitative summary at the end of each company report)

All quantitative information will be presented for 6 years: three former years (t-3; t-2; t-1), the current year (t), and two more forecasted years (t+1; t+2). In the quantitative table on the front page of each report, the years presented are 3: 1 historic (t-1) and 2 forecasted (t and t+1).

If a company has a broken fiscal year, the definition will be adjusted: backward in case of a broken fiscal year that ends at 30 June (or before) and forward in case of a broken fiscal year that ends at 1 July (or later) in the year.



CAGR (Compound Average Growth Rate)

CAGR is the estimated % change in the normative growth rate of an “item” (i.e. the EPS growth used to calculate the PEG ratio = (P/E)/EPS growth).

As ESN standard, we calculate the CAGR on 6 years horizon; it means 5 periods.

If the 6 years are: three former years (t-3), (t-2), (t-1), current year (t) and two estimated years (t+1), (t+2); the CAGR formula is as follows (normally reported in %).

CAGR (i.e. EPS): = [EPS(t+2)/EPS(t-3)^1/5]-1

Normative CAGR: is subjectively suggested by the analyst for each company.

Stock code or ticker

Company ticker or code is the company name defined by Bloomberg, Refinitiv, ISIN, Sedol, FactSet or other codes. At least the Bloomberg and Refinitiv codes must be reported on the front page of each company report.

Price¹

We calculate the share price according to Datastream or Factset Quant databases.

Current price: “**Closing Price**” of the day before for current and future years.

Fiscal year end date closing price: for past years.

Currency symbols

Euro: symbol “**EUR**”, if possible, not € nor Eur nor others (i.e. EURO)

British Pound: symbol “**GBP**”; while **Pence**: symbol “**GBp**”

US Dollar symbol is “**USD**”, if possible, not \$ nor US\$

N.B.: accounting or reporting currency may differ from price currency or market price, for this reason the currency used is specified in each report.

Other symbols

Billion is “**bn**”

Million is “**m**”

Thousands is “**k**”

Language

The ESN language is **British English**.

¹ N.B.: ideally the switch from current price to the yearly historical average price would have been made when FY data will be released (i.e. for the majority of the companies usually it happens in February/March of the following year), it means that it has to happen when those data become historical data and no more estimated, but in our database current prices are used from the start of each fiscal year (1 January).



PER SHARE ITEMS (if not differently specified all items are (EUR))

Per Share (PS) Items are classified into “basic” and “diluted” depending on the number of shares considered:

- a) **Basic: the Item is divided by number of “Average OUTSTANDING Ordinary Shares”** (including “Ordinary shares equivalent”, e.g. for Italy and Germany, including Savings and/or Preference Shares) for historical, current and estimated data. Analysts have to update the outstanding number of shares every quarter. The number of shares is calculated by adjusting the shares in issue at the beginning of the period by the number of shares bought back or issued during the period, multiplied by a time-weighting factor.
- b) **Diluted: the Item is divided by number of “Average DILUTED Ordinary Shares”** (for Italy and Germany, including Savings and/or Preference Shares) for historical, current and estimated data. The number of shares is calculated by adjusting the shares in issue at the beginning of the period by the number of shares bought back or issued during the period, multiplied by a time-weighting factor. Furthermore, **the Dilution is decided by each analyst** (due to stock options, warrants, convertible bonds). The dilution is always considered when expiration of the instrument is within the year and/or the call option is in the money at the current price.



MARKET CAPITALISATION

(if not differently specified all items are (EUR m))

N° Ordinary Shares (outstanding)

N° Ordinary Shares (outstanding) = Total amount of outstanding Ordinary shares.

This figure is used to calculate Market Cap.

Analysts have to update the outstanding number of shares every quarter.

Market Capitalisation (Market Cap)

Market Capitalisation for current and future years is calculated as the current price of the ordinary share times the current total amount of outstanding Ordinary shares.

Market Capitalisation for historic years is calculated as fiscal year end date closing price of the Ordinary shares times yearly weighted average of the Ordinary shares.

Furthermore, if a company has more than one category of shares, but the additional category (ies) is NOT QUOTED, the analysts should link the price of the quoted listing to the number of shares of the non-quoted category. In doing this, you can assume that the price of the quoted listing can be applied to the non quoted shares.

Market Value of Preferred Shares (MV Pref.)

For historic years calculated as the fiscal year average estimated MV of any preferred shares. For current and future years calculated as the current estimated MV of any pref. shares.

Total Market Cap or Market Cap (adj.)

Market Cap + MV Pref.



ESN ACTIVE COVERAGE DEFINITION

The definition of "Active Coverage" applies to every Blue Chip, Mid Caps and Small Caps covered by the equity analysts of Members of ESN.

Active Coverage requires the following (for each company under coverage):

- 1) Detailed spread sheet uploaded in the ESN Database
- 2) Estimates for at least current year plus two more forecasted years
- 3) At least 1 full long report a year (*) including:
 - a) DCF valuation and pan-European peers comparison (market multiples), explaining the main changes versus the previous valuation
 - b) description of the company strategy
 - c) competitive analysis
- 4) At least 3 company notes per year including flash notes, preview and post view together with comments on the most relevant news with a market impact
- 5) At least 3 meetings with the company (or private visits or company presentation) per year
- 6) Continuous telephone access to the company
- 7) Access to get the investor relation for road shows in any ESN country
- 8) Capacity to set up private visits of clients with the management in the country of the company
- 9) Significant access to the management of the company (for Small Caps only)

(*) *at least 15 pages including summary pages, disclaimers (ESN common disclaimer and local disclaimer) and final pages with the full ESN coverage*



ESN INDUSTRIAL SECTOR DEFINITIONS

PROFIT & LOSS ITEMS (if not differently specified all items are (EUR m))

Sales

Published consolidated net sales, excluding other revenues.

Gross Margin (only for Advertising companies)

Advertising companies have to show the gross margin line, this corresponds to all services invoiced to clients by advertising agencies. For advertising companies' sub-sector only, the sales line corresponds to gross margin plus re-invoicing of "space" bought for advertising.

Cost of Sales & Operating Costs (including Personnel Expenses)

This item includes the main operative costs of the company including the Personnel Expenses (showed separately below) such as: cost of sales, selling expenses, general and administrative expenses, research and development expenses, service costs and all the other recurrent operating costs.

Personnel Expenses

Wages and salaries, social security contributions, severance pay costs, costs related to other defined-benefit plans, costs related to defined-benefit plans, employee disputes, reorganisation costs, other costs.

Non Recurrent Expenses (Income)

As reported in the P&L of the company.

Examples of these include the following:

- bad debt and write-downs of other assets (excluding general provisions for credit risks);
- income from grants, where this is not matched with equivalent expenditure;
- major claims cost not covered by insurance;
- cost of industrial disputes;
- income and expenditures arising from supplementary amendments to pension plans;
- expenditures on company anniversaries;
- expenditures on significant changes in distribution systems;
- one-off sales costs (i.e.: to develop new market);
- costs of stock market flotation or of raising equity capital.



EBITDA (Reported)

EBITDA = Earnings Before Interest, Tax, Depreciation & Amortisation.

EBITDA is defined as operating result after operating exceptional items (e.g. restructuring costs, start-up costs, etc.), before Depreciation, Amortisation & Write Downs, before Interest (also on pension provision for Germany), Associates & Tax.

EBITDA = Sales - Cost of Sales & Operating Costs (including Personnel Expenses) -/+ Non Recurrent Expenses (Income).

EBITDA (Adjusted or Current)

EBITDA (Adjusted or Current) = Sales - Cost of Sales & Operating Costs (including Personnel Expenses) = EBITDA (Reported) +/- Non Recurrent Expenses (Income).

EBITDAR (only for Airlines)

EBITDAR = EBITDA before Rents. Rents correspond to operating leases.

Depreciation

Systematic allocation of the depreciable amount of a tangible asset (e.g. property, plant, equipment, etc.) into an operational expense over its estimated useful life.

Depreciation of Right-of-Use

Corresponds to the capital share related to lease rents, recorded under the asset as Right-of-Use considering a certain depreciation period. The depreciation period for the right-of-use asset is calculated from the lease commencement date to the earlier between the end of the lease term or the end of the useful life of the asset.

EBITA (reported)

EBITA = Earnings Before Interest, Tax & Amortisation.

EBITA = Sales - Cost of Sales & Operating Costs (including Personnel Expenses) -/+ Non-Recurrent Expenses (Income) - Depreciation - Depreciation of Right-of-Use.

EBITA is like EBIT but strips out Amortisation and Write Downs. This parameter is a more correct measure of the operational profitability as it excludes amortisations and most of the write downs.

EBITA (Adjusted or Current)

EBITA (Reported) +/- Non-Recurrent Expenses (Income).

Amortisation

Systematic allocation of the depreciable amount of an intangible asset (e.g. goodwill, trademarks, patents, etc.) over its estimated useful life.



Purchase Price Allocation (PPA)

Application of goodwill accounting whereby one company (the acquirer), when purchasing a second company (the target), allocates the purchase price into various assets and liabilities acquired from the transaction. Outside the United States, the International Accounting Standards Board governs the process through the issuance of IFRS 3.

Write downs and impairments

Downward adjustment in the accounting value of an asset. The book value of an asset is reduced because it is overvalued compared to its market value.

EBIT (Reported)

EBIT = Earnings Before Interest and Tax.

