

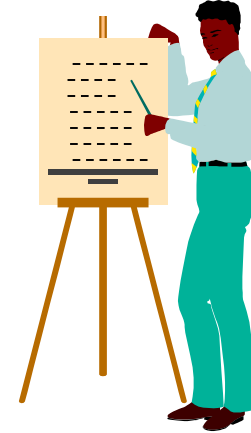
**Topic**

**9**

# Managing Exchange Rate Risk: Economic Exposure & Translation Exposure



# Chapter Objectives



- **To explain how an MNC's economic exposure can be hedged; and**
- **To explain how an MNC's translation exposure can be hedged.**

# Economic Exposure



- ***Economic exposure*** refers to the impact exchange rate fluctuations can have on a firm's future cash flows.
- Recall that corporate cash flows can be affected by exchange rate movements in ways not directly associated with foreign transactions.

# Economic Exposure



- **Exchange rate changes are often linked to variability in real growth, inflation, interest rates, governmental actions,... If material, the changes may cause firms to adjust their financing and operating strategies.**
- **The importance of managing economic exposure can be seen from the case of the bankruptcy of Laker Airways, and from the the 1997-98 Asian crisis.**

# Economic Exposure



- **A firm can assess its economic exposure by determining the sensitivity of its expenses and revenues to various possible exchange rate scenarios.**
- **The firm can then reduce its exposure by restructuring its operations to balance its exchange-rate-sensitive cash flows.**
- **Note that computer spreadsheets are often used to expedite the analysis.**

# Economic Exposure



- **Restructuring may involve:**
  - ① increasing/reducing sales in new or existing foreign markets,
  - ② increasing/reducing dependency on foreign suppliers,
  - ③ establishing or eliminating production facilities in foreign markets, and/or
  - ④ increasing or reducing the level of debt denominated in foreign currencies.

# Economic Exposure



- **MNCs must be very confident about the *long-term* potential benefits before they proceed to restructure their operations, because of the high costs of reversal.**

# Managing Madison Inc.'s Economic Exposure

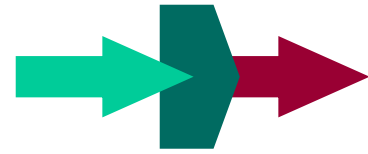
(in Millions)	C\$=\$.75	C\$=\$.80	C\$=\$.85
<b>Sales:</b>			
(1) U.S.	\$300.00	\$304.00	\$307.00
(2) Canadian	C\$4= <u>3.0</u>	C\$4= <u>3.20</u>	C\$4= <u>3.40</u>
(3) Total	<u>\$303.00</u>	<u>\$307.20</u>	<u>\$310.40</u>
<b>Cost of goods sold:</b>			
(4) U.S.	\$ 50.00	\$ 50.00	\$ 50.00
(5) Canadian	C\$200= <u>150.00</u>	C\$200= <u>160.00</u>	C\$200= <u>170.00</u>
(6) Total	<u>\$200.00</u>	<u>\$210.00</u>	<u>\$220.00</u>
(7) Gross profit	<u>\$103.00</u>	<u>\$ 97.20</u>	<u>\$ 90.40</u>
<b>Operating expenses:</b>			
(8) U.S. - Fixed	\$ 30.00	\$ 30.00	\$ 30.00
(9) U.S. - Variable	<u>30.30</u>	<u>30.72</u>	<u>31.04</u>
(10) Total	<u>\$ 60.30</u>	<u>\$ 60.72</u>	<u>\$ 61.04</u>
(11) EBIT	<u>\$ 42.70</u>	<u>\$ 36.48</u>	<u>\$ 29.36</u>
<b>Interest expense:</b>			
(12) U.S.	\$ 3.00	\$ 3.00	\$ 3.00
(13) Canadian	C\$10= <u>7.50</u>	C\$10= <u>8.00</u>	C\$10= <u>8.50</u>
(14) Total	<u>\$ 10.50</u>	<u>\$ 11.00</u>	<u>\$ 11.50</u>
(15) EBT	<u>\$ 32.20</u>	<u>\$ 25.48</u>	<u>\$ 17.86</u>



## **Managing Madison Inc.'s Economic Exposure**

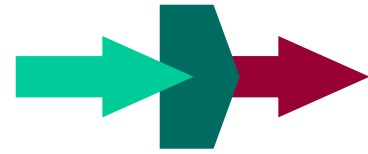
- The amount of Madison's earnings before taxes is inversely related to the strength of the Canadian dollar, since the higher expenses more than offset the higher revenue.
- Madison may reduce its exposure by increasing Canadian sales, reducing orders of Canadian materials, and/or borrowing less from Canadian banks.

