

University

FINANCIAL RISK MANAGEMENT

Lecturer's name

Name

Executive summary

In this study, the researcher would recommend the management of MML to set strategy of hedging for the loan that the company has taken for financing and the mining stocks of the company. For this purpose, the researcher would analyse the risks, which are involved in the business of the company. The study shall be concluded with the discussion on the selection of strategy on behalf of the company.

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Introduction

In this study, the researcher shall discuss the hedging strategy that MML could adopt for mitigating the risk related to the involvement of foreign currency in the business. In the initial part of the study, the researcher shall focus on the identification of the financial risks of the company. After this portion of the study, the researcher shall discuss the requirement of hedging for the sections of business.

Section I

(a) Identification of financial risks faced by MML

As per the case study of MML, the researcher could find that the company has taken a loan of USD 600 millions from a syndicated bank. Along with this debt, the company has also borrowed a variable rate debt of AUD 200 millions. In this context, Ruf (2013) stated that loan at foreign currency involves the risk of foreign exchange as the borrowers are to pay loan through the foreign currency. In this case, MML is to pay the loan at the US dollar. Therefore, the company is to face the exchange rate risk in the time of paying the loan to the bank.

In this case study, it has also been disclosed that the loan of the company has a term of ten years and the interest rate of the loan is floating in nature. In this same context, Norberg (2013) opined that the floating interest rate of loan considers a fixed portion and a variable portion, which depends upon the LIBOR. In this case, the loan has a floating interest rate at 2.5% above the three month US dollar LIBOR rate. Therefore, the company could face the enhancement in the LIBOR rate in future. If the LIBOR rate rises, the company would have to pay a higher amount of interest to the bank.

Apart from the loan in foreign currency, the company has borrowed loan in Australian dollars. The amount of loan was AUD 200 million, which was borrowed at the rate of variable rate. In case of variable interest rate, the lenders are to pay interest on the outstanding balance and the rate of interest is set out by considering the market interest rate (Norberg, 2013). In this context, it is to mention that if the market interest rate enhances, the company would have to pay higher amount of interest. Therefore, the company shall face the interest rate risk as well.

As the company involves in mining business, it is to store and produce mines, which are internationally valued in the US dollar. Therefore, if the price of the outputs of the company decreases in the international market, the company would face loss. Therefore, the foreign exchange rate risk is another crucial risk that could affect the company in near future, as opined by Ruf (2013), a fall in the price of US dollar would result in increase in the gold price and copper price in the Australian dollars. Therefore, the company would face the relative risk of enhancement in the US dollar price in the international market. In addition to that, the researcher is to mention that as the company involves in producing gold and copper, it comprises of risk regarding the change in price of such commodities. This kind of risk of the company could also include in the commodity rate risk. Therefore, the researcher is to mention that the company would face exchange rate risk, commodity rate risk and interest rate risk in operating the mining business in Australia.

(b) Recommendation for hedging strategy

From the above discussion, the researcher could mention that the company would face interest rate risk and the foreign exchange rate risk as the primary financial risks. As stated by Loss (2012), companies could avoid the financial risks by taking proper hedging strategies as hedging strategy minimises the risk regarding interest rate and currency exchange mismatch. In this context, the researcher is to mention that the company could adopt the hedging strategy in order to mitigate the risks, which have been discussed above. In this regard, it is to mention that the company has taken loan in foreign currency, interest rate of which depends upon the LIBOR (London Inter-Bank Offer Rate). Therefore, the company is required to hedge this risk in order to avoid the risk of enhancement in the LIBOR. Therefore, the company is recommended to take the interest rate future as the hedging strategy to minimise the above discussed risk. As the loan has been taken for 10 years, risk of change in the LIBOR is high, and therefore, this risk is required to be hedged by the management of MML.

On the other hand, it is to mention that the company has taken loan of AUD 200 millions at variable interest rate. In this context, the researcher is to mention that the hedging strategy is irrelevant in case of fixed interest rate as the rate of interest is predetermined in fixed interest rate regime (Bodie, 2013). However, the variable interest rate enhances the risk of enhancement of

interest burden as the interest rate depends upon the market condition. In this context, Norberg (2013) noted that the interest rate in Australia depends upon the RBA Cash rate as the commercial banks are to borrow fund at the rate of liquid cash rate of Reserve Bank of Australia. In this context, the researcher is to mention that the cash rate of Reserve Bank of Australia has shown a decreasing trend over last twenty years (Figure 1). Hence, the company could expect a decline in the Cash Rate in future, and therefore, the company is not required to hedge this risk of variable interest.