EBIT is defined as operating result after Depreciation, Amortisation & Write Downs, before Interest (also on pension provision for Germany), Associates & Tax.

EBIT (Reported) = Sales - Cost of Sales & Operating Costs (including Personnel Expenses) – Non-Recurrent Expenses (+ Non-Recurrent Income) - Depreciation - Depreciation of Right-of-Use - Amortisation & Write Downs.

EBIT (Adjusted or Current)

EBIT (Adjusted or Current) = EBIT (Reported) + Non-Recurrent Expenses (- Non-Recurrent Income) – Purchase Price Allocation. EBIT (Adjusted or Current) = Sales - Cost of Sales & Operating Costs (including Personnel Expenses) - Depreciation - Depreciation of Right-of-Use - Amortisation & Write Downs.

Net Financial Interests (NFI)

Interests received related to cash or cash equivalent less interests paid on financial debt and interest paid on lease operations.

Other Financials

Currency gains and losses, hedging costs on raw materials, mark-to-market of derivative instruments.

Associates

Positive or negative contributions from Associates consolidated through Equity Method (normally it comes net of tax).

Earning Before Tax (EBT)

Earning Before Tax or Pre-Tax Profit. EBT = EBIT – Net Financial Interest -/+ Other Financials +/- Associates +/- Other Non-Recurrent Items.



Tax

Actual Corporate Tax charge.

Tax Rate (%)

Actual Corporate Tax charge on EBT.

Normative Tax Rate (%)

Each company has a different Normative Tax Rate, which is given by its geographic mix of business or by specific legislation, in terms of deductible financial charges, or by other specific company factors.

Normative Tax Rate is used for WACC, NOPLAT and ROCE calculation and for Net Profit (adj.).

Deferred Tax Assets/Liability

A future tax liability or asset, resulting from temporary difference (for example accelerated depreciation, tax losses carry forward) between the accounting value of assets and liabilities and their value for tax purposes. In other words, deferred taxes are non-cash tax provisions (or release of tax provisions). Reference is IAS 12.

Discontinued Operations

A discontinued operation is a component of an entity that either has been disposed of or is held for sale and: 1) whose operations and cash flows have been, or will be, eliminated from the ongoing operations of the entity as a result of its disposal, and 2) in which the entity will have no significant continuing involvement after its disposal.

Net Profit (reported)

Net Profit (Reported) = reported earnings after Discontinued Operations, after Tax, after Minorities.

Net Profit (adj.)

As it is not possible to standardise this calculation due to a level of subjectivity it deserves, this item is an analyst input. The adjustments made by the ESN analysts are related mainly to exclude Non-Recurrent Items and Discontinued Operations (in the past the adjustments were related to extraordinary items and goodwill amortisation). As a suggestion (non-binding) the following is a formula to calculate Net Profit (adj.): Net Profit (adj.) = (EBT +/- Other Non-Recurrent Items) * (1- Normative Tax Rate) – Minorities.

NOPLAT (Net Operating Profit Less Adjusted Tax)

NOPLAT = EBIT (adj.) *(1- Normative Tax Rate).



CASH FLOW ITEMS (if not differently specified all items are (EUR m))

Gross Cash Flow

Gross Cash Flow = Net Profit (reported) + Minorities + Depreciation, Amortisation & Provisions.

Gross Cash Flow (adj.)

Gross Cash Flow (adj.) = Net Profit (adj.) + Minorities + Depreciation, Amortisation and Provisions.

Cash Flow from Operation before change in Net Working Capital (CF from Operation before NWC)

CF from Operation before NWC = EBITDA (reported) +/- organic increase in provisions + Dividends from non-consolidated companies – Net Financial Interest – paid Taxes +/- other changes in free cash flow – depreciation of right-of-use.

This item is Cash Flow from Operation before change in NWC and before Capital Expenditure.

Change in Net Working Capital (NWC)

Change between one year and the former year of Net Working Capital.

Change NWC = NWC (t) – NWC (t-1)

NWC= Inventories + Accounts Receivables – Accounts Payables.

Cash Flow from Operation (or Net Operating Cash Flow)

This item is Cash Flow from Operation (or Net Operating Cash Flow) after change in NWC but before Capital Expenditure.

Capex (Gross Capex)

Total Capital Expenditure sum of Maintenance Capex and New Investments Capex (or growth Capex).

Maintenance Capex

Maintenance Capex is the amount spent by the company to keep the current level of operation. A common practise is to assume maintenance Capex equal to the level of depreciation and amortization.

Asset Disposals

Cash-in generated from the disposal of long-term assets.

Operating Free Cash Flow (OpFCF)

OpFCF = Cash Flow from Operations before NWC - Change in Net Working Capital - Capex.



Free Cash Flow or FCF [Cash Flow to Equity]

FCF = Cash Flow from Operation before NWC +/- Change in NWC – Capex +/- Net Financial Investments/Divestments (+ Divestments – Financial Investments).

Note. Capex is Maintenance & Growth Capex, but the analyst has to adjust the figure from third parties Cash Flow.

Change in Net Debt

Change in Net Debt = Free Cash Flow – Dividends +/- Others (i.e. Capital Increases, Change in Consolidation, Share Buy Backs, Other) + Depreciation of Right-of-Use.

Non-Cash Items

Depreciation, Amortisation & Provisions + other non cash items.



BALANCE SHEET ITEMS (if not differently specified all items are (EUR m))

Net Tangible Assets

Tangible assets include items such as land and buildings, motor vehicles, furniture, office equipment, computers, fixtures and fittings, and plant and machinery. They have to be reported net of depreciation expenses (with exception of land).

Net Intangible Assets (inc. Goodwill)

Intangible assets lack physical substance. They include patents, concessions, copyrights, franchises, goodwill, trademarks, trade names, development costs, etc. They have to be reported net of amortization expenses.

Right-of-Use Assets (Lease Assets)

“The cost of the right-of-use asset shall comprise: (a) the amount of the initial measurement of the lease liability; (b) any lease payments made at or before the commencement date, less any lease incentives received; (c) any initial direct costs incurred by the lessee; and (d) an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease, unless those costs are incurred to produce inventories. The lessee incurs the obligation for those costs either at the commencement date or as a consequence of having used the underlying asset during a particular period.” (Official Journal of the European Union).

Net Financial Assets

This group consists of long-term investments to be held for many years and not to be disposed in the near future:

- Investments in subsidiaries or affiliated companies
- Investments in securities, such as bonds, common stock, or long-term notes
- Investments in fixed assets not used in operations (e.g., land held for sale)
- Investments in special funds (e.g. pension funds)
- Reported Loss Carried Forward (being Tax assets)

Note. Companies that operate under service concession (e.g. Motorways, Airports, Energy distribution networks, etc.) are subject to IFRIC 12 rules.

The operator shall not recognise the “infrastructure”, which will be relinquished (also called “revertible assets”), as a tangible asset because the contractual service arrangement does not convey the right to “control” the infrastructure, but only the right to use it to provide the public service in accordance with the terms specified in the contract with the grantor. This right must be classified as a “financial asset” or as an “intangible asset”, depending on whether there is an unconditional contractual right to receive a consideration regardless of effective use of the infrastructure (e.g. in the case of “availability payments” or guaranteed minimum revenues), or a right to charge for the use of the public service (e.g. the cases of “direct tolling” or “shadow tolls”).



Net Working Capital (NWC) [“Short Definition”]

Inventories + Non-Cash Receivables – Non-Cash Payables.

Net Working Capital (NWC) [“Detailed Definition”]

Inventories + Trade Receivables + Other Receivables and other current Assets – Current Liabilities
- Provisions and Deferred Taxes.

Inventories

Inventories include assets held for sale in the ordinary course of business (finished goods), assets in the production process for sale in the ordinary course of business (work in process), and materials and supplies that are consumed in production (raw materials).

Trade receivables

Trade receivables (also known as account receivables) are classified as current assets on the balance sheet if the payment from customers is expected within one year. *Included in this category are Accounts receivable (open account customer balances resulting from sales) and customer notes (principal and interest resulting from sales) that are formalized agreements and evidenced in writing. Trade receivables are viewed as a near-cash type of asset that will be turned into cash in the short run.*

Other Current Assets

This category includes other current assets that do not neatly fit into any of the other categories. The amounts must be deemed collectible in a relatively short period of time (operating cycle). *This item can be used as residual one to balance the Total Current Asset.*

Total Current Assets

Total Current Assets = Inventories + Trade Receivables + Other Current Assets + Cash and Cash equivalent.

Current assets are cash; cash equivalent; assets held for collection, sale, or consumption within the entity's normal operating cycle; or assets held for trading within the next 12 months. All other assets are non-current.



Total Assets (TA) or Total Liabilities (TL)

It is the Total Balance Sheet with Total Assets (TA) = Total Liabilities (TL)

Total Assets (TA) = Net Fixed Assets (net tangible assets + net intangibles assets + goodwill + right-of-use assets (lease assets) + net financial assets) + all current assets (inventories + trade receivables + other current assets) + cash & cash equivalents (securities).

Total Liabilities (TL) = Long-term liabilities (long-term financial debt + lease liabilities + pension provisions + other long-term liabilities) + short-term liabilities (short-term financial debt + trade payables + other current liabilities) + shareholder's equity (nominal capital + capital reserve + minorities, etc.).

Total Equity

Total Equity = Shareholders' Equity + Minorities Equity.

