

ACC00716 Finance, Session 1 2014**Assignment 1**

The assignment has a 25% weighting in your overall mark for this unit. It will be marked out of 25 and consists of two main questions, with several sub-questions. Marks will be allocated as indicated for each question below.

Your total assignment submission should not exceed five (5) A4 pages, excluding a reference list, with roughly 2 pages for Question 1 and 3 pages for Question 2.

Question 1: Time Value of Money and Bonds (10 marks total)

- (a) Assume you are 25 years of age and have just got your first real job. You want to estimate how much money you will need to put into superannuation every year between now and retirement in 40 years. You estimate that in retirement you will need about \$50,000 per year in today's dollars in order to have a reasonable lifestyle (you assume you will already own your own home by the time you retire). The expected long-term average annual inflation rate is 3%. The expected average annual rate of return on your superannuation investment prior to retirement is 8% but after retirement, when you shift the weighting of your superannuation investments more towards cash and other less risky options, the average annual rate of return is expected to be 5%. (Round to the nearest dollar in the calculations below and ignore taxes.)
- i) How much will your desired annual retirement income be at the time you retire after taking inflation into account? (That is, calculate your inflation-adjusted desired annual income at retirement, which will be the future value of your desired annual retirement income at the time you retire compounded by the inflation rate.) (0.5 marks)
 - ii) Based on actuarial estimates, you expect to live for 20 years in retirement. What lump sum will you need at retirement to receive the annual income (in nominal terms) you calculated in part i)? (Assume an ordinary annuity.) (0.5 marks)
 - iii) What amount will you need to put into superannuation at the end of each year until retirement in order to have the lump-sum calculated in ii)? (0.5 marks)
 - iv) Now assume that you are 45, not 25, and have been working full-time for 20 years. You have lived a great lifestyle until now, spending all your disposal income after paying down a mortgage on your apartment. You have suddenly realised you will want to retire in 20 years and the government is unlikely to be paying an age pension by that time. Recalculate iii) above assuming the same desired retirement income and lump-sum as calculated in parts i) and ii) but now 20 years to retirement. (0.5 marks)
 - v) Explain the differences in your results at part iii) and iv). (1 mark)

- (b) Compounding is not restricted to money values – it can be applied to growth rates in many business and economic values. In business jargon, it is often called the compound annual growth rate or CAGR. This is the same as a compounding interest rate.

You are a marketing consultant and in order to forecast sales for a client you need an estimate of the population in the client's target market in 2015. Based on research, you have found a 2010 estimate of the target market at 600,000. From a respected source, you also know that the target market in 2020 is expected to be 900,000. Estimate the target market population in 2015 by first calculating the implied compound annual growth rate suggested by your research and then applying that to the 2010 estimate. (1 mark)

- (c) On 1 July 2013 you borrow \$500,000 to buy an investment property at the Gold Coast. The rate on the loan is fixed for the first 5 years at 5.8% and the loan requires monthly payments, due on the last day of the month, over a 25 year term.

- i) What is the effective annual rate on your loan? (1 mark)
- ii) You will be able to claim the interest on this loan as a tax deduction against the rental income you receive from the property. How much interest will you be able to claim as an annual tax deduction in the first financial year (1 July 2013 to 30 June 2014) and in the fifth financial year? (2 marks)

- (d) You are a very clever financial consultant. Today is the 1st February 2013 and you have received an email from one of your clients. This client is a company considering an issue of 10-year fixed rate bonds, with semi-annual coupon payments, to raise funds for an investment project. The company has two questions it would like you to answer for them:

- i) What annual interest rate would the company have to pay on the bonds if they are issued at par (assumed to be \$1,000)? You assess such a bond issue by this company to be rated BBB. Source actual data for the end of January to use as a proxy.) (1 mark)
- ii) What would the market price of these bonds be if in 1 year (and immediately following the respective coupon payment) the Reserve Bank of Australia announces an increase of 1 percentage point in the cash rate? You assume this would result in equivalent increases in interest rates market-wide. (2 marks)

Question 2: Company analysis, risk and returns (15 marks total)

In their 'Take Stock' newsletter of 1st November 2013, The Motley Fool, an investment advisory service, made some stock recommendations for the month. An excerpt of that newsletter is shown at the end of this document.