# Translation Exposure



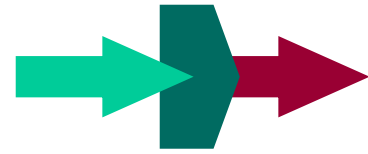
- ***Translation exposure*** results when an MNC translates each subsidiary's financial data to its home currency for consolidated financial reporting.
- Translation exposure does not directly affect cash flows, but some firms are concerned about it because of its potential impact on reported consolidated earnings.

# Translation Exposure



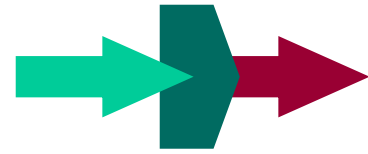
- **An MNC may attempt to avoid translation exposure by matching its foreign liabilities with its foreign assets.**
- **To hedge translation exposure, forward or futures contracts can be used. Specifically, an MNC may sell the currency that its foreign subsidiary receive as earnings forward, thus creating an offsetting cash outflow in that currency.**

# Translation Exposure



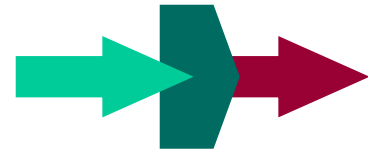
- For example, a U.S.-based MNC that is concerned about the translated value of its British earnings may enter a one-year forward contract to sell pounds.
- If the pound depreciates during the fiscal year, the gain generated from the forward contract position will help to offset the translation loss.

# Translation Exposure



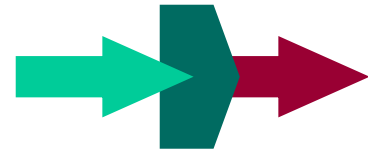
- **Hedging translation exposure is limited by:**
  - inaccurate earnings forecasts,
  - inadequate forward contracts for some currencies,
  - accounting distortions (the choice of the translation exchange rate, taxes, etc.), and
  - increased transaction exposure (due to hedging activities).

# Translation Exposure



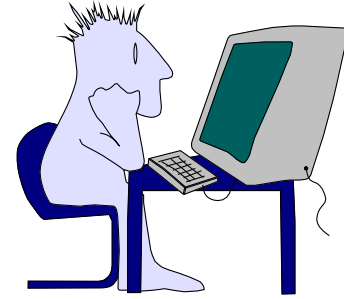
- In particular, if the foreign currency depreciates during the fiscal year, the *transaction loss* generated by a forward contract position will somewhat offset the *translation gain*.
- Note that the translation gain is simply a paper gain, while the loss resulting from the hedge is a *real* loss.

# Translation Exposure



- **Perhaps, the best way for MNCs to deal with translation exposure is to clarify how their consolidated earnings have been affected by exchange rate movements.**

# Online Application



- The annual reports for many MNCs may be found at <http://www.reportgallery.com>. Review some annual reports and see if you can find any comments that describe the MNCs' hedging of economic and/or translation exposures.



# Impact of Hedging Economic Exposure on an MNC's Value

**Hedging Decisions on Economic Exposure**

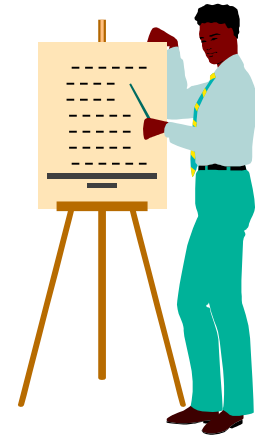
$$\text{Value} = \sum_{t=1}^n \left\{ \frac{\sum_{j=1}^m [E(CF_{j,t}) \times E(ER_{j,t})]}{(1+k)^t} \right\}$$

$E(CF_{j,t})$  = expected cash flows in currency  $j$  to be received by the U.S. parent at the end of period  $t$

$E(ER_{j,t})$  = expected exchange rate at which currency  $j$  can be converted to dollars at the end of period  $t$

$k$  = weighted average cost of capital of the parent

# Chapter Review



- **Managing Economic Exposure**
  - Assessing Economic Exposure
  - Reducing Economic Exposure through Restructuring
  - Issues Involved in the Restructuring Decision

# Chapter Review

- **Managing Translation Exposure**
  - Use of Forward Contracts to Hedge Translation Exposure
  - Limitations of Hedging Translation Exposure
  - Alternative Solution to Hedging Translation Exposure
- **How Economic Exposure Management Affects an MNC's Value**