Shareholders Equity

Book Value of Group Equity (including non-redeemable preferred shares) and without convertible bonds.

Minorities Equity

Book Value of Minorities Equity (including non-redeemable preferred shares) and without convertible bonds.

Net Financial Debt

Long-term financial debt + short-term financial debt – cash – cash equivalents.

Net Debt

Net Debt = Net Financial Debt + lease liabilities.

Net Debt = Long-term financial debt + short-term financial debt + lease liabilities – cash – cash equivalents.

Trade Payables

Trade payables are also known as accounts payable and refers to money owed to creditors, lenders, vendors or suppliers for products or services rendered. Payables are considered short-term if due within 12 months.

Other Current Liabilities

Liabilities to be paid within the current operating cycle (normally a year).

This item can be used as residual one to balance the Total Current Liabilities.



Total Current Liabilities

Total Current Liabilities = Short term financial debt + Trade Payables + Other Current Liabilities.

Current liabilities are those expected to be settled within the entity's normal operating cycle or due within 12 months, or those held for trading, or those for which the entity does not have an unconditional right to defer payment beyond 12 months. Other liabilities are non-current.

Lease Liabilities

The Lease Liabilities are measured as the net present value of future lease payments; only minimum guaranteed rents are capitalized, while the variable lease payments continue to be expensed above the EBITDA line.

Provisions

Total Provisions in the Balance Sheet.

Other Long-Term Liabilities

Liabilities not expected to be paid within the current operating cycles (> 12 months). *This item can be used as residual one to balance the Total Long-Term Liabilities.*

Total Long-Term Liabilities

Total Long-Term Liabilities = Long term financial debt + Lease Liabilities + Provisions + Other Long-Term Liabilities.

Long term liabilities are the portions of debts with due dates greater than 1 year or the operating cycle. These are obligations that are not expected to be paid within the current operating cycle (>12 months).

Total Liabilities and Shareholders' Equity

Total Liabilities and Shareholders' Equity = Total Long-Term Liabilities + Total Current Liabilities + Total Equity.

Net Capital Employed (CE) or Net Total Assets

CE = Net Fixed Tangible Assets + Net Fixed Intangible Assets (excluding Goodwill) + Goodwill + Right-of-Use assets (Lease Assets) + Net Financial Assets + Net Working Capital ["Detailed Definition"].

Net Capital Invested (CI) or Net Total Liabilities

CI = Shareholders Equity + Minorities Equity + Provisions + Net Debt + Other Current Liabilities
- Other Current Assets + Other Long-Term Liabilities.

Net Capital Employed (CE) = Net Capital Invested (CI)

CE = CI



Off Balance Sheet Items

Securitised loans, CDOs, etc...

ENTERPRISE VALUE (if not differently specified all items are **(EUR m)**)

EV (adj.)

EV (adj.) = Enterprise Value adjusted = Total Market Cap. + Net Debt + Off Balance Sheet Items + Provisions (retirement and others related to future cash outs) + Minorities Equity (market value or estimated market value) - Peripheral Assets (market value or estimated market value).

Minorities Equity (estimated market value)

Value of cost of buyout of Minorities Equity used to calculate EV, subjectively estimated by each analyst. A common way to calculate the estimated value of Minorities Equity as a market value is: Book Value of minorities x current P/BV of the company (please note there are other ways to calculate such a value).

Peripheral Assets (market value)

Estimated market value of peripheral assets not contributing to Sales or EBIT (used to calc. EV).



PER SHARE ITEMS (if not differently specified all items are EUR)

a) EPS (reported) or Basic EPS

Formula: Net Profit (reported)/ Average Outstanding Ordinary Shares (including “Ordinary shares equivalent”).

EPS reported or Basic EPS is calculated by dividing profit or loss attributable to ordinary equity holders of the parent entity (the numerator) by the weighted average number of Ordinary shares outstanding including Ordinary shares equivalent (the denominator) during the period. The earnings numerators (Net Profit or Loss) used for the calculation should be after deducting all expenses including taxes, minority interests, and preference dividends, see Net Profit (reported) definition. The denominator is calculated by adjusting the shares in issue at the beginning of the period by the number of shares bought back or issued during the period, multiplied by a time-weighting factor.

For Italy and Germany, the denominator can include Savings and/or Preference Shares (“Ordinary shares equivalent”) for historical, current and estimated data if these categories of shares are entitled to get also ordinary dividend.

b) EPS (reported f. d.) or EPS reported fully diluted or Basic EPS fully diluted or Diluted EPS

Formula: Net Profit (reported)/ Average Diluted Ordinary Shares (including “Ordinary shares equivalent”).

EPS (reported f.d.) or Diluted EPS is calculated by adjusting the earnings and number of shares for the effects of dilutive options and other dilutive potential Ordinary shares. The denominator is calculated by adjusting the shares in issue at the beginning of the period by the number of shares bought back or issued during the period, multiplied by a time-weighting factor. **The Dilution is decided by each analyst** (due to stock options, warrants, convertible bonds). The dilution is always considered when expiration is within the year and the call option is in the money at the current price. For Italy and Germany, the denominator can include Savings and/or Preference Shares (“Ordinary shares equivalent”) for historical, current and estimated data if these categories of shares are entitled to get also ordinary dividend.

c) EPS (adj.) or EPS adjusted

Formula: Net Profit (adj.)/ Average Outstanding Ordinary Shares (including “Ordinary shares equivalent”).

d) EPS (adj. f.d.) or EPS adjusted fully diluted

Formula: Net Profit (adj.)/ Average Diluted Ordinary Shares (including “Ordinary shares equivalent”).



DPS

Dividend Per Share Gross (before tax) calculated as total dividend divided by outstanding Ordinary shares (for French stocks is after tax credit).

CFPS

CFPS = Gross Cash Flow Per Share, defined as Gross Cash Flow divided by the weighted average of the outstanding Ordinary shares.

CFPS (adj.)

CFPS (adj.) = Gross Cash Flow Per Share Adjusted, defined as Gross Cash Flow (adj.) divided by weighted average of the outstanding Ordinary shares.

BVPS

Book Value per Share calculated as Shareholders' Equity divided by outstanding Ordinary shares.

GROWTH RATES, MARGINS AND RATIOS

Sales growth or EBITDA growth or EBIT growth or EBT growth or Net profit (reported or adj.) growth (%)

Growth rate in Sales/EBITDA/EBIT/EBT/Net profit (reported or adj.) on an annual basis (Y/Y).

EBITDA adj. growth or EBIT adj. growth (%)

Growth rate in EBITDA adj./EBIT adj. on an annual basis (Y/Y).

EPS/EPS adj./DPS/CFPS adj. growth (%)

Growth rate in EPS/EPS adj./DPS/CFPS adj. on an annual basis (Y/Y).

EBITDA Margin or EBIT margin (%)

EBITDA or EBIT divided by Sales.

EBITDA adj. Margin or EBIT adj. margin (%)

EBITDA adj. or EBIT adj. divided by Sales.

ROE (adj.) (%)

Net Profit (adj.) divided by Shareholders Equity (end period).



ROE average (adj.) (%)

Net Profit (adj.) divided by the year opening and year end average of Shareholders Equity.

ROCE (adj.) (%)

ROCE (adj.) = NOPLAT / (CE – Net Financial Assets) = [EBIT (adj.) *(1-Normative Tax Rate)] / (Capital Employed – Net Financial Assets).

ROCE average (adj.) (%)

ROCE (adj.) = NOPLAT divided by the year opening and year end average (Capital Employed – Net Financial Assets).

ROCE (adj.) / WACC (%)

ROCE (adj.), as defined above.

WACC = Weighted Average Cost of Capital of each company or Cost Capital (CC).

Net Debt/Equity

Net Debt divided by Total Equity (when negative this item shows net cash).

Gearing (%) = [D/(D+E)]

Debt divided by the sum of Equity and Net Debt.

Interest Cover (%)

EBITDA / Net financial Interest.

Net Debt / EBITDA

Net Debt divided by EBITDA.

Payout Ratio

Total dividends/Net Profit (reported).

Equity Ratio

Shareholder's Equity incl. Minorities / Total Assets (or Total Liabilities).



VALUATION ITEMS

EV/Sales (x)

EV (adj.) divided by Sales.

EV/EBITDA (x) or EV/EBIT (x)

EV (adj.) divided by EBITDA or EBIT.

These figures can be seen as an “Operating level P/E”.

EV/EBITDA adj. (x) or EV/EBIT adj. (x)

EV (adj.) divided by EBITDA adj. or EBIT adj..

EV/CE (x)

EV (adj.) / (Capital Employed – Net Financial Assets).

P/E (adj.) (x)

Price Earnings ratio calculated as price divided by EPS adj.. For historic years calculated as the fiscal year end date closing price divided by EPS (adj.).

For current and future years calculated as the current share price divided by EPS (adj.).

PEG (%)

PE (adj.) / EPS CAGR.

P/CF (x)

Price Cash Flow ratio calculated as price divided by CFPS.

For historic years calculated as the fiscal year end date closing price divided by CFPS.

For current and future years calculated as the current share price divided by CFPS.

P/CF (adj.) (x)

Price Cash Flow ratio calculated as price divided by CFPS adj..

For historic years calculated as the fiscal year end date closing price divided by CFPS (adj.).

For current and future years calculated as the current share price divided by CFPS (adj.).

