# Instructors' Manual

## Financial Statement Analysis

Valuation · Credit analysis · Performance Evaluation

2nd edition

Thomas Plenborg

Finn Kinserdal

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**Companion Website for students**

- Multiple choice testing your understanding (with solutions)
- Online glossary to explain key terms
- Feedback to authors'

**For instructors (tutors, lecturers)**

- Solutions to review questions
- Solutions to multiple choice questions
- PowerPoint slides that can be downloaded and used in teaching
- Feedback to authors'

We hope that you and your students will find the text both accessible and interesting. We would much appreciate any suggestions that you may have on how the text and the supplementary material may be improved. Please send a mail to the editor or the authors to provide any comments that you have.

Thomas Plenborg
Finn Kinserdal

Bergen and Copenhagen
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# Authors' notes to tutors

## Using the text

The text is designed to provide readers with a sound introduction to financial statement analysis. Many of the techniques discussed in this book can be used to value firms, assess credit-worthiness and design accounting based incentive plans for executives. However, people interested in related matters such as financial management and risk management may also find inspiration in this book. The book is designed so that it can be used in financial statement analysis at MBA, Master in Accounting and Finance, executive programs, and undergraduate programs in Accounting and Finance.

Since financial statements typically serve as the primary source of data in financial statement analysis, the text book assumes previous knowledge of accounting, but at the same time recognises that students using the text may come from a wide variety of backgrounds. The book can therefore be read with only a minor prior knowledge of financial accounting and reporting. However, to gain the full benefit from reading the book, we recommend that students have a basic understanding on financial accounting. For a diverse group of students lecturers may therefore put additional emphasis on chapter 2 and 3 where financial statements and basic bookkeeping are introduced.

An important premise when reading this text book is that although a firm's financial statement serves as an important source of information, it is crucial that additional information is collected and analysed. This includes an understanding of the firm's strategy and its competitors and the markets which it serves. Thereby it is possible to analyse the financials much more intelligently and generate more powerful analyses.

The text has been class-tested by students on various courses, and we have modified and refined the material to take account of their comments. We have also taken into account the comments made by lecturers who used it in their course.

Most text books on financial statement analysis primarily focus on investors. This implies that the analysis aims at supporting a valuation perspective. This book differs from other books by introducing and developing a framework for financial statement analysis that takes a wider user perspective. In addition to valuation we also focus on credit analysis and design of accounting based incentive plans for executives. This implies that the book takes the view point of an equity analyst, credit analyst and compensation analyst, respectively. This book recognises that these three users make decisions in different contexts using different aspects of financial statements. So, to make optimum decisions, we focus on each of these contexts separately using different accounting information and applying different sets of financial ratios.

The structure of the text allows the lecturer to deliver the subject in a number of ways. It can be used as recommended reading for a traditional course in financial statement analysis based on lectures and tutorials. There are review questions at the end of each chapter that can be used as the basis for tutorials. It could also provide the basis for a distance learning approach for part-time

or off-campus students. For these students, the interactive nature of the text may be extremely useful where access to a tutor is restricted. The text can also be used as the basis for an open-learning approach for full-time campus-based students.

## PowerPoint slides

A comprehensive set of slides are developed for each chapter. These slides should help in delivering lectures and tutorials. They can be obtained by request to the editor or the authors.

## Practice/assessment material (cases etc.)

In the Instructors' Manual there are a number of review questions. These are short, narrative questions involving recall, explanation and brief discussion. The review questions are identical with the ones listed in the text book. Further, there is a multiple choice with 10 questions which address the most important aspects of each chapter. The multiple choice questions come with a solution.

## Ordering of material

The book is divided into four themes which combined gives you an excellent insight into financial statement analysis. They include information on:

- Accounting data
- Financial analysis (ratio analysis)
- Decision making
- Accounting flexibility and adjustments for decision-making

In the theme *'accounting data'* we present the different financial statements in the annual report. Needless to say, the familiarity with the components of the annual report is an essential prerequisite for understanding the other themes of this book. Based on our experience many students as well as practitioners have only limited knowledge on how firms record (double-entry bookkeeping) transactions and enter them into different financial statements. This will also help them making adjustments to the annual accounts as discussed in chapter 17. Lecturers may therefore devote extra time on chapter 2 where the double entry bookkeeping system is revisited.

In the theme *'financial analysis'* we discuss in details how to measure and analyse a firm's profitability, growth, and risk. In chapters 4 and 5 the concept on profitability is introduced and various financial ratios are defined. Good profitability is important for a firm's future survival and to ensure a satisfactory return to shareholders. The historical profitability is also an important element in defining the future expectations for a firm. Growth is introduced in chapter 6 and various financial ratios measuring growth are introduced. Growth is seen by many as the driving force for future progress in firms. It is therefore essential to measure growth and ensures that it is profitable. The concept of liquidity risk is introduced in chapter 7 and different financial ratios are defined and analysed. The monitoring of the liquidity risk is central to any business. Without liquidity a firm cannot pay its bills or carry out profitable investments and in extreme cases lack of liquidity leads to bankruptcy.

In the theme *'decision making'* we apply the financial analysis on different decision contexts:

- Forecasting
- Cost of capital
- Valuation
- Credit analysis
- Evaluating and rewarding management's performance

Forecasting (pro forma statements), which is introduced in chapter 8, serves as the foundation for many business decisions. An understanding of how to build pro forma statements and ensuring that they are based on reasonable assumptions is therefore essential. In chapter 9 we discuss how to measure cost of capital. Cost of capital is a concept used across different decision contexts. For example, cost of capital serves as the discount factor in valuation and as a performance standard (threshold) in compensation schemes. Consequently, we discuss how to estimate the cost of capital. Chapter 10 on valuation gives an overview of the valuation techniques available and we discuss in details how to apply the most popular valuation techniques including the present value approaches such as the discounted cash flow model and Economic Value Added model, multiples such as the P/E ratio and EV/EBIT ratio and the asset based approach. Chapter 11 on credit analysis aims at assessing a firm's ability and willingness to pay its financial obligations in a timely manner. It examines the probability that a firm defaults and the potential loss in case of a default. Finally, chapter 12 on incentive plans addresses some of the financial issues when designing an executive accounting based incentive plan.

In the first three themes we have taken reported financial data at face value. In the final theme, *accounting flexibility and adjustments for decision making*, we challenge the accounting data used in the financial analysis. The concepts of 'accounting quality' and 'accounting flexibility' are defined in chapter 13 and subsequently, we document that management has some flexibility and discretion in producing financial statements. Chapter 14 reviews the main areas where accounting flexibility exists under IFRS and examines how the flexibility affects the income statement and balance sheet. In chapter 15 we demonstrate how the accounting flexibility may be misused by the preparers of financial statements; i.e. the management. Thus, in this chapter we discuss earnings management and fraud. In chapter 16, we focus on how accounting for items with inherent accounting flexibility may distort the financial data that are used in different decision models by different users. Finally, in chapter 17, we show how to adjust the numbers presented in the annual report so that they serve as better input for the decision models used. We show that it is not a trivial task – rather it is a difficult and at times frustrating exercise due to lack of information.

The order in which topics are dealt with is clearly a matter of opinion. Our broad approach is to try to build up students' knowledge and understanding of ratio analysis and various decision models before addressing the quality of the accounting data. Based on our experience it is easier for students to deal with the topics 'accounting quality' and 'accounting flexibility' when they have obtained an understanding of the purpose of the analysis – such as firm valuation or credit analysis. It allows the lecturer to discuss an accounting item and relates it to specific decisions (valuation, credit analysis, remuneration) and models applied (present value models, multiples etc).