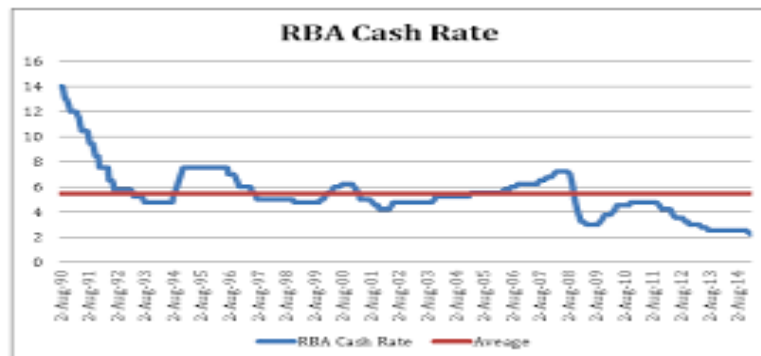


Figure 1: Reserve Bank of Australia (RBA) Cash Rate

(Source: Goutte *et al.* 2014)

In the above part of the research, the researcher has found that the company produces gold and copper, which are valued at the US dollars. Therefore, the researcher is to mention that the change in the US dollar price would affect the profitability of MML in long term. In this context, it is to mention that the enhancement in gold and copper price in terms of the US dollar would be profitable to the company. On the other hand, decline in the gold price and the copper price would result in decrease in the net profit of MML.

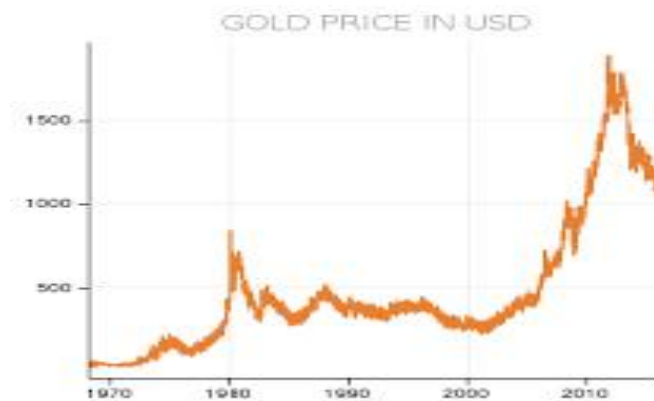


Figure 2: Gold price in USD

(Source: Brooks *et al.* 2012)

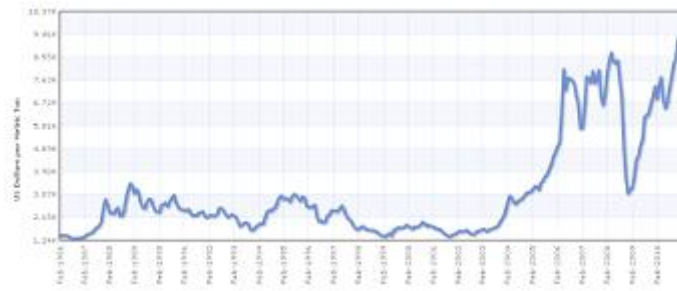


Figure 3: Copper price in USD

(Source: Rosenbaum and Tankov (2014))

From the above figure (Figure 2, and 3), the researcher could found that the price of gold and copper have increased over last forty years, and therefore, the company is not recommended to make hedging strategy for the commodity prices.

In this context, the researcher is to mention that as the commodities of the company is traded in the US dollars, MML is to make hedging strategy for the for minimising the exchange rate risk. As stated by Arouri *et al.* (2015) an increase in the price of USD in terms of AUD would result in super normal profit for the mining companies in Australia. Therefore, it can be said that decrease in the price of US dollar in terms of Australian dollar could be the reason of unexpected loss for MML. in the figure below (Figure 4), the researcher could found that AUD and USD exchange rate has a fluctuating trend. Therefore, the company could face the risk regarding to the exchange rate in future. Hence, it is recommended to the company to hedge the exchange rate risk to minimise the probable future loss.



Figure 4: Exchange rate of AUD and USD

(Source: Gao *et al.* 2015)

(c) Recommendation to MML

In the above portion of the study, the researcher has seen that the company is to take the hedging strategy to minimise the risk related to foreign loan's interest and the foreign exchange rate. In this context, the researcher is to mention that the company is required to adopt interest rate future strategy to minimise the risk of the floating interest rate (Chan *et al.* 2015). In this contrary, Arouri *et al.* (2012) stated that the companies are to take the interest rate SWAP strategy to mitigate the risk. In this context, the company is to take the strategy of interest rate swap strategy to minimise the risk of floating interest. For this, MML is to make contract with bank to swap the floating interest rate to fixed interest. In this context, it is to mention that the fixed interest rate in Australia is 5% for a term above 5 years (Ruf, 2013). Therefore, the company is to pay interest at the rate of 5% per annum instead of floating interest rate at the rate of 2.5% plus the LIBOR.

