Writing a Financial Report: Some Guidelines

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1. A guiding principle

Wealth creation …

requires investments …

that need to be funded …

and be sufficiently profitable

In the long run, a company can survive only if it **creates value** for its shareholders and meets its commitments towards all its **stakeholders**.

To do so, it must:

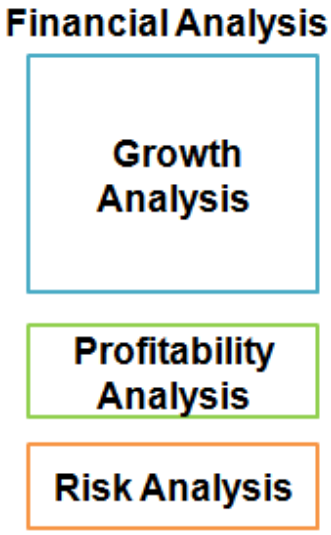
Generate wealth

Invest

Finance its investments

Generate a sufficient return on investment

Anticipate and manage illiquidity risk



2. An example of analysis grid

How to conduct a financial analysis?

			The toolkit of the financial analyst 
Preliminary analysis	**(1) Strategic and Economic Assessment**	**1.1** Understand the characteristics of the sector in which the company operates… **1.2** … analyse the auditors' report and accounting policies **1.3** What do we expect to see ?	
Financial Analysis	**(2) Growth Analysis**	**2.1 Growth measurement**	**Sales, Net Income, EBITDA, Total Assets**
		2.2 How the firm uses its money?	**Fixed Assets, WC, Capital Employed, Cash flow from investment activities**
		2.3 Where does the money come from?	**Leverage, Equity, Net Debt, Capital Invested, Short-term debt, etc.**
		2.4 Analysis of the Cash Cycle	**WC in days' worth of sales; Cash flow from operating, FCF**
	(3) Profitability Analysis	**3.1 Margin analysis**	**Profitability ratios, Cost structure**
		3.2 Return on Invested Capital (ROIC)	**ROIC = NOPAT/ Capital Employed** **ROIC = Oper. Margin * Asset turnover** **Economic Value Added = ROIC - WACC**
		3.3 Return on Equity (ROE)	**ROE = Net Income/ Equity** **ROE = ROIC + Leverage effect** **Residual Income= ROE - r_e**
	(4) Risk Analysis	**4.1 Short-term liquidity risk**	**Current ratio** **Quick ratio**
		4.2 Solvency risk	**Interest coverage ratio, leverage, etc.**
Summary note	**(5) Recommendations**	**5. Develop and communicate conclusions / recommendations**	

3. Financial ratios: the toolkit of the financial analyst

This section provides a selection of most common financial ratios that you can use for your financial report.

3.1. Growth Analysis

Wealth creation at a glance

	Ratio definition
Net Sales	**Growth rate**
Total Assets	**Growth rate**
EBITDA	**Growth rate**
Net Income	**Growth rate**

FAQ 1. How to calculate growth rate when the value goes from positive to negative or from negative to positive ?

	A	B	C	D	E	F
1				**Growth rate=(V_1-V_0)/(ABS(V_0))**		**ABS: absolute value**
2						
3				**Growth rate**		
4		year 1	100			
5		year 2	120	20,0%	**=(C5-C4)/(ABS(C4))**	
6		year 3	100	-16,7%	=(C6-C5)/(ABS(C5))	
7		year 4	-20	-120,0%	=(C7-C6)/(ABS(C6))	
8		year 5	-100	-400,0%	=(C8-C7)/(ABS(C7))	Check: 400% of 20 is 80 therefore -20 - 80 = -100
9		year 6	40	140,0%	=(C9-C8)/(ABS(C8))	Check: 140% of 100 is 140 therefore -100 +140 = +40

Investment Policy: How the firm uses its money?

