

INVESTMENT

**ASSIGNMENT 2022 SEMESTER 2 -
FEEDBACK FOR STUDENTS**



Feedback materials

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Assignment purpose

The main purpose of the assignment from your perspective was to help you develop skills required at the Fellowship level. These skills are also required by employers.

The specific skills that were being developed and assessed in the assignment are the ability to

- apply subject material in an unfamiliar context;
- plan a valuation model;
- determine the appropriate assumptions for the model;
- build and manipulate a spreadsheet valuation model
- communicate relevant points in language appropriate to the audience, in a logical and coherent manner; and
- meet business standards for presentation of work in written materials and spreadsheets.

You will be required to apply knowledge to specific situations in the time-constrained end of semester examination. This assignment provided an opportunity for you to think more deeply and spend more time preparing a detailed answer. This assignment will also help you reflect on your writing skills. Whilst there was ample time to write any required report for the assignment, you should consider if you need to spend more time improving your writing skills to help you pass the examination.



The assignment required you to create a set of assumptions for the model that you built. There was no single right answer, consequently you were assessed on your reasoning and process. We therefore wanted to understand how you derived your assumptions. It was important that you describe what you did as the marker needed to understand if you were able to apply knowledge to the specific situation described in this assignment. We were also looking for you to demonstrate that you could deal with uncertainty in a reasonable way.

A key actuarial skill is to obtain a grasp of the qualitative nature of outputs from models and describe them in a non-technical manner. This assignment avoided complicated modelling and was designed to test your ability to deduce and communicate issues relating to the valuation of a listed equity, using simple models.

Overview of assignment content

The candidates were asked to prepare a valuation of the ordinary shares issued by BHP using a discounted cash flow (DCF) model. They were required to prepare:

- a concise report that explains
 - the valuation model used;
 - the assumptions required in the model; and
 - how they estimated the parameters relating to each assumption.
- an excel spreadsheet that provides their estimate of the value per BHP share

The report word limit was 2000 words including any words contained in tables.

The quality of report writing counted for 10 marks in the assignment. There were 8 questions to be answered which were (with Marks indicated):

- 1) Explain, with your reasons, why you have selected:
 - (a) the discounted cash flow model used to value the BHP shares; and
 - (b) the cash flow being valued. (10 marks)
- 2) Describe the assumptions that are required in the model that relate to:
 - (a) the future time periods over which the cash flow or its components will be projected;
 - (b) the cash flow at each time period, that is being valued; and
 - (c) the discount rate used in the valuation. (10 marks)
- 3) Explain how you have derived the cash flows used in the valuation model from the information provided and any assumptions that you have made. (15 marks)



- 4) Explain how you have allowed for uncertainty relating to the cash flows which are being valued and how this has affected the valuation that you have made. (10 marks)
- 5) Explain how you have derived the discount rate used in the valuation model. (15 marks)
- 6) Describe the sensitivity of the valuation of BHP shares to changes in the discount rate. (10 marks)
- 7) Prepare a valuation of BHP shares in spreadsheet form with either a scenario or sensitivity analysis to test the effect of uncertainty in the assumptions on your valuation. (10 marks)
- 8) Propose a maximum price at which BHP shares should be bought and a minimum price at which they should be sold. (10 marks)

Results summary

Overall, candidates performed well on the assignment with a pass rate of 84% with an average score of 68%. A summary of the results is presented in the following table:

Grade	Number of candidates	Percentage of candidates	Average mark out of 100	Percentage of candidates 2021 S2
Significantly Below Pass	1	2%	0.0	0%
Below Pass	6	14%	54.6	7%
Pass	18	42%	63.8	26%
Above Pass	14	33%	75.6	52%
Significantly Above Pass	4	9%	84.0	16%
All	43	100%	68.4	

Overall feedback

We expect students to pass the assignment and for a high proportion to perform well because students are not time pressured when working on their submissions. We also expect that students will closely follow the directions we provide in the rubric.

Key observations on the results for 2022 S2 are:

- the assignments of the candidates with a grade of “above pass” or better were distinguished from the others by:
 - answering the questions that were asked. For example, providing explanations when required, or reasonable justification of assumptions that were incorporated into the DCF model;



- providing responses that were more clearly written, concise and complete.
- the assignments of other candidates:
 - showed some misunderstanding of areas of knowledge that are significant and which were required to complete the assignment successfully. (An example of this was misunderstanding how to derive the appropriate type of discount rate that is applicable to the type cash flow being valued in the DCF model.)
 - did not always answer the question that was being asked, such as not providing the reasoning for the proposed maximum buy price and the proposed minimum sell price, and how these were related to the valuation derived from the DCF model and the allowances for uncertainty in its assumptions.
 - sometimes provided little or no reasoning for choices made in the form of the DCF model used or the assumptions that were made in the model
 - lost marks in several questions due to inadequate writing skills where they needed to clearly explain and justify their assumptions. Some candidates clearly put in lots of effort to derive their cash flows in the spreadsheet but their explanations of their assumptions were not clear. In some cases the assumptions were also heavily reliant on historical data to produce the “long-term average” for certain assumptions forecasts and did not appear reasonable without an adequate explanation being provided) or accurate.
- It is clear that some candidates have difficulty with questions that relate to allowing for uncertainty in the assumptions needed in a DCF model. This applies particularly to forecasting cashflows, and also to some extent to the discount rate. The selection of the stock to be valued, BHP, a major producer of commodities with volatile prices, was deliberate. The intention was to present candidates with the challenge of dealing with uncertainty, which is a major factor in investment practice.

The following feedback from the assignment has been provided to help you to prepare for the exam.

