

# Use of derivatives in toyota assignment

Business



# INTERNATIONAL FINANCIAL MARKETS \*” USE OF DERIVATIVES IN A CHOSEN COMPANY\*”

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## 13. REFERENCES AND BIBLIOGRAPHY TOYOTA MOTOR CORPORATION 1.

### INTRODUCTION \*2. FOREIGN EXCHANGE RISK IN \*TOYOTA {draw: frame}

<http://www.ndexmundi.com/xrates/graph.aspx?c1=JPY&c2=USD&days=5475> 2. 2 \*De\*rivative products used by for foreign exchange risk

Translation Risk Translation risk management Transaction Risk Transaction risk management Non derivative management 2. 2 Derivative products used for foreign exchange risk a) Foreign exchange forward contracts b) Foreign currency options Toyota uses currency option to exchange the money denominated in one currency to exchange money denominated in other currency at a pre-agreed exchange rate(Eun, C. S, p. 114).

It is different from the forward contract in that Toyota has right but not the obligation to exchange the currency and options have premiums and hence costlier than forward contracts. Foreign currency borrowing Foreign currency swaps 2. 3 Effectiveness of Foreign Currency Exchange Rate Risk

Management. \*2. 4 Alternative strategies to manage Foreign Exchange risk of \*Toyota a) Futures Contracts b) Leading and Lagging c) Netting Netting can be used to minimise foreign exchange risk. Netting is beneficial when large number of foreign exchange transactions occurs between subsidiaries of companies such as Toyota (Eiteman, D.

K, p. 2001). Netting is basically maintaining equal level of foreign payables against foreign receivables. The payment that remains exposed to foreign exchange risk can be hedged (Hull, J, C. p. 614). The benefit of hedging is that it helps to reduce the foreign exchange conversion fees and the fund transfer fees on foreign exchange transactions. Moreover netting helps to settle the obligations quickly. \*3. INTEREST RATE RISK IN \*TOYOTA 3. 1

Impact of Interest rate Risk on operation Toyota also faces Interest rate risk due to its high involvement in financing, investing and cash management activities.

The fluctuation of interest rates in various countries is shown below. From the figure we can see that in US the interest rates are very volatile hence effective interest rate risk management is very essential. {draw: frame}

Figure: Variation of Interest rates in US (AshrafLaidi, 2009) <http://www.ashraflaidi.com/charts/global-interest-rates.asp>

In order to maintain the desired level of risk exposure and to reduce interest expenses, Toyota uses different derivatives products and has been quite successful in minimizing interest rate expenses. 3. 2 Derivative products used for Interest rate risk )

Interest rate swaps Interest rate currency swap Interest rate currency swap is a derivative product in which currency swaps are combined with interest rate swaps (Hull, J, C, p. 707). Toyota would swap a fixed debt denominated in US dollars for a floating rate debt denominated in Euro. \* c) Interest rate option\*s Interest rate options are options on financial assets whose prices are sensitive to changing interest rates (Hull, J, C, p. 707). Toyota uses interest rate options to manage interest rate risk. \*3. 3 Effectiveness of

Interest \*Rate Risk Management

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Toyota usually uses interest rate swaps, interest rate currency swap agreements and interest rate options to manage its risks. Toyota uses many strategies to minimize the risk in interest rate expense. Toyota estimated a loss by ? 99.5 billion by a 100 basis points upward shift in interest rates in fiscal year 2007 and by ? 110.6 billion in fiscal year 2008 (Toyota, 2008). Interest expense on pay float swaps reduced due to major declines in 3-month LIBOR rates during fiscal 2008 as compared to fiscal 2007. As a result, interest expense on debt, net of pay float swaps was lower in fiscal 2008.

Total interest expense in 2008, 2007, 2006 are respectively \$2,956 \$4,151 \$2,662 (Toyota, 2008). We can see from the interest rate expense figures that the interest rate expenses have fallen drastically in fiscal year 2008 as a result of effectiveness of the Toyota's interest rate derivative strategy. {text: list-item} Forward rate agreement Toyota could enter into forward rate agreement to mitigate interest rate risk. FRA is an OTC agreement in which certain interest rate could be applied to certain principal during a particular period of time in future (Hull, J, C, p. 100). Future rate agreement \*4.

COMMODITY PRICE RISK IN \*TOYOTA 4. 1 Impact of Commodity P\*rice \*Risk on operation Commodity price risk is mainly caused due to the fluctuation in the prices of the commodities. Commodities such as non-ferrous alloys e. g. aluminium, precious metals like palladium, platinum, rhodium and ferrous alloys which are used by Toyota in production of motor vehicles are susceptible to variation in the prices. This is the main cause of commodity price risk (Toyota, 2008). {draw: frame} [http://www.lme.co.uk/aluminium\\_graphs.asp](http://www.lme.co.uk/aluminium_graphs.asp)

4. 2 Derivative products used for Commodity Price risk

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Toyota does not use derivative products for commodity price risk management but controls the price risk in the sudden hike of prices of materials such as aluminium and palladium by maintaining the stock level at a minimum (Toyota, 2008).

#### 4.3 Effectiveness of Commodity Price Risk Management Strategies:-

- a) Futures Contracts
- b) Options Contracts

Options contracts for commodities used in production process of Toyota can also be used by Toyota. The Options contract gives Toyota right but not the obligation to purchase the commodity at a particular forward rate.

The disadvantage of options is that they are costly since options come with premium. Toyota can purchase call options since they give the right to purchase the commodity.

#### \*5. EQUITY PRICE RISK IN \*TOYOTA

##### 5.1 Impact of equity price risk on operation

Toyota currently has its funds invested in various available securities in the market which are subject to price risk (Toyota, 2008). This high amount of investment causes Toyota to the exposure of equity price risk.

##### 5.2 Derivative products used for Equity Price Risk

Toyota does not use derivative products to manage the equity risk.

The fair value of estimated marketable securities was 1,679.8 billion yen as of 31 March 2007 and 1,177.0 billion yen as of 31 March 2008 (Toyota, 2008). Toyota estimated its fair value of these investments to decrease by 10% change in prices would be approximately ? 168.0 billion in fiscal year 2007 and ? 117.7 billion in fiscal year 2008.

#### \*6. COMPARISON OF DERIVATIVES BETWEEN TOYOTA\* AND FORD

#### 7. DERIVATIVE PRODUCT ANALYSIS

Note: Interest rate swap is the common derivative product used by Toyota for interest rate risk management.

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In 2008 they also used Interest rate currency swap as the fluctuation in exchange rate as well as in interest rate was highly volatile. Moreover they used interest rate cap to provide a security insurance against the risk of unpredictable interest rates. 8. RECOMMENDATIONS It is clearly evident from the annual report 2008 that the Toyota's operating profit is decreased by the increase in the production cost due to rapid fluctuation in the commodity prices of raw material which Toyota uses in the production of automobiles.

We suggest that Toyota should consider entering into future contracts and options depending on their market expectations. Toyota can enter into forward contract for material such as Palladium and Aluminium use in the production of cars. Toyotacan use derivatives for managing Equity risk with products such as Futures contracts , Forward contracts and options for securities 9. REFERENCES AND BIBILIOGRAPHY