By organizing the material in themes it is possible to present the chapters/themes in different orders. Some may find it useful to discuss the concept of accounting quality and accounting flexibility (chapter 13) before introducing financial ratios (chapters 4-7). Further, lecturers may decide to apply only certain chapters from the text book due to the objective of the course or time constraints.

The remaining part of the instructor's manual provides solutions to review questions as well as multiple choice questions for each chapter.

# Chapter 1: Review questions

- *Who are the users of financial statements?*
  In principle all stakeholders are potential users of financial statements. In the text book we focus on three stakeholders: Equity-oriented stakeholders, debt capital oriented stakeholders and compensation oriented stakeholders.

- *What kinds of approaches are available for valuation?*
  There are four valuation approaches available:
  - Present value approach
  - Relative valuation approach (multiples)
  - Asset based approach
  - Contingent claim valuation approach (real option)

- *Is the data requirement identical across the different valuation approaches?*
  No. Data requirements deviate across valuation approaches. For instance, a present value approach requires estimates of the earnings potential of a firm. Thus, when predicting the future earnings potential of a firm, analysts will strive to ensure that historical data are based on unchanged accounting policies; i.e. similar accounting practice across time. This ensures that any observed trend is caused by underlying changes in operations rather than by changes in accounting policies.

  Valuation based on a relative value approach (multiples) requires a comparison of two or more firms' earnings (for earnings based multiples). This implies that the accounting practice should (ideally) be similar across firms.

  The asset based approach requires that assets and liabilities are measured at market values (fair values), since value based on this approach is calculated as the proceeds from selling all assets and settling the liabilities.

  The contingent claim valuation approach (real options) is not discussed in the book.

- *What kinds of approaches are available for credit evaluation?*
  Methods for estimating the probability of default include ratio analysis, credit rating, statistical models and forecasting (value at risk analyses).
  A credit evaluation also includes an estimate of the ultimate recovery. The ultimate recovery is usually estimated as the value of the *security and collaterals* plus creditor *liquidation dividends*.

- *Is the data requirement identical across the different approaches available for credit analysis?*
  No, data requirement deviates across the different approaches available for credit analysis. For instance, credit rating models typically compare financial ratios across firms. This implies that the accounting practice should (ideally) be similar across firms. The forecasting

approach requires estimates of the earnings potential of a firm. Thus, when predicting the future earnings potential of a firm, analysts will strive to ensure that historical data are based on unchanged accounting policies; i.e. similar accounting practice across time.

- *What are the challenges in designing an accounting based bonus plan?*
  Choice of performance measure
  Choice of performance standard
  Choice of pay to performance relation:
  - Linearity between performance and pay
  - Lump-sum bonuses
  - A minimum and maximum bonus

  Accounting issues

- *What are the four themes of this book?*
  Theme 1 discusses Accounting Data available for financial statement analysis
  Theme 2 analyses profitability, growth and risk
  Theme 3 focuses on decision making with an emphasis on a) forecasting, b) cost of capital , c) firm valuation, d) credit analysis and e) evaluation of management performance (design of an accounting based incentive plans for executives)
  Theme 4 discusses and analyses the concept of accounting flexibility and adjustments needed to analyse financial statements

# Chapter 2: Review questions

- *What are the key sources of information for an analyst, and how should they be ranked in reliability?*
  - Official documents including include prospectus, annual reports, quarterly reports, and management presentations
  - The firm's internet home-page
  - Press-releases and stock exchange announcement
  - Analyst report
  - Market reports prepared by industry expert firms and consultancy firms
  - News/articles in the press or magazines

  The annual report is considered the most reliable report as it is audited by an independent auditor and must be in compliance with accounting standards. Prospectus and quarterly reports are also considered reliable, since they are issued by the board and in most cases are reviewed (but not fully audited) by an auditor. These documents have certain requirements set by the stock exchange, national law and accounting standards. Presentations, stock exchange announcements and press-releases are somewhat less reliable, mainly due to the risk of unbalanced, incomplete or biased information. Analyst reports and reports by professional external experts and consulting firms might be highly valuable because they tend to be more objective and often are peer reviewed. Articles published in the press or in magazines vary in quality, insight, reliability and objectivity and are often regarded as the least reliable source of information.

- *What are the components of the financial statements?*
  - The income statement
  - The statement of financial position (or the balance sheet)
  - The cash flow statement
  - Statement of changes in equity
  - Notes, comprising a summary of significant accounting policies, accounting estimates and other explanatory information.

- *What are the main components of an income statement?*
  - Revenue
  - Operating expenses
  - Financial income and expenses
  - Taxes
  - Net earnings

- *What is the distinction between current and non-current assets?*
  Current assets are those that satisfy one or more of the following criteria:

  - It is expected to be realised in, or is intended for sale or consumption in, the entity's

(firm's) normal operating cycle
- It is held primarily for the purpose of being traded
- It is expected to be realised within twelve months after the reporting date
- It is cash or a cash equivalent.

Assets that do not meet any of these criteria shall be classified as non-current.

- *What is the distinction between current and non-current liabilities?*
  Current liabilities are those that satisfy any of the following criteria:

  - It is expected to be settled in the entity's (firm's) normal operation cycle
  - It is held primarily for the purpose of being traded
  - It is due to be settled within twelve months after the reporting date
  - The agency does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting date.

  All other liabilities shall be classified as non-current.

- *What are the three main categories of a cash flow statement?*
  - Cash flow from operating activities
  - Cash flow from investing activities
  - Cash flow from financing activities

- *Why is knowledge of bookkeeping a useful skill for an analyst?*
  Knowledge of bookkeeping is important as it provides the analyst with an understanding of the internal coherence of the income statement, balance sheet, statement of changes in owners' equity and cash flow statement. Furthermore, a thorough knowledge of bookkeeping is paramount in order to carry out a thorough financial statement analysis. Without knowing, say, how capitalising rather than expensing development costs affects the financial statements, the analyst will not be able to make such adjustments, and will, therefore, not be able to make proper decisions.

- *A payment from a customer must be credited the bank account – true or false?*
  False – it must be debited the bank account

- *An investment in property, plant and equipment must be debited assets – true or false?*
  True

# Chapter 3: Review questions

- *What is the distinction between accrual and cash flow based performance measures?*
  A cash flow based performance measure only recognises a transaction when it has a cash flow impact. An accrual based performance measure typically recognises a transaction at an earlier stage through the use of specific accounting standards – in an attempt to provide more value relevant information to users.

- *What are the most important performance measures from the income statement?*
  - Gross profit
  - EBITDA (earnings before interests, taxes, depreciation and amortisation)
  - EBIT (earnings before interests and taxes)
  - EBT (earnings before tax)
  - E (net earnings)

- *What are the most important performance measures from the cash flow statement?*
  - Cash flow from operating activities
  - Cash flow from investing activities
  - Cash flow from financing activities
  - Net cash flow for the period

- *How is shareholder value added measured?*
  Present value (end)
  - Present value (begin)
  + Dividends
  <u>- Capital contribution</u>
  = Shareholder value added (SVA)

- *What is the distinction between a multi-period and a single period performance measure?*
  A single-period performance measure only takes into account transactions within one measurement period such as one year. EBIT is an example of a single-period performance measure. A multi-period performance measure takes into account transactions covering several measurement periods. Shareholder value added is an example of a multi-period performance measure.

