

Evaluating Currency Exposures and Hedging Strategies Amidst Global Economic Challenges: A Six-Month Outlook for ABC Firm

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Executive Summary

Due to its widespread global operations, Firm ABC, an Australian-based agricultural machinery manufacturer, confronts pressing economic and geopolitical challenges. Elevated global inflation and fluctuating interest rates bring about operational and financial risks, intensified by its international supply chain and diverse clientele. Additionally, a capricious geopolitical scene introduces further complexity. Future spot rate predictions foresee AUD appreciating against NZD and USD but depreciating vis-a-vis GBP, EUR, and CAD. Due to its international reach, Firm ABC faces multifaceted currency-related risks: transactional, translational, and economic. Among the evaluated hedging strategies, Forward Hedging is advised for NZD receivables and JPY & USD payables, delivering significant savings. Money Market Hedging provides better results for CAD receivables. Conversely, GBP, EUR receivables, and EUR payables are recommended to remain unhedged. Additionally, Options Hedging allows the firm to benefit from favourable rate movements while securing a guaranteed rate. In conclusion, Firm ABC should employ a mixed approach, integrating Forward and Options Hedging. This dual-strategy not only furnishes protection against adverse shifts but also imparts flexibility. By adopting active hedging, the firm can stabilize its future cash flows, modify investor perceptions concerning its risk, potentially lowering capital costs, and safeguard its overall value, ensuring the preservation of shareholder wealth.

Economic and Geopolitical Exposure Impact on Firm ABC

Firm ABC, a prominent agricultural machinery manufacturer based in Australia, is strategically placed in the global market with its extensive network of suppliers from countries like Japan, Germany, and the USA, and its diversified clientele across New Zealand, Canada, the UK, and Italy. However, the current global economic climate, especially the rising trend of high inflation rates, widespread interest rate hikes, and the volatile geopolitical landscape, brings the firm multifaceted challenges and exposures.

Firstly, the global-wide high inflation rates directly affect Firm ABC's operations. With increased costs of raw materials stated in ABARES 2023 Australian Agriculture Snapshot, vital for the manufacturing process, can be exacerbated by the firm's international supply chain, particularly given its payment obligations in multiple currencies, like JPY, EUR and USD, over the upcoming months. The company's potential inability to pass these augmented production costs to the end consumer could erode its profit margins. Furthermore, as inflation erodes consumers' purchasing power, this could lead to subdued demand for Firm ABC's machinery, especially in countries with more pronounced inflation (RBA 2023). The inflation disparity between Australia and its trade partners

can dent the firm's export competitiveness. Coupled with business uncertainty and high inflation rates can disrupt the company's long-term growth strategy, affecting investment decisions and potential expansions.

Global-wide interest rate hikes introduce another layer of complexity to Firm ABC's financial management. With two significant payments due in EUR to their German supplier and another substantial payment in USD to their US supplier, the company's borrowing costs could rise. If the Australian dollar weakens in this environment, the firm's payment obligations in foreign currencies might become more expensive, impacting the firm's liquidity and overall financial health. Moreover, their 2,000,000 EUR term deposit in the UK might be affected by rate changes, influencing the return on this investment. On the consumer front, higher interest rates could deter spending on capital-intensive products like agricultural machinery, diminishing Firm ABC's sales (IBISWorld 2023). A potential appreciation of the Australian dollar due to interest rate dynamics could further hamper the firm's export competitiveness.

Lastly, the ever-evolving global geopolitical environment poses both risks and opportunities. The company's vast export portfolio exposes it to trade policies and potential tariffs (ACCC 2021). A sudden geopolitical event might lead to supply chain disruptions, especially concerning Firm ABC's pending payments and receivables in diverse currencies like NZD, CAD, GBP, and EUR (KPMG 2020). Unforeseen changes in trade regulations, intellectual property rights, or environmental standards could add operational challenges, while market volatility triggered by geopolitical unrest could impact consumer demand and confidence.