	Ratio definition
Fixed Assets / Total Assets Inventory / Total Assets Accounts Receivable / Total Assets Cash & Equivalent / Total Assets	**Balance Sheet** **Common-Size measures: Asset Structure** $\text{Assets Structure Ratios} = \frac{\text{Asset (i)}}{\text{Total Assets}}$
Fixed Assets (I)	**Balance sheet data: total non-current assets**

Operating Working Capital (II)	**= Inventories** **+ Accounts Receivable (including other receivables)** **– Accounts Payable (including Other operating liabilities)**
Capital Employed (I)+(II)	**Fixed Assets + Operating Working Capital**

FAQ 2. Should we include "other operating assets" and "other operating liabilities" in the calculation of Operating Working capital?

Please note that you should include "other operating assets" (which are expected to be converted in cash in less than one year) and "other operating liabilities" (which are due in less than one year) when computing net working capital. Otherwise, the equation "Capital employed = Invested Capital" may not be effective.

Examples of other operating assets: prepayments, deferred tax assets, and other trade receivables

Examples of other operating and accrued[1] liabilities : tax payables, social security, salaries due to employees, Medicare, deferred tax liabilities, prepayments, etc.

Operating Working capital needs= Inventories + Accounts Receivable (including other receivables) – Accounts Payable (including other operating liabilities)

FAQ 3. Net Working Capital or Working capital needs?

There are several denominations for Operating Working Capital:

- Operating Working Capital (OWC)
- Working Capital Requirements (WCR)
- Working capital needs
- « Working capital »

[1] An accrued liability is an expense that a business has incurred but has not yet paid. A company can accrue liabilities for any number of obligations, and the accruals can be recorded as either short-term or long-term liabilities on a company's balance sheet. Payroll taxes, including Social Security, Medicare and federal unemployment taxes are liabilities that can be accrued in preparation for payment before the taxes are past due.

Financial Resources: Where does the money come from?

	Ratio definition
Financial Leverage	$\text{Leverage (gearing) Ratio} = \text{Debt - Equity Ratio} = \frac{\text{Net Debt}}{\text{Total Equity}}$
Debt-to-capital ratio	$\text{Debt - to - Capital Ratio} = \frac{\text{Net Debt}}{\text{Net Debt} + \text{Total Equity}}$
Long-term debt / Total Liabilities Short-term debt / Total Liabilities Accounts payable / Total Liabilities	**Balance Sheet** **Common-Size measures: Liabilities Structure**
Shareholders' Equity (I)	**Balance sheet data: total shareholders' Equity**
Net Financial Debt (II)	$\text{Net Fin. Debt} = \text{Financial Debt} - \text{Cash \& Short term Investments}$ Financial debt = Long-term financial debt + Other non-current liabilities[2] + Short-term financial debt
Invested Capital (I)+(II)	= Shareholders' Equity + Net Debt

[2] Other non-current liabilities (Obligations, deferred tax, etc.)

Analysis of the Cash cycle

Working Capital Needs in days' worth of sales	Ratio definition
Inventory days + Receivable days (Including Other Receivable) - Payable Days (including Other operating liabilities)	$\text{Operating item Days} = \frac{\text{Operating item}}{\text{Sales}} * 365$
= Operating Working Capital days worth of sales	$\text{Working Capital Needs Days} = \frac{\text{Working Capital Needs}}{\text{Sales}} * 365$

Cash Analysis

	Ratio definition
Cash From Operating Activities (I)	**Data from Cash Flow Statement**
Cash From Investing Activities (II)	
Free Cash Flow (I+II)	
FCFF	**=EBIT * (1- t) + Noncash charges (D&A) – Increase in Working capital - Capex**
FCFE	**= Net income + Noncash charges (D&A) – Increase in Working capital - Capex + Net Borrowing**

3.2. Profitability analysis

Margin Analysis

	Ratio definition
Net Revenue	**100%**
Cost of sales	
Gross Margin	
Operating expenses	
EBITDA Margin	
Depreciation & amortization	**Common-size analysis - income statement :**
EBIT Margin	**Profit & expenses % of Net Revenue**
Net financial expenses	
Pretax Income	
- Corporate income tax	
Net Profit Margin	