- *What are the advantages and disadvantages of accrual and cash flow based performance measures?*
  Criticism of cash flow based performance measures may be summarised as follows:

  - Failure to account for uncompleted transactions
  - Cash flows can be manipulated
  - No matching of cash flow and cash outflow from the same transaction

  Criticism of the accrual based performance measures may be summarised into the following points:

- Accruals problems – i.e. earnings measures can be manipulated (Arbitrary cost allocation and accounting estimates and alternative accounting policies)
- Time value of money is ignored

Often, the disadvantage of the cash flow based performance measures become the advantage of the accrual based performance measures and vice versa. For instance, accrual based performance measures account for incompleted transactions and match revenue with expenses from the same transaction.

- *Do the cash flow based performance measures appear more useful than accrual based performance measures?*
  Empirical tests across countries reveal that accrual based performance measures are more value relevant than cash flow based performance measures. For example, accrual based performance measures are able to explain approximately 10% of the annual stock return in comparison to 0%-4% for cash flow based performance measures.
  It is important to note cash flow based performance measures has incremental information content beyond accrual based performance measures.

- *In which analytical settings does the cash flows appears useful?*
  - Assessment of earnings quality
  - Assessment of financial flexibility
  - Assessment of short- and long term liquidity risk

- *Is EBITDA a useful proxy for cash flow from operating activities?*
  EBITDA is by some regarded as a useful proxy for cash flows from operating activities as it excludes the impact of non-cash items like depreciations and amortisations. However, using EBITDA as a measure of cash flows is problematic. First, it is difficult to justify that a significant portion of a firm's costs is excluded from operations. Depreciation is a proxy for the use of resources (e.g. property, plant, and equipment) that is needed in generating earnings. Thus, EBITDA includes the benefits (revenue) from those resources but excludes the related costs. Second, if EBITDA is used as a performance measure it will be difficult to compare businesses which grow organically with businesses which grow through acquisitions. For example, businesses that generate goodwill internally must expense those goodwill outlays due to measurement problems. Firms which acquire other businesses or activities, on the other hand, must capitalise goodwill, while the consumption of goodwill (goodwill impairment losses) is not recognised in EBITDA. Third, EBITDA does not take into account investments in net working capital (i.e. inventory, accounts receivable and operating liabilities) and taxes.

# Chapter 4: Review questions

- *What are the three analytical areas where ratio analysis appears useful?*
  - Profitability analysis
  - Growth analysis
  - Liquidity (risk) analysis

- *What are the typical sources of noise in a time-series analysis?*
  - Biased estimates and misuse of accounting flexibility
  - Different accounting policies across time
  - Different definitions of financial items and ratios over time
  - The impact of unusual items
  - The impact of acquisitions and divestments of businesses (different risk profile)
  - The impact of new products/markets (different risk profiles)
  - Change in capital structure across time

- *What are the typical sources of noise in a cross-sectional analysis?*
  - Differences in estimates and use of accounting flexibility over time
  - Different accounting policies across firms
  - The impact of unusual items
  - Different definitions of financial items and ratios over time
  - A comparison with firms that are not truly comparable (different products/markets/risk profile)
  - Differences in growth strategies – organic versus acquisition related growth
  - Differences in capital structure across firms
  -

- *Why is it important to make a distinction between operating and financing activities?*
  The purpose of dividing accounting items into operating and financing related activities is to obtain a better knowledge of the different sources of value creation in a firm. For example, investors consider operating profit as the primary source of value creation and in most cases they value operations separately from financing activities. Lenders consider operating profit as the primary source of debt servicing. Therefore, analysts spend time on reformulating the income statement and balance sheet so that these statements clearly distinct between operating and financing activities.

- *What is NOPAT?*
  Net Operating Profit After Tax and is measured as earnings before interests and tax (EBIT) less tax (on EBIT).

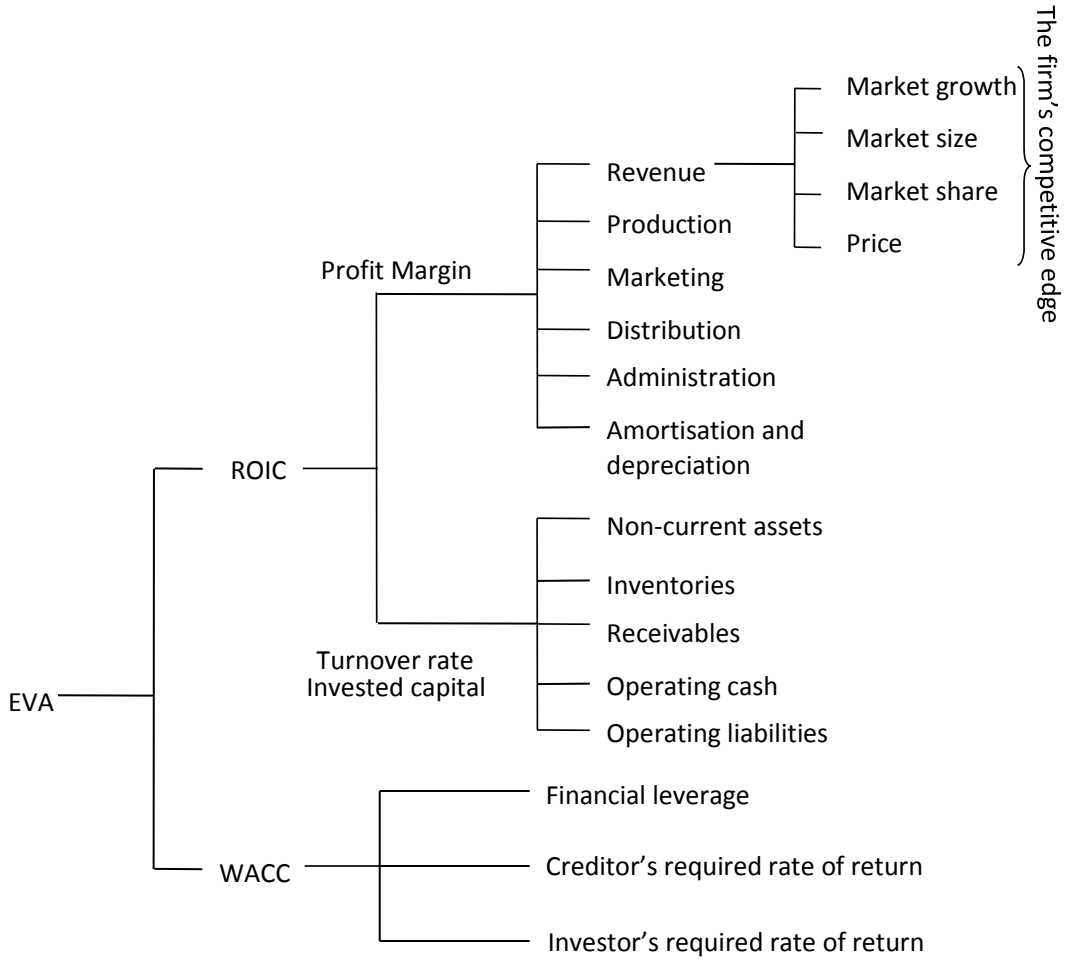
- *How is invested capital defined?*
  Invested capital represents the amount a firm has invested in its operations and which requires a return.