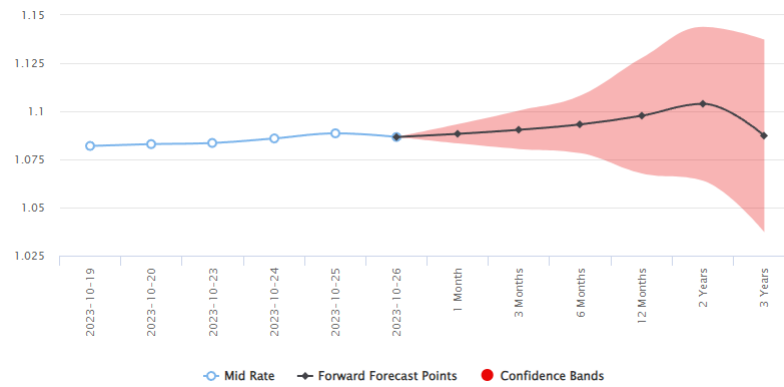
With its extensive global operations, Firm ABC is exposed to global economic and geopolitical challenges. Given its international procurement and sales activities, proactive risk management, financial hedging, and agile strategies are essential to navigate these complexities.

Forecasted Future Spot Rates for Firm ABC

AUD/NZD Forecast

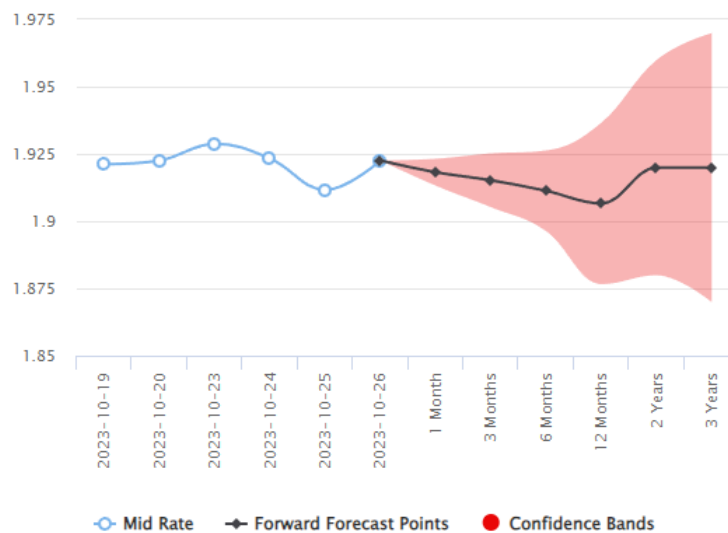
The Fundamental approach used within our quantitative analysis in Appendix 1 predicts that the Australian Dollar will strengthen against the New Zealand Dollar in the upcoming months. The forecast indicates an exchange rate of approximately 1.0838, with a notable low standard deviation of 1.2313. Pound Sterling Live (2023) also expects the rate to be around 1.0849 within a month. Conversely, Gov Capital (2023) anticipates a surge to 1.747077635808 by the end of the year. The geopolitical dynamics between Australia and New Zealand, trade partnerships, and regional stability play a role. Both countries, closely

tied in the Pacific region, will influence each other's currencies based on their respective economic performances. Therefore, we can expect AUD to appreciate against the NZD.



AUD/GBP Forecast

The Forward Rate in our analysis, seen in Appendix 2, shows a standard deviation 2.2250, predicting the AUD/GBP rate to be 0.511. This differs slightly from the Commonwealth Bank's (2023) projection of 0.55 GBP by the end of 2023 and Westpac's (2023) prediction of 0.54 GBP for the same period. Meanwhile, Wallet Investor (2023) is more pessimistic, anticipating a rate of around 0.521 as of October 24, 2023. Brexit aftermath and the UK's new trade partnerships could significantly impact GBP. On the other hand, Australia's economic resilience and adaptability to global challenges will determine the AUD's performance. The forecasts vary, but the general sentiment leans towards AUD's depreciation against the GBP.



AUD/USD Forecast

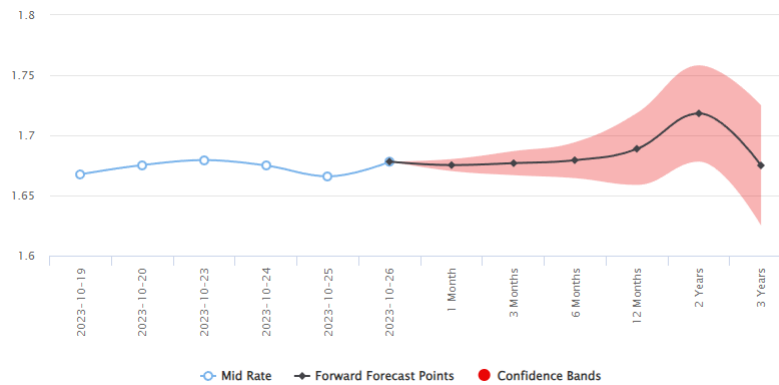
Given the ongoing momentum indicators, AUD/USD may lean towards a "sell on rallies" position for 2023. The AUD's strength is buoyed by inflation figures and the Reserve Bank of Australia's hawkish stance. According to the Fundamental approach in our analysis in Appendix 3, the predicted rate is 0.644 with a standard deviation of 3.0079. The pair's resistance is at 0.6400, but a break could see it reaching 0.6429. Factors like the RBA's hawkish stance, which contrasts with the US Federal Reserve's expected aggressive rate hikes, will be influential. Australia's global stance, especially its relationship with major economies like China and the US, can significantly affect this pair. Hence, we anticipate the Australian Dollar appreciating against the US Dollar.

