THE UNIVERSITY OF SYDNEY

FINC3011 International Financial Management

Due: 14 May 2023 at 23:59

Introduction

You will be as [obscured] major tasks in this group assignment. The first task will provide [obscured] to collect FX quotes and use these quotes to develop an exchange [obscured] model and predict the foreign exchange rate. The second task will be for you to explore potential speculative opportunities in the FX market.

IMPORTANT INFORMATION

- The written report should be no more than **10 A4 pages**, 1.5 line spacing and size 11 Arial Font. Please number the pages of your report. Use margins of at least 2.54 cm (1 inch).
- All assignments must include a list of references in academic form using the **APA 7th** method.
- The report must be submitted as a **.pdf document**. The Excel spreadsheet must be submitted as a **.xlsx workbook**. The Excel spreadsheet should contain **all** the calculations used to generate the values in your report. The Excel spreadsheet will **not** be explicitly graded but must be submitted at the same time as the report to verify your calculations.
- The group leader must submit two files electronically. Failure to submit both files will result in penalties - late penalties will apply until both files are submitted. They also need to ensure that all files submitted can be opened and read in Canvas.

Exchange rate prediction

Doowon is a venturesome engineer who is your close friend and also a golf buddy of yours. You were invited to the New Year party that Doowon hosted on 1.Jan. 2023. Doowon and his partner have planned to travel around the world. While they were busy planning the details of the trip Doowon had asked you to help out with preparing for the travel. When Doowon heard that you had enrolled in the 'International Financial Management' unit at USyd, he suggested a bet on whether you would be able to guess the spot AUD/GBP exchange rate until Doowon returns at the end of March 2023. To win the bet Doowon has offered *prediction criteria* you must meet in order to win the bet:

1. You are asked to setup at least two regression-based prediction models for estimating the exchange rate at the end of the first quarter of 2023. Note: The

group must compare the multiple models and find the best-fitting prediction model to present to Doowon.

2. A total of 8 predictions should be made to test the validity of your prediction model. The predictions are for the exchange rates at the last day of each quarter made at the start of each quarter.

3. The prediction of the exchange rate must be made by using market data available one quarter (3 months) prior to the quarter you are trying to predict. For example, if you are predicting the exchange rate for the first quarter of 2021 you can only use data available until the last day of the previous quarter (fourth quarter of 2020).

4. The 8 prediction of the exchange rate starts from the first quarter of 2021 till the fourth quarter of 2022.

5. A minimum of two independent variables are required in each of the prediction model. You must provide appropriate justification of the theory or evidence for the need of each variable.

6. Using the best performing model of choice, make a final prediction of what the S(AUD/GBP) will be on the 31st of March, 2023. The estimation error must be less than 1% for the exchange rate for you to win the bet. (Note: whether you win or lose the bet is not a marked item.)

You decided that the bet with Doowon was a good opportunity to try predicting the future exchange rates and implement a speculative strategy. At the start of the first quarter of 2023 (2 Jan 2023), you checked the current FX quotes for the spot and forward rates for the two exchange rates. The quotes were as below.

Table 1

2.Jan.2023	S(CAD/GBP)		S(AUD/GBP)	
	Bid	Ask	Bid	Ask
Spot	1.6631	1.6641	1.8135	1.8183
1 Months Forward	2	6	10	2
2 Months Forward	17	18	20	6
3 Months Forward	24	26	29	14
6 Months Forward	45	48	65	42
1year Forward	63	73	125	78

After using your prediction model, you decided that a thorough investigation to test the efficiency of the FX market can be conducted.

With your current credit rating you can borrow up to £ 1 million Pounds Sterling (GBP) or the equivalent amount at today's spot in AUD. The spread over the risk-free rates for each of the countries are as below.

Table 2.

Country	AUD	CAD	GBP
Spread (Loan)	6.000%	5.000%	4.500%
Spread (Deposit)	6.500%	4.600%	4.250%

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Required: Questions to answer

In your repor... ...information of the following:

1. Explain t... ...s) you have established. Explain how you collected... ...dels and what issues you faced in selecting the data.

2. Provide 8 predictions for the AUD/GBP spot exchange rates calculated from your two models from the first quarter of 2021 till the last quarter of 2022.

3. Compare your predictions with the actual AUD/GBP spot exchange rate. Reflect on your forecasting model by evaluating the performance of the prediction models. Did you win the bet?