- *What challenges do an analyst typically face when measuring NOPAT and invested capital?*
  A number of items need to be carefully considered before it can be decided if they belong to operations or financing. Examples include:

  - Tax on ordinary activities
  - Investment in associates and related income and expenses from associates
  - Receivables and payables to group enterprises and associated firms
  - Cash and cash equivalents
  - Exchange rate differences
  - Derivative financial instruments
  - Retirement benefits
  - Tax payables and tax receiables

# Chapter 5: Review questions

- *Explain the structure of a profitability analysis?*




- *What is the definition of ROIC, profit margin and turnover rate of invested capital?*

ROIC (return on invested capital) after tax is measured as:

$$\text{ROIC} = \frac{\text{Net operating profit after tax (NOPAT)}}{\text{Invested capital}}$$

ROIC before tax is measured as:

$$\text{ROIC} = \frac{\text{EBIT}}{\text{Invested capital}}$$

Profit margin after tax is defined as:

$$\text{Profit margin} = \frac{\text{Net operating profit after tax (NOPAT)}}{\text{Net revenues}}$$

Profit margin before tax is defined as:

$$\text{Profit margin} = \frac{\text{Earnings before interests and taxes (EBIT)}}{\text{Net revenues}}$$

The turnover rate of invested capital is defined as:

$$\text{Turnover rate of invested capital} = \frac{\text{Net revenue}}{\text{Invested capital}}$$

- *When is it useful to define ROIC before and after tax, respectively?*
  To avoid the impact of different tax rates across firms, ROIC should be measured before tax when performing a benchmark analysis. Since taxes are an expense for shareholders ROIC should be measured after tax when measuring value creation.

- *A firm experiences a decrease in ROIC from 12 percent in year 1 to 5 percent in year 4. Provide potential explanations for the drop in ROIC of 7 percentage-points.*
  One explanation is a decrease in the profit margin; i.e. operating expenses grow more than revenue.
  Another explanation is a decrease in the turnover rate of invested capital; i.e. the utilisation of invested capital relative to revenue.

- *What are appropriate benchmarks for ROIC?*
  ROICE itself over time, weighted average cost of capital (WACC) and peers' ROIC.

- *What actions can management take to improve the profit margin?*
  Improve revenue (develop better products, increase sales of existing products, entering new markets etc)
  Reduce costs (production, sales, distribution, marketing, administration etc)
  Change the product mix (improve sales on high margin products)

- *A firm that realises a turnover rate of invested capital of 4.0 has invested capital 180 days on hand – true or false?*
  False – it has invested capital 90 days on hand (360/4.0)

- *What actions can management take to improve the turnover rate of invested capital?*
  - Improve revenue while maintaining invested capital at the same or at even lower level
  - Reduce invested capital while maintaining revenue at the same or an even higher level (reduce inventory, accounts receivable and extend accounts payables etc).

- *Explain the differences between indexing and common-size analyses.*
  Index numbers show the trend in important line items. However, index numbers do not reveal the *relative size* (importance) of each item. For this purpose, common size analysis is more useful. Common-size analysis scales each item as a percentage of for instance revenue or total assets.

- *What is the definition of ROE?*
  $$\text{Return on equity} = \frac{\text{Net earnings after tax}}{\text{Book value of equity}}$$

- *How does financial leverage affect the return to shareholders?*
  $$\text{Return on equity} = \text{ROIC} + (\text{ROIC} - \text{NBC}) \cdot \frac{\text{NIBL} *}{\text{be}}$$
  Where
  ROIC = Return on invested capital
  NBC = Net borrowing cost measured as a percentage
  NIBL = Net interest bearing liabilities*
  BVE = Book value of equity
  * Equal to net financing assets and liabilities using the terminology of the analytical balance sheet

- *What is the appropriate benchmark for ROE?*
  The appropriate benchmark is the cost of equity (shareholders' required rate of return)

# Chapter 6: Review questions

- *How is a firm's sustainable growth rate measured?*
  $$g = [ROIC + (ROIC - NBC) \cdot \frac{NIBL}{E}] \cdot (1 - PO)$$
  where

| | |
|---|---|
| g | Sustainable growth rate |
| ROIC | Return on invested capital after tax (based on the beginning of the year balance sheet) |
| NBC | Net borrowing cost measured as a percentage (based on the beginning of year balance sheet) |
| NIBL | Net interest-bearing liabilities (based on the beginning of year balance sheet), which is equal to net financing assets and liabilities |
| E | Equity (based on the beginning of year balance sheet) |
| PO | Payout ratio (dividend as a percentage of net profit) |

- *What types of information can be retrieved from the sustainable growth rate?*
  The sustainable growth rate informs about how fast a firm can grow while preserving its financial risk; i.e. maintaining the financial leverage at the same level despite growth.

- *What factors affect a firm's sustainable growth rate*
  ROIC, NBC, financial leverage and the payout ratio.

- *A firm's sustainable growth rate should be as high as possible – true or false?*
  False – a positive sustainable growth rate indicates that a firm reinvest some of its earnings in its business. This is only attractive for shareholders if these investments generate a return which exceeds the cost of capital.

- *How should a firm's growth rate be measured if value creation is a key objective?*
  Growth is only attractive if it adds value. Growth in Economic Value Added (EVA) ensures that growth is associated with value creation

- *Growth is always of the same quality – true or false?*
  False – growth based on recurring items is more sustainable in nature than growth based on non-recurring items.

- *Growth in EPS is always value creating – true or false?*
  EPS does not take into account investments and risk. Thus, growth in EPS may be negatively correlated with value creation.

- *Does growth in EPS from share buyback program always create value?*
  No – share buybacks only adds to EPS if ROIC exceeds net borrowing costs (NBC)

- *What is the relation between a firm's growth rate and its liquidity?*
  Growth is typically associated with investments in inventories, accounts receivable and property, plant equipment and intangible assets. Thus, the more 'asset heavy' a business is the more likely it is that growth affects the liquidity negatively.

# Chapter 7: Review questions

- *Why is it important to monitor the short and long-term liquidity closely?*
  Lack of liquidity can among other things:

  - Limit management's freedom of action
  - Reduce the potential for profitable investment opportunities
  - Force managers to divest profitable businesses with a substantial discount
  - Increase financial expenses
  - Lead to suspension of payment and possible bankruptcy

- *What areas need to be addressed when analysing the long-term liquidity risk?*
  The first question to ask when assessing the liquidity risk is if the firm has a sound financing structure. With that we mean if there is a good balance between equity and long-term and short-term financing, corresponding to the nature of the assets and the risk of operations.
  When the financing structure is in place the next question is if the firm on an ongoing basis has sufficient cash flows to pay interest and instalments. A related issue to the ability to meet future obligations is whether a firm has liquidity reserves for rainy days; i.e. events that have significant impact on the cash outflows. Finally, is the firm liquidity efficient; i.e. is the firm utilising its spending on working capital and other related assets in an efficient manner?
  In summary:
  - Does the firm have a sound financing structure?
  - Is cash from operations sufficient to pay debt on an ongoing basis?
  - Are there liquidity reserves for a rainy day?
  - Is the firm liquidity efficient?

- *Provide examples of financial ratios measuring long-term liquidity.*
  - Equity ratio
  - Financial leverage
  - Risk tolerance equity ratio
  - Buffer equity ratio
  - Modified risk tolerance loss ratio
  - Long-term financing coverage ratio
  - Interest coverage ratio
  - Cash flow from operations to debt ratio
  - Debt to EBITDA ratio
  - Capital expenditure ratio
  - Liquidity reserve ratio
  - Working capital ratio
  - Liquidity cycle

- *Provide examples of financial ratios measuring short-term liquidity.*
  - Current ratio and quick ratio

- Cash flow from operations (CFO) to short-term debt ratio
- Cash burn rate
- Liquidity current reserve ratio

- *What are the potential shortcomings of financial ratios when assessing the liquidity risk?*
  Financial ratios measuring liquidity risk are

  - Based on historical accounting information and, therefore, backward-looking
  - Only describing parts of a firm's financial position
  - Less useful in the absence of an appropriate benchmark
  - Less useful if they are not used together
  - Sensitive to accounting estimates and choice of accounting policies
  - Does not distinct between recurring and non-recurring items

- *How can these shortcomings be addressed?*
  Perform a comprehensive analysis that uncovers all important aspects of a firm's financial position. In addition to the financial analysis outlined in this chapter, it should include a strategic analysis which encompasses an assessment of the industry attractiveness and the competitive edge of the firm being analysed relative to its peers. Ideally, the financial analysis and the strategic analysis should be merged into a quantitative assessment of the future cash flow potential of the firm.