AUD/JPY Forecast

The predominant sentiment for the AUD/JPY pair is bearish for 2023. Following a 15% rise in 2022, experts believe a long-term decline is on the horizon for the upcoming year. Using the Random Walk model within our analysis seen in Appendix 4, with the lowest deviation at 3.5094, the forecasted rate is 94.38. In contrast, Westpac and NAB predict 96.5 and 87 cents by December 2023, respectively. Therefore, we can say that AUD will still be appreciated over JPY.

AUD/EUR Forecast

Fluctuations are anticipated in the Euro to Australian Dollar exchange rate throughout 2023. The Fundamental approach in our analysis, which can be viewed in Appendix 5, with its lowest standard deviation of 2.3865, projects an AUD/EUR rate of 0.5985. According to market pricing, the rate might be around 1.6667 monthly and 1.6684 in three months. The EU's recovery from the pandemic, combined with its geopolitical stance on issues like climate change and trade, can boost the EUR. Australia's trade agreements with EU member countries and its global stance on similar issues will influence the AUD. Hence, the AUD is projected to depreciate against the EUR.



AUD/CAD Forecast

In 2023, the Canadian Dollar appreciated 6.42% against the Australian Dollar, leading to a 6.04% decrease in the AUD/CAD exchange rate. As per the Fundamental Approach's prediction in Appendix 6, with a deviation of 1.7891, the forecasted rate for AUD/CAD is set at 0.8756. Canada's position as a major oil exporter and its relationship with its North American counterparts, particularly the US, will drive the CAD. Australia's stance on global energy markets will impact the AUD, especially its coal exports and the shift towards renewable energy. Hence, AUD is expected to depreciate against CAD.

Given the diverse forecasts and inherent volatility of currency exchange rates, Firm ABC must judiciously approach its hedging and risk management strategies. By monitoring these rates and using a combination of different hedging techniques, the company can potentially mitigate its exposure to adverse currency movements.

Evaluation of Firm ABC's exposure

Firm ABC has a widespread international presence, exposing it to many currency-related risks: transactional, translational, and economic. As the world grapples with uncertainties, a proactive approach to these exposures must be taken to ensure the firm's profit margins, liquidity, and overarching strategic goals.

Hedging Strategies Explored

Forward Hedging:

- **Advantages:** This method secures an exchange rate for upcoming transactions, clarifying future cash flows. It is a direct approach that eradicates currency risks.
- **Disadvantages:** Should the market move favourably, Firm ABC misses out. Once settled upon, it lacks flexibility.
- **Overall Impact:** With stable anticipated cash flows, the cost of capital could be reduced due to increased earnings predictability.

Money Market Hedging (MMH):

- **Advantages:** MMH uses the money market to safeguard against potential foreign exchange liabilities or entitlements. It acts as a buffer against negative currency shifts.
- **Disadvantages:** Compared to forward Hedging, it is more intricate and may sometimes need to be more practical due to fluctuating interest rates across nations.
- **Overall Impact:** MMH offers similar benefits to forward hedging, possibly reducing capital costs.

Options Hedging:

- **Advantages:** This provides the choice (without obligation) to exchange currency at a predetermined rate, setting a floor and allowing favourable market gains.
- **Disadvantages:** It demands an initial premium, which can be expensive, especially over extended durations.
- **Overall Impact:** While it curtails cash flow volatility, the premium might increase the capital cost.

No Hedging:

- **Advantages:** The absence of preliminary costs or charges and the ability to fully leverage beneficial market shifts.
- **Disadvantages:** It leaves the company vulnerable to currency risks, potentially leading to considerable fiscal setbacks if rates go south.
- **Overall Impact:** This could heighten the unpredictability of cash flows, possibly augmenting capital costs owing to escalated risks.

Repercussions on Cost of Capital and Enterprise Value

While defending against detrimental currency shifts, Hedging may also curtail the weighted average cost of capital (WACC). With diminished risks, investors may settle for smaller returns, cutting equity costs. Simultaneously, attractive borrowing rates can bring down debt expenditures. This cumulative impact can boost the company's worth.

