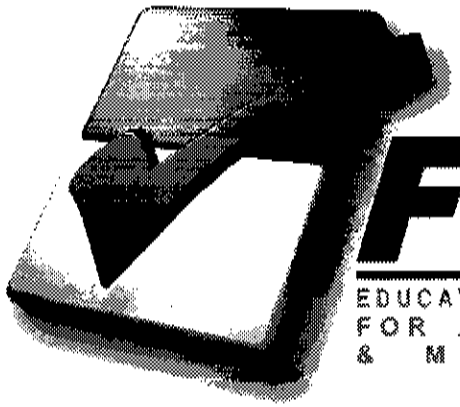

Course name:	Investments Equity Asset Valuation INV3701
Presented by:	John Lambson
Presenter's email:	john@flb.co.za
Head of Department:	John Lambson
Head of Department email:	john@flb.co.za
Head of Department Cell #	(082) 552 3054

While every care has been taken to include all relevant facts, the author cannot be held responsible for any omissions or errors in the following notes.

Students are reminded that these notes **are not a substitute for prescribed textbooks.**

INVESTMENTS
EQUITY ASSET VALUATION
Detailed Course Outline

The prescribed textbook for this module is:

EQUITY ASSET VALUATION (2007) Stowe, J.D., Robinson, T.R., Pinto, J.E. & McLeavey, D.W. John Wiley & Sons, Inc., Inc., Hoboken, New Jersey
ISBN 978-0-470-05282-2

STUDY WEEK	STUDY UNIT	Topic	Textbook Chapter
1	1	The Equity Valuation Process	
2,3	2	Discounted Dividend Valuation	
4,5,6	3	Free Cash Flow Valuation	
7,8	4	Market Based Valuation: Price Multiples	
9	5	Residual Income Valuation	

Introduction

The following manual is NOT a substitute for the textbook.

It has been designed as a preparation tool for lectures and for the final examination.

You should read and study the prescribed textbook during the course of the semester.

The following material should be used with this in mind.

The course outline has a twofold purpose. Firstly, it indicates the point at which specific material will be covered.

Secondly, it allows absent students to catch up any lost lectures. Any doubts should be raised with your lecturer.

The following study method is highly recommended:

1) **Attend all lectures**

2) **Note down additional examples and concepts**

3) **Practice calculations where necessary**

4) **Review and highlight the key concepts after each session**

5) **Tackle the test questions at the end of each chapter**

6) **Compare your answers in class and note corrected answers**

7) **Prepare for each lecture by doing the homework and required pre-reading**

8) **Participate in class discussions and when in doubt ask questions !!**

Begin exam preparation several weeks before writing the final exam.

This method will take away the stress of rushed studying and focus your attention on passing first time.

TOPIC 1
THE EQUITY VALUATION PROCESS

LEARNING OUTCOMES AND ASSESSMENT CRITERIA

On completion of this topic you should be able to:

1) Justify valuation and identify the uses of valuation methods
2) Present an argument on the importance of expectations in the use of valuation models
3) Identify the role of valuation in portfolio management
4) Identify the steps and the objectives and tasks within each, in the valuation process
5) Identify the elements of a competitive analysis for a company
6) Contrast top-down and bottom- up approaches to economic forecasting
7) Contrast quantitative and qualitative factors in valuation
8) Argue the importance of quality of earnings in financial forecasting and identify the sources of information for such analysis
9) Identify quality of earnings indicators and risk factors
10) Interpret intrinsic value
11) Calculate the holding period return
12) Interpret and calculate alpha
13) Illustrate the relationship between alpha and perceived mispricing
14) Critique the use of valuation models within the context of traditional and modern concepts of market efficiency
15) Contrast the going concern concept of value to the concept of liquidation value
16) Evaluate fair value
17) Contrast absolute and relative valuation models and classify different types of models
18) Identify the broad criteria for choosing an appropriate approach for valuing a particular company
19) Appraise the role of ownership perspective in valuation
20) Defend the role of analysts in capital markets
21) Identify the contents and format of an effective research report
22) Identify the responsibilities of analysts in performing valuations and communicating valuation results