# Chapter 8: Review questions

- *What does it mean that pro forma statements articulate?*
  It means that the book keeping is performed properly, so that the income statement, balance sheet and cash flow statement relate in a certain way.

- *How do you ensure that pro forma statements articulate?*
  By ensuring that the internal coherence of the income statement, balance sheet, statement of changes in owners' equity and cash flow statement is intact. For example, equity at year end, calculated as total assets less total liabilities, must equal equity at the beginning of the year plus net earnings less dividends.

- *Describe the eight value drivers in the value driver map.*
  Revenue growth, EBITDA-margin, depreciation and amortisation as a percentage of intangible and tangible assets, tax rate, net borrowing rate, intangible and tangible assets as a percentage of revenue, net working capital as a percentage of revenue and net interest bearing liabilities as a percentage of invested capital.

- *Describe factors affecting the eight value drivers.*
  Revenue growth: Demand, product development, pricing policy, etc.
  EBITDA-margin: Cost efficiency, (in/out)sourcing, raw materials, etc.
  Depreciation: Depreciation policy, assets mix, quality of assets, etc.
  Tax rate: Tax system, country of income generation, etc.
  Net borrowing rate: Type of loan, variable versus fixed interest rates, maturity, currency, etc.
  Intangible and tangible assets: Investment plans, growth, (in/out) sourcing, etc.
  Net working capital: Growth, efficiency, etc.
  Net interest bearing liabilities: Target capital structure, investment plans, access to capital etc.

- *Which elements are contained in a strategic analysis?*
  Following a top-down approach the following main themes should be included:
  - Macro-analysis such as the PESTLE analysis
  - Industry-analysis such as Porter's Five-Forces
  - Firm-specific analysis such as a value chain analysis and an assessment of internal resources
  - SWOT-analysis – summarising the results of the strategic analysis

- *What is the structure of a financial statement analysis?*
  Since the objective is a time series analysis, the analyst needs to address the following issues before calculating and interpreting financial value drivers for a specific firm.

  - Are accounting policies the same across time?
  - Are reported earnings affected by non-recurring items?

- Has the firm introduced new products or entered new market(s) with a different risk profile?
- Has the firm acquired or divested businesses, which have changed the levels and trends in key financial value drivers?

The purpose of a time series analysis is to identify and analyse the levels and trends in the underlying performance of a firm. Thus, the historical value drivers are calculated with the purpose of assessing levels and trends in these drivers.

- *Do you prefer an aggregated value driver set-up or a more refined one when developing pro forma statements?*
  The design of the value drivers and thereby the level of aggregation is influenced by a number of factors that need to be taken into account. For example, if detailed information is available such as internal information it seems useful to apply a more refined value driver approach. If the purpose of the analysis is short term forecasting such as predicting next year's earnings, a more refined value driver approach also seems useful as more information tend to be available. However, if the purpose of the analysis is long term forecasting, it is likely that a more aggregated value driver set up is more appropriate. This is mainly due to the fact that information tends to become cruder and less accurate the further ahead in time forecasts are made. In these cases analysts tend to focus on the long term behaviour of key financial value drivers such as growth and EBITDA-margins.

- *How do you judge if estimates appear achievable?*
  An evaluation of the estimates supporting the pro forma statements includes:
  - A quantitative assessment of historical and future ROIC (and potentially other financial ratios such as revenue growth rate)
  - A qualitative assessment of the analysis performed and evidence/data being used.

# Chapter 9: Review questions

- *Why is cost of capital a useful concept in financial statement analysis?*
  Cost of capital is useful in many contexts:
  - Valuation
  - Credit analysis
  - Remuneration
  - Hurdle rate for investment projects
  - Benchmark in performance measurement
  - Etc

- *What is meant by the capital structure?*
  The capital structure refers to the proportion of net interest bearing liabilities (NIBL) to equity. The capital structure has an impact on shareholders return and the cost of capital. For instance, cost of equity and the capital structure defined as NIBL to equity are positively correlated.

- *What is the interpretation of a firm with a beta of 2.0?*
  Beta refers to the systematic risk of a firm; i.e. the risk that cannot be diversified away through the holding of a portfolio of assets. It is only the systematic risk which is priced. A beta equal to one reflects that the asset has a risk similar to the market (average). A beta above one (for instance a beta of 2.0) suggests that the risk is above the average risk of the market.

- *Which fundamental factors should be considered when measuring beta?*
  There are broadly two fundamental risk factors which should be considered:
  - Operating risk
  - Financial risk

  Operating risk is affected by three risk factors – external risk, strategic risk and operational risk

  Financial risk is affected by (broadly) two factors – financial leverage and loan characteristics (for instance variable versus fixed interest rate, maturity and currency)

- *How is WACC measured?*
  WACC is defined as

$$\text{WACC} = \frac{\text{NIBL}}{(\text{NIBL} + \text{E})} \cdot \text{r}_\text{d} \cdot (1 - \text{t}) + \frac{\text{E}}{(\text{NIBL} + \text{E})} \cdot \text{r}_\text{e}$$

  Where

  NIBL = (Market value of) net interest bearing liabilities (net financing items)
  E = (Market value of) equity
  $r_d$ = Required rate of return on net interest bearing liabilities

$r_e$ = Required rate of return on equity
t = Corporate tax rate

- *How is the required rate of return on equity measured?*
  Most financial textbooks suggest using the Capital Asset Pricing Model (CAPM) when estimating the investors' required rate of return. According to CAPM investors' required rate of return is defined as:

  $r_e = r_f + \beta_e \cdot (r_m - r_f)$

  where
  $r_e$ = Investors' required rate of return
  $r_f$ = Risk-free interest rate
  $\beta_e$ = Systematic risk on equity (levered beta)
  $r_m$ = Return on the market portfolio

- *What are appropriate proxies for the risk free interest rate?*
  Theoretically, the best estimate of the risk free rate would be the expected return on a zero-beta portfolio. In reality, most analysts apply a single yield to maturity from a government bond that best matches the cash flows being valued or analysed. Although there are different government bonds to choose from, zero-coupon government bond are generally preferred. They are also known as stripped bonds or strips. This is motivated by the fact that the maturity is better established than alternative bonds and reinvestment risk is avoided. For valuation purposes, where the time horizon is often infinite, the risk free rate is proxied by 10-year or 30 year government zero-coupon government bond. While the 30 year government bond often matches the underlying cash flow better, it may also suffer from illiquidity which affects the yields. To handle issues such as inflation it is important that the government bond is denominated in the same currency as the underlying cash flows. This implies that local government bonds should be applied.

- *How can the market risk premium be measured?*
  There are typically two ways in which the risk premium can be determined:

  - Ex-post approach
  - Ex-ante approach

# Chapter 10: Review questions

- *Which approaches can be used for valuing a firm?*
  - A present value approach
  - A relative valuation approach
  - An asset based approach
  - A contingent claim valuation approach (real options)

- *What are the attributes of an ideal valuation approach?*
  **Attractive value attributes:**

  - Precision (unbiased estimates)
  - Realistic assumptions

  **Attractive user attributes**

  - User friendly
  - Understandable output

- *What is the theoretically correct model for valuing firms?*
  The dividend discount model

- *Why do present value models yield identical values?*
  Because they are theoretical equivalent; i.e. they can all be derived from the dividend discount model

- *What are multiples?*
  Multiples are a method which can be used to value firms. There are different ways that multiples can be applied. One way of carrying out a valuation is by using a multiple of a comparable firm on 'the target' firm's earnings. For instance, if P/E of a comparable firm is 15 and net earnings of 'the target' firm are 100 the estimated market value of 'target' firm is calculated as 15x100=1,500.