Specific Recommendations for Firm ABC

By comparing the most favourable results across different hedging strategies as seen calculated within Appendices 7-13:

- NZD Receivables: Forward Contracts heighten outcomes by \$1,787,000.
- CAD Receivables: MMH is more fruitful by \$2,961,270.29.
- GBP & EUR Receivables: It is advisable not to hedge.
- JPY & USD Payables: Forward Hedging presents savings, with the USD savings amounting to \$190,006.58.
- EUR Payables: Hedging is not beneficial.

In juxtaposition with a non-hedging stance:

- Forward Contracts heighten the NZD Receivable outcome by \$1,787,000.00, and MMH enhances the CAD Receivable by \$2,961,270.29. However, GBP, EUR Receivables, and EUR Payables fare better unhedged. For JPY and USD Payables, Forward Hedging has savings of \$-2,294.84 and \$190,006.58, respectively.

In conclusion, Firm ABC should consider merging both Forward and Options Hedging. The former is apt for specific cash flows, while the latter is more suited for fluctuating ones. This twin-strategy not only offers protection but also flexibility. By actively hedging, Firm ABC can stabilise its future cash flows and alter perceptions about its risk, possibly leading to decreased capital costs. Moreover, shielding against unfavourable currency shifts safeguards firm value, ensuring shareholder wealth remains intact.

Appendices

Appendix 1- Forecast: NZD

Appendix 2- Forecast: GBP

Appendix 3- Forecast: USD

Appendix 5- Forecast: EUR

Random Walk					Forward Rate					Moving Average	
Observation	Start Date	End Date	Start Date	End Date	Observation	Start Date	End Date	Start Date	End Date	21 Day Moving Average	Start Date
1	6/20/1990	6/20/1990	6/20/1990	6/20/1990	1	6/20/1990	6/20/1990	6/20/1990	6/20/1990	0.0222	6/20/1990
2	6/26/1990	6/26/1990	6/26/1990	6/26/1990	2	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
3	6/26/1990	6/26/1990	6/26/1990	6/26/1990	3	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
4	6/26/1990	6/26/1990	6/26/1990	6/26/1990	4	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
5	6/26/1990	6/26/1990	6/26/1990	6/26/1990	5	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
6	6/26/1990	6/26/1990	6/26/1990	6/26/1990	6	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
7	6/26/1990	6/26/1990	6/26/1990	6/26/1990	7	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
8	6/26/1990	6/26/1990	6/26/1990	6/26/1990	8	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
9	6/26/1990	6/26/1990	6/26/1990	6/26/1990	9	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
10	6/26/1990	6/26/1990	6/26/1990	6/26/1990	10	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
11	6/26/1990	6/26/1990	6/26/1990	6/26/1990	11	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
12	6/26/1990	6/26/1990	6/26/1990	6/26/1990	12	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
13	6/26/1990	6/26/1990	6/26/1990	6/26/1990	13	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
14	6/26/1990	6/26/1990	6/26/1990	6/26/1990	14	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
15	6/26/1990	6/26/1990	6/26/1990	6/26/1990	15	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
16	6/26/1990	6/26/1990	6/26/1990	6/26/1990	16	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
17	6/26/1990	6/26/1990	6/26/1990	6/26/1990	17	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
18	6/26/1990	6/26/1990	6/26/1990	6/26/1990	18	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
19	6/26/1990	6/26/1990	6/26/1990	6/26/1990	19	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
20	6/26/1990	6/26/1990	6/26/1990	6/26/1990	20	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
21	6/26/1990	6/26/1990	6/26/1990	6/26/1990	21	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
22	6/26/1990	6/26/1990	6/26/1990	6/26/1990	22	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
23	6/26/1990	6/26/1990	6/26/1990	6/26/1990	23	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
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27	6/26/1990	6/26/1990	6/26/1990	6/26/1990	27	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
28	6/26/1990	6/26/1990	6/26/1990	6/26/1990	28	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
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32	6/26/1990	6/26/1990	6/26/1990	6/26/1990	32	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
33	6/26/1990	6/26/1990	6/26/1990	6/26/1990	33	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
34	6/26/1990	6/26/1990	6/26/1990	6/26/1990	34	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
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62	6/26/1990	6/26/1990	6/26/1990	6/26/1990	62	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
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64	6/26/1990	6/26/1990	6/26/1990	6/26/1990	64	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
65	6/26/1990	6/26/1990	6/26/1990	6/26/1990	65	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
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71	6/26/1990	6/26/1990	6/26/1990	6/26/1990	71	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
72	6/26/1990	6/26/1990	6/26/1990	6/26/1990	72	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
73	6/26/1990	6/26/1990	6/26/1990	6/26/1990	73	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
74	6/26/1990	6/26/1990	6/26/1990	6/26/1990	74	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
75	6/26/1990	6/26/1990	6/26/1990	6/26/1990	75	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
76	6/26/1990	6/26/1990	6/26/1990	6/26/1990	76	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
77	6/26/1990	6/26/1990	6/26/1990	6/26/1990	77	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
78	6/26/1990	6/26/1990	6/26/1990	6/26/1990	78	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
79	6/26/1990	6/26/1990	6/26/1990	6/26/1990	79	6/26/1990	6/26/1990	6/26/1990	6/26/1990	0.0222	6/26/1990
80	6/26/1990	6/26/									

