universityofsaR-blacksm

Risk management case 1

BANK 3003 (SP5, 2020)

Financial Risk Analysis

Course Coordinator: Hao Zhou

The Purpose

This assignment should be completed in groups of 1-4 students. This assignment is designed to enhance students’ knowledge in the following: an understanding of and ability to identify the financial risks faced by individuals and corporations; an ability to undertake statistical analysis, including calculation of individual and portfolio statistics in Excel; familiarity with the construction of tables and graphics and their integration into written reports; and high-level written communication skills.

Information:

Your team has been asked to provide analysis for and advice to an Australian-based, high net worth (HNW) client, who is considering the purchase of a structured financial product (SFP) issued by a US-based investment bank. Your client wishes to be advised on the financial risks to which they would be exposed in association with investment in this SFP.

You have the following information on this SFP,

* The face value of the SFP is USD25,000
* The payoff is due in two years
* Payoff at maturity is max{USD25,000, [(SP500T/SP5000 )x USD25,000]}
* SP500T represents the value of the S&P 500 Index at maturity of the investment product and SP5000 the value of the S&P 500 Index at inception of the SFP (i.e., the end of June 2020)
* Discount rate (% p.a.) = 2-yr spot + 2-yr spread – 120 bp
* 2-yr spot is the 2-year spot rate on US Government liabilities, 2-yr spread is the difference between the yield on 2-year US Treasury Bonds and US BBB-rated corporate bonds
* The 2-yr spread at the end of June 2020 was 1.1 per cent, while the historical default rate on BBB-rated corporate bonds is 0.9 per cent

You also have other information on key financial variables (as of the end of June 2020, the date you will assume as ‘now/today’ for undertaking your calculations):

* You have been provided with time series data in the form of the yield on U.S. government bonds (% p.a.), the USD/AUD exchange rate, and the value of the S&P 500 Index (see the spreadsheet provided with the Assignment **BANK 3003 Risk Management Case 1 Data.xlsx**). USD/AUD represents the US dollar/Australian dollar exchange rate (price of AUD 1 in USD).

*Note: Not all information given above can be used in this your calculations. Some are not appropriate to use and/or incomplete. A part of the assessment is to identify which pieces of information/data should be used.*

The Task

Prepare a brief (of no more than 3 pages) report in which your team:

(a) Identifies the financial risks to which your HNW client would have exposure if invested in this SFP. (*Hint:* you should tabulate the different financial risks to which an investor would be exposed if they bought the SFP and the sources of each financial risk.)

(b) Quantitatively analyse the risk factors for which you are given data. Analyse individual risk factors and the relationship between these risk factors. (*Hint*: For quantitative analyses, you should focus on the characteristics of the risk factors. Quantitatively establish how a risk factor affects the SFP is not strictly required. At minimum, you should calculate the mean, standard deviation and correlations of the risk factors.)

(c) Discuss how each risk factor may impact the return of the SFP, including the risk factors you have not quantitatively analysed. Given your analysis of the data available to you, which financial risks do you think are likely to be of most concern to the client? Provide a brief justification/support for your answer.

**What to Submit and When?**

Each group should submit one copy of the following via learnonline:

1. A WORD or PDF file (of no more than 3 pages, reference list and tables/figures not counted) by 5pm, 18 Sep 2020.
2. An Excel file for calculation references by 5pm, 18 Sep 2020. Note that this file is not graded. The grader may reference the Excel file if the main report is unclear or ambiguous. Therefore, do not worry about the formatting, explaining etc.

**Forming your group**

This Assignment should be completed by students working in **groups of 1 to 4 students.** Students are free to form their own groups. It is noticeable that early and deliberate group formation is associated with successful assessment outcome. Only one final assignment per group should be submitted.