- *What are major assumptions which must be fulfilled in order to apply multiples?*
  Firms, which are compared, must have similar:
  - Profitability
  - Growth
  - Risk
  - Accounting policies

  Furthermore, the multiples assume an efficient capital market

- *What is the rationale behind using the asset based model?*
  The asset based value represents the value of the alternative uses of the assets. In a healthy industry with attractive growth rates and attractive returns, a firm's asset based value is typically less than its value as a going concern. In an industry with negative outlooks and poor returns, a firm's asset based value may exceed its value as a going concern.

  There are three types of asset based values:

  - Net Asset Value (NAV) uses the market or fair values of the assets and liabilities
  - 'Sum-of-parts' valuation is the sum of the value (using different techniques) of each segment or business unit in a firm
  - The liquidation value method is the net proceeds that a firm can obtain if it liquidates all its assets and settle all its liabilities in a forced sale situation

# Chapter 11: Review questions

- *What is the definition of expected loss?*
  The expected loss is defined as follows:
  Expected loss = probability of default (%) x (exposure at default – value of recovery)

- *What is meant by probability of default, exposure at default and ultimate recovery and recovery rate?*
  The probability of default is an estimate of the likelihood that the borrowing firm may default. The exposure at default is the outstanding debt including unpaid interests at default. The net proceed that the creditors receive given a default is the ultimate recovery. The recovery rate is proportion of the exposure at default which is recovered (ultimate recovery divided by exposure at default).

- *What are the steps of a credit analysis?*

  *Use and type of loan*

  1. An understanding of the intended use of the loan
  2. An understanding of the type of financing (loan)

  *Estimating probability of default*

  3. An understanding the business risk: an analysis of the industry, the firm and management
  4. An assessment of the firm's financial health based on historical financial data
     - Financial ratios
     - Credit rating
     - Statistical models (multiple discriminant analysis, logit analysis etc.)
  5. An assessment of the firm's financial health based on simulation of future cash flows

  *Estimating exposure at default and ultimate recovery (ratio)*

  6. Exposure at default
  7. Ultimate recovery and recovery rate

  *Estimating the expected loss*

  8. Summarising the results of the credit analysis
  9. Some caveats when estimating the expected loss
     - Correlation between probability of default and loss given default
     - Banks loan portfolio analysis (diversification and concentration risk)

- *What types of loans are available for firms?*
  - Corporate loans
  - Bonds
  - Medium-term notes – similar to bonds but dealers have no underwriting obligations
  - Private placements
  - Convertible debt and other hybrid instruments

- *What are key financial ratios for estimating the probability of default?*

| **Sound financing structure** | **Liquidity reserve for rainy days** |
|---|---|
| Equity ratio or Financial leverage ratio | Liquidity reserve ratio |
| (Modified) risk tolerance ratio | **Liquidity efficiency** |
| Long-term financing coverage ratio | Working capital ratio |
| **Funds from operations sufficient to pay debt** | Liquidity cycle (days) |
| Interest coverage ratio (cash or EBIT) | **Short-term liquidity risk** |
| CFO to debt (or NIBL) ratio | Current ratio or modified current ratio |
| Debt (NIBL) to EBITDA (or CFO) ratio | CFO to current financing liabilities ratio |
| Capital expenditure ratio | Cash burn rate or Liquidity reserve stress test |

- *What are the key statistical methods of estimating probability of default?*

  - Univariate analysis (e.g. Beaver 1966)
  - Multiple discriminant analysis (e.g. Altman 1968)
  - Logit analysis (e.g. Ohlson 1980)

- *How do credit agencies rate debt?*
  They rate debt according to the underlying risk. This risk is assessed based on a variety of financial ratios as shown in the example below from Standard & Poor's:

**Adjusted key industrial financial ratios**
**US Industrial long term debt**

| | High | | | Rating | | | Low |
|---|---|---|---|---|---|---|---|
| Three years median | AAA | AA | A | BBB | BB | B | CCC |
| EBIT Interest cover (x) | **21.4** | 10.1 | 6.1 | 3.7 | 2.1 | 0.8 | 0.1 |
| EBITDA interest cover (x) | 26.5 | 12.9 | 9.1 | 5.8 | 3.4 | 1.8 | 1.3 |
| Free operating cash flow/total debt (%) | 84.2 | 25.2 | 15.0 | 8.5 | 2.6 | -3.2 | -12.9 |
| FFO/total debt (%) | 128.8 | 55.4 | 43.2 | 30.8 | 18.8 | 7.8 | 1.6 |
| Return on capital (%) | **34.9** | 21.7 | 19.4 | 13.6 | 11.6 | 6.6 | 1.0 |
| Operating income/revenue (%) | 27.0 | 22.1 | 18.6 | 15.4 | 15.9 | 11.9 | 11.9 |
| Long-term debt/capital (%) | 13.3 | 28.2 | 33.9 | 42.5 | 57.2 | 69.7 | 68.8 |
| Total debt/capital (%) | 22.9 | 37.7 | 42.5 | 48.2 | 62.6 | 74.8 | 87.7 |
| Number of companies | 8 | 29 | 136 | 218 | 273 | 281 | 22 |

- *How do you estimate the exposure at default?*
  The estimation of exposure at default is not always straightforward. Most banks take a conservative view and assume that the current debt equals exposure at default. Some banks try to estimate the exposure of default at the most critical point in time; i.e. the year where the probability for default is highest.

- *What are the steps involved when estimating the liquidation value?*
  An estimation of the liquidation value typically follows these steps:

| | |
|---|---|
| | Book value of equity |
| +/– | The difference between the liquidation value and book value of assets |
| +/– | The difference between the liquidation value and book value of liabilities |
| +/– | The liquidation value of off-balance sheet items |
| – | Fees to lawyers, auditors, etc. |
| = | Liquidation value |

- *What are the caveats when estimating the expected loss?*
  - Correlation between probability of default and loss given default
  - Banks loan portfolio analysis (diversification and concentration risk)

# Chapter 12: Review questions

- *How would you measure management's performance under perfect and complete market conditions?*
  The difference between value-in-use and the fair value shows the value of management's performance. Thus, if the value-in-use is higher than the fair value of the assets, it shows that the market expects management to create excess returns.

- *Why is this model not applicable in the real world?*
  In the real world where market conditions are not necessarily perfect and complete we face two problems. First, assets and liabilities must be valued at fair value. This is usually possible for assets and liabilities which are traded on liquid market markets or where similar assets and liabilities are traded on liquid markets. Financial instruments, standard vessels or downtown offices may be examples of such assets and liabilities. However, for many types of assets and liabilities market values are not available. This includes the value of a brand, a claim and specialized plant and equipment. Hence a balance sheet based on fair value can only rarely be prepared. Second, the value-in-use must be estimated by management, where management has private information and may exercise discretion in its estimation. Thus, the measurement of the value creation in general and management's contribution to the value creation specifically is not a trivial task when market conditions are imperfect and incomplete.

- *What characterises an effective incentive plan?*
  An effective incentive plan has the following characteristics:
  - Congruence (criterion 1)
  - Controllability (criterion 2)
  - Simplicity (criterion 3)
  - Accounting issues (criterion 4)

- *What are the components of an incentive plan?*
  1. Choice of performance measure(s)
     a. Does it support the firm's strategy?
     b. How can it be avoided that management focuses solely on short term performance?
     c. Should an incentive plan be based on one or multiple performance measures?