Random Walk					Forward Rate					Moving Average				
Observation	Spot Rate	Forecast	Error (%)	Error Squared	Observation	Spot Rate	Forward Rate	Forecast	Error (%)	Error Squared	Observation	Spot Rate	Forecast	Error (%)
1	0.0100	0.0100	0.0000	0.0000	1	0.0100	0.0100	0.0100	0.0000	0.0000	1	0.0100	0.0100	0.0000
2	0.0101	0.0100	0.0099	0.0001	2	0.0101	0.0101	0.0101	0.0000	0.0000	2	0.0101	0.0101	0.0000
3	0.0102	0.0101	0.0100	0.0001	3	0.0102	0.0102	0.0102	0.0000	0.0000	3	0.0102	0.0102	0.0000
4	0.0103	0.0102	0.0101	0.0001	4	0.0103	0.0103	0.0103	0.0000	0.0000	4	0.0103	0.0103	0.0000
5	0.0104	0.0103	0.0102	0.0001	5	0.0104	0.0104	0.0104	0.0000	0.0000	5	0.0104	0.0104	0.0000
6	0.0105	0.0104	0.0103	0.0001	6	0.0105	0.0105	0.0105	0.0000	0.0000	6	0.0105	0.0105	0.0000
7	0.0106	0.0105	0.0104	0.0001	7	0.0106	0.0106	0.0106	0.0000	0.0000	7	0.0106	0.0106	0.0000
8	0.0107	0.0106	0.0105	0.0001	8	0.0107	0.0107	0.0107	0.0000	0.0000	8	0.0107	0.0107	0.0000
9	0.0108	0.0107	0.0106	0.0001	9	0.0108	0.0108	0.0108	0.0000	0.0000	9	0.0108	0.0108	0.0000
10	0.0109	0.0108	0.0107	0.0001	10	0.0109	0.0109	0.0109	0.0000	0.0000	10	0.0109	0.0109	0.0000
11	0.0110	0.0109	0.0108	0.0001	11	0.0110	0.0110	0.0110	0.0000	0.0000	11	0.0110	0.0110	0.0000
12	0.0111	0.0110	0.0109	0.0001	12	0.0111	0.0111	0.0111	0.0000	0.0000	12	0.0111	0.0111	0.0000
13	0.0112	0.0111	0.0110	0.0001	13	0.0112	0.0112	0.0112	0.0000	0.0000	13	0.0112	0.0112	0.0000
14	0.0113	0.0112	0.0111	0.0001	14	0.0113	0.0113	0.0113	0.0000	0.0000	14	0.0113	0.0113	0.0000
15	0.0114	0.0113	0.0112	0.0001	15	0.0114	0.0114	0.0114	0.0000	0.0000	15	0.0114	0.0114	0.0000
16	0.0115	0.0114	0.0113	0.0001	16	0.0115	0.0115	0.0115	0.0000	0.0000	16	0.0115	0.0115	0.0000
17	0.0116	0.0115	0.0114	0.0001	17	0.0116	0.0116	0.0116	0.0000	0.0000	17	0.0116	0.0116	0.0000
18	0.0117	0.0116	0.0115	0.0001	18	0.0117	0.0117	0.0117	0.0000	0.0000	18	0.0117	0.0117	0.0000
19	0.0118	0.0117	0.0116	0.0001	19	0.0118	0.0118	0.0118	0.0000	0.0000	19	0.0118	0.0118	0.0000
20	0.0119	0.0118	0.0117	0.0001	20	0.0119	0.0119	0.0119	0.0000	0.0000	20	0.0119	0.0119	0.0000
21	0.0120	0.0119	0.0118	0.0001	21	0.0120	0.0120	0.0120	0.0000	0.0000	21	0.0120	0.0120	0.0000
22	0.0121	0.0120	0.0119	0.0001	22	0.0121	0.0121	0.0121	0.0000	0.0000	22	0.0121	0.0121	0.0000
23	0.0122	0.0121	0.0120	0.0001	23	0.0122	0.0122	0.0122	0.0000	0.0000	23	0.0122	0.0122	0.0000
24	0.0123	0.0122	0.0121	0.0001	24	0.0123	0.0123	0.0123	0.0000	0.0000	24	0.0123	0.0123	0.0000
25	0.0124	0.0123	0.0122	0.0001	25	0.0124	0.0124	0.0124	0.0000	0.0000	25	0.0124	0.0124	0.0000
26	0.0125	0.0124	0.0123	0.0001	26	0.0125	0.0125	0.0125	0.0000	0.0000	26	0.0125	0.0125	0.0000
27	0.0126	0.0125	0.0124	0.0001	27	0.0126	0.0126	0.0126	0.0000	0.0000	27	0.0126	0.0126	0.0000
28	0.0127	0.0126	0.0125	0.0001	28	0.0127	0.0127	0.0127	0.0000	0.0000	28	0.0127	0.0127	0.0000
29	0.0128	0.0127	0.0126	0.0001	29	0.0128	0.0128	0.0128	0.0000	0.0000	29	0.0128	0.0128	0.0000
30	0.0129	0.0128	0.0127	0.0001	30	0.0129	0.0129	0.0129	0.0000	0.0000	30	0.0129	0.0129	0.0000
31	0.0130	0.0129	0.0128	0.0001	31	0.0130	0.0130	0.0130	0.0000	0.0000	31	0.0130	0.0130	0.0000
32	0.0131	0.0130	0.0129	0.0001	32	0.0131	0.0131	0.0131	0.0000	0.0000	32	0.0131	0.0131	0.0000
33	0.0132	0.0131	0.0130	0.0001	33	0.0132	0.0132	0.0132	0.0000	0.0000	33	0.0132	0.0132	0.0000
34	0.0133	0.0132	0.0131	0.0001	34	0.0133	0.0133	0.0133	0.0000	0.0000	34	0.0133	0.0133	0.0000
35	0.0134	0.0133	0.0132	0.0001	35	0.0134	0.0134	0.0134	0.0000	0.0000	35	0.0134	0.0134	0.0000
36	0.0135	0.0134	0.0133	0.0001	36	0.0135	0.0135	0.0135	0.0000	0.0000	36	0.0135	0.0135	0.0000
37	0.0136	0.0135	0.0134	0.0001	37	0.0136	0.0136	0.0136	0.0000	0.0000	37	0.0136	0.0136	0.0000