Fully answer questions

Make sure you answer all parts of the questions. It is important to go back to the questions after you have started writing to ensure you are answering the question asked. Similarly, apply the information provided in the questions.



After you have drafted your answer, it is always a good idea to re-read the question and physically tick off that you have answered all parts of it. You should also make sure you have addressed all areas described in the marking rubric.

Review your work

Given that this assignment is worth 20% of your final grade and you did not have the time pressure of exams, you were expected to spend some time reviewing your work and making sure your assignment was easy to read. A lot of issues around clarity of explanations could have been avoided by proof reading and spending time “getting the easy marks” for report writing.

At a minimum, you should use an automatic spelling and grammar checker.

Use structure

Remember that each paragraph should cover a single topic. Each paragraph should have a clear beginning, middle and end which relate to this single topic.

Write concisely and clearly

Keep your answers succinct and use dot points where appropriate.

Results and feedback by question

Each part of the assignment was marked out of 5, in line with the rubric grading. For example, a candidate who achieved a “pass” standard for Q1 was awarded a 3 out of 5.

The results by question in terms of grade out of 5 as per the rubric are shown in the table below:

Results by question									
Question	1	2	3	4	5	6	7	8	REPORT WRITING
Weight	10%	10%	15%	10%	15%	10%	10%	10%	10%
Average	3.1	3.3	3.4	3.0	3.4	3.5	3.5	3.5	3.4
Minimum	2.0	2.0	2.0	1.0	2.0	1.0	3.0	2.0	2.0
Maximum	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Standard deviation	0.76	0.74	0.85	0.77	0.67	0.84	0.58	0.67	0.65



Key observations

- on average, candidates performed at a pass (3/5) level or better on each component question of the assignment;
- candidates, on average, performed well on question 7 that required preparation of the spreadsheet for the valuation. The average mark was 3.5/5, while the minimum mark achieved 3.0/5 so that all candidates passed this question. This question also had the lowest dispersion of grades achieved. Overall candidates appear to be slightly more comfortable communicating in spreadsheet form than in words that explain what they are doing and why;
- the lowest minimums and some wide dispersion occurred in questions 4 and 6, which indicates that some candidates were challenged by these questions:
 - Question 4 was the least well answered with an average grade of just 3.0/5. It asked candidates to explain how they had allowed for uncertainty relating to the cash flows which are being valued and how this has affected the valuation. Good candidates made reference to sensitivity / scenario testing of key revenue components. Weaker candidates had poor explanations for how their modelling could incorporate uncertainty;
 - Question 6 asked candidates to describe the sensitivity of the valuation to changes in the discount rate. It was a less demanding question and on average was done better than Q4, with an average grade of 3.5/5;
- The following comments relate to some of the other questions:
 - Q1: Good candidates explained why the specific cashflow model was appropriate for BHP and provided evidence to justify their decision (capital structure stability, dividend payout policy etc). Weaker candidates only described features of the models (Dividend Discount Model or Free Cash Flow model). 24% candidates did not secure a passing grade on this question.
 - Q3: Good candidates derived cashflows by forecasting revenue from each commodity produced by BHP and provided reasonable justification for their assumptions. Weaker candidates did not explicitly consider production volumes and prices in the future, relied too heavily on historical data, or did not appropriately justify their assumptions or made assumptions without setting out a reasonable justification.
 - Q5: Reasonably well answered by most candidates, stronger candidates were distinguished by clearer explanations and justifications for their assumptions



- Q7: Spreadsheets produced by most of the candidates were reasonably easy to understand. Good candidates clearly distinguished assumptions from calculations, and they formatted their spreadsheets in a way that was easy to review.
- Q8: Reasonably well answered by most candidates. The best candidates could explain how the minimum sell and maximum buy prices were derived from the valuation and could link them to sensitivity or scenario testing performed (as opposed to simply assuming +/- X% safety margins).
- Report Writing: Most reports were written well enough so that the markers could discern what the candidates were explaining or proposing.

Areas for improvement

- candidates in the Investment subject need to practice and improve their skills in:
 - reading and understanding the questions;
 - organising their analysis and thinking so that they come up with responses to the questions that are being asked, that are clear, concise, and complete
- candidates need to be able to produce a report that is a standalone document without having to be read in conjunction with a related spreadsheet.

Key learning points for candidates

- Explaining the reasons for assumptions in a model as well as the output of a model, is more important than building a spreadsheet analysis for the model. Spend more time and effort and focus on explaining methodology, assumptions, and results.
- Practice writing skills in order to be able to summarise information, be concise, clear, and complete, when responding to questions in assignments or examinations.
- Rather than providing generic points, relate the responses to the scenario and context given in a question.



Will we get feedback on our assessment?

Our approach to feedback is for students to receive general feedback, a sample assignment marked as 'significantly above pass level' and the marking guide for the exam.

You should review the feedback that is provided as well as the sample assignment and exam marking guide. For the assignment, you should use the general feedback and marking rubric to grade the sample assignment and your submission. This will help you to compare the assignments and identify areas where your submission could have been improved. For the exam, you should use the general feedback and the marking guide to identify areas where you could improve your future exam performance.

Our belief is that this active approach to studying will provide you with a deeper understanding of where you need to improve. This is the best way for you to learn about your areas of strength and weakness in your understanding. We do not provide students with individual feedback on their assessments.

At the end of the semester, you will receive:

- a letter to indicate whether you have passed or failed the subject;
- if you have failed the subject, a breakdown of your grade for each assessment;
- general feedback to all students about assignment and exam performance;
- a sample assignment that was graded as 'significantly above pass level'; and
- the exam marking guide.

EXAMPLE OF ASSIGNMENT

An assignment with a high grade will be posted to LMS.