NOPAT (Net Operating Profit After Tax)	**NOPAT % of Net Revenue**

$$\text{NOPAT} = \text{EBIT} * (1 - \text{Effective Corporate Tax Rate})$$

$$\text{Effective Corporate Tax Rate} = \frac{\text{Corporation Tax}}{\text{Earnings Before Tax}} * 100$$

ROIC (Return On Invested Capital)

	Ratio definition
NOPAT (Net Operating Profit After Tax) (I)	$NOPAT = EBIT * (1 - \text{Effective Corporate Tax Rate})$
* Turnover rate of Capital employed (II)	$\text{Turnover rate of invested capital} = \frac{\text{Net Revenue}}{\text{Invested Capital}}$
= ROIC (Return On Invested Capital) (I) * (II)	$ROIC = \frac{NOPAT}{\text{Invested Capital}}$

FAQ 4. The particular case of negative Net Debt, negative net cost of debt, and the calculation of ROIC

Example:

Cash = 70, Gross debt = 50, Equity = 200

⇨ net debt = - 20 => meaningless

⇨ Financial leverage = -20 / 200 = -10% => meaningless

Financial expenses = 2, Financial revenue = 3

⇨ Net cost of debt = -1 / -20 = 5% => false

Suggested solution:

Consider "gross debt" rather than "net debt" and "financial expenses" rather than "net financial expenses)

⇨ Net cost of debt = Financial expenses / Gross debt = 2 / 50 = + 4%

⇨ Financial leverage = Gross debt / Equity = 50 / 200 = + 25%

⇨ $$ROIC = \frac{NOPAT + \text{financial revenues}}{\text{Fixet Assets} + WC + \text{Cash}}$$

FAQ 5. The particular case of negative Net Cost of Debt

Example:

Cash = 30, Gross debt = 50, Equity = 200

⇨ net debt = + 20

⇨ Financial leverage = +20 / 200 = 10%

Financial expenses = 2, Financial revenue = 3

⇨ Net cost of debt = -1 / 20 = -5% => false

Suggested solution:

Consider "financial expenses" rather than "net financial expenses)

⇨ Net cost of debt = Financial expenses / net financial debt = 2 / 20 = + 10%

$$ROIC = \frac{\text{NOPAT} + \text{financial revenues}}{\text{Fixet Assets} + \text{WC}}$$

Return On Equity

	Ratio definition
ROE (Return On Equity)	$\text{ROE} = \frac{\text{Net Income}}{\text{Equity}}$

The Financial Leverage Effect

	Ratio definition
ROIC (I)	$\text{ROIC} = \frac{\text{NOPAT}}{\text{Invested Capital}}$
Net cost of debt (after tax) (II)	$\text{Net Cost of Debt} = \frac{\text{Net Fin. expenses} * (1 - \text{Tax rate})}{\text{Net Fin. Debt}}$
ROIC - Net cost of debt	(I) - (II)
* Financial Leverage (III)	$\text{Leverage (gearing) Ratio} = \text{Debt - Equity Ratio} = \frac{\text{Net Debt}}{\text{Total Equity}}$
= The Financial Leverage Effect ((I) - (II))*(III)	$\text{The Financial Leverage Effect} = (\text{ROIC - NCD}) * \frac{\text{Net Financial Debt}}{\text{Equity}}$

3.3. Illiquidity Risk Analysis

Short-term illiquidity risk

	Ratio definition
Current ratio	$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$
Quick ratio	$\text{Quick Ratio} = \frac{\text{Current Assets - Inventories}}{\text{Current Liabilities}}$
Cash ratio	$\text{Cash Ratio} = \frac{\text{Cash \& Cash equivalents} + \text{ST investments}}{\text{Current Liabilities}}$
Cash flow from operations to short-term debt ratio	$\text{CFO to ST Debt Ratio} = \frac{\text{Cash Flow from Operations}}{\text{Current Liabilities}}$