38	0.0137	0.0136	0.0135	0.0001	38	0.0137	0.0137	0.0137	0.0000	0.0000	38	0.0137	0.0137	0.0000
39	0.0138	0.0137	0.0136	0.0001	39	0.0138	0.0138	0.0138	0.0000	0.0000	39	0.0138	0.0138	0.0000
40	0.0139	0.0138	0.0137	0.0001	40	0.0139	0.0139	0.0139	0.0000	0.0000	40	0.0139	0.0139	0.0000
41	0.0140	0.0139	0.0138	0.0001	41	0.0140	0.0140	0.0140	0.0000	0.0000	41	0.0140	0.0140	0.0000
42	0.0141	0.0140	0.0139	0.0001	42	0.0141	0.0141	0.0141	0.0000	0.0000	42	0.0141	0.0141	0.0000
43	0.0142	0.0141	0.0140	0.0001	43	0.0142	0.0142	0.0142	0.0000	0.0000	43	0.0142	0.0142	0.0000
44	0.0143	0.0142	0.0141	0.0001	44	0.0143	0.0143	0.0143	0.0000	0.0000	44	0.0143	0.0143	0.0000
45	0.0144	0.0143	0.0142	0.0001	45	0.0144	0.0144	0.0144	0.0000	0.0000	45	0.0144	0.0144	0.0000
46	0.0145	0.0144	0.0143	0.0001	46	0.0145	0.0145	0.0145	0.0000	0.0000	46	0.0145	0.0145	0.0000
47	0.0146	0.0145	0.0144	0.0001	47	0.0146	0.0146	0.0146	0.0000	0.0000	47	0.0146	0.0146	0.0000
48	0.0147	0.0146	0.0145	0.0001	48	0.0147	0.0147	0.0147	0.0000	0.0000	48	0.0147	0.0147	0.0000
49	0.0148	0.0147	0.0146	0.0001	49	0.0148	0.0148	0.0148	0.0000	0.0000	49	0.0148	0.0148	0.0000
50	0.0149	0.0148	0.0147	0.0001	50	0.0149	0.0149	0.0149	0.0000	0.0000	50	0.0149	0.0149	0.0000
51	0.0150	0.0149	0.0148	0.0001	51	0.0150	0.0150	0.0150	0.0000	0.0000	51	0.0150	0.0150	0.0000
52	0.0151	0.0150	0.0149	0.0001	52	0.0151	0.0151	0.0151	0.0000	0.0000	52	0.0151	0.0151	0.0000
53	0.0152	0.0151	0.0150	0.0001	53	0.0152	0.0152	0.0152	0.0000	0.0000	53	0.0152	0.0152	0.0000
54	0.0153	0.0152	0.0151	0.0001	54	0.0153	0.0153	0.0153	0.0000	0.0000	54	0.0153	0.0153	0.0000
55	0.0154	0.0153	0.0152	0.0001	55	0.0154	0.0154	0.0154	0.0000	0.0000	55	0.0154	0.0154	0.0000
56	0.0155	0.0154	0.0153	0.0001	56	0.0155	0.0155	0.0155	0.0000	0.0000	56	0.0155	0.0155	0.0000
57	0.0156	0.0155	0.0154	0.0001	57	0.0156	0.0156	0.0156	0.0000	0.0000	57	0.0156	0.0156	0.0000
58	0.0157	0.0156	0.0155	0.0001	58	0.0157	0.0157	0.0157	0.0000	0.0000	58	0.0157	0.0157	0.0000
59	0.0158	0.0157	0.0156	0.0001	59	0.0158	0.0158	0.0158	0.0000	0.0000	59	0.0158	0.0158	0.0000
60	0.0159	0.0158	0.0157	0.0001	60	0.0159	0.0159	0.0159	0.0000	0.0000	60	0.0159	0.0159	0.0000
61	0.0160	0.0159	0.0158	0.0001	61	0.0160	0.0160	0.0160	0.0000	0.0000	61	0.0160	0.0160	0.0000
62	0.0161	0.0160	0.0159	0.0001	62	0.0161	0.0161	0.0161	0.0000	0.0000	62	0.0161	0.0161	0.0000
63	0.0162	0.0161	0.0160	0.0001	63	0.0162	0.0162	0.0162	0.0000	0.0000	63	0.0162	0.0162	0.0000
64	0.0163	0.0162	0.0161	0.0001	64	0.0163	0.0163	0.0163	0.0000	0.0000	64	0.0163	0.0163	0.0000
65	0.0164	0.0163	0.0162	0.0001	65	0.0164	0.0164	0.0164	0.0000	0.0000	65	0.0164	0.0164	0.0000
66	0.0165	0.0164	0.0163	0.0001	66	0.0165	0.0165	0.0165	0.0000	0.0000	66	0.0165	0.0165	0.0000
67	0.0166	0.0165	0.0164	0.0001	67	0.0166	0.0166	0.0166	0.0000	0.0000	67	0.0166	0.0166	0.0000
68	0.0167	0.0166	0.0165	0.0001	68	0.0167	0.0167	0.0167	0.0000	0.0000	68	0.0167	0.0167	0.0000
69	0.0168	0.0167	0.0166	0.0001	69	0.0168	0.0168	0.0168	0.0000	0.0000	69	0.0168	0.0168	0.0000
70	0.0169	0.0168	0.0167	0.0001	70	0.0169	0.0169	0.0169	0.0000	0.0000	70	0.0169	0.0169	0.0000
71	0.0170	0.0169	0.0168	0.0001	71	0.0170	0.0170	0.0170	0.0000	0.0000	71	0.0170	0.0170	0.0000
72	0.0171	0.0170	0.0169	0.0001	72	0.0171	0.0171	0.0171	0.0000	0.0000	72	0.0171	0.0171	0.0000
73	0.0172	0.0171	0.0170	0.0001	73	0.0172	0.0172	0.0172	0.0000	0.0000	73	0.0172	0.0172	0.0000
74	0.0173	0.0172	0.0171	0.0001	74	0.0173	0.0173	0.0173	0.0000	0.0000	74	0.0173	0.0173	0.0000
75	0.0174	0.0173	0.0172	0.0001	75	0.0174	0.0174	0.0174	0.0000	0.0000	75	0.0174	0.0174	0.0000
76	0.0175	0.0174	0.0173	0.0001	76	0.0175	0.0175	0.0175	0.0000	0.0000	76	0.0175	0.0175	0.0000
77	0.0176	0.0175	0.0174	0.0001	77	0.0176	0.0176	0.0176	0.0000	0.0000				

