

Currency Risk Management Education Through Case Based Analysis: The Case of Domestic Branch Relocation by Foreign Financial Institutions

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1 Introduction

This case gives students the opportunity to consider and evaluate foreign currency hedging strategies at a practical level. In order to get the optimal learning experience students will need to consider for each hedging strategy considered:

- Currency risk
- Explicit and implicit costs
- Operational and accounting implications
- Regulatory concerns

This case is intended for use in managerial economics and corporate finance courses, and is intended to demonstrate how currency risk is addressed in an actual business environment. It is recommended that students be exposed to this case after becoming familiar with foreign exchange as a concept, currency risk and risk mitigation (hedging) strategies. There are many articles available summarizing currency exchange risk and hedging. One example is: <https://www.toptal.com/management-consultants/interim-cfos/foreign-exchange-risk>.

This document is divided into two sections:

- A description of the goals and desired learning outcomes and instructor notes
- An appendix consisting of the case materials to be distributed to students

2 Primary Learning outcomes

The primary learning outcomes of this case are:

- Be able to understand different hedging strategies available to a company's treasury / finance function
- Be able to identify the situational factors that determine which hedging strategies are appropriate for a given situation

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- Be able to evaluate the situation and hedging options to be able to articulate which strategies are realistic approaches to manage currency risk for a particular situation.

3 Instructor Notes

Some possible options

1. A firm which would like to hedge its currency exposure should consider several factors including
 - ① Amount to be hedged
 - ② Base currency and currency to be hedged against
 - ③ Risk appetite (100% hedge or something less than 100%)
 - ④ Length of time to hedge
 - ⑤ Access to funding instruments
 - ⑥ Other
2. There are several hedging options to consider including
 - ① Use derivatives to hedge currency risk. This can include currency futures, options, swaps, etc. All have different costs and benefits, but essentially the value of the derivative moves inversely to the value of the currency exposure. So, if the exchange rate moves against you, the value of the derivative increases and offsets your currency losses. With a derivative only offsetting currency risk of the position is purchased, rather than the entire position.
 1. Advantages include
 - i. Minimize the amount of capital tied up over the duration of the hedge
 - ii. Depending on the derivative they can be very liquid, meaning it is relatively easy to adjust the hedging position
 - iii. Credit risk can be very low, especially if purchased from an exchange rather than directly from another investor
 2. Disadvantages include
 - i. Transaction fees
 - ii. Maintenance margin (having to pledge collateral based on currency movement and related exposure during the term of the hedge)
 - iii. It may not be possible to buy derivatives that gives the exact desired hedge – the time frame, exact currency or amount may not perfectly match hedging goals
 - iv. A derivatives position with no easily identifiable offset position may be classified as speculative which necessitates daily mark to market accounting and possible capital charges. Regulators, lenders and investors are concerned with speculative risk that unhedged derivative transactions can represent, so want assurances that derivatives represented as hedges (reducing risk) are not being used to increase risk.

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② Replicate the hedge with a borrow, and buy strategy – borrow in native currency at the beginning of the hedge period, convert at spot and hold in hedged currency until needed.

1. Advantages include

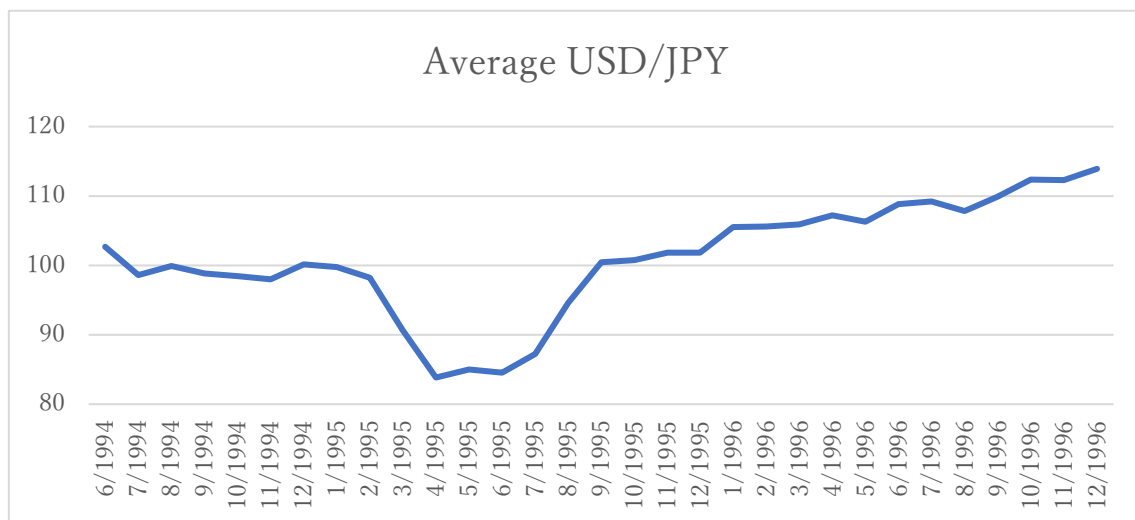
- i. Ability lock in the exact amount in base currency. The ability to purchase the exact amount of the exact currency for the desired time frame completely eliminates currency risk.
- ii. No margin or collateral to manage over the duration of the hedge