Your task is to analyse one of their recommended companies with a view to understanding the financial performance of the company and, with the benefit of hindsight, determining whether or not it would have been a good buy. You will be allocated a company to analyse. You can find your allocated company in MyGrades.

It is recommended that you use DatAnalysis for your company data collection because most of the needed information is available there.¹ Bond yield and index data can be found at websites suggested in the Web Links section of the unit's MySCU site.

Your analysis should cover the following:

- (a) Examine Statement of Cash Flows data for the two most recent financial years. Provide a summary of the company based on that data. Do not include the statement of cash flows in your assignment answer. Try to interpret the data, rather than just repeating it. (1.5 marks)
- (b) Examine the free cash flow and return on invested capital for the two most recent financial years. Interpret this data. Assume that the company's cost of capital (WACC) is the same as the expected rate of return (cost of equity) you calculate in part d(iii) below.² (1.5 marks).
- (c) Provide a summary financial analysis (5 marks).

I suggest you start by doing a little research on the company. This background will help you contextualise your financial analysis. After this, start your financial analysis with an (extended) du Pont analysis based on the company's two most recent financial years. Doing the analysis for two years will give you a comparison over time. The du Pont model allows us to decompose return on equity, an important overall indicator of firm performance, into its three drivers: expense control, asset utilisation and debt utilisation. The du Pont model provides a very useful starting point in analysing a company's financials because it provides structure to initial analysis. This saves time and helps avoid the potential confusion that can occur when faced with an overwhelming number of ratios. With du Pont analysis, you see the big picture first, and then focus your attention on areas of strength and weakness.

Use a table to present the figures and then evaluate these with a view to teasing out the strengths and weaknesses of the company by explaining changes in return on equity (or, if no change has occurred, how the return on equity has been achieved). Further judicious ratio analysis to add depth to your analysis is appropriate but you should demonstrate that this extra analysis logically flows from your initial analysis. Simply calculating and discussing all possible ratios without any clear justification is not the purpose of this exercise and will be viewed negatively by your marker. Instead, be concise, logical and purposeful and consider the context of the company (what does it do?) Do the analysis first, consider it carefully, jot down the important conclusions and then write it up. Limit the summary to one A4 page.

¹ In addition to raw data, DatAnalysis provides many calculated figures and ratios. You may use these, rather than calculating them yourselves. However, beware of using ROA and ROE from DatAnalysis in your DuPont analysis in part c because the DatAnalysis definitions of these ratios are not consistent with those in their DuPont component ratios and so the components do not multiply to give the DatAnalysis ROA and ROE. To deal with this, use the DuPont component ratios from DatAnalysis to calculate your own ROA and ROE.

² This assumption has some limitations. First, the cost of equity calculated in part d(iii) is at a different date to the performance we are assessing in part c. Second, you will see in Topic 11 that WACC will be close to the cost of equity if the firm uses relatively little debt but as debt increases relative to equity, WACC will at first decline and then increase. However, for the purposes of this assignment, keep your analysis simple by assuming cost of equity at the date estimated = WACC for the past few years.

- (d) Analyse the market returns for the company since the date of the newsletter recommendations. The following gives you a step-by-step guide to doing this analysis:
- i) Calculate the monthly percentage returns for the company's shares from 1st November 2013 to 1st March 2014. (You may ignore dividends for this analysis.) Then calculate the average monthly percentage return and standard deviation of returns and, using the procedure described in your text, annualise the returns and standard deviation. (Assume that the shares are held for the entire period so that no capital gain is realised during the period and consequently there is no reinvestment and compounding.) (2.5 marks)
 - ii) Repeat the process in i) but this time for the market, using the All Ordinaries price index as a proxy for the same period. (0.5 marks)
 - iii) Calculate the expected return on the company's shares at the date of the newsletter buy recommendation. To do this, use the yield to maturity on that date of a 10-year Australian Treasury bond as a proxy for the risk-free rate, assume the market risk premium is 6% and use the company's current beta (thus assuming it has not changed since the date of the recommendation). (1.5 mark)
 - iv) Using the figures you have calculated, evaluate the risk and return of the company in comparison with the market actuals and the expected return. (2.5 marks)

In writing up part d of the assignment, as in part c above, use a table to present the figures and then evaluate them. Limit your answer to one A4 page.