			3000000 EUR	payable	in	3 months							
1, no hedge	forecasted exchange rate formed in section 3 used to convert this amount						3000000 EUR	into AUD		\$5,012,530.28	AUD	in 3M	
2, Forward	3M forward rate	(spot rate under MONITOR board + basis points under Quote) -> Bid/ask rate: AUD/EUR: sell EUR, buy AUD at the rate the dealer is willing to sell (offer or ask)											
	0.598551505									\$5,012,100.00	AUD	in 3M	
3, Money Market hedging	Now we borrow 5P EUR and exchange it for AUD (use spot rate/ex rate) at the offer or ask rate (borrowed from MON board)												
	P =	\$2,992,611.99		x0=		\$2,821,089.73							
										\$2,828,495.09	AUD	in 3M	
4, Options Hedging													
	we need a right to sell EUR 3mill in 3M, so a PUT is needed												
	Access FX Options Calculator to tailor your inputs, and choose the shaded (ask premium) at TIME 0												
in 3M	it depends if exercised, then (strike * 3 mill EUR + (- AUD premium) * (1+AUD rate/4))									\$5,139,503.56	AUD	in 3M	
	if not exercised, then our forecasted ex rate * 3mill EUR + (- AUD premium) * (1+the above deposit AUD rate/4))									\$5,116,787.11	AUD	in 3M	