1) Justify valuation and identify the uses of valuation methods

Valuation is the estimation of an assets value based on variables perceived to be related to future investment returns, or based on comparisons with closely similar assets

Valuation is used for:

- Stock selection
- Inferring (extracting) market expectations
- Evaluating corporate events
- Fairness opinions
- Evaluating business strategies and models
- Communication among management, shareholders and analysts
- Appraisal of private businesses

2) Present an argument on the importance of expectations in the use of valuation models

See free cash flow models later

3) Identify the role of valuation in portfolio management

The three steps in the portfolio management are planning, execution and feedback. Valuation is most closely associated with the planning and execution steps

- For active investment managers, plans concerning valuation models and criteria are part of the elaboration of an investment strategy
- Skill in valuation plays a key role in the execution step (in selecting a portfolio in particular)

4) Identify the steps and the objectives and tasks within each, in the valuation process

The valuation process has five steps:

- **1. Understanding the business**
  - Evaluating industry prospects
  - Competitive position
  - Corporate strategies

Because similar economic and technological factors affect all companies in an industry, and because companies compete with each other for sales, both industry knowledge and competitive analysis help analysts understand a company's economics and its environment

- **2. Forecasting company performance**
  - Top down approach
  - Bottom up approach

- **3. Selecting the appropriate valuation model**
- **4. Converting forecasts to a valuation**
- **5. Making the investment decision (recommendation)**

5) **Identify the elements of a competitive analysis for a company**
   - Company's relative competitive position within its industry
     - E.g. Factors to consider are level and trend of company's market share in the markets in which it operates
   - Company's competitive strategy
     - Cost leadership
     - Differentiation
     - Focus
   - How well the company executes its strategy

6) **Contrast top-down and bottom- up approaches to economic forecasting**
   See 4) above

7) **Argue the importance of quality of earnings in financial forecasting and identify the sources of information for such analysis**
   Scrutiny and interpretation of financial statements, footnotes to financial statements and other accounting disclosures are essential to a quality of earning analysis. Quality of earnings analysis concerns scrutiny of possible earnings management and balance sheet management

8) **Identify quality of earnings indicators and risk factors**
   Examples of factors to be considered:
   - Poor quality of accounting disclosures
   - Existence of third party transactions
   - Existence of excessive loans to directors, employees and officers
   - High top management staff turnover
   - Excessive pressure on company to meet revenue or earnings targets, particularly when combined with a dominant, aggressive management team or individuals
   - Material non audit services performed by company auditors
   - Management compensation tied to profitability or share price
   - Loss of market share or declining margins
   - Management pressure to meet debt covenants or earnings expectations
   - A history of securities law violations, reporting violations or persistent late filings

9) **Interpret intrinsic value**
   The intrinsic value of an asset is its value given a hypothetically complete understanding of the assets investment characteristics

10) **Calculate the holding period return**

$$HPR = \frac{\text{Ending value}}{\text{Beginning value}}$$

$$HPY = \frac{\text{Ending value}}{\text{Beginning value}} - 1$$

only. HPR = HPY

$$AHPR = HPR^{\frac{1}{n}}$$

$$AHPY = AHPR - 1$$

11) **Interpret and calculate alpha**
Alpha is an assets excess risk adjusted return
Ex ante alpha is expected holding period return minus required return given risk

Ex Ante = Future. Ex Post = Histo

Ex ante alpha = Expected HPR – Required Return

Historical alpha (ex post alpha) is actual holding period return – contemporaneous return

Ex post alpha = Actual HPR – Contemporaneous Return

12) **Illustrate the relationship between alpha and perceived mis-pricing**
Mispricing is the difference between the intrinsic value and the market price. Any perceived mispricing becomes part of the expected holding period return estimate, which is the managers forecast of the total return on the asset for some holding period.
An expected holding period return is the sum of expected capital appreciation and investment income, both stated as a proportion of the purchase price. The expected capital appreciation incorporates the investor's perspective on the convergence of market price to intrinsic value.