  2. Choice of performance standards
     a. Should performance be based on internal or external standards?
     b. Should incentives be based on reported earnings, budgets or some other measures when internal standards are used?
     c. What are proper benchmarks for external standards?
     d. What are the pros and cons of internal and external standards?
     e. How and when should the performance standard be calibrated?

  3. Choice of pay to performance structure
     a. Should the incentive be linearly tied to performance without an upper/lower limit?

b. Should bonus be non-linear with a minimum (floor) and a maximum (cap)?
c. Should bonus be paid as a lump sum?

- *What are absolute performance measures?*
  Typically measures based on accounting numbers – examples include revenue, EBITDA and EBIT

- *What are relative performance measures?*
  Typically measures based on financial ratios – examples include ROIC, ROE and EVA

- *Which performance measures can be used in an incentive plan?*
  Single period performance measures including absolute as well as relative performance measures.
  Multiple period performance measures such as shareholder value added discussed in chapter 3.
  Single period performance measures are usually simple and easy to calculate and are based on audited accounting numbers. However, single period performance measures provide management with incentives to focus on short-term performance, which in the compensation literature is defined as the 'horizon problem'. Value creation, however, is a long-term phenomenon. Multiple period performance measures address the horizon problem. However, a multiple period performance measure such as SVA must usually be estimated by management, where management has private information and may exercise discretion in its estimation.

- *How should non-recurring items be treated in an incentive plan?*
  There is a need to consider non-recurring items on a case by case basis.

- *How should changes in accounting policies or estimates be treated in an incentive plan?*
  Ideally the impact of changes in accounting policies and estimates on the performance measure used should be eliminated.

- *What are the pros and cons of accounting based performance measures such as EBIT, EBITDA, net earnings etc.*
  Exemplified by earnings per share (EPS):
  - ✓ An increase in earnings per share should have a positive effect on firm value
  - EPS does not take into account risk and investments
  - EPS depends on applied accounting policies
  - EPS is affected by share buy-backs
  - If maximisation of EPS is the objective, then every investment pays, as long as it generates a return above the borrowing rate

- *Is economic value added (EVA) a perfect performance measure?*
  - ✓ Consistent with value creation
  - ✓ Cost of capital becomes visible
  - ✓ Simple to communicate

- ✓ General applicability
- Based on past earnings; does not consider future earnings
- Prone to accounting distortion (can be avoided by using change in EVA)
- Does not take the horizon problem (single vs. multi period performance measures) into consideration
- May not be easy to communicate to lay men

- *What are internal performance standards?*
  "Internally determined" standards are directly affected by management actions in the current or prior year.
  - Budget standards
  - Prior-year standards
  - Cost of capital
  - Discretionary standards
  - Timeless standards

- *What are external performance standards?*
  External standards are standards which are defined in relation to elements outside the firm and include benchmarking against competitors.

- *What are the issues in linearity between performance and bonuses?*
  The following represents pay to performance structure candidates:

  1. Linearity between performance and bonus
  2. Non-linearity with a minimum and a maximum bonus
  3. A lump sum bonus

  A linear pay to performance relation (i.e. linear relation with no cap or floor) avoid problems with earnings management. However, there may be other issues - such as to whether pay can be negative or extremely large (as compared to common standards).

- *What is a bonus bank?*
  A bonus bank separates the calculation of bonus from its actual payment. The basic idea is that bonuses are not being paid in full unless a satisfactory performance is obtained in subsequent years.

# Chapter 13: Review questions

- *How would you define accounting quality?*
  The text book adopts the definition of Gaynor et. al. (2016) who define higher accounting quality as '*more complete, neutral and free from error and provides more useful predictive or confirmatory information about the firm's underlying economic position and performance'.*

- *Why is there (a need for) accounting flexibility?*
  Because accounting should have unbiased best estimates, and facts and circumstances differ between different firms. No accounting flexibility (e.g. 10 year straight line depreciation for all machines) would be misleading.

- *Give examples of accounting flexibility*
  Most estimates are examples of accounting flexibility (useful life, impairment, write down for bad debt/obsolete inventory etc). Or capitalising versus expensing development costs.

- *What is a conceptual framework?*
  The idea behind the conceptual framework is to have some general definitions and principles that ensure consistent concepts in the various detailed accounting standards.

- *What are the key accounting issues described in an accounting standard under IFRS?*
  Key accounting issues include
  - the *scope* of the standard
  - *definitions*
  - *what* the recognition criteria are and *when* an event should be recognised
  - *how accounting* items should be *measured*
  - how accounting items should be *presented* (classification)
  - *information* that must be *disclosed*.

- *How are assets and liabilities defined under IFRS?*
  **An asset** is 'a present economic resource controlled by the entity as a result of past events'.
  **A liability** is 'a present obligation of the entity to transfer an economic resource as a result of past events'.

- *Give examples of inconsistencies in asset definition.*
  See the five examples 13.4-13.8; internally developed intangibles, assymetrical recognition, non-accraul of levies, measurement of fixed interest rate loans.

- *How are assets and liabilities measured under IFRS?*
  See Figure 13.2 and related text.

- *Give some examples of different measurement bases for different assets and liabilities.*
  See text related to Figure 13.2.

- *Give examples of inconsistencies in the measurement of assets and liabilities.*
  See text on pages 475 and 476; e.g. undiscounted deferred tax versus other discounted liabilities.

# Chapter 14: Review questions

- *What are the key elements of accounting flexibility for revenues?*
  The major flexibility issues in revenue recognition relate to *when* revenue shall be recognised (timing of recognition) and to a lesser extent by which amount revenue shall be recognised (measurement). Examples of flexibility includes when the criteria for recognising revenues are fulfilled, how total revenues and cost are estimated when revenues are recognised over time. Other areas include:
  - Modifications of an existing contract or a new contract?
  - Variable elements/considerations
  - Prepayments and non-refundable up-front fees
  - Vouchers
  - Warranties
  - Agents; net or gross

- *What are the different methods of valuing inventory and how do they affect profitability?*
  Inventory should be valued as the lower of cost or net realisable value. Cost might be valued using the FIFO or average method (also LIFO under US GAAP). If prices are steadily increasing inventory cost would be higher under LIFO than under average cost and FIFO.

- *How are EBITDA and profit and related ratios affected if intangible and tangible assets are capitalised instead of being expensed?*
  EBITDA would in general be improved, since capitalisation results in a reclassification of the costs from EBITDA to depreciation/amortisation. Net profit/earnings-effect depends on the depreciation/amortisation cost versus the alternative annual expense.
  Ratios like ROIC would often be quite stable if assets are capitalised, but be higher the first years and lower the last years than the corresponding ROIC if the same costs are expensed.

- *What are some elements explaining why there is high flexibility in impairment accounting?*
  Examples: Discount rates, estimated expected cash flows, life of the asset.

- *Why may a change in estimated useful life of an asset significantly affect profitability?*
  Because the new estimate will only affect future profits- but are based on the current book value. Hence an increase of useful life will reduce the annual depreciation going forward.

- *How did the IFRS 16 leasing accounting standard affect the balance sheet and income statement for firms?*
  Under IFRS 16 Leases, all lease contracts (exept contracts under one year and/or of small amounts) will be capitalised. Hence the equity ratio (but normally not the equity since the initial right-of-use asset is (normally) equal to the lease liability) ceteris paribus will decrease for firms who today use operating lease.