Take Stock

The free Motley Fool newsletter giving you our unique Foolish take on what's *really* happening on the stock market.

One ASX stock to buy in November

By Motley Fool Staff | Friday November 1, 2013

Dear Foolish readers,

Seeing as it's the first day of the new month, we asked some of our Motley Fool contributors to pick their favourite stocks to buy in November.

In no order whatsoever, here are their top ideas. Not all these stocks will be winners, so please do your own research. After all, it's your money.

Mike King: The Reject Shop (ASX: TRS)

By June 2014, The Reject Shop will have opened 80 new stores within two years -- as it takes advantage of the demise of its major competitor -- with its store count heading toward 320. Many of those stores will only reach maturity in the next couple of years, so revenue growth is primed to surge.

With earnings likely to grow at more than 20% per year over the next few years, The Reject Shop has been underestimated by the market, and at current prices represents an opportunity for Foolish investors. Latest share price \$17.62.

Motley Fool analyst Mike King does not own shares of The Reject Shop.

Tim Roberts: Atlas Iron (ASX: AGO)

Atlas is my pick in the iron ore sector. Despite an 18% rally for the month, the stock remains undervalued compared to its peers. Atlas released its quarterly report during the month; key highlights included:

- Record 2.5 million tonnes shipped during the September quarter
- EBITDA of \$91 million during the September quarter
- Gross cash reserves of \$378 million
- Mining costs of \$49-53 per tonne (ready to be shipped)

The strength of the quarterly results provides confidence Atlas will achieve or beat FY14 guidance of 10 million tonnes of shipped iron ore. While China continues to grow, I will continue to recommend Atlas as a buy. Latest share price \$1.01.

Motley Fool contributor Tim Roberts owns shares in Atlas Iron.

Andrew Mudie: Qantas (ASX: QAN)

While Qantas may seem like a poor choice considering the price competition and poor financial results of the past, Qantas CEO Alan Joyce has put in place a strategy to turn around the company.

It's buying new aircraft, negotiating hard with unions, retiring old, inefficient aircraft, signing codeshare

agreements with international partners, and expanding Jetstar into Asia.

All of this should result in increased profits and lower costs, which will allow the company to squeeze the profitability of domestic rivals. Risk remains but the share price has been unfairly punished in the past six months and represents a longer-term turnaround story. Latest share price \$1.24.

Motley Fool contributor Andrew Mudie does not own shares in Qantas.

Ryan Newman: ResMed (ASX: RMD)

ResMed is the developer and manufacturer of products that assist with the treatment of sleep-disordered breathing. Whilst the company last week announced its 74th consecutive quarter of revenue growth, and a 14% increase in net income, investors weren't impressed, sending the shares down 8%.

The company has established itself as a leader in the industry and its brands are more widely recognised than others in the sector. With shares now trading at a discounted price, investors have been given the perfect opportunity to pick up an interest in this quality company. Latest share price \$5.45.

Motley Fool contributor Ryan Newman does not own shares of ResMed.

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Claude Walker: Beyond International (ASX: BYI)

This television content producer and distributor is my pick for November, on the back of its recently announced agreement to form 7Beyond with the Seven Network.

At the current share price of \$1.95, the company currently trades on a PE ratio of less than 13 and I expect the company to yield 4% (unfranked) in FY 2014.

Beyond's most profitable activities are production and copyright management, and the recent JV suggests it will grow profits in the coming years. Buyers should be patient, however, as the stock is only lightly traded. Latest share price \$1.85.

Motley Fool contributor Claude Walker does not own shares in Beyond International.