Long-term illiquidity risk

	Ratio definition
Long-term debt / Total Liabilities Short-term debt / Total Liabilities	**Balance Sheet** **Common-Size measures: Liabilities Structure**
Financial Leverage	$\text{Leverage (gearing) Ratio} = \text{Debt - Equity Ratio} = \frac{\text{Net Debt}}{\text{Total Equity}}$
Solvency ratio	$\text{Solvency Ratio} = \frac{\text{Equity}}{\text{Equity} + \text{Total Liabilities}}$
Interest Coverage ratio	$\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Net Financial Expenses}}$
Interest Coverage ratio (Cash)	$\text{Interest Coverage Ratio (Cash)} = \frac{\text{Cash Flow from Operations}}{\text{Net Financial Expenses}}$

FAQ 6. Negative Net Financial Expenses and the calculation of interest coverage Ratio

The interest coverage ratio is relevant only when net financial expenses (= - financial expenses + financial income) are negative, in other words, when financial expenses exceed financial income.

If financial income exceeds financial expenses, it is meaningless to calculate interest coverage, because there are no interest expenses to cover.

Debt to EBITDA	$\text{Debt to EBITDA} = \frac{\text{Net Fin. Debt}}{\text{EBITDA}}$
Debt to Cash flow from operations ratio	$\text{Debt to CFO} = \frac{\text{Net Fin. Debt}}{\text{Cash Flow from Operations}}$

4. Guidance on Data collection and financial statement documents

Target company

- It would be better to choose a (non-financial[3]) listed company to ensure data availability.
- Non listed companies are acceptable, but be sure to have sufficient data
- Please note that Lufthansa will be analyzed in class
- Ideally, a company that is facing financial or operating difficulties ☺
- It would be great, if possible, to have data concerning one of the major competitors of your target company (advisable work but not mandatory)

Financial statement documents

Some companies provide overly-detailed financial documents with too much information.

- ⇨ Many details are useless for our purpose
- ⇨ You should aggregate details according to the simplified financial statement documents that we have seen in class (see below)

[3] Financial statements for banks present a different analytical problem than statements for manufacturing and service companies. As a result, analysis of a bank's financial statements requires a distinct approach that recognizes a bank's unique risks.

Income Statement

By function or by nature format?

- ⇨ Both are acceptable
- ⇨ Please ensure to get data – at least - on the following items (highlighted in green):

	Guidance notes
Net Revenue	
Cost of sales **Gross Margin** Operating expenses	If these data are not available, you can report and derive: Cost of sales & operating expenses = Net Revenue - EBITDA
EBITDA	If EBITDA is not explicitly recorded, you can compute : EBITDA = EBIT - Depreciation & amortization
Depreciation & amortization	If Depreciation & amortization is not explicitly recorded: you can find information on this items in the Cash Flow Statement or in the notes relative to Income Statement (See Annual Report)
EBIT	
Net financial expenses	
Pretax Income	
Corporate income tax	
Net Income	

FAQ 7. What should we do when EBITDA is not explicitly recorded in the income statement?

If EBITDA is not explicitly recorded, you can find information on this items in the Cash Flow Statement or in the notes relative to Income Statement (See Annual Report)

You can compute EBITDA as follows:

EBITDA = EBIT* - Depreciation & amortization

In some income statements, the EBIT might be called “Operating Income” or “Results from operating activities”, etc. Whatever the appellation, please ensure that the proxy for the EBIT corresponds to the operating income **before deduction of financial expenses (revenues)**.

NKE Income Statement

Quarterly

Collapse All

Period Ending:	2013 31-mai
Total Revenue	25313
Revenue	25313
Other Revenue, Total	-
Cost of Revenue, Total	14279
Gross Profit	11034
Total Operating Expenses	22075
Selling/General/Admin. Expenses, Total	7796
Research & Development	-
Depreciation / Amortization	-
Interest Expense (Income) - Net Operating	-
Unusual Expense (Income)	-
Other Operating Expenses, Total	-
Operating Income	**3238**
Interest Income (Expense), Net Non-Operating	59
Gain (Loss) on Sale of Assets	-
Other, Net	-41
Net Income Before Taxes	**3256**
Provision for Income Taxes	805
Net Income After Taxes	**2451**

FAQ 8. Amortisation & depreciation falls in the expenses category (under Personnel) expenses and not at the end of the statement!