Example: Intrinsic Value and Return Concepts (1)

As an automotive industry analyst, you are researching Fiat S.p.A. (Milan Stock Exchange: FIA.MI) a leading Italian headquartered automobile manufacturer. You have assembled the following information and assumptions as of late March 2002

- The current share price of FIA.MI is €15.895 (based on the closing price on 22 March 2002)
- Your estimate of FIA.MI's intrinsic value is €17.26
- Over the course of one year, you expect the mispricing of FIA.MI shares, equal to €17.26 - €15.895 = €1.365, to be fully corrected. In addition to the correction of mispricing, you forecast additional price appreciation of €1.22 per share over the course of the year as well as payment of a cash dividend of €0.61
- You estimate that the required rate of return on FIA.MI shares is 10.6 percent a year

Using the above information

1. State whether FIA.MI shares are overvalued, fairly valued or undervalued based on your forecasts
2. Calculate the expected one year holding period return on FIA.MI stock
3. Determine the expected alpha for FIA.MI

Future -

Market < Actual undervalued.

Solution 1

FIA.MI intrinsic value is greater than current market value FIA.MI appears to be undervalued.

Solution 2

Convergence of maeket price to intrinsic value	€	1.365
Price appreciation	€	1.220
Expected dividend	€	0.610
Ending Value	€	3.195
Beginning Value	€	15.895

$$HPR = \frac{3.195}{15.895} = 0.201 \text{ or } 20.1\%$$

OR

Expected Selling Price of share	€	18.480	[15.895+1.22+1.365]
Expected Dividend	€	0.610	
Ending Value	€	19.090	
Beginning Value	€	15.895	

Baker

$$HPR = \frac{19.09}{15.895} - 1 = 0.201 \text{ or } 20.1\%$$

Solution 3

Expected HPR	20.10%
Required rate of return	10.60%
Alpha	9.50%

Example: Intrinsic Value and Return Concepts (2)

As an active investor, you have developed forecasts of returns for three securities and translated those factors into expected rate of return estimates. You have estimated the securities required rate of return using two models viz/ CAPM and Fama-French (FF).

Rates of return

	Expected Rate of Return	CAPM Required Rate of Return	FF Required Rate of Return
Security 1	15%	10%	12%
Security 2	7%	12%	7%
Security 3	9%	10%	10%

Based on the information in the table:

1. Calculate the ex ante alpha's of each security
2. Rank the securities by relative attractiveness using CAPM and state whether each security is overvalued, fairly valued or undervalued

Solution 1

Based on CAPM

Alpha Security 1 = 15%-10% = 5%
Alpha Security 2 = 7%-12% = (5%)
Alpha Security 3 = 9% - 10% = (1%)

Based on FF

Alpha Security 1 = 15% - 12% = 3%
Alpha Security 2 = 7% - 7% = 0%
Alpha Security 3 = 9% - 10% = (1%)

Solution 2

Based on CAPM Security 1 is rated first
Security 2 and 3 have negative Alpha's and are therefore overvalued

13)Critique the use of valuation models within the context of traditional and modern concepts of market efficiency

Throughout the textbook the authors distinguish between the market price P and the intrinsic value V.

Market efficiency is a finance perspective on capital markets and asserts, in the traditional efficient markets formulation, that an assets market price is the best available estimate of its intrinsic value.

A more modern formulation, the rational efficient markets formulation recognises that no investor will rationally incur the expenses of gathering information unless he or she expects to be rewarded by higher gross returns compared with free alternative of accepting the market price

Furthermore modern theorists recognise that when intrinsic value is hard to ascertain (as is the case with ordinary shares) and when trading costs exist, there is even further room for price to diverge from value

14)Contrast the going concern concept of value to the concept of liquidation value

The going concern assumption is the assumption that a company will continue operating for the foreseeable future. A company's going concern value is its value under the going concern assumption and is the general objective of most valuation models.