P/BV (x)

P/BV = Price / BVPS

For historic years calculated as the fiscal year end date closing price divided by BVPS.

For current and future years calculated as the current share price divided by BVPS.



Dividend yield (Gross) (%)

For historic years calculated as gross DPS divided by the fiscal year end date closing price.

For current and future years calculated as gross DPS divided by the current share price (DPS/P).

Total Yield Ratio (%):

Calculated using the total counter value of dividends paid and buy backs implemented.

Total Yield Ratio (%) = (Dividends counter-value + Buy Backs counter-value) / Market Cap.

OpFCF/EV (%)

OpFCF= see definition on page 13.

OpFCF yield (%)

OpFCF / Total Market Capitalisation.

MAIN COMMON EVALUATION MODELS FOR INDUSTRIAL SECTORS

In addition to DCF models and peers comparison, Analysts could use, at least, one of the following Value Maps (two-dimensional valuation models).

For Industrials

- **EV/EBITDA vs. ROCE (adj.)**
- **EV/Sales vs. ROE (adj.)**

For Banks:

- **P/BV vs. ROE (adj.)**

For Insurances

- **P/EbV vs. ROE (adj.)**

All Value Maps can be based on next fiscal year figures.

Next to this predefined valuation models the Analysts could use other models.



ESN INSURANCE SECTOR DEFINITIONS

General accounting methodologies:

- 1 - **Building Block Approach (BBA)**: also referred to as '**General Measurement Model**', compulsory measurement model for long-term non-participating business.
- 2 - **Premium Allocation Approach (PAA)**: optional measurement model for short-term business (mainly P&C and Health).
- 3 - **Variable Fee Approach (VFA)**: compulsory measurement model for long-term participating business.

PROFIT & LOSS ITEMS (if not differently specified all items are (EUR m))

Gross Written Premiums and Other Revenues

Gross Written Premiums and Other Revenues: commercial activity of insurance operations ; it also includes premiums from pure investment contracts with no discretionary participating features (accounted for under IFRS 9), in Life and the netting of commissions from assumed reinsurance businesses. For asset management and banking activities, commercial activity continues to be measured on revenues.

Technical margin

Technical margin: for P&C contracts and Life and Health short term contracts, it represents the difference between revenues and 1) all general and administrative costs and 2) benefits due to the customers.

CSM release

CSM release: the amount of CSM which is released in the P&L for Life and Health long-term contracts.

Financial result

Financial result: it is the addition of investment income and the unwinding of reserves.

Insurance Pre-tax profit

Related to insurance activities only.

Non-insurance pre-tax profit

Related to all the non-insurance activities.



Comprehensive Profit

Net Profit + change in AFS (available for sale) equity reserves.

The rest of the items is in line with the other industry groups.

BALANCE SHEET ITEMS (if not differently specified all items are (EUR m))

Investments from insurance activities

Investments from insurance activities: It represents the sum of 1) Financial investments that back the policyholder liabilities for General Account contracts 2) Unit-linked assets and 3) Investments in real estate properties.

Liabilities arising from insurance contracts and investment contracts

Liabilities arising from insurance contracts and investment contracts with discretionary participation features contracts. It represents the sum of 1) Present Value of Fulfilment Cash Flows (payments expected to be made to current policyholders) 2) Contractual Service Margin and 3) Risk adjustment.

Contractual Service Margin ('CSM')

Contractual Service Margin ('CSM'): A component of the carrying amount of asset or liability for a group of insurance contracts representing the unearned profit to be recognized as services are provided to policyholders.

Risk Adjustment

Risk Adjustment corresponds to the compensation that the insurance companies require for bearing uncertainty about future cash flows related to non-financial risks. This provision has a profound impact on the valuation of future profits and it influences the IFRS results of insurance contracts within a portfolio.

Banking Interest Earning Assets

Sum of Customer Loans + Loans to banks + Securities

Financial Debt

Operating financial debt excluding subordinated/hybrid debt instruments.

Subordinated and Hybrid Debt

Sum of all the issued subordinated and hybrid debt instruments (bonds, etc.).



Banking Interest Bearing Liabilities (IBL)

Sum of customer deposits and securities issued by the bank.

Shareholders' Equity

It is the Shareholders Equity.

Note: with IFRS, goodwill is no more net of tax effect

The rest of the items is in line with the other industry groups.

MARGINS AND RATIOS

ROE (adj.) (%)

Net Profit (adj.) divided by Shareholders Equity (end period).

ROE average (adj.) (%)

Net Profit (adj.) divided by the average of t and t-1 Shareholders Equity.

Non-Life Expense Ratio (%)

The Expense Ratio (Non-Life) is calculated as the expenses for the non-life segment business divided by Net Premiums Earned (Life and Non-Life).

Life Expense Ratio (%)

Calculated as the expenses for life segment business divided by year-end average (insurance reserves + liabilities for investment contracts).

Claims Ratio (Non-Life) (%)

The Claims Ratio, also referred to as the loss ratio, is equal Total Non-Life Claims & Provisions (claims paid and change in technical provisions over the accounting period, both net of reinsurance) divided by Net Non-Life Premiums Earned.

In IFRS17, reserves are discounted which means that we distinguish an undiscounted Loss ratio vs a current Loss ratio.

Combined Ratio (Non-Life) (%)

Combined Ratio = Claims Loss Ratio + Expense Ratio.

A combined ratio in excess of 100% indicates that the Non-Life business is loss-making on a technical basis (i.e. excluding the investment income).



CSM release ratio

CSM release ratio: ratio of CSM release to sum opening CSM stock and all the movements of the rollforward (excluding CSM release).

New Business Value (NBV)

New Business Value (NBV): the value of newly issued contracts during the current year. It consists of the sum of the new business contractual service margin, the present value of the future profits of short term newly issued contracts during the period, carried by Life entities, considering expected renewals, the present value of the future profits of pure investment contracts accounted for under IFRS 9, net of the cost of reinsurance, taxes and minority interests.

NBV margin

NBV margin (new business value margin): ratio of New Business Value to Present Value of Expected Premiums.

Solvency 2 ratio

Capital adequacy of a company by comparing own funds to SCR.

Current Insurance Investment Yield (%)

It is the ratio between the current insurance investment and the year-end average investments. Possibly, for actual numbers use quarterly average investments. For current investment income, see definition above.

Comprehensive Insurance Investment Yield (%)

It is the ratio between total current investment income including change in AFS (Available For Sales) equity reserves and the year-end average investments. Possibly, for actual numbers use quarterly average investments.

Financial Leverage (%)

Financial Leverage = (Subordinated + Hybrid instruments) / (Adjusted Net Asset Value + Minorities).

Retention Ratio (Non-Life) (%)

The ratio of net earned non-life premium income over gross earned non-life premium income. The difference between gross and net is reinsurance. The retention ratio can serve as a basis to compare the different use of reinsurance by different companies. This is for example helpful in case of catastrophes. Companies with a higher retention ratio would generally be more exposed.



Reserving Ratio (Non-Life) (%)

The ratio of the non-life technical provisions (net of reinsurance) and the non-life net earned premium income. The reserving ratio provides a general idea of the conservativeness in reserving by different companies. A higher reserving ratio, for a similar business composition, indicates a more conservative approach to reserving.

Cost/Income (Banking) (%)

The Cost/Income ratio is equal to operating costs for the banking operation divided by total banking income (the usual ratio applied for banks).

Loan Loss Provisions (Banking) (%)

Loan Loss Provisions is equal to the loan provisions in the bank balance sheet divided by the total income (the usual ratio applied for banks).

INSURANCE VALUATION DATA (EUR)

Present value of expected premiums (PVEP)

Present value of expected premiums (PVEP): it represents the new business volume, equal to the present value at time of issue of the total premiums expected to be received over the policy term. The present value is discounted at the reference interest rate and PVEP is Group share.

Off-Balance Sheet Unrealised Capital Gains

Unrealised capital gains, often on the real estate investments portfolio, which are not yet included in IFRS shareholders' equity.

Tangible Net Asset Value (TNAV)

Tangible Net Asset Value = Shareholders' Equity - Deferred Acquisition Costs – Goodwill on Life, P&C (Property & Casualty), Banking or any other activity – Other intangibles + Off-Balance Sheet Unrealised Capital Gains + Other Adjustments.

Assets Under Management (AUM)

Assets under management are assets or securities portfolios, valued at current market value, for which the asset managers provide discretionary investment management decisions and have the portfolio management responsibility. The portfolios are managed on behalf of third parties as well as on behalf of insurance groups.



PER SHARE ITEMS (if not differently specified all items are (EUR))

BVPS

BVPS = Shareholders Equity divided by the number of outstanding Ordinary shares.

TNAVPS

From Tangible Net Asset Value, data divided by the number of outstanding Ordinary shares.

The rest of the items is in line with the other industry groups.

OTHER RATIOS & VALUATION ITEMS

P/Premiums (x)

Is the share price of the company divided by the sum of net earned premiums of Life and Non-Life. Because of similarity of this ratio to P/Sales for industrial companies, one should be careful drawing any immediate conclusions from P/Premiums.

P/BV (x)

P/BV = Price / BVPS. For historic years calculated as the average share price divided by BVPS. For current and future years calculated as the current share price divided by BVPS.

P/Tangible Book Value (x)

P/Tangible Book Value = Price / Tangible Book Value PS. For historic years calculated as the average share price divided by Tangible Book Value PS. For current and future years calculated as the current share price divided by Tangible Book Value PS.



