

Derivative and Foreign Currency: Concept and Common Transactions



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FOREIGN CURRENCY EXCHANGE RATES

The Determination of Exchange Rates

FIGURE 11-1 Foreign Exchange Rates for Selected Major Currencies as of April 2010

Country	Currency	Direct Exchange Rate (U.S. dollar equivalent)	Indirect Exchange Rate (currency per U.S. dollar)
Argentina	peso	0.2167	4.6138
Australia	dollar	1.0422	0.9595
Bahrain	dinar	2.6539	0.3768
Brazil	real	0.4963	2.0150
Canada	dollar	1.0110	0.9891
Chile	peso	0.0021	484.300
China	yuan renminbi	0.1579	6.3332
Colombia	peso	0.0006	1818.00
Czech Republic	koruna	0.0494	20.2305
Denmark	krone	0.1656	6.0378
Egypt	pound	0.1676	5.9663
Hong Kong	dollar	0.1289	7.7564
India	rupee	0.0180	55.4900
Indonesia	rupiah	0.0001	9485.00
Israel	new shekel	0.2488	4.0201
Japan	yen	0.0126	79.5500
1-month forward		0.01260	79.45972
3-month forward		0.01261	79.51923
6-month forward		0.01263	79.60866
Malaysia	ringgit	0.3193	3.1320
Mexico	peso	0.0763	13.1155
Philippines	peso	0.0236	42.3400
Russia	ruble	0.0313	31.9946
South Korea	won	0.0009	1134.60
Sweden	krona	0.1499	6.6720
Switzerland	franc	1.0272	0.9735
Taiwan	dollar	0.0333	29.9910
Thailand	baht	0.0320	31.2294
United Kingdom	pound	1.5701	0.6369
1-month forward		1.57174	0.63703
3-month forward		1.57277	0.63771
6-month forward		1.57433	0.63874
Venezuela	bolivar fuerte	0.2331	4.2892
Euro		1.2337	0.8105
1-month forward		1.23520	0.81001
3-month forward		1.23601	0.81109
6-month forward		1.23723	0.81209
SDR		1.50703	0.66356



Direct versus Indirect Exchange Rates

Direct Exchanges Rate

$$\text{DER} = \frac{\text{U.S. dollar – equivalent value}}{1 \text{FCU}}$$

For example, if \$1.20 can acquire €1 (1 European euro), the direct exchange rate of the dollar versus the European euro is \$1.20, as follows:

$$\frac{\$1.20}{€1} = \$1.20$$

Indirect Exchanges Rate

$$\text{IER} = \frac{1 \text{FCU}}{\text{U.S. dollar – equivalent value}}$$

For the European euro example, the indirect exchange rate is

$$\frac{€1}{\$1.20} = €0.8333$$

Another way to express this is

$$\begin{aligned} \text{IER} &= \frac{\text{Number of foreign currency units}}{\$1} \\ &= \frac{€0.8333}{\$1} \end{aligned}$$



Changes in Exchanges Rate

	January 2011	July 2011	January 2012	July 2012
Direct exchange rate (U.S. dollar equivalent of 1 euro)	\$1.33	\$1.45	\$1.29	\$1.26
Indirect exchange rate (euro per 1 U.S. dollar)	€0.75	€0.69	€0.78	€0.79



Weakening of the U.S. Dollar—Direct Exchange Rate Increases

Imports from Europe were more expensive for U.S. consumers on July 1 than on January 1 because of the weakening of the dollar. For example, assume that a European manufacturer is selling a German-made automobile for €25,000. To determine the U.S. dollar–equivalent value of the €25,000 on January 1, the following equation is used:

$$\begin{array}{rclcl} \text{U.S. dollar –} & & \text{Foreign currency} & & \text{Direct exchange} \\ \text{equivalent value} & = & \text{units} & \times & \text{rate} \\ \$33,250 & = & €25,000 & \times & \$1.33 \end{array}$$