- *Why is there flexibility in whether an uncertain claim should be recognised as a provision? Why is there difference in the book value of such a claim and the value you would use in a*

*valuation?*
A provison should be recognised if it is probable and can be measured reliably. Both factors are subject to management discretion. The value of an uncertain claim (recognised or not) is the expected value of different outcomes or the expected sum that should be paid for others to take over the claim. This will be different from the book value of a contingent claim (not recognised; i.e. with a book value of zero).

- *How is pension cost for a year calculated? How are pension assets and pension liabilities valued?*
  In the income statement the annual pension cost is shown net as the sum of:
  - The present value of the pension rights earned for the year; often labelled '(current) service cost'.
    This is the 'true' pension cost for the year, and is the best starting point for predicting future pension cost. The other components below are either interests or effects of amendments in plans or assumptions.
  - Plus the interest cost (using the discount rate) of the pension liabilities
  - Minus the expected return on pension assets; using the discount rate as the expected return
  - Plus gains or losses on amendments to pension plan amendments/settlements ('past service cost' or, if there are significant amendments to the plan effecting future pension payments 'curtailments')
  - Plus salary taxes if applicable

  Pension assets (stocks, bonds and other securities that the insurance firm or pension fund has invested on behalf of the firm) are valued at fair values.

  Pension obligations are measured as the present value of expected pension payments on *earned* rights as of reporting.

- *What are the key issues when you review operating profit of different firms when there are sales in foreign currencies and some cash flow hedging?*
  Key issues are: Different classifcations of FX effects between firms in the income statement, the fact that management may choose whether they account for a de facto hedge as a hedge or not.

- *What are the key flexibility issues when a firm acquires a business or another firm?*
  The key flexibility is how the assets and liabilities are valued in a purchase price allocation (PPA). This will affect future profits.

# Chapter 15: Review questions

- *How would you define earnings management?*
  One of the most cited definitions of earnings management is by Healy and Whalen in 1999: ”Earnings management occurs when managers intentionally use judgement in financial reporting and in structuring transactions to alter financial reports to mislead some stakeholders about the underlying economic performance of the firm or to influence contractual outcomes that depend on reported accounting numbers.”

- *How would you define accounting fraud?*
  Accounting fraud does not have a precise definition, but may be identified as earnings management that is so material that is clearly outside the law and subject to criminal prosecution.

- *What are the key motives for earnings management?*
  The motives could be structured in two groups (Giroux, 2004):
  1. Earnings management to maximize *value for the owners*
  2. Earnings management to maximize *personal gains for management*

- *When is earnings management expected to be more frequent?*
  Pressure, opportunity and rationalization are three circumstances that usually are present in some degree when earnings management and potentially fraud occurs.
  In addition to the general motives for earnings management and the ‘environment’ for earnings management, analysts should be aware of some *event specific factors* where earnings management is more frequent:

  1. Financial distress
  2. Capital market events
  4. Change of management
  5. Change of auditors
  5. Changes in rules and regulations
  6. Implementation of incentives for managements

- *Give at least five examples of earnings management*
  See pages 562-572 Example 15.4-15.14, which include firms like Enron, WorldCom, Parmalat, Olympus, Toshiba, ABB (Sweden), Kraft & Kultur (Sweden), Finance Credit (Norway), Sponsor Service (Norway), IT Factory (Denmark) and OW Bunker (Denmark).

- *Why do you believe the largest accounting fraud scandals are related to boosting revenue?*
  Revenue growth is an important input factor in valuation. Recognising too much revenue often results in material numbers and normally has a 100% profit impact. The accounting standards (up till now) have been somewhat vague and with options, allowing for

flexibility.

*What are some key actions done in the last decades to reduce earnings management and accounting fraud?*

Key mechanisms introduced after 2001 have been to tighten regulations:

1. More detailed accounting rules, and the discussion of 'true and fair' view
2. Improved enforcement and oversight boards
3. Stricter regulation of auditors
4. Increased requirements for corporate governance, some hard law and others soft law

# Chapter 16: Review questions

- *List examples where aggressive accounting would result in other decisions than applying conservative accounting. And where you would get the same results.*
  Pages 582-586 deal with this issue.
  Examples of different results and decisions: Valuations based on multiples like P/B, P/E. Credit rating decisions based on equity ratios, ROIC. Liquidation values based on a % of book values, EBIT in most cases, EVA for single years.
  Example of same result (value) is valuations based on the DCF and EVA model.

- *Why is conservative accounting not better than aggressive accounting?*
  Because both conservative and aggressive accounting affect numbers and ratios and create noise when comparing over time or with peers versus if faithful representation is used. Conservative accounting sometimes shows better ratios (e.g. ROIC and EVA for a single year) than aggressive accounting and vice versa.

- *How may accounting flexibility affect valuation and credit analysis? List some key areas where decisions are distorted by accounting flexibility when credit analysis is done.*
  Valuation: See pages 587-601 and include examples like when/how much revenue is recognised if used for forecasting, how FX is treated, the use of FIFO versus average cost for inventories, useful life and classification of restructuring charges, impairment and gains/losses. Further estimated future taxes might be estimated incorrectly. Most multiples will be significantly affected by accounting flexibility.
  Credit analysis: See pages 601-608 and include examples like probability of default based on empirical peer analysis where analysis is affected if flexibility is used to improve credit ratios. Examples are changes in accounting policies, useful life, revaluation. Ultimate recovery based on % of book values to estimate liquidation values might be affected if the firm uses conservative versus aggressive accounting.

- *How may bonuses be affected by accounting flexibilities?*
  See pages 608-612. Most absolute performance measures are affected: If bonuses are based on revenues, EBIT or EBITDA both recognition (e.g. capitalisation of development cost, ) and measurement flexibility (e.g. measurement of provisions, useful life) would affect such numbers. However, EBIT or EBITDA is less affected if the firm is close to steady state.

  Ratios like ROIC are more self-correcting. However, changes in accounting policies and non-capitalisation of expenses have an impact.
  All reclassification in/out of bonus-qualifying numbers or ratios should be monitored carefully, i.e. classification of ‘non-recurring items’ if bonuses are measured excluding such items.

# Chapter 17: Review questions

- *What are the key questions you should ask in order to assess the faithfulness of representation of financial statements?*
  Key questions:
  - What are the specific major accounting issues for the industry?
    Which accounting choices have been made by management?
  - Are accounting policies and estimates the same as for other firms within the industry?
  - Have accounting policies and estimates changed over time?
  - What are the key limitations in the information provided in the financial statements, notes and supplementary reports?

  And then the questions listed in Table 17.1

- *What are key components of non-recurring items?*
  Below is a list of a number accounting items, which may be non-recurring in nature:
  - Special or extraordinary items; including for instance
    - Write-down of inventories
    - Write-down of accounts receivable
    - Large provisions and reversals
    - Disposal of non-current operational assets
    - Law suits (litigations)
    - Corrections of errors related to prior years.
    - Restructuring cost
  - Impairment/reversal of impairment of non-current assets
  - Gains and losses that are not part of core business
  - Changes in accounting estimates
  - Other value adjustments then those mentioned above
  - Changes in accounting policies
  - Discontinued operations and assets held for sale

- *Why should you not always take management's classification in the income statement or non-GAAP presentation of special items or non-recurring items for granted?*
  Research and the Carlsberg case shows that there is a tendency to classify more costs (than income) as special items/non-recurring items.

- *What is a red and green flag? How do you identify a red flag?*
  A red flag (in the context of Chapter 17) is a signal of a negative development indicating that 'something is wrong' related to a firm's economic performance. A green flag is the opposite. A red flag is identified by analysing development of different accounting numbers or ratios over a number of years and compare with peers.