ESN BANKING SECTOR DEFINITIONS

PROFIT & LOSS ITEMS (if not differently specified all items are (EUR m))

Net Interest income

Difference between interest payments received on loans outstanding and interest payments made to customers on their deposits.

Commissions

Difference between commission received and commission paid on banking fees, dealing fees, fees on assets under management etc..

Trading Income

Net capital gains / (losses) on financial transactions and result from mark-to-market valuation of the trading portfolio (including the derivatives).

Dividends

Dividends earned on securities (excluding income from group interests, see below Associates).

Other Operating Income

Other Operating Income includes the income which is not attributable to the income items above indicated, but which is not exceptional.

Non-Interest Income

Sum of Commissions, Trading Income, Dividends and Other Operating Income.

Total Income from Banking Business

Sum of Interest Income and Non-Interest Income from the banking business.

Revenues from Insurance Business (less claims)

The insurance result includes premiums, fees and allocated financial income, less claims and benefits and less operating expenses. Realized capital gains and losses on investments backing certain insurance liabilities (i.e. separated funds) are usually included in trading income.

Total Revenues

Sum of Total Income from Banking Business and Revenues from Insurance Business (less claims).



Operating Costs

Sum of personnel costs, general & administrative expenses and amortization and depreciation on tangible and intangible assets. It may also include integration costs. It also includes the IFRS "Non Operating Provisions" made for risks, not related to the loan book.

Other Operating Provisions

Other Operating Provisions are made for specific risks excluding the credit risks (see below loan impairment charges).

Pre-Provision Profit (PPP)

Pre-Provision Profit = Total Revenues – Operating Costs – Other Operating Provisions.

Loan Impairment Charges (LIC)

Provisions (non-cash) made to account for future losses on loan defaults, assuming that a certain percentage of loans will default or become slow-paying.

Operating Profit (OP)

Operating Profit = Pre-Provision Profit – Loan Impairment Charges.

Other Income/Loss (Exceptional)

Other Income/Loss (Exceptional) includes income/losses which are deemed to be non-recurring and/or classified as exceptional. For the past (before IFRS) this item includes also "Goodwill Amortisation", "General Banking Risk Provisions" and "Extraordinary Items".

Results from Financial Investments

Results from financial investments contain the disposal gains and the gains and losses on available-for-sale securities and other investment securities.

Associates

Positive or negative contributions from Associates consolidated through Equity Method (normally it comes net of tax).

Earnings Before Tax (EBT)

Earnings Before Tax = Operating profit + Other Income/Loss (Exceptional) + Results from Financial Investments + Associates.

Earnings Before Tax (adj.)

Earnings before tax (adj.) = EBT -/+ Other Income/Loss (Exceptional).

The rest of the items is in line with the other industry groups.



BALANCE SHEET ITEMS (if not differently specified all items are (**EUR m**))

Due from Banks

Loans to other banks (including Central Bank and cash).

Customer Loans

Loans to customers (excluding banks).

Securities

An investment instrument, other than an insurance policy or fixed annuity, issued by a corporation, government or other organization which offers evidence of debt or equity.

Unit Linked Investments

Investments held for the account of policyholders following the sale of unit-linked insurance products. Unit-linked investments back the technical provisions for account of policyholders (unit-linked technical provisions). Unit-linked investments and unit-linked technical provisions are in general equal.

Interest Sensitive Assets (ISA)

ISA is the sum of Due from Banks + Customer Loans + Securities.

Customer Deposits

They include only the deposits from customers (excluding banks).

Bonds & Debt Capital

Sum of all the bonds issued by the bank (including subordinated debt).

Technical Provisions Insurance (Life and Non-Life)

Provisions (Life and Non-Life) set up by the insurance company to cover future claims and other payments. Technical provisions are reported net of reinsurance.

The rest of the items is in line with the other industry groups.



OTHER ITEMS (if not differently specified all items are **(EUR m)**)

Tangible Book Value: Shareholders' Equity less Goodwill

Note: with IFRS, Goodwill is no more net of tax effect.

Core Tier 1 ratio (Basel 3 phased-in)

Core Tier 1 ratio (calculated as Core Tier 1 capital divided by Risk Weighted Assets) according to Basel 3 rules.

Core Tier 1 ratio (Basel 3 fully loaded)

Core Tier 1 ratio (calculated as Core Tier 1 capital divided by Risk Weighted Assets) according to Basel 3 rules.

Total capital ratio (Basel 3)

Total Capital Ratio (calculated as total regulatory capital divided by risk weighted assets) acc. to Basel 3 rules.

Common Equity capital (Basel 3 committee definition)

Common Equity Tier 1 capital consists of the sum of the following elements:

- Common shares issued by the bank that meet the criteria for classification as common shares for regulatory purposes (or the equivalent for non-joint stock companies)
- Stock surplus (share premium) resulting from the issue of instruments included in Common Equity Tier 1
- Retained earnings
- Accumulated other comprehensive income and other disclosed reserves
- Common shares issued by consolidated subsidiaries of the bank and held by third parties (i.e. minority interest) that meet the criteria for inclusion in Common Equity Tier 1 capital
- Regulatory adjustments applied in the calculation of Common Equity Tier 1

RWA (Risk Weighted Assets)

RWA are the banks' total assets (including the off-balance sheet exposures) weighted according to risk. The weighting depends on the estimates of Probability of Default (PD), on the regulatory values and on the models adopted by the single financial institutions models (LGD = Loss Given Default or EAD = Exposure At Default) and validated by national regulators.



Non Performing Loans (NPL)

A loan that is in default or close to being in default. Many loans become non-performing after being in default for 90 days, but this can depend on the contract terms.

"A loan is nonperforming when payments of interest and principal are past due by 90 days or more, or at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons to doubt that payments will be made in full" (IMF definition).

Assets Under Management

Off-balance assets managed by the company for third parties.

The value of those assets is based on market prices.

Change in NPLs (%):

Annual growth rate of Non Performing Loans.

The rest of the items is in line with the other industry groups.

MARGINS AND RATIOS

Interest Income/Avg. IEA

Interest Income divided by the average (according to fiscal year end) Interest Earning Assets.

Cost/Income

Cost/Income is the Operating Costs divided by Banking Revenues.

LIC/Avg. Customer Loans

Loan Impairment Charges divided by the average (according to fiscal year end) Customer Loans.

LIC/Avg. RWA

Loan Impairment Charges divided by the average (according to fiscal year end) RWA.

NPL ratio (gross)

The ratio is calculated as Non Performing Loans divided by outstanding loans.

LLP/Loans

Loan Loss Provisions (balance sheet) divided by total outstanding loans.



NPL coverage

(LLP/Loans) divided by NPL gross ratio.

Loans/Deposit Ratio

Customer Loans divided by Customer Deposits.

Core Tier1 Ratio (Basel 3 phased-in)

Core Tier 1 capital / RWA - calculated according to Basel 3 phase-in rules.

Core Tier1 Ratio (Basel 3 fully loaded)

Core Tier 1 capital / RWA - calculated according to Basel 3 rules as of 2019.

Total Capital Ratio

Total Capital / RWA.

Leverage ratio (fully loaded)

Leverage ratio (calculated in simplified terms as Tier 1 capital/RWA) under CRD IV rules.

Common Equity Ratio (Basel 3)

Common Equity Capital / RWA (minimum at full capacity: 7%).

Tangible Equity as % of Assets

Shareholders Equity less Goodwill divided by Total Assets.

The rest of the items is in line with the other industry groups.



PER SHARE ITEMS (if not differently specified all items are (EUR))

Pre-Provision Profit (per share)

Pre-Provision Profit per share is the pre-provision profit divided by the weighted average number of outstanding Ordinary shares.

BVPS (BV per share)

BVPS = Shareholders Equity divided by the number of outstanding Ordinary shares.

TBVS (TBV per share)

TBVS = Tangible Book Value divided by the number of outstanding Ordinary shares.

The rest of the items is in line with the other industry groups.

OTHER RATIOS & VALUATION ITEMS

ROTE (Return on Tangible Equity) or ROE (adj. (%))

Return on Tangible Equity. Net Profit (adj.) divided by the two-years (according to fiscal year end) average of Tangible Book Value (Goodwill adj.).

P/BV (x)

P/BV = Price / BVPS (including GW). For historic years calculated as the average share price divided by BVPS. For current and future years calculated as the current share price divided by BVPS.

P/TBV (x)

P/TBV = Price / TBV. For historic years calculated as the average share price divided by TBV. For current and future years calculated as the current share price divided by TBV.

The rest of the items is in line with the other industry groups.



ESN REAL ESTATE SECTOR DEFINITIONS

PROFIT & LOSS ITEMS (if not differently specified all items are (EUR m))

Gross Rental Income

Total Income generated from the rental property, including rent payments, parking fees and any other income sources (like Income from the leasing of investment properties, laundry facilities, etc.).

Net Rental Income (NRI)

Income earned from a rental property after deducting all related expenses.

Net Rental Income = Gross Rental Income + Other Operating Income – Operating costs.

Other Operating Income

Revenue from all other operating activities which are not related to the principal activities of the company, such as gains/losses from disposals, interest income, dividend income, etc.

Property Result

Net Rental Income - Other Operating Income/Costs.