Between January 1 and July 1, the direct exchange rate increased as the dollar weakened relative to the euro. On July 1, the U.S. dollar–equivalent value of the €25,000 is

$$\begin{array}{rclcl} \text{U.S. dollar –} & & \text{Foreign currency} & & \text{Direct exchange} \\ \text{equivalent value} & = & \text{units} & \times & \text{rate} \\ \$36,250 & = & €25,000 & \times & \$1.45 \end{array}$$



Although a weakening of the dollar is unfavorable for U.S. companies purchasing goods from another country, it favorably affects U.S. companies selling products in that country. Following a weakening of the dollar, U.S. exports to Europe are less expensive for European customers. For example, assume a U.S. manufacturer is selling a U.S.-made machine for \$10,000. To determine the foreign currency (euro) equivalent value of the \$10,000 on January 1, the following equation is used:

$$\begin{array}{rclcl} \text{Foreign currency} & = & \text{U.S. dollar} & \times & \text{Indirect exchange} \\ \text{equivalent value} & & \text{units} & & \text{rate} \\ \text{€7,500} & = & \$10,000 & \times & \text{€0.75} \end{array}$$

On July 1, after a weakening of the dollar, the machine would cost the European customer €6,900, as follows:

$$\begin{array}{rclcl} \text{Foreign currency} & = & \text{U.S. dollar} & \times & \text{Indirect exchange} \\ \text{equivalent value} & & \text{units} & & \text{rate} \\ \text{€6,900} & = & \$10,000 & \times & \text{€0.69} \end{array}$$

This substantial decrease in cost could lead the European customer to decide to acquire the machine from the U.S. company. Thus, a U.S. company's international sales can be significantly affected by changes in foreign currency exchange rates.



Strengthening of the U.S. Dollar—Direct Exchange Rate Decreases

Between July 1, 2011, and July 1, 2012, the direct exchange rate decreased from $\$1.45 = \text{€}1$ to $\$1.26 = \text{€}1$, indicating that it took less U.S. currency to acquire 1 euro. On July 1, 2011, a euro cost $\$1.45$, but on July 1, 2012, the relative cost for 1 euro decreased to $\$1.26$. This means that the value of the U.S. currency increased relative to the euro, termed a *strengthening* of the dollar against the euro. Another way to view this change is to note that the indirect exchange rate increased, indicating that on July 1, 2012, 1 dollar acquired more euros than it did on July 1, 2011. On July 1, 2011, 1 U.S. dollar could acquire 0.69 euro, but on July 1, 2012, 1 U.S. dollar could acquire more euros, 0.79, indicating that the relative value of the dollar increased between July 1, 2011, and July 1, 2012.

Think of the strengthening of the U.S. dollar as

- Taking less U.S. currency to acquire one foreign currency unit.
- One U.S. dollar acquiring more foreign currency units.



FIGURE 11-2
Relationships
between Currencies
and Exchange Rates

	January 2011	July 2011	July 2012
Direct exchange rate (\$/€)	\$1.33	\$1.45	\$1.26
Indirect exchange rate (€/\$)	€0.75	€0.69	€0.79

Between January 1, 2011, and July 1, 2011—weakening of the U.S. dollar:

Direct rate increases

Dollar weakens (takes more U.S. currency to acquire 1 euro)

Indirect rate decreases

Euro strengthens (takes fewer euros to acquire 1 U.S. dollar)

Imports into United States normally decrease in quantity

Foreign goods imported into United States more expensive in dollars

Exports from United States normally increase in quantity

U.S.-made exports less expensive in euros

Between July 1, 2011, and July 1, 2012—strengthening of the U.S. dollar:

Direct rate decreases

Dollar strengthens (takes less U.S. currency to acquire 1 euro)

Indirect rate increases

Euro weakens (takes more euros to acquire 1 U.S. dollar)

Imports into United States normally increase in quantity

Foreign goods imported into United States less expensive in dollars (\$1 can acquire more)

Exports from United States normally decrease in quantity

U.S.-made exports more expensive (takes more euros to acquire goods)



Spot Rates versus Current Rates

PSAK 10 refers to the use of both spot rates and current rates for measuring the currency used in international transactions. The *spot rate* is the exchange rate for immediate delivery of currencies. The *current rate* is defined simply as the spot rate on the entity's balance sheet date.