On the other hand, the company has been recommended to hedge the exchange rate risks, and therefore, it is to make forward agreement with the bank. In this regard, it is to mention that the company is to make a forward agreement to exchange US dollar at a predetermined exchange rate. This rate is required to be set out by the company. In the time of exercising the forward agreement, the company would have the right to exercise the contract.

In this context, the researcher is to mention that the company would have to pay premium if it takes derivative options such as options and futures. As stated above, the company needs not to take any strategy regarding the risk of enhancement in interest rate in the local market off Australia. If the company plans future strategy regarding the future strategy, it has to pay premium to the bank. As the probability of decline in the interest rate is seen as low, the hedging strategy for variable interest rate is to be considered as irrelevant. If MML takes future strategy to mitigate the risk, it shall pay interest to the bank, which shall result in loss to the company.

Moreover, if the company makes future or option contract for the risk of decrease in the commodity prices, it would have to incur loss as the probability of decline in gold price and copper price is low. Therefore, the researcher has recommended not adopting the future strategy regarding the risk of commodity prices.

In this context, the researcher is to mention that the company is to take the strategy to minimise the risk of exchange rate as the exchange rate of AUD and USD reflected a fluctuation over past decade. The researcher has recommended adopting proper strategy regarding the exchange rate as the company is to evaluate the outputs in the US dollars. For this reason, MML is to make

currency forward contract with the bank. As stated by Loss (2012), companies are required to pay premiums while entering into the currency future contract as this kind of contract carries the exchange rate risk. Therefore, the company is to incur the forward premium if it enters into the forward contract. As the fluctuation of the exchange rate of USD and AUD is relatively high, it would be profitable to enter into the currency future contract.

Section II

(d) Hedging schedule

a. Hedging risks:

As per the case study of MML, the researcher has found the interest rate risk and the currency exchange rate risk. In other words, the researcher is to mention that the company is to face the interest rate risk due to the factor that the company has taken a loan at the US dollar and it deals with commodities, which are valued at the USD.

b. Number of futures and/ or options

As stated by Gobet and Landon (2014), the number of contracts could be calculated by considering the fund to be hedged as the numerator and the notional value of contract as the denominator. Therefore, the calculation would be as follow.

1. Interest rate risk

$$= \text{USD } 600 / (\text{AUD } 0.74 * 600 * 100) = 74$$

2. Currency exchange rate

$$= \text{USD } 0.74 / 0.70 = 1$$

	Calculation of number of contracts	
3. Currency exchange rate risk.	1. Interest rate risk.	Risk

Forward	Future	Futures / or Options
= USD 0.74/0.70 = 1	=USD 600/ (AUD 0.74*600*100) = 74	Number of Contracts
4 months.	3 months.	Contract months
Long.	Short.	Long/ short/ Put/ call
Strike price = AUD 0.70. Premium = 2.5%. Future price= AUD 0.65.	Strike price = AUD 0.74. Premium = 2.5%. Future price= AUD 0.75.	Strike Prices, premiums/ Futures prices

c. The contract months

As the current interest rollover is 3 months, the company is to form the contract of interest risk future contract for 3 months. On the other hand, the company is to make the currency exchange forward contract for 4 months as this period is the minimum term of the contract.

d. Position of the contract

In case of the interest rate hedging, the company is to be in short position as the company is to sell the floating interest rate against the fixed interest rate. On the other hand, the company is to be in long position in the forward contract of the currency exchange rate risk as the company would buy foreign currency from bank.

e. Option strike price

In case of future short contract, the company shall consider the strike price of AUD 0.74 against US 1, and in case of the long contract, the strike price would be AUD 0.70 against USD 1.

(e) Recommendation of TWO option strategies

MML faces financial risks regarding the currency exchange rate and the interest rate risks. Therefore, the researcher is required to set strategy to get rid of the financial risks of the company. In this context, if the management of the company wants to set two different option strategies regarding the above mentioned risks, the researcher is to suggest strategy for the currency exchange rate risk and the interest rate risk.

Initially, the company is required to enter in a put option to sell the commodities of the company in the market. As stated by Bodie (2013), companies could make a selling contract through the put option, and this option gives the option buyer the right to sale a commodity or underlying asset to the option seller. Therefore, the company could sell the gold or copper through the option agreement if the price falls below the current spot market.

In the second option plan, the company could enter in a interest rate option, which shall facilitate the company to pay interest at the fixed rate. In this context, it is to mention that the company is to buy a put option to enter in the interest rate derivative market. If the interest rate of LIBOR enhances, the company could exercise the option to pay a lower interest for the loan.

Conclusions

The study has enlightened various aspects of the derivative market in Australia. In the initial part of the study, the researcher has identified that derivative instruments such as futures, options and forward contracts minimises the financial risks. In the next part, the researcher set hedging strategy for MML to minimise the financial risks involved in the business of the mining business. In this part, the researcher has recommended to take forward agreements to mitigate the risks regarding interest rate and currency exchange rates.

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