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Accounting for Foreign Currency Transactions with Hedging Derivatives: A Teaching Aid

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Why are foreign currency transactions difficult to account for?

Foreign transactions involve foreign currencies, which require translation to the home currency. In effect, one currency is used to purchase another at the current exchange rate, referred to as the spot rate. This translation is further complicated when payment is due at a future date, because the spot rate constantly changes. This creates uncertainty in the effective future price, adding risk. The timeline below illustrates this phenomenon.

<table>
<thead>
<tr>
<th>Purchase Date</th>
<th>3 months</th>
<th>Payment Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.070 per Mexican peso</td>
<td>$0.077 per Mexican peso</td>
<td></td>
</tr>
</tbody>
</table>

What is a hedging derivative?

A hedging derivative is a special contract that locks in the spot rate for a future date, thereby eliminating risk. This price in the future is known as the forward rate. This teaching aid focuses on two types of derivatives:

1. **Forward Contract**: Sets the forward rate to a fixed amount. It is free to enter, but the user cannot benefit from any favorable exchange rate changes.

2. **Option**: Sets the forward rate to a fixed amount, but becomes optional to use. The user must purchase the option for a fee, but the user is not obligated to exercise the option if the exchange rate becomes more favorable.

Two Accounting Methods

**Fair Value Hedge**

A fair value hedge accounts for the transaction and the derivative separately, as follows:

- **Transaction**: The future payment due is translated periodically using the fair value (spot rate). Any increase or decrease in the value between periods is reflected in income.

- **Derivative**: The value is adjusted periodically to its fair value (market price). Any increase or decrease in the value between periods is reflected in income.

**Cash Flow Hedge**

The cash flow hedge accounts for the transaction and derivative separately, as follows:

- **Transaction**: Identities to Fair Value Hedge.

- **Derivative**: The derivative's fair value is split into its effective and ineffective portions.

  - The ineffective portion is reflected in income.
  - The effective portion is ignored and not reported until the final period.

The Teaching Aid

Accounting for derivative instruments is interdisciplinary, as it requires a moderate understanding of both Finance and Accounting.

- **Finance**: The first section of the paper introduces the concepts necessary to understand the topic. The left side of this poster provides a summary of these concepts.

- **Accounting**: The remainder of the paper explains the applicable accounting methods, also on the right side of this poster.

A spreadsheet tool summarizes this information by calculating the journal entries and financial statements, displayed on the right. To aid in comprehension through comparison, the teaching aid utilizes 5 cases, all with the same underlying transaction:

1. No hedge
2. Forward Contract as a Fair Value Hedge
3. Forward Contract as a Cash Flow Hedge
4. Option as a Fair Value Hedge
5. Option as a Cash Flow Hedge

Additional Information:

If you are interested in studying this topic further, please reference the following link:

https://www.dropbox.com/sh/bqi63r5taytijkv/0tik2vHKuz/Hedge%20Accounting%20Project%20Andrew%20Walla?dl=0

The complete research paper, the spreadsheet tool, and a copy of this poster are included.

References: