FIN 621: Hedging Foreign Exchange Exposure

TRAIN TO LEARN EFFECTIVELY: TIP SHEETS

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WHAT IS FOREIGN EXCHANGE EXPOSURE?

- **Foreign exchange exposure:** the risk that **changes in exchange rates** will affect a firm's profits, cash flows, or overall value.

MAIN TYPES OF EXPOSURE

- **Transaction Exposure** - The risk that exchange rate changes will affect the value of money a company must pay or receive in the future from existing contracts.
- **Translation Exposure** - The risk that exchange rate changes will affect a company's financial statements when foreign subsidiary accounts are converted into the parent company's reporting currency.
- **Operating (Economic) Exposure** - The risk that exchange rate changes will affect a company's future cash flows, sales, costs, and overall business value.

WHAT IS HEDGING?

- Many firms attempt to manage their foreign exchange exposure through hedging. Hedging requires a firm to **take a position**—an asset, a contract, or a derivative—the value of which will rise or fall in a manner that **counters** the fall or rise in value of an existing position—the exposure.

WHY DO FIRMS HEDGE?

- Multinational companies are exposed to exchange rate changes that can affect their cash flows, profits, and firm value.
- Hedging means taking another financial position that offsets potential losses from exchange rate movements.
- The main goal of hedging is to reduce risk and make future cash flows more predictable.
- Hedging can protect a firm from losses, but it may also limit potential gains if exchange rates move favorably.
- By reducing uncertainty, hedging lowers the variability of future cash flows.
- However, hedging is not free. Firms should hedge only if the benefits of reducing risk outweigh the costs of hedging.

All information in this tip sheet is based on Chapter 10 of: Multinational Business Finance, 16 Edition, by David K. Eiteman, Arthur I. Stonehill, Michael H. Moffett, 2023. Retrieved from: https://plus.pearson.com/products/173303/pages/314?locale=&redirectURL=https%3A%2F%2Fplus.pearson.com%2Fhome&userPreferredType=read

TRANSACTION EXPOSURE LOGIC

Situation	Firm is worried about
Foreign Currency Receivable	Currency Depreciating
Foreign Currency Payable	Currency Appreciating

MAIN HEDGING METHODS

- **Forward Hedge** - Locks in an exchange rate today when the **firm wants certainty.**
- **Money Market Hedge** – Uses borrowing and lending to create a hedge**. Converts exposure into a domestic currency today.**
- **Option Hedge** – Gives protection while allowing upside potential when the **firm wants flexibility.**

TRANSACTION EXPOSURE EXAMPLE WALKTHROUGH

Problem 10.2 Kaanapali Travel

Kaanapali Travel, a Honolulu, Hawaii-based 100% privately owned travel company, has signed an agreement to acquire a 50% ownership share of Taichung Travel, a Taiwan-based privately owned travel agency specializing in servicing inbound customers from the United States and Canada. The acquisition **price is 7 million Taiwan dollars (TWD7,000,000) payable in cash in three months.**
Thomas Carson, Kaanapali's owner, believes the **Taiwan dollar will either remain stable or decline slightly over the next three months.** At the **present spot rate of TWD33.40 = USD1.00, the amount of cash required is only $200,000,** but even this relatively modest amount will need to be borrowed personally by Thomas Carson. **Taiwanese interest-bearing deposits by non-residents are regulated by the government, and are currently set at 1.5% per year.** He has a credit line with Bank of Hawaii for USD200,000 with **a current borrowing interest rate of 8% per year.** He does not believe that he can calculate a credible weighted average cost of capital since he has no stock outstanding and his competitors are all also privately held. Since the acquisition would use up all his available credit, he wonders if he should hedge this transaction exposure.

He has the following quotes from the Bank of Hawaii:

Spot rate (TWD=USD1.00)	33.40
3-month forward rate (TWD=USD1.00)	32.40
3-month Taiwan dollar deposit rate	1.500%
3-month dollar borrowing rate	6.500%
3-month call option on TWD	not available

Analyze the costs and risks of each alternative and then make a recommendation as to which alternative Thomas Carson should choose.

Assumptions	**Values**
	TWD
Acquisition price & 3-month A/P, New Taiwan dollars (TWD)	**7,000,000**
Spot rate (TWD=USD1.00)	**33.40**
3-month forward rate (TWD=USD1.00)	**32.40**
3-month Taiwan dollar deposit rate	**1.500%**
3-month dollar borrowing rate	**6.500%**
3-month call option on TWD	**not available**
Thomas Carson's credit line with Bank of Hawaii	**$200,000**

Evaluation of Alternatives

1. **Do Nothing** – wait 3 months and buy Taiwan Dollar at spot

If spot rate is the same as current spot rate 7000000TWD / 33.40 =	**USD 209,580.84**	**Risky**
If spot rate is the same as 3-month forward rate 7000000TWD / 32.40 =	**USD 216,049.38**	**Risky**

Although this would do nothing to cover the currency risk, there would be no required payment or borrowing for 3 months.

2. **Buy Taiwan Dollar forward 3 months**

Assured cost of TWD at 3-month forward rate 7000000TWD / 32.40 =	**USD 216,049.38**	**Certain**

The purchase of a forward contract would not require any cash up-front, but the Bank of Hawaii would reduce his available credit line by the amount of the forward. This is a non-cash expense.

3. **Money Market Hedge:** exchanging US$ for Taiwan Dollar Now, Depositing for 3 months until Payment

Acquisition price in TWD needed in 3-months		**TWD 7,000,000**	
Discounted back 3-months at TWD deposit rate	**0.9963**		
Amount of TWD needed now for deposit		**TWD 6,973,848**	
Spot rate, TWD=USD1.00	**33.40**		
USD needed now for exchange		**USD 208,797.85**	
USD carry-forward rate (3-month dollar borrowing rate)		**6.500%**	**Certain**
Carry-forward factor of USD for 3-month period	**1.0163**		
Total cost in USD of settling A/P in 3-months with Money Market Hedge		**USD 212,190.81**	

The currency risk is eliminated, but since Thomas Carson would have to exchange the money up-front, it would require him to borrow the money, increasing his debt outstanding for the entire 3 months.

Final Decision

This is a difficult decision. The forward contract appears to be the preferable choice, protecting him against an appreciating TWD and creating a certain cash purchase payment. The problem, however, will be whether the Bank of Hawaii will allow him to purchase a forward for the full USD216,049.38, which is slightly above his credit line currently in place. If his relationship is good with the bank, they most likely would increase his line sufficiently to allow the forward contract. A money market hedge, if allowed, would save Thomas USD3,858.57.