In contrast liquidation value is the company's value if it were dissolved and its assets sold individually.

15)Evaluate fair value

Fair value is the price at which an asset would change hands if neither buyer nor seller were under compulsion to buy/sell

16)Contrast absolute and relative valuation models and classify different types of models

Absolute valuation models specify an assets intrinsic value, supplying a point estimate of value that can be compared with market price. Present value models of common stock (also called discounted cash flow models) are the most important type of absolute valuation model

Relative valuation models specify an assets value relative to the value of another asset. As applied to equity valuation, relative valuation is known as the method of comparables. In applying the method of comparables, analysts compare a stocks price multiple to the price multiple of a similar stock or median price of some group of stocks.

Relative equity valuation models do not address intrinsic value without the further assumption that the price of the comparison value accurately reflects its intrinsic value

17)Identify the broad criteria for choosing an appropriate approach for valuing a particular company

The broad criteria for selecting a valuation approach are that the valuation approach be:

- Consistent with the characteristics of the company being valued
- Appropriate given the availability and quality of data
- Consistent with the analysts valuation purpose and perspective

18)Appraise the role of ownership perspective in valuation

Valuation may be affected by control premiums (premiums for a controlling interest in the company), marketability discounts (discounts reflecting the lack of a public market for the company's shares) and liquidity discounts (discounts reflecting the lack of a liquid market for the company)

19)Defend the role of analysts in capital markets

Analysts play a critical role in collecting, organising, analysing and communicating corporate information, as well as in recommending appropriate investment actions based on their analysis.

They help clients achieve their investment objectives and contribute to the efficient functioning of capital markets.

Analysts can contribute to the welfare of shareholders through monitoring the actions of management

20)Identify the contents and format of an effective research report

An effective research report

- Contains timely information
- Is written in clear, incisive language
- Is unbiased, objective and well researched
- Contains analysis, forecasts, valuation and a recommendation that are internally consistent
- Presents sufficient information that the reader can critique the valuation
- States the risk factors for an investment in the company
- Discloses any potential conflicts of interest faced by the analyst

21)Identify the responsibilities of analysts in performing valuations and communicating valuation results

Analysts have an obligation to provide substantive and meaningful content

PROBLEMS

1. **A.** State four uses or purposes of valuation models.
   B. Which use of valuation models may be the most important to a working equity portfolio manager?
   C. Which uses would be particularly relevant to a corporate officer?

2. In Example 1-1 based on Cornell's (2001) study of Intel Corporation, in which Cornell valued Intel using a present value model of stock value, we wrote:
"What future revenue growth rates were consistent with Intel's stock price of $61 S O just prior to the release, and $43.3 1 only five days later? Using a conservatively low discount rate, Cornell estimated that the price of $61.50 was consistent with a growth rate of 20 percent a year for the subsequent 10 years (and then 6 percent per year thereafter)."
A. If Cornell had assumed a higher discount rate, would the resulting revenue growth rate estimate consistent with a price of $61 S O be higher or lower than 20 percent a year?
B. Explain your answer to Part A.

3. **A.** Explain the role of valuation in the planning step of the portfolio management process.
   B. Explain the role of valuation in the execution step of the portfolio management process.

4. Explain why valuation models are important to active investors but not to investors trying to replicate a stock market index.

5. An analyst has been following Ken-McGee Corporation (NYSE: KMG) for several years. He has consistently felt that the stock is undervalued and has always recommended a strong buy. Another analyst who has been following Nucor Corporation (NYSE: NUE) has been similarly bullish. The tables below summarize the prices, dividends, total returns, and estimates of the contemporaneous required returns for KMG and NUE from 1998 to 2001.