Forward Exchange Rates

Active dealer markets in *forward exchange contracts* are maintained for companies wishing to either receive or deliver major international currencies. The forward rate on a given date is not the same as the spot rate on the same date. Expectations about the relative value of currencies are built into the forward rate. The difference between the forward rate and the spot rate on a given date is called the *spread*. The spread gives information about the perceived strengths or weaknesses of currencies.



FOREIGN CURRENCY TRANSACTIONS

As defined earlier, *foreign currency transactions* are economic activities denominated in a currency other than the entity's recording currency. These transactions include the following:

1. Purchases or sales of goods or services (imports or exports), the prices of which are stated in a foreign currency.
2. Loans payable or receivable in a foreign currency.
3. Purchase or sale of foreign currency forward exchange contracts.
4. Purchase or sale of foreign currency units.



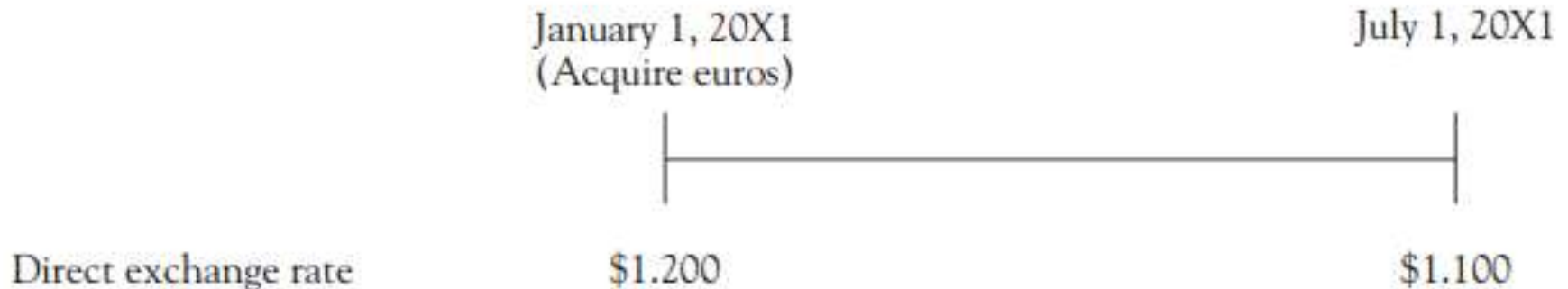
U.S. dollar – Equivalent value = Foreign currency units × Direct exchange rate

$$\$6,000 = €5,000 \times \$1.20$$

The following entry records this exchange of currencies:

January 1, 20X1		
(1)	Foreign Currency Units (€)	6,000
	Cash	6,000

On July 1, 20X1, the exchange rate is $\$1.100 = €1$ as represented in the following time line:





Equivalent dollar value of € 5,000 on January 1:	
€ 5,000 × \$1.200	\$6,000
Equivalent dollar value of € 5,000 on July 1:	
€ 5,000 × \$1.100	<u>5,500</u>
Foreign currency transaction loss	\$ 500

If the U.S. company prepares financial statements on July 1, the following adjusting entry is required:

July 1, 20X1

(2)	Foreign Currency Transaction Loss	500	
	Foreign Currency Units (€)		500



Foreign Currency Import and Export Transactions

An overview of the required accounting for an import or export transaction denominated in a foreign currency, assuming the company does *not* use forward contracts, is as follows:

1. *Transaction date.* Record the purchase or sale transaction at the U.S. dollar–equivalent value using the spot direct exchange rate on this date.
2. *Balance sheet date.* Adjust the payable or receivable to its U.S. dollar–equivalent, end-of-period value using the current direct exchange rate. Recognize any exchange gain or loss for the change in rates between the transaction and balance sheet dates.
3. *Settlement date.* First adjust the foreign currency payable or receivable for any changes in the exchange rate between the balance sheet date (or transaction date if transaction occurs after the balance sheet date) and the settlement date, recording any exchange gain or loss as required. Then record the settlement of the foreign currency payable or receivable.