2. Disadvantages include

- i. Total amount hedged is tied up for the duration of the hedge period
- ii. Need to have access to credit and deposit intermediaries in both markets
- iii. Keeping cash on deposit in the desired currency may not be the optimal use of the firm's capital. Using Economic Value Added (EVA) analysis incorporating weighted average cost of capital will help determine the true cost of this strategy.

What actually Happened (Post case discussion wrap up)

The firm adopted a currency hedging program around the end of the first quarter of 1995 which was effective at hedging the currency risk. This was fortunate because from March of 1995 to December of 1996 the exchange rate moved from below 85 yen to the dollar to close to 115 yen to the dollar.



Appendix Figure 1: Average USD/JPY historical exchange rates

In the end Japan firm management decided to forgo more complicated hedging strategy in favor of a very basic and inexpensive strategy requiring very little currency market expertise or administration aside from cash management.

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The firm borrowed 3,000,000,000 in a 5 year amortizing loan at 4% annual interest from Japanese commercial banks in Japan and converted it into USD at the spot rate of 87 yen/USD around July. The firm's treasury department invested around \$34 million in short term, low credit risk investments and the balance was used to pay for USD project related technology expenses as they occurred.

In the end the hedging cost related to the project was the interest on the 3 billion JPY loan. The yield on a 10 yr. Japanese Government bond was approximately 3% at that time, so the interest rate on an uncollateralized loan to a foreign financial institution would depend on the firm's credit rating and other factors, but would certainly be more than 3%. In this way the firm was able to achieve its currency hedging goals without the related hedging overhead including active monitoring of currency rates, hedging collateral and the associated transaction costs and operational risk.

4 Secondary Learning outcomes

A secondary learning outcome is for students to be able to identify and utilize relevant data and information and to discard other information that is not relevant to the primary issues.

For instance, the case includes depreciation time frames for various equipment, which is not relevant to the hedging discussion. Depending on the expertise and background of the students, the instructor may want to let students decide which information is relevant and which is not.

(Appendix)

The Case

A major global investment bank headquartered in the US had significant operations in Tokyo Japan. The Tokyo office lease was due to expire in 1996 and the current offices could not support the firm's growth plans. In 1994 the management of the Japan operations made a decision to move to a new office location within Tokyo, and asked facilities, technology and finance managers develop a budget and project plan so that the firm could operate out of its new offices by the lease expiration at the end of 1996 without disrupting daily operations.

In early 1995 finance, together with facilities and technology management built an 18 month project plan and estimated that it would cost approximately \$110 million at then current FX rates to move about 600 employees into new offices. The move expenses were to be funded by the Japanese business operations whose base currency was Japanese yen.

A summary of the move project budget follows.

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Appendix Table1: Office Move budget

Description	Dep/Amort (yrs)	Amount \$M	JPY M@ 100Y/\$
Leasehold improvements	10	20	2,000
Furniture & equipment	10	10	1,000
Technology	5	38	3,800
Facilities project team	10	5	5,000
Technology project team	5	7	7,000
Restoration of old office	10	4	4,000
Double rent	10	16	1,600
10% contingency	NA	10	1,000
Total		110	11,000

- Leasehold improvement includes raised floors, non load bearing walls, internal stairways, plumbing, HVAC, etc.
- Furniture and equipment includes desks, chairs, file cabinets, copy machines, et.
- Technology includes desktop PCs and monitors, servers, server racks, cabling, printers, telephony, data lines, Unix workstations, etc.
- Facilities project team includes staff and consultants dedicated to the facilities build out
- Technology project team includes staff dedicated to the technology build out
- Restoration includes the cost to restore the old office to broom clean status
- Double rent includes the rent for the period that the firm is paying rent for both the old and new office locations.

While the Japan country management committee was comfortable with the overall budget, it was pointed out that approximately \$30 million of the \$38 million technology budget would be used to be purchased technology from the US using USD and would therefore be subject to JPY / USD currency risk. The rest of the projected expenses would be JPY. The Japan office treasury department was asked to recommend a hedging strategy so that currency fluctuation would not impact project expenses when looked at on a JPY basis.

Questions:

1. What factors does the treasury department need to consider when formulating a hedging strategy for this project?
2. What are some options could be used to hedge the currency risk? What are the pros and cons of

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each?

3. How would you hedge the currency risk?