Data for KMG

Year	Price at Year End	Dividends	Total Annual Return	Contemporaneous Required Return
1997	54.22			
1998	33.97	1.80	-34.00%	26.60%
1999	54.38	1.80	65.40%	19.60%
2000	63.96	1.80	20.90%	-8.50%
2001	53.95	1.80	-12.90%	-11.00%

Data for NUE

Year	Price at Year End	Dividends	Total Annual Return	Contemporaneous Required Return
1997	45.66			
1998	41.31	0.48	-8.50%	29.20%
1999	52.93	0.52	29.40%	21.50%
2000	38.96	0.60	-25.30%	-9.30%
2001	52.80	0.68	37.30%	-12.10%

The total return is the price appreciation and dividends for the year divided by the price at the end of the previous year. The contemporaneous required return is the average actual return for the year realized by stocks that were of the same risk as KMG or NUE, respectively.

A. Without reference to any numerical data, what can be said about each analyst's ***ex ante*** alpha for KMG and NUE, respectively?
B. Calculate the ex ***post*** alphas for each year 1998 through 2001 for KMG and for NUE.

6. On the last trading day of 2000 (29 December 2000), an analyst is reviewing his valuationof Wal-Mart Stores (NYSE: WMT). The analyst has the following information and assumptions:

- The current price is $53.12.
- The analyst's estimate of WMT's intrinsic value is $56.00.
- In addition to the full correction of the difference between WMT's current price and its intrinsic value, the analyst forecasts additional price appreciation of $4.87 and a cash dividend of $0.28 over the next year.
- The required rate of return for Wal-Mart is 9.2 percent.

A. What is the analyst's expected holding-period return on WMT?
B. What is WMT's ***ex ante*** alpha?
C. Calculate ***ex post*** alpha, given the following additional information.

- Over the next year, 29 December 2000 through 3 1 December 2001, Wal-Mart's actual rate of return was 8.9 percent.
- In 2001, the realized rate of return for stocks of similar risk was - 10.4 percent.

7. The table below gives information on the expected and required rates of return based on the CAPM for three securities an analyst is valuing:

	Expected Rate	CAPM Required Rate
Security 1	0.20	0.21
Security 2	0.18	0.08
Security 3	0.11	0.10

A. Define ***ex ante*** alpha.
B. Calculate the expected alpha of Securities 1, 2, and 3 and rank them from most attractive to least attractive.
C. Based on your answer to Part B, what risks attach to selecting among Securities 1, 2, and 3?

8. Benjamin Graham (1963) wrote that "[tlhere is . . . a double function of the Financial Analyst, related In part to securities and in part to people."
A. Explain the analyst's function related to people.
B. How does the analyst's work contribute to the functioning of capital markets?

9. In a research note on the ordinary shares of the Marlella Burani Fashion Group (Milan Stock Exchange: MBFG.MI) dated early July 2001 when a recent price was €7.73 and projected annual dividends were €0.05, an analyst stated a target price of €9.20. The research note did not discuss how the target price was obtained or how it should be interpreted. Assume the target price represents the expected price of MBFG.MI. What further specific pieces of information would you need to form an opinion on whether MBFG.MI was fairly valued, overvalued, or undervalued?

10. You are researching XMI Corporation (XMI). XMI has shown steady earnings per share growth (18 percent a year during the last seven years) and trades at a very high multiple to earnings (its PIE ratio is currently 40 percent above the average PIE ratio for a group of the most comparable stocks). XMI has generally grown through acquisition, by using XMI stock to purchase other companies. These companies usually trade at lower PIE ratios than XMI.
In investigating the financial disclosures of these acquired companies and in talking to industry contacts, you conclude that XMI has been forcing the companies it acquires to accelerate the payment of expenses before the acquisition deals are closed.
Such acceleration drives down the acquired companies' last reported cash flow and earnings per share numbers. As one example, XMI asks acquired companies to immediately pay all pending accounts payable, whether or not they are due. Subsequent to the acquisition, XMI reinstitutes normal expense payment patterns. After it acquires a company, XMI appears to have a pattern of speeding up revenue recognition as well. For example, one overseas telecommunications subsidiary changed its accounting to recognize up front the expected revenue from sales of network capacity that spanned

decades. The above policies and accounting facts do not appear to be have been adequately disclosed in XMI's shareholder communications.