Property Charges

Property Operating Expenses + Ground rents paid + Net services charge income.

Property Operating Result (NOI)

Split of the property charges from gen. costs = Property Result - Property Charges.

Property Charges / NRI (%)

Property Charges / Net Rental Income.

EBIT before FV adj. (EBIT before Fair Value adjustments)

EBITDA + Depreciation and amortisation.

Revaluation of Fair Value of Investment Properties

Process of adjusting the carrying amount of investment property to reflect its current market value.

Gains/Losses on Disposal of Investment Properties

Net disposal proceeds - the carrying amount of the property at the date of disposal.



EBIT

EBIT before FV adjustments + Revaluation of Fair Value of Investment Properties + Gain/Losses on Disposal of Investment Properties.

Net Financial Costs

Difference between all financial expenses and financial income associated with a property or portfolio of properties. This typically includes expenses like interest on loans, loan origination fees, and other financing charges, offset by any interest income earned on cash or investments related to the property.

EBT

EBT = EBIT + Net Financial Costs + Revaluation of Financial Instruments + Revaluation of Financial Instruments + Share of the profit of associates & dividend income.

Net Profit Group Share

Net Result (reported) + Minorities/Discontinued.

EPRA Earnings

Net Profit Group Share (Earnings) after adjusting for property revaluation, changes in fair value of derivative financial instruments, profits and losses on disposals (collectively the “EPRA earnings adjustments”).

The rest of the items is in line with the other industry groups.

CASH FLOW ITEMS (if not differently specified all items are (EUR m))

FFO (Funds From Operations)

FFO = Net Income excluding gains or losses from debt restructuring, sales of property, or extraordinary items, + real estate depreciation and amortisation - Minority Interests and income from nonconsolidated joint ventures.

Cash Flow from Financing Activities

Cash Flow from Financing Activities includes the issuance and repayment of equity, payment of dividends, issuance and repayment of debt, and capital lease obligations.

The rest of the items is in line with the other industry groups.



BALANCE SHEET ITEMS (if not differently specified all items are (EUR m))

Investment properties

Investment properties are properties which are held to earn rental income for the long term.

Development properties

Properties that are being constructed or developed for future use as investment property.

The rest of the items is in line with the other industry groups.

MARGINS AND RATIOS

LTV (Loan To Value) %

Market value of net financial debt / Investment Properties.

The rest of the items is in line with the other industry groups.

PER SHARE ITEMS (if not differently specified all items are (EUR))

IFRS NAV

The balance sheet net assets / diluted number of shares end of period.

EPRA NAV

The balance sheet net assets plus the surplus on trading properties, excluding fair value adjustments for debt and related derivatives, deferred taxation on revaluations and capital allowances and the effect of those shares potentially issuable under employee share scheme, divided by the diluted number of shares end of period.

EPRA NTA

EPRA Net Tangible Assets includes all property at market value but excludes the mark to market of financial instruments, deferred tax and intangible assets.

The rest of the items is in line with the other industry groups.



OTHER RATIOS & VALUATION ITEMS

Occupancy rate

ERV (Estimated Rental Value) of let units expressed as a percentage of the total ERV of the portfolio, excluding development properties. The ERV is the estimated market rental value of lettable space.

Portfolio Yield

Rental contracts / Fair value of the portfolio.

Portfolio Yield on full occupancy

(Rental contracts + ERV of vacant space) / Fair value of the portfolio.

Average length of leases (first break)

The average residual length of all leases in force if each tenant would exercise his first possible termination option (= break).

Average length of leases (end of contract)

The average residual length of all leases in force in case no break option is exercised and all tenants remain in their rented space until the contractual end of the leases.

Like-for-Like growth

Calculated on the stabilised portfolio as the growth rate coming from indexation, increase/decrease of vacancy rates, renegotiation of rents with existing tenants.

Premium/(Discount) to NAV

(Share price / NAV) -1.

EPRA Cost Ratio

The ratio is calculated by dividing the total administrative and operating expenses by the Gross Rental Income.

Hedge Ratio

Hedge ratio represents the proportion of an investment that is protected by a hedging instrument like futures contracts or options.

Contracted Annual Rent

Contracted Annual Rent is the total amount of rent due for a property over a year.



EPRA NIY (Net Initial Yield (%))

EPRA NIY % provides a measure of the immediate return on investment for a property.

EPRA NIY % = Annualised Rental Income (after deducting non-recoverable operating expenses) / (Market Value of the Property - Acquisition Costs) expressed as a percentage.

EPRA NIY (Net Initial Yield) topped-up (%)

The EPRA Net Initial Yield (NIY) "topped up" is a real estate metric that refines the standard EPRA NIY by adjusting for rental incentives, such as rent-free periods or discounted rent, to provide a more accurate representation of a property's potential income.

EPRA NIY topped up (%) = Annualized Rental Income (including variable and temporary revenue but excluding incentives) / (Market Value of the Property, including purchasers' costs).



WACC & "g" calculation guidelines for ESN Members

Main reasons for an ESN common traditional WACC & "g" calculation

The ESN common WACC and "g" approach is used for:

- a) DCF valuation models
- b) Value Creation measurement as "ROCE/WACC" ratio

For consistency reasons, being ROCE/WACC normally used the for intra-sector company comparisons in different countries and among ESN members, has been necessary to have a common calculation of WACC and ROCE.

Clients, sales and analysts are using "upside potential" to target prices (or fair values) as one of the main investment decision criteria and main market practices use WACC for DCF valuation.

It means ESN approach to valuations has to be common, homogeneous and consistent.

WACC (Weighted Average Cost of Capital): $Ke * \text{weight of } Ke + Kd * \text{weight of } Kd$

Ke or COE (Cost of Equity): Risk Free Rate + (Market Risk Premium * Company Risk Factor)

- Risk Free Rate (RFR): 3.5% = 1.5% Real Risk Free Rate mean reverting over the long term + 2% inflation long term. This is the "Nominal ESN Risk Free Rate" as 10 year long term bond yield
- Market Risk Premium (MRP): 5%
- Company Risk Factor (CRF): according to the Stern & Stewart methodology to calculate levered beta on multi-criteria approach (model uploaded in the ESN DB)

Kd or COD (Cost of Debt): market cost of the debt of the company * (1 - Normative Tax Rate)

- Kd is the Cost of Debt refinancing, taking into account the last deals or even the CDS (Credit Default Swaps) of the company or of comparable and the credit rating of the company or sector
- Normative Tax Rate is subjectively defined by each analyst according to the "ESN Definition Guide"



Weight of Ke and Kd

- Weight of Ke and Kd is subjectively estimated by the analyst, being the analyst perception of the target gearing [D/(D+E)] based on company target and/or sector standards
- No market cap because changes every day and is not consistent with ROCE
- No current D/E structure because is too variable and may be not sustainable

"g" (Perpetual Growth Rate)

"g" is defined in nominal terms.

The range of "g" is between 0% and 3%

- $g = 0\%$ is allowed for worst case scenarios or "crash tests"
- $g =$ from 1% to 2%, for mature companies (same for sectors)
- $g =$ above 2% to 3%, for growth companies with high growth potential (same for sectors)
- $g > 3\%$ is not allowed

The main reality checks have to be: 1) the implied multiple residual value (i.e. to free cash flow) has to be "realistic" (it means around the current level or justifying a re-rating); 2) the "g" must be related with the potential nominal growth of the economy (i.e: GDP) and consistent also with each company markets of presence (i.e.: Europe, USA, Emerging Markets).



ESN DCF (Discounted Cash Flow) Model

Based on the previous “WACC” and “g” guidelines, we have introduced a **COMMON ESN DCF MODEL** mainly for industrial companies (see example below) in order to create a useful platform for pan-European comparisons. The analysts are free to define the period of explicit estimated years, with a minimum of 10 years plus a normalised year for Terminal Value calculation.

“Name” (Company)

