UNIVERSITY EXAMINATIONS: 2013/2014

EXAMINATION FOR THE MASTERS OF SCIENCE (MSC) IN COMMERCE

MSF 605 SECURITY ANALYSIS (EVENING)

DATE: APRIL, 2014 **TIME: 3 HOURS**

INSTRUCTIONS: Answer Question One and Any Other Three Questions

QUESTION ONE (31 MARKS)

An Investment Analysis Case Study:

Apple Computer has had a very good run, both in terms of accounting profits and stock prices. Based largely on the success of the iPod, the iPhone and the iPad, the company has reported double digit growth in revenues and earnings over the last few years and its stock price has reflected this success. It has a substantial cash balance and a strong balance sheet. However, Steve Jobs, CEO of Apple, is concerned that the halcyon days of the iPod are past and that potential challengers loom on the horizon (Sony, Zune etc.). Apple is considering entering the television market with an innovatively designed and technologically state-of-the art LCD television, called the iTV, aimed at the upper end of the market. You have been asked to collect the data to make the assessment and have come back with the following information:

1. **R&D Expenses:** Apple has already spent (and expensed) $ 200 million on research on the television technology and development of the commercial design. None of that money can be recouped at this stage, if Apple decides not to go ahead with the iTV.
2. **Introductory Costs:** If Apple decides to go ahead with the iTV, it will have to spend $2 billion up front (right now) to tie up suppliers, distributors and retailers, and as investment in infrastructure. The cost is depreciable over 10 years down to a salvage value of $ 200 million, and Apple expects to use straight-line depreciation.

3. **Market Potential and Share:** There were 30 million televisions sold in the United States in the most recent year and the market is expected to grow approximately 4% a year in the long term. Apple expects to gain a 2.5% market share next year if the iTV is introduced and increase that market share by 0.5% a year (3% in the second year, 3.5% in the third year etc.) to reach a target market share of 5% of the overall market by the sixth year. It expects to maintain that market share beyond year 6.
4. **Pricing and Unit Costs:** Apple expects to price its displays at $ 1,000 a unit next year and the price will keep pace with inflation after that. Based upon the costs of the material used in the iTV currently, Apple expects the production cost per unit to be $400 next year and grow at the inflation rate thereafter.
5. **Marketing Options and Costs:** Apple plans to use two different retailing options. In the first, it will sell the iTV through other retailers (Amazon, Best Buy. WalMart) and pay the retailers a commission of 10% of the price per unit sold (The retailers will have to follow Apple's fixed price schedule – no discounting allowed). In the second, it will sell the iTV through the Apple Stores around the country. To do the latter, it will have to spend $200 million up front in expanding and remodeling the stores; this expense will be depreciated straight line over the next 10 years to a salvage value of zero. It also will pay its sales people a commission of 5% of the price per unit for every unit sold at the Apple Stores. Apple expects to generate 80% of its revenues from specialty retailers and 20% from Apple Store sales over the next 10 years.
6. **Geographical breakdown:** Apple expects to get 70% of its revenues for the iTV in the United States, 20% of its revenues in China and 10% in Brazil, and it expects this revenue breakdown to be stable over time. Based on sovereign ratings, you have estimated an additional country risk premium of 1.05% for China and 3% for Brazil.
7. **Production Facilities and Costs:** Apple currently uses a manufacturing facility in Singapore to make computer displays. This facility has production capacity of 4 million units but it is underutilized, since Apple produced only 1,200,000 computer displays in the most recent year. While the computer display market is expected to grow 15% a year for the next 10 years, Apple plans to use the excess capacity in the facility to produce the iTV. If the capacity limit is reached, Apple will have to invest a substantial amount to create a new facility of equivalent capacity (4 million units). The current estimate of the cost of expansion is $ 500 million, but this cost will grow at the inflation rate.
8. **G&A expenses:** Apple will allocate 10% of its existing general and administrative costs to the

new division. These costs total $ 500 million for the entire firm in the most recent year and are expected to grow 5% a year for the next 10 years. In addition, it is expected that Apple will have an increase of $50 million in general and administrative costs next year when Apple iTV is introduced, and this amount will grow with the new division's dollar revenues after that. The latter cost is directly related to the new iTV division and will be charged to them fully, unlike the corporate G&A costs.