A. Characterize the effect of the XMI expensing policies with respect to acquisitions on XMI's post-acquisition earnings per share growth rate.
B. Characterize the quality of XMI earnings based on its expensing and revenue recognition policies with respect to acquisitions.
C. In discussing the current price of XMI, the question states that XMI's "PIE ratio is currently 40 percent above the average PIE ratio for a group of the most comparable stocks." Characterize the type of valuation model implicit in such a statement.
D. State two ***risk*** factors in investing in XMI, in the sense in which that term was used in the discussion of quality of earnings.

Chapter 1 – The Equity Valuation Process

Solutions

1. A. A satisfactory answer includes any four of the following uses of valuation models: (1) stock selection, (2) inferring market expectations (about variables such as future growth), (3) evaluating corporate events, (4) fairness opinions, (5) evaluating business strategies and models, (6) communication with analysts and shareholders, or (7) appraisal of private businesses.

   B. A portfolio manager's most important use of valuation models is stock selection.

   C. A corporate officer would be most directly concerned with using valuation concepts and models to evaluate corporate events, evaluate business strategies and models, and communicate with analysts and shareholders. To the extent that the corporate officer's company had a program of acquisitions, the use of valuation models in fairness opinions would also be relevant.

2. A. If Cornell had used a higher discount rate, the revenue growth rate consistent with a price of $61.50 would have been higher than 20 percent a year.

   B. In any present value model, present value is inversely related to the discount rate applied to expected future cash flows. The higher the discount rate applied, the greater the future cash flows needed to equal a given value such as $61.50. To obtain the higher future revenue estimates needed to obtain a present value of $61.50 assuming a higher discount rate, a higher revenue growth rate assumption must be made. Therefore, if Cornell had assumed a higher discount rate, he would have concluded that the market expected Intel's revenue growth rate to be even higher than 20 percent.

3. A. As part of the planning step (after specification of investment objectives), the investor will generally elaborate on his approach to investment analysis and security selection. An active investor may specify in substantial detail the valuation models and/or criteria that he plans to use.

   B. In the execution step, investment strategies are integrated with expectations to select a portfolio. In selecting a portfolio, the investor is continually put to the test to make accurate valuations of securities. Therefore, skill in valuation plays a key role in this step of the portfolio management process.

4. An investor trying to replicate a stock index does not need to make valuation judgments about securities. For example, the manager of an account indexed to the S&P 500, a type of passive investment strategy, seeks only to replicate the returns on the S&P 500, whether or not the index is fairly valued. In contrast, active investors attempt to identify mispriced securities—in particular, securities expected to earn a positive excess risk-adjusted return.

5. A. The *ex ante* alpha is the expected return minus the required return for a stock. Because the analysts feel their stocks are undervalued, the expected returns should exceed the required rates of return and the *ex ante* alphas should be positive (greater than zero).

B. The *ex post* alpha is the actual return minus the contemporaneous required return.

For KMG, the *ex post* alphas are as follows:

1998: –34.0% – 26.6% = –60.6%
1999: 65.4% – 19.6% = 45.8%
2000: 20.9% – (–8.5%) = 29.4%
2001: –12.9% – (–11.0%) = –1.9%

For NUE, the *ex post* alphas are as follows:

1998: –8.5% – 29.2% = –37.7%
1999: 29.4% – 21.5% = 7.9%
2000: –25.3% – (–9.3%) = –16.0%
2001: 37.3% – (–12.1%) = 49.4%

6. A. Wal-Mart's expected return consists of the following:

Price correction = 56.00 – 53.12 =	$2.88
Additional price appreciation	4.87
Cash dividends	0.28
Total return	$8.03

The expected rate of return is the expected dollar return divided by the price, or 8.03/53.12 = 15.1 percent.