CASH FLOW (EUR m)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Norm. Year
Net Sales	1015,0	1045,5	1076,8	1093,0	1109,4	1131,6	1148,6	1165,8	1183,3	1201,0	1219,0
% change	-0,8%	3,0%	3,0%	1,5%	1,5%	2,0%	1,5%	1,5%	1,5%	1,5%	1,5%
EBIT	86,7	91,5	97,4	97,9	97,3	101,1	107,2	109,6	112,1	114,5	104,9
% margin	8,5%	8,8%	9,0%	9,0%	8,8%	8,9%	9,3%	9,4%	9,5%	9,5%	8,6%
% change	7,0%	5,5%	6,4%	0,5%	-0,6%	3,9%	6,0%	2,2%	2,3%	2,1%	0,0%
Taxes (Normative)	-32,9	-34,8	-37,0	-37,2	-37,0	-38,4	-40,7	-41,6	-42,6	-43,5	-39,9
Normative Tax Rate	38,0%	38,0%	38,0%	38,0%	38,0%	38,0%	38,0%	38,0%	38,0%	38,0%	38,0%
NOPLAT	53,8	56,7	60,4	60,7	60,3	62,7	66,5	68,0	69,5	71,0	65,0
Depreciation & other provisions	46,1	46,8	48,5	50,2	51,9	53,6	53,6	53,6	53,6	53,6	59,0
Gross Operating Cash Flow	99,9	103,5	108,9	110,9	112,2	116,3	120,1	121,6	123,1	124,6	124,0
Capex	-41,9	-55,0	-55,0	-55,0	-58,0	-56,6	-57,4	-58,3	-59,2	-60,1	-59,0
Change in Net Working Capital (-=incr.;+=decr.)	13,9	-3,2	-4,4	-4,8	-4,6	-3,0	-3,0	-2,0	-2,0	-2,0	-1,5
Cash Flow to be discounted	71,9	45,4	49,5	51,2	49,7	56,7	59,7	61,3	62,0	62,6	63,6
CAPITAL EMPLOYED (EUR m)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Norm. Year
Tangible Assets	249,4	263,7	276,3	287,2	296,4	299,4	303,2	307,9	313,5	319,9	319,9
Intangible Assets	117,4	117,4	117,4	117,4	117,4	117,4	117,4	117,4	117,4	117,4	117,4
Net Working Capital	90,8	94,0	98,4	103,2	107,8	122,6	124,4	126,3	128,2	130,1	132,1
Capital Employed	457,6	475,1	492,1	507,8	521,6	539,4	548,1	551,6	559,1	567,4	569,4
DCF EVALUATION (EUR m)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Norm. Year
WACC	7,97%	7,97%	7,97%	7,97%	7,97%	7,97%	7,97%	7,97%	7,97%	7,97%	7,97%
Discount Rate factor	0,00	0,00	0,99	0,92	0,85	0,79	0,73	0,68	0,69	0,63	0,54
Discounted Cash Flow	0,0	0,0	49,0	47,1	42,2	44,8	43,6	41,7	42,8	39,4	34,3
Cumulated DCF	0,0	0,0	49,0	96,1	138,3	183,1	226,7	268,4	311,2	350,6	384,9

WACC & DCF ANALYSIS

Free Risk Rate (LT EU Govn. Bonds - 10 years)	4,5%	Cumulated DCF	384,9	- Net Financial Debt (current)	(167,3)
Company Risk Factor or Beta	1,10			- Minorities (estimated value)	(28,4)
Mkt Risk Premium	4,0%			+ Associates	0,0
Cost of Equity (Ke or COE)	8,90%	Perpetual Growth Rate (g)	1,5%	- Pension underfunding	0,0
Cost of Debt (gross)	5,5%	Normalised Annual CF	63,6	- Off-balance sheet commitments	0,0
Debt Tax Rate	33%	Terminal Value at Nominal Year	997,3		
Cost of Debt net (Kd or COD)	3,69%	Disc. Rate of Terminal Value	0,54		
Target Gearing [D/(D+E)] or % Kd	17,8%	Discounted Terminal Value	538,5	Equity Market Value (EUR m)	761,9
% Ke	82,2%	Financial assets	34,1	Number of shares (m)	112,2
Normative Tax Rate	38%	Enterprise Value (EUR m)	957,6	Fair Value per share (EUR)	6,8
				Price (EUR)	09/06/2015
WACC	7,97%	DCF reliability rate	42%	Potential upside (downside)	20,4%

It is also important to show a **SENSITIVITY ANALYSIS** of the key variables of the models, as for example 1 “WACC & g” or for example 2 “EBITDA margin & WACC”.

WACC	Perpetual growth rate (g)						
	0.0%	0.5%	1.0%	1.5%	2.0%	2.5%	3.0%
6.47%	6.17	6.62	7.15	7.78	8.55	9.52	10.77
6.97%	5.57	5.93	6.36	6.87	7.48	8.22	9.16
7.47%	5.04	5.35	5.70	6.12	6.60	7.19	7.91
7.97%	4.59	4.85	5.14	5.5	5.88	6.35	6.92
8.47%	4.19	4.41	4.66	4.94	5.27	5.65	6.11
8.97%	3.83	4.02	4.23	4.47	4.75	5.06	5.43
9.47%	3.52	3.68	3.86	4.07	4.30	4.56	4.87

WACC	Normalised EBITDA Margin							
	12.4%	12.6%	12.8%	13.0%	13.2%	13.4%	13.6%	
6.47%	7.29	7.46	7.62	7.78	7.94	8.10	8.27	
6.97%	6.45	6.59	6.73	6.87	7.01	7.16	7.30	
7.47%	5.74	5.87	5.99	6.12	6.24	6.37	6.49	
7.97%	5.15	5.26	5.37	5.5	5.59	5.71	5.82	
8.47%	4.64	4.74	4.84	4.94	5.04	5.14	5.24	
8.97%	4.21	4.29	4.38	4.47	4.56	4.65	4.74	
9.47%	3.82	3.90	3.99	4.07	4.15	4.23	4.31	



Definition of Zero Growth Value (ZGV)

ESN carried out a valuation based on the Value of Normalised Earnings (VNE) or Zero Growth Value (ZGV). In this approach, we assume that current earnings levels are sustainable on a long term basis. But we do not take into account future growth, which we deem too unstable and difficult to estimate.

This approach is based on a very simple algorithm: EBIT (adj.) after tax = normalised earnings with zero growth, where EBIT is the 3 year simple average of EBIT adjusted for non recurrent items, thus EBIT (adj.). In a stricter approach, EBIT should also be adjusted for the cost of growth: advertising charges allocated for the purpose of winning market share, the proportion of amortisation corresponding to growth investments, R&D corresponding to anything other than maintaining existing products, etc. With EBIT taken to indicate a perpetual rent, we discount the value of zero-growth earnings by taking EBIT after normalised tax and then deducting debt according to the following formula:

$$\text{ZGV} = [(\text{EBIT adj.} - \text{normative tax}) / \text{WACC}] - \text{net debt}$$

It should be noted that this approach is similar to the company valuation concepts given in Stewart & Co's "The Quest for Value".

Note how the author values a company:

$$\begin{aligned} V &= \text{Debt} + \text{Equity} = \underbrace{\text{NOPAT} / c}_{(A)} + \underbrace{t \times D}_{(B)} + \underbrace{[I \times (r - c^*) \times T] / [c^* \times (1 + c)]}_{(C)} \\ V &= (A) + (B) + (C) \end{aligned}$$

- (A) value of current operations,
- (B) value of tax savings linked to debt, "t" indicates tax rate, "D" indicates Debt,
- (C) value of future growth – (where "c" indicates cost of capital, "I" the amount of investment the company can allocate each year to new projects, "T" the number of years during which the company could indicate new projects, and "r" the rate of return on these new projects).

In the Earning-Power Value approach, the value investor only attaches value to the first term (A). This equation therefore allows us to make a distinction vs. growth investors, who focus on long term value. This method involves assessing the difference between current market capitalisation and theoretical ZGV or VNE.



Zero Growth Value (ZGV) vs. Value of Growth

We use a “value” framework to give us the clearest, most objective appraisal of the market’s perception of a company. All share prices can be split into their 2 main constituent parts:

- **Intrinsic Value of a firm’s present cash flow** (how much is today’s cash flow worth as a simple annuity, which we define as the firm’s zero growth value)
- **Value of Future Growth**

We also look at the level of Gross Investment a firm has made. This is important to see if a firm is creating or destroying value over time. If a firm has invested EUR 100m and has by so doing created a cash flow stream with an intrinsic annuity value of EUR 200m it has clearly created value. The firm in effect has a franchise allowing it to make super-normal returns.

We define the difference between the Zero Growth Value of the firm and its Investment Cost as a firm’s Franchise Value.

Our final adjustment is to add any cash balances or subtract debt from a firm’s zero growth value. The resulting value is the current value of the firm if the firm was run for cash and not for growth.

Using the term “zero growth” or “intrinsic value” seems to imply some sort of attractive floor to a firm’s valuation. Given that “zero growth” also implies existing cash flows continuing unchanged into perpetuity, some have objected that rather than being a safe “worst case” valuation, it is too aggressive given that all companies have finite lives. However, to be consistent this objection would lead such investors never to buy a company above a PE of 11x or 12x (i.e. If our expected return from holding a stock is 9% on earnings of 1 then $1/9\% = 11.1$ or a PE of 11.1x).

All this analysis provides an objective picture of what the market is factoring in terms of growth. It is simply a barometer of the level of optimism or pessimism of the market towards a particular stock, nothing more. Any judgement of whether a company is attractive or not follows when a complete picture is provided by a strategic analysis of the firm:

- a firm trading below its zero growth value may be expensive
- a firm trading at twice its zero growth value may be cheap

It is just that the arguments supporting a firm trading at twice its intrinsic value need to be convincing to explain that the strong growth which is already in the share price is too pessimistic.

All this “value” framework provides a reality check to our recommendations.



Definition of items considered on the “VALUE SCREENING”

The criteria we use for the **Value Screening** are the following.

- **Low EV/CE multiple:** Capital employed valuation multiple
- **Low EV/EBITDA multiple:** earnings valuation multiple
- **High dividend yield multiple**
- **High multiple of zero growth valuation / market cap.:** assuming EBITDA (adj.) of year (n-1) as perpetual annuity, we are discounting the value of earnings at zero growth by using EBITDA adj. (n-1) after tax, deduction made from net debt. We then compare the zero growth valuation with the market's current valuation
- **Target price vs. share price leaving a high upside potential for the stock** – this is the only trace of subjectivity where we depend on the analysts' appreciation
- **High OpFCF yield ratio:** operating free cash flow / market cap – we are looking for stocks with a high capacity to generate cash given their market cap

Definition of items considered on the “GARP SCREENING”.