Appendix 8- Hedge: JPY payable

				300000000 JPY	payable	in	2 months						Outcome		
1, no hedge	forecasted exchange rate formed in section 3 used to convert this amount							300000000 JPY	into AUD		\$3,191,062.98	AUD		in 3M	
2, Forward	3M forward rate	(spot rate under MONITOR board + basis points under Quote) -> Bid/ask rate: AUD/JPY: sell JPY, buy AUD at the rate the dealer is willing to sell (offer or ask)													
	93.945										\$3,193,357.82	AUD		in 3M	
3, Money Market hedging	Now we borrow P JPY and exchange it for AUD (use spot rate/ex rate) at the offer or ask rate (borrowed from MON board)														
	P =	300220161.5 JPY		x0=	\$3,170,893.13										
											\$3,193,089.38	AUD		in 3M	
4, Options Hedging															
we need a right to sell JPY 300mill in 3M, so a PUT is needed															
Access FX Options Calculator to tailor your inputs, and choose the shaded (ask premium) at TIME 0															
in 3M	it depends if exercised, then (strike * 300 mill JPY + (- AUD premium) * (1+AUD rate/4))										\$3,261,719.11	AUD		in 3M	
	if not exercised, then our forecasted ex rate * 300 mill JPY + (- AUD premium) * (1+the above deposit AUD rate/4))										\$3,253,123.38	AUD		in 3M	

Appendix 9- Hedge: USD payable

			\$8,000,000.00	USD	payable	in	4 months								
1, no hedge	forecasted exchange rate	formed in section 3 used to convert this amount						\$8,000,000.00	USD	into AUD		\$12,428,767.63	AUD	in 3M	
2, Forward	3M forward rate	(spot rate under MONITOR board + basis points under Quote) -> Bid/ask rate: AUD/USD: sell USD, buy AUD at the rate the dealer is willing to sell (offer or ask)													
	0.633976											\$12,618,774.21	AUD	in 3M	
3, Money Market hedging	Now we borrow 5P USD and exchange it for AUD (use spot rate/ex rate) at the offer or ask rate (borrowed from MON board)														
	P =	\$7,853,660.14		x0=		\$12,430,611.17							\$12,608,782.85	AUD	in 3M
4, Options Hedging	we need a right to sell USD 8mill in 3M, so a PUT is needed														
	Access FX Options Calculator to tailor your inputs, and choose the shaded (ask premium) at TIME 0														
in 3M	it depends if exercised, then (strike * 8 mill USD + (- AUD premium) * (1+AUD rate/4))											\$12,927,944.42	AUD	in 3M	
	if not exercised, then our forecasted ex rate * 8mill USD + (- AUD premium) * (1+the above deposit AUD rate/4))											\$12,771,443.87	AUD	in 3M	

Appendix 10- Hedge: CAD receivables

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