9. **Advertising Expenses:** Apple spent $ 1 billion on advertising in the most recent year and expects this cost to increase 5% a year for the next 10 years, even if it does not invest in iTV. If the iTV is introduced, total advertising expenses are expected to be 12% higher than they would have been without the iTV division, each year from year 1 to year 10.

10. **Working Capital:** The iTV will create working capital needs, which you have estimated as follows:
    - The sale of iTVs to retailers will create accounts receivable amounting to 5% of revenues each year.
    - Inventory (of both the input material and finished iTVs) will be approximately 10% of the variable production cost (not including depreciation, marketing costs, allocations or advertising expenses).
    - The credit offered by suppliers will be 6% of the variable production cost (not including depreciation, marketing costs, allocations or advertising expenses).
    - All of these working capital investments will have to be made at the beginning of each year in which goods are sold. Thus, the working capital investment for the first year will have to be made at the beginning of the first year.

11. **Side benefits for iTunes store:** If Apple goes ahead with the Apple iTV, the Apple iTunes stores will see revenues increase by $100 million next year (as new Apple iTV users buy movies at the store), and grow at the inflation rate after that. The after-tax operating margin (after tax operating income/ revenues) is 20% for all Apple iTunes revenue.

12. **Risk Measures:** The beta for Apple is 1.18, calculated using weekly returns over the last 2 years and against the S&P 500 Index (see exhibit 4). Apple currently gets about 50% of its revenues from computers, 40% from electronics and 10% from retail. The details of the beta calculation are included in Exhibit 4. Apple is currently rated A+, and A+ rated bonds trade at a default spread of 0.85% over the long-term US treasury bond rate. The current stock price for the firm is $ 350 and there are 920 million shares outstanding.

13. **Debt Choices:** Apple expects to finance the iTV division using the same mix of debt and equity (in market value terms) as it is using currently in the rest of its business. Apple's has no interest bearing debt but it has lease commitments for the future:

14. **Taxes**: Apple's effective tax rate is 30%, but its marginal tax rate is 40%.

15. **Macro data:** The current long-term bond rate is 3.5%, and the expected inflation rate is 2%. You can use the implied equity risk premium of 5% as your equity risk premium for mature (AAA rated) markets.

16. **Company information:** You have collected information on other companies that are primarily or only in electronics in Exhibit 5. The data includes the betas of these companies and relevant information on both market values of debt and equity. You can assume a 40% tax rate for these firms, as well. (You can also assume that the debt includes the present value of operating leases). While you have not been able to collect similar company-specific information for audio/video retailers, you believe that an unlevered beta of 1.10 is appropriate for these firms.

Required: (Use the case)

a) Based upon the after-tax return on capital, would you accept or reject this project? (This will require you to make some assumptions about allocation and expensing. Make your assumptions as consistent as you can. (16 Marks)

b) If the project is terminated at the end of the 10th year, and both working capital and investment in other assets can be sold for book value at the end of that year, estimate the net present value of this project to Apple. (15 Marks)

QUESTION TWO:

The following financial statements of Moonlight Plastics ltd were prepared in accordance with Kenya GAAPs. Moonlight Plastics Ltd is a diversified enterprise with its main interests in the manufacture and retail of plastic products. The financial statements of Moonlight Plastics Ltd need to be analysed. An investor is considering purchasing shares in the company. Relevant ratios need to be selected and calculated and a report needs to be written for the investor. The report should evaluate the company's performance and position.

Moonlight Plastics Ltd

Statement of Financial Position

As at 31 March

	2005			2009		Horizontal Analysis
Current Assets	Ksh. 000	Ksh. 000		Ksh. 000	Ksh. 000	
Bank	33.5			41.0		
Account Receivable	240.8			210.2		
Inventory	300.0			370.8		
		574.3			622.0	108
Non-Current Assets						
Fixtures & Fittings (net)	64.6			63.2		
Land & Building (net)	381.2			673.2		
		445.8			439.4	99
Total Assets		*1020.1*			*1061.4*	*104*
Current Liabilities						
Accounts Payable	261.6			288.8		
Income Tax	60.2			76.0		
		321.8			364.8	113
Non-current Liabilities						
Loan		200.0			60.0	30
Shareholders' Funds						
Paid-up ordinary capital	300			334.1		
Retained profit	198.3			302.5		
		498.3			636.6	128
Total Liabilities and Equity		1020.1			1061.4	104