- **CAGR EPS:** we look for companies with the highest EPS growth
- **PEG ratio:** we look for companies where P/E vs. “g” i.e. EPS growth is the most attractive
- **(EV / CE) / (ROCE / WACC):** this is a way to compare valuation (EV / CE) with the return generated by the company (ROCE / WACC). This ratio calculates whether the premium accorded by the market to a given company in relation to its capital employed (EV/CE) correlates with the profit generated by this same capital employed in relation to its cost (ROCE/WACC)
- **Op FCF / Sales:** this is not a valuation criteria. However, this ratio is probably one of the most efficient one to measure the capacity to generate strong cash flow. This is a quick way to assess the strength of the franchise of a business
- **Target price vs. share price leaving a high upside potential for the stock** – this is the only trace of subjectivity where we depend on the analysts' appreciation



Methodology for the calculation of the “Levered Beta” or “Company Risk Factor”

Methodology for calculating the “Levered Beta” (also defined as “Company Risk Factor”) on the basis of a multi-criteria approach, inspired by Stern & Stewart (“The quest for value”).

Stern & Stewart define three types of risk: A) Business Risk; B) Company Risk and C) Financial Risk.

A) BUSINESS RISK (or SECTOR RISK)

“Business risk” can also be named “Sector risk”. This risk is calculated on the basis of the sector’s prices volatility (statistical beta over a five-year period relative to the Stoxx 600 Index). The Betas extracted from the data providers are usually levered; therefore they are transformed into unlevered Betas (by applying the formula $\text{Beta Unlevered} = \text{Beta Levered} / [1 + (1 - \text{Normative tax rate}) \times (D/E)]$). Betas obtained in this manner are then capped and floored between 1.2 and 0.8.

Sectors	Levered Beta relative to Stoxx 600 (5 years)	Unlevered Beta relative to Stoxx 600 (5 years) (*)	Capped and floored Unlevered Beta between 0.8 and 1.2
Automobiles & Parts	1,45	1,07	1,07
Banks	1,39	1,03	1,03
Renewable Energy	1,38	1,02	1,02
Basic Resources	1,37	1,02	1,02
Electronic & Electrical Equip.	1,36	1,00	1,00
Construction & Materials	1,27	0,94	0,94
Insurance	1,26	0,93	0,93
Industrial Engineering	1,23	0,91	0,91
Semiconductors	1,18	0,87	0,87
Telecom Equipment	1,14	0,84	0,84
General Industrials	1,12	0,83	0,83
Industrial G&S	1,11	0,82	0,82
Computer Services	1,09	0,81	0,81
Chemicals	1,09	0,81	0,81
Financial Services	1,08	0,80	0,80
Airlines	1,05	0,78	0,80
Technology	1,02	0,76	0,80
Personal Goods	1,02	0,76	0,80
Oil & Gas	0,98	0,73	0,80
Industrial Transportation	0,94	0,69	0,80
Aerospace & Defense	0,94	0,69	0,80
General Retailers	0,91	0,67	0,80
Media	0,91	0,67	0,80
Support Services	0,88	0,65	0,80
Utilities	0,88	0,65	0,80
Travel & Leisure	0,87	0,64	0,80
Personal & Household Goods	0,85	0,63	0,80
Internet	0,83	0,62	0,80
Retail	0,81	0,60	0,80
Software	0,81	0,60	0,80
Telecommunications	0,81	0,60	0,80
Household Goods	0,80	0,59	0,80
Food & Drug Retailers	0,74	0,55	0,80
Biotechnology	0,74	0,55	0,80
Healthcare	0,63	0,47	0,80
Food & Beverage	0,60	0,44	0,80

(*) Unlevered Betas have been obtained by applying the formula:

$\text{Beta Unlevered} = \text{Beta Levered} / [1 + (1 - \text{Normative Tax Rate}) \times (D/E)]$

with Normative Tax Rate assumed = 30% and D/E Assumed = 0.5



B) COMPANY RISK

“Company Risk” is a risk specific to a given company.

This risk is measured by three criteria:

- 1) Quality of management, corporate communication and financial transparency;
- 2) Cyclical nature of the business as measured by volatility of ROCE (volatility of ROE for Banking analysts) over a five-year period
- 3) Company size, defined as market capitalisation

1. Quality of management, corporate communication and financial transparency: graded from 1 (bad) to 5 (excellent). Grades are subsequently rebased between 0.8 and 1.2.
2. Volatility in ROCE (volatility of ROE for banking analysts) over a five-year period: the calculation is made on the basis of the standard deviation average ratio. Grades are subsequently rebased between 0.8 and 1.2.
3. Size (based on market capitalisation):
 - Small caps (market capitalisation <EUR 500m) are given a coefficient of 1.2;
 - Mid caps (market capitalisation ranging from EUR 500m to EUR 5bn) are given a coefficient of 1.1;
 - Big caps (>EUR 5bn) are given a coefficient of 0.8.

The Company Risk coefficient is obtained by:

- 1) calculating the average of the grade given for the quality of management and the volatility of ROCE (volatility of ROE for banking analysts); then 2) multiplying this average by the size coefficient.

The final coefficient can range from 0.64 to 1.44.

The Unlevered Beta is obtained by multiplying “Business Risk” by “Company Risk”.

Unlevered Beta = (A) * (B)

This is the Beta a company would have if it were not indebted.

The unlevered Beta can range from 0.51 to 1.73.



C) FINANCIAL RISK

“Financial Risk” is a risk linked to the firm’s financial structure. Levered Beta is calculated looking at a firm’s financial structure.

Financial risk is calculated in the following manner:

$$\text{Financial leverage} = 1 + (1 - \text{tax rate}) \times (\text{debt/equity})$$

The Debt/Equity or “gearing ratio” is a target of each company.

Not using a historic average, but clearly indicating the company’s own long term target gearing.

If the company is not indebted (negative gearing), financial risk is nil. Consequently, financial leverage = 1.

Due to the specific peculiarities of the Banking sector, analysts calculate the Financial Risk Factor taking into account the three parameters below, which correspond to a numerical Factor (each ranging from 0.5 to 1.3):

- Core Tier1 (ranging from <4% to >11%)
- Funding (ranging from “Weak” to “Strong”)
- Sovereign risk (ranging from >140% to <80%)

See table below

Factor	Capitalization	Funding	Sovereign risk (***)
0.5	CT1 > 11.0%	Strong (*)	< 80%
0.7	CT1 > 9.5%		< 100%
0.9	CT1 > 7.0%		< 120%
1.1	CT1 > 5.5%		< 140%
1.3	CT1 < 4.0%	Weak (**)	> 140%

(*) Strong = Low loan-to-deposit ratio, limited risk of rising deposit funding costs

(**) Weak = High loan-to-deposit ratio, high risk of rising funding costs

(***) Sovereign risk is calculated as country 10Y Gov. Bond rate relative to ESN European sample average

The Financial Risk for Banks is calculated by adding up the three numerical factors attributed to the three parameters (Capitalisation, Funding & Sovereign Risk). A maximum level (Cap) of 3.5% is set for the Financial Risk.

$$\text{Financial Risk for Banks} = \text{Capitalization Factor} + \text{Funding Factor} + \text{Sovereign risk Factor}$$

Therefore the Company Risk Factor for a bank can range from 0.88 to 3.50 (3.50 was set as “cap” or maximum level) and COE can range from 8.0% to 18.5%



"Levered Beta" or "Company Risk Factor" is determined by multiplying the Unlevered Beta by the financial leverage.

Levered Beta is obtained by multiplying "Business Risk" by "Company Risk" by "Financial Risk".

Levered Beta or Company Risk Factor = (A) * (B) * (C)

This is the Beta a company would have if is indebted.

The Levered Beta or Company Risk Factor can range from 0.51 to 3.11.

For the Banking sector the Company Risk Factor can range from 0.88 to 3.50. "3.50" was set as maximum level ("cap")

N.B: Beta coefficients given by Bloomberg or "Datastream" range from 0.2 to above 2

Table of beta calculation for an industrial company: an example and theoretical range of beta

"Levered Beta" calculation (or "Company Risk Factor" calculation)	Example Company XY	Low Beta (excellent)	Average Beta (average)	High Beta (bad)
(A) Business risk = 1(bad) to 5(excellent) Sector volatility vs. Market volatility (unlevered)	2 1,1	5 0,8	3 1	1 1,2
(B) Company risk				
(b1) Quality of management = 1(bad) to 5(excellent) Quality fin. Comm. Rebased	5 0,8	5 0,8	3 1	1 1,2
(b2) Volatility of ROCE (over 5 years) = 1(bad) to 5(excellent) Volatility ROCE rebased	5 0,8	5 0,8	3 1,0	1 1,2
(b3) Size = 1(bad) to 3(excellent) Small 1,2 Mid 1,1 Big 0,8	1 1,2	3 0,8	2 1,1	1 1,2
(B) Company risk = (average (b1;b2)) x b3	0,96	0,64	1,10	1,44
Unlevered beta = (A) x (B)	1,06	0,51	1,10	1,73
(C) Financial risk				
Normative tax rate	30%	20%	30%	60%
Target Debt/Equity	0,50	0,00	0,50	2,00
(C) Financial risk = (1 + (1-norm. tax rate) x (target gearing))	1,35	1,00	1,35	1,80
"Levered Beta" or "Company Risk Factor" = (A) x (B) x (C)	1,43	0,51	1,49	3,11

Note: in blue are input of the analyst