B. *Ex ante* alpha = Expected holding-period return – Required return
Ex ante alpha = 15.1 – 9.2 = 5.9 percent

C. *Ex post* alpha = Actual holding-period return – Contemporaneous required return
Ex post alpha = 8.9 – (–10.4) = 19.3 percent

7. A. *Ex ante* alpha is the expected holding-period return on a security minus the security's required return. An asset with a positive (negative) expected alpha is undervalued (overvalued).

B. Alpha of Security 1 = 0.20 – 0.21 = –0.01 or –1 percent
Alpha of Security 2 = 0.18 – 0.08 = 0.10 or 10 percent
Alpha of Security 3 = 0.11 – 0.10 = 0.01 or 1 percent
The ranking is
Security 2, alpha =10% (most attractive)
Security 3, alpha = 1%

Security 1, alpha = −1% (least attractive)

C. According to Part B, Security 2 and Security 3 offer positive expected alphas. We might thus decide to invest in Security 2 and Security 3. The risks in such a decision include the following:

- We may have made an incorrect or incomplete adjustment for risk. We may not have accounted for all sources of risk reflected in the prices of the securities.
- Our own expectations may be biased or otherwise flawed.
- Even if our expectations are more accurate than the expectations reflected in the prices of the securities, there is no assurance that the mispricing will be corrected during our investment horizon, if at all.

It is also possible to enumerate other risks. For example, Chapter 2 will discuss the uncertainty associated with estimating beta, the measure of risk in the CAPM.

8. A. The analyst collects, organizes, analyzes, and communicates corporate information to investors and then recommends appropriate investment actions based on his analysis. When an analyst does his work well, clients are helped in reaching their investment objectives.

B. When well executed, the work of analysts promotes informed buy and sell decisions. Such informed decisions make asset prices better reflections of underlying value, with the result that capital flows to its highest-valued uses. By monitoring managers' actions, investment analysts can also help prevent managers from exploiting corporate resources for their own benefit.

9. We need to know (1) the time horizon for the price target and (2) the required rate of return on MBFG.MI. The price target of €9.20 represents a rate of return to investing in the stock calculated as (€9.20 + 0.05)/€7.73 − 1.0 = 0.197, or 20 percent. Without a time frame, we cannot evaluate how attractive that rate is. Suppose that the time horizon is one year. To further interpret a 20 percent expected one-year rate of return, we need to adjust it for risk. Subtracting the required rate of return from 20 percent would give the share's expected alpha. This number would allow us to conclude whether the stock was fairly valued.

Another acceptable answer is that we would need to know the analyst's current estimate of intrinsic value for MBFG.MI. This may or may not be the target price of €9.20.

10. A. XMI's expensing policies with respect to acquisitions inflate its earnings per share growth rate. By pushing down pre-acquisition EPS to an artificially low number, XMI can show unusual post-acquisition earnings growth rates.

B. Based on both expensing and revenue recognition policies, earnings clearly do not accurately reflect underlying economics. As noted in Part A, XMI attempts to manipulate the expensing policy of acquisitions to

benefit its own earnings growth rate. In speeding up the recognition of revenue in its telecommunications subsidiary, XMI's revenue recognition policy is aggressive. In summary, the quality of XMI earnings is poor. (Note that the quality of XMI's disclosures is also poor, but disclosure was treated under the rubric of accounting risk factors in the text.)

C. The statement is a comparison of value, based on XMI's P/E relative to the P/Es of similar stocks. The underlying model is a relative valuation model (or the method of comparables).

D. Risk factors might include:

- Possible negative regulatory and legal developments. When and if XMI's accounting and business practices become known, XMI may be subject to legal and regulatory action.
- Risks in the forecasts. Because of the poor quality of XMI's earnings and the poor quality of its accounting disclosures, there is great uncertainty in any forecasts in a valuation of XMI.
- Other risks. A downward revision to the market price of XMI could occur if the extent of its quality of earnings issues and management's policies were to become known.