Moonlight Plastics Ltd

Statement of Financial Performance for year ended 31 March

	2005			2009		Horizontal Analysis
	Ksh. 000	Ksh. 000		Ksh. 000	Ksh. 000	
Sales		2240.8			2681.2	120
Less: Cost of goods sold		1745.4			2072.0	119
Gross profit		495.4			609.2	123
Wages and Salaries	185.5			275.6		
Rates	12.2			12.4		
Heat and Light	8.4			13.6		
Insurance	4.6			7.0		
Interest Expenses	24.0			6.2		
Postage and Telephone	*9.0*			*16.4*		
Depreciation	-			-		
Buildings	5.0			5.0		
Fixtures and Fittings	27.0	276.0		32.8	369.0	134
Net Profit befor Tax		219.4			240.2	109
Less Income Tax		60.2			76.0	126
Net Profit after Tax		159.2			164.2	103

Moonlight Plastics Ltd

Statement of Cash Flows for the year ended 31 March

	2005		2009	
	Ksh. 000	Ksh. 000	Ksh. 000	Ksh. 000
Cash Flow from Operations				
Receipts from customers	2281		2711.8	
Payments to suppliers and employees	2050		2460.4	
Interest paid	(24)		(6.2)	
Tax paid	(46.4)		60.2	
Net cash flow from operating activities		160.6		185
Investing Activities				

Purchase of non-current assets	121.2		31.4	
Net cash used in investing activities		121.2		(31.4)
Financing activities				
Dividends paid	32.0			
Issue of ordinary shares	20.0			
Repayment of loan capital	-	-	(140.0)	
Net cash outflow from financing activities		(12)		(146.1)
Increase in cash and cash equivalents		(27.4)		7.5

Additional information:

- Credit purchases for the year 2006 were Ksh.2,142,800.
- General prospects for the major industries in which Moonlight Plastics is involved look good with a forecast glut of oil set to reduce the cost of production and world demand for plastic remaining strong.

Benchmarks:

There are no exact benchmarks for Moonlight Plastics Ltd because it is a diversified company. The following are average indicators that relate to the plastic retailing and manufacturing industries for the year 2006.

- Gross profit margin 25%
- Net profit margin 7%
- Inventory turnover 6 times
- Debt/equity ratio 0.6 : 1
- Return on Assets 12%
- Return on Equity 20%

Required:

a) Select and calculate any five relevant ratios need to help the investor (10 Marks)

b) Write a comprehensive report to for the investor on your analysis (07 Marks)

c) Evaluate the company's performance, position and advise the investor on what to do. (06 Marks)

QUESTION THREE

a) In forecasting the future prospects of the industry, the past sales and earnings performance of an industry in are very core. Explain their roles in details and the relationship between the

industries forecast and company performance. (09 Marks)

b) "Financial Markets are absolutely vital for the proper functioning of the economy" Explain how. (08 Marks)

c) Explain in details the weaknesses of financial statement analysis. (06 Marks)

QUESTION FOUR

You have been chosen by an Investment consultant to give a presentation as a researcher on equity valuation. Prepare for the consultant the following:

a) A brief explanation of different types of Equity Valuation Models. (08 Marks)

b) Assume that the firm is a constant growth company which paid a dividend of Ksh.5.00 last year and the dividend is expected to grow at the rate of 10% forever. What is the expected value of the stock a year from now? (10 Marks)

c) If the stock is currently selling for Ksh.110.00, what is the expected rate of return on the stock? (05 Marks)

QUESTION FIVE

a) Ratios are generally calculated from historical data. Of what use are they in assessing the firms' future financial condition? (08 Marks)

b) "Merchant banks act as the most critical link between a fund raising company and the investors". Explain. (08 Marks)

c) Technical analysis is based on the assumption that markets are driven more by psychological factors than fundamental values. Substantiate. (07 Marks)

QUESTION SIX

a) You are working as a financial advisor. A couple close to retirement seeks your advice on how to invest in the stock market. Should you recommend a portfolio focused on high-technology stock or one focused on corporate bonds? What would you differently if you were advising a young newly-wed couple? (08 Marks)

b) Would you expect firms in the same industry to have approximately the same P/E ratios? Explain giving what determines the appropriate P/E for the analyst to use. (08 Marks)

c) Explain any three most critical industry variables one might "track" in forecasting the outlook for the fast food industry. (07 Marks)