4. Discuss how you can improve the predictability of your models.

5. Using the forecasted spot exchange rate from your prediction model and the FX quotes from table 1 and 2, propose a speculative strategy in the FX market. If there is no speculative profit that can be made, explain why there was a limit to the profitability.

6. Can you find any patterns using technical analysis in the AUD/GBP exchange rates during the first quarter of 2023?

<Reference Data>

Historical spot exchange rates for AUD/GBP & AUD/CAD can be found in the following link:
http://www.rba.gov.au/statistics/historical-data.html#exchange-rates
Current forward rates can be found in the following link:
https://au.investing.com/currencies/fx-futures
A list of products used to calculate the Consumer Price Index (CPI) is in the following link:
http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/6440.0Appendix102011?opendocument&tabname=Notes&prodno=6440.0&issue=2011&num=&view=
Au Australian Bureau of Statistics
http://www.abs.gov.au/
Statistics Canada
http://www.statcan.gc.ca/start-debut-eng.html
OECD database
http://stats.oecd.org/Index.aspx?DatasetCode=KEI#
World Development Indicators by The World Bank
http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators

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	28	Fail (0%~25%)	Below Average (25%~50%)	Above Average (51%~75%)	Outstanding (76%~100%)
Are the data used for the models well specified and collected?	6	Little or no ... on ...	...discussion about ...which is limited in ...pe and depth.	Correct identification of data collection procedure with justification of why such data are collected and used.	Demonstrates excellence in identifying and justifying the data used and how the data are collected
Is the regression analysis correctly conducted and the results discussed?	4	Demonstra... no ability to derive a regression-based prediction model. Either draws no conclusion or draws an inappropriate conclusion with a lack of understanding of the model	...monstrates an adequate ability to analyse and summarise the main findings of an appropriately constructed regression-based prediction model. There is consistency with the analysis but needs more ...involved.	Demonstrates clear ability to analyse and summarise the main findings of an appropriately constructed regression-based prediction model. There is consistency with the analysis but could be improved.	Demonstrates an excellent ability to analyse and summarise the main findings of an appropriately constructed regression-based prediction model. There is consistency with the analysis.
Is the method to improve the regression methods well discussed?	4	No discussion on ways to improve the prediction models.	Some discussion on ways to improve the prediction models are provided.	In most instance the discussion on ways to improve the prediction models are correct and relevant to the analysis	All discussion on ways to improve the prediction models are correct and relevant to the analysis
Are the performance of the models well analysed	4	Demonstrates little or no ability to discuss the performance of the prediction models.	Demonstrates an adequate ability to discuss the performance of the prediction models.	Demonstrates clear competence in discussing the performance of the prediction models.	Demonstrates excellence in discussing performance of the prediction models.

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Criteria	Marks			
Is the speculative strategy well developed and achievable?	6	No explan... speculativ... sugg...	Incorrect tests used and ...ed justification ...d for the choice of ...ulative strategy ...suggested	In most instances the expected profit from the speculative strategy is correctly identified with some explanation.	Correct analysis is used for the speculative strategy and a deep explanation of analysis provided for the development and achievability of the strategy
Is the discussion on technical analysis thorough and meaningful?	4	Demonstra... no knowledge of technical analysis	...nstrates adequate knowledge of technical methods.	Demonstrates competent knowledge of technical methods.	Demonstrates excellent knowledge of technical methods.

Other criteria	2	Fail (0%)	Pass (100%)
2-1 Report format: Format (1.5 spaced, Font type, 11 font, one inch margin)	0.5	Lack of any formatting elements, or so many format errors as to make report presentation ineffective.	Formatting elements are organized, highlight some ideas and are used consistently throughout the report.
2-2 Report format: 10 Page A4	0.5	The report length is decidedly outside the suggested requirement and can impede the readers' interest or comprehension.	The report length is within the allotted requirement
2-3 Report format: Language – spelling, grammar, punctuation	0.5	The report has not been proofread, spell-checked or edited. The large number of grammar, punctuation, and spelling errors impede the reader's comprehension of the report.	The report has been edited, spell-checked and proofread, and has minimal errors, All sentences are complete with grammar and punctuation correctly applied

2-4 Use of sources or Documentation	0.5	Neglects important sources. Overuse of quotations or paraphrase to substitute writer's own ideas. (Possibly uses source material without [acknowledg]ement.)	Uses sources to support, extend, and inform, but not substitute writer's own development of idea. Combines material from a variety of sources, market data, authoritative testimony. Doesn't overuse quotes.

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