The example of Heineken

HEINEKEN

MEDIA RELEASE

CONSOLIDATED INCOME STATEMENT

For the year ended 31 December *In millions of EUR*	2016	2015
Revenue	20,792	20,511
Other income	46	411
Raw materials, consumables and services	(13,003)	(12,931)
Personnel expenses	(3,263)	(3,322)
Amortisation, depreciation and impairments	(1,817)	(1,594)
Total expenses	(18,083)	(17,847)
Results from operating activities	2,755	3,075
Interest income	60	60
Interest expenses	(419)	(412)
Other net finance income/(expenses)	(134)	(57)
Net finance expenses	(493)	(409)
Share of profit of associates and joint ventures and impairments thereof (net of income tax)	150	172
Profit before income tax	2,412	2,838
Income tax expense	(673)	(697)
Profit	1,739	2,141

=> This is because the company uses the "by nature " format of the income statement and not the "by function" format. (cf. section 4. Income statement)

In this case the EBIT = Results from operating activities
EBITDA = Results from operating activities - Amortization and depreciation

Cash Flow Statement

Please ensure to get data – at least - on the following items (highlighted in green):

Net Earnings

+ Depreciation and amortization

+ Other adjustments to reconcile net income to cash

- Increase in working capital

= Cash From Operating Activities (I)

- Capital expenditures
- Acquisitions and other investing activity
+ Sales of property, plant and equipment
+ Divestments of subsidiaries and other operations

= Cash From Investing Activities (II)

- Dividends paid
+ Sale or purchase of shares
+ Increase/decrease in short-term borrowing
+ Increase/decrease in long-term borrowing

= Cash From Financing Activities (III)

Change in cash and cash equivalents = I+II+III

Balance Sheet

Assets
Goodwill
Intellectual property rights, brands and other intangible assets
Net Property, Plant and Equipment
Financial Assets (Equity in Joint ventures, investments in shares and participations, deferred tax assets, etc.)
Total non-current assets
Inventories
Accounts receivables
Other receivables (prepayments, deferred tax assets and other trade receivables)
Short-term investments
Cash and cash equivalents
Total current assets
TOTAL NET ASSETS

Liabilities and Shareholders' Equity
Share Capital
Reserves
Retained earnings
Others (non-controlling interest, minority interests, etc.)
Total Shareholders' Equity
Long-term financial debt
Other non-current liabilities (Obligations, deferred tax, etc.)
Non-current liabilities
Short-term financial debt
Accounts payable
Other operating liabilities (tax payables, social security, salaries due to employees, prepayments, deferred tax liabilities, etc.)
Current liabilities
Total Liabilities
TOTAL LIABILITIES AND EQUITY

5. Assessment and required documents

This work will account for 50% of the total grade.

Evaluation will be based on (i) the calculation of financial ratios (in the excel file), and (ii) the analysis of these ratios (in the power-point document).

Required documents:

1. An excel file with financial statement data and financial ratios (see the example of Carlsberg)
2. A power-point document including your presentation

6. Detailed marking-scheme

Structure of the Financial report	**Detailed marking-scheme**
Strategic and Economic Assessment	**3**
Growth analysis (Sales vs Assets/EBITDA/NetIncome)	**3**
Investment policy analysis	**3**
Financial policy analysis	**3**
Working capital in days worth of sales	**3**
Cash cycle - Free cash flow analysis	**3**
Margin analysis & cost structure	**3**
Margin analysis & peers analysis	**2**
Operational return (ROIC) & asset turnover	**3**
Operational return (ROIC) & EVA analysis	**1**
Operational return (ROIC) & peers analysis	**2**
ROE & Leverage effect	**3**
ROE & Residual income	**1**
Illiquidity risk	**2**
Solvency risk	**2**
SWOT analysis	**3**
Total	**40**
Total /20	**20**

7. Index FAQ