Illustration of Foreign Purchase Transactions

FIGURE 11-3 Comparative U.S. Company Journal Entries for Foreign Purchase Transaction Denominated in Dollars versus Foreign Currency Units

If Denominated in U.S. Dollars			If Denominated in Japanese Yen		
October 1, 20X1 (Date of Purchase)					
Inventory	14,000		Inventory	14,000	
Accounts Payable		14,000	Accounts Payable (¥)		14,000
			$\$14,000 = ¥2,000,000 \times \0.0070 spot rate		
December 31, 20X1 (Balance Sheet Date)					
No entry			Foreign Currency Transaction Loss	2,000	
			Accounts Payable (¥)		2,000
			Adjust payable denominated in foreign currency to current U.S. dollar equivalent and recognize exchange loss: $\$16,000 = ¥2,000,000 \times \0.0080 Dec. 31 spot rate $-14,000 = ¥2,000,000 \times \0.0070 Oct. 1 spot rate <u>\$ 2,000 = ¥2,000,000 \times (\\$0.0080 - \\$0.0070).</u>		
April 1, 20X2 (Settlement Date)					
			Accounts Payable (¥)	800	
			Foreign Currency Transaction Gain		800
			Adjust payable denominated in foreign currency to current U.S. dollar equivalent and recognize exchange gain: $\$15,200 = ¥2,000,000 \times \0.0076 Apr. 1 spot rate $-16,000 = ¥2,000,000 \times \0.0080 Dec. 31 spot rate <u>\$ 800 = ¥2,000,000 \times (\\$0.0076 - \\$0.0080).</u>		
			Foreign Currency Units (¥)	15,200	
			Cash		15,200
			Acquire FCU to settle debt: $\$15,200 = ¥2,000,000 \times \0.0076 April 1 spot rate.		
Accounts Payable	14,000		Accounts Payable (¥)	15,200	
Cash		14,000	Foreign Currency Units (¥)		15,200



Key Observation from Illustration

Accounts Payable (¥)	
20X1	
Oct. 1	14,000 (¥2,000,000 × \$0.0070)
Dec. 31	2,000 [¥2,000,000 × (\$0.0080 – \$0.0070)]
Dec. 31	16,000 Balance (¥2,000,000 × \$0.0080)
20X2	
Apr. 1	
[¥2,000,000 × (\$0.0076 – \$0.0080)]	800
Apr. 1 settlement	
(¥2,000,000 × \$0.0076)	15,200
Apr. 2	0 Balance

April 1, 20X2

(3)	Foreign Currency Units (¥)	15,200	
	Cash		15,200
Acquire foreign currency.			
(4)	Accounts Payable (¥)	16,000	
	Foreign Currency Transaction Gain		800
	Foreign Currency Units (¥)		15,200

Settle foreign currency payable and recognize gain from change in exchange rates since December 31, 20X1.



MANAGING INTERNATIONAL CURRENCY RISK WITH FOREIGN CURRENCY FORWARD EXCHANGE FINANCIAL INSTRUMENT

The accounting for derivatives and hedging activities is guided by **PSAK 50** and **PSAK 55**.

A *financial instrument* is cash, evidence of ownership, or a contract that both (1) imposes on one entity a contractual obligation to deliver cash or another instrument and (2) conveys to the second entity that contractual right to receive cash or another financial instrument. Examples include cash, stock, notes payable and receivable, and many financial contracts.

A *derivative* is a **financial instrument** or other contract whose value is “derived from” some other item that has a variable value over time. An example of a derivative is a foreign currency forward exchange contract whose value is derived from changes in the foreign currency exchange rate over the contract’s term. Note that not all financial instruments are derivatives.



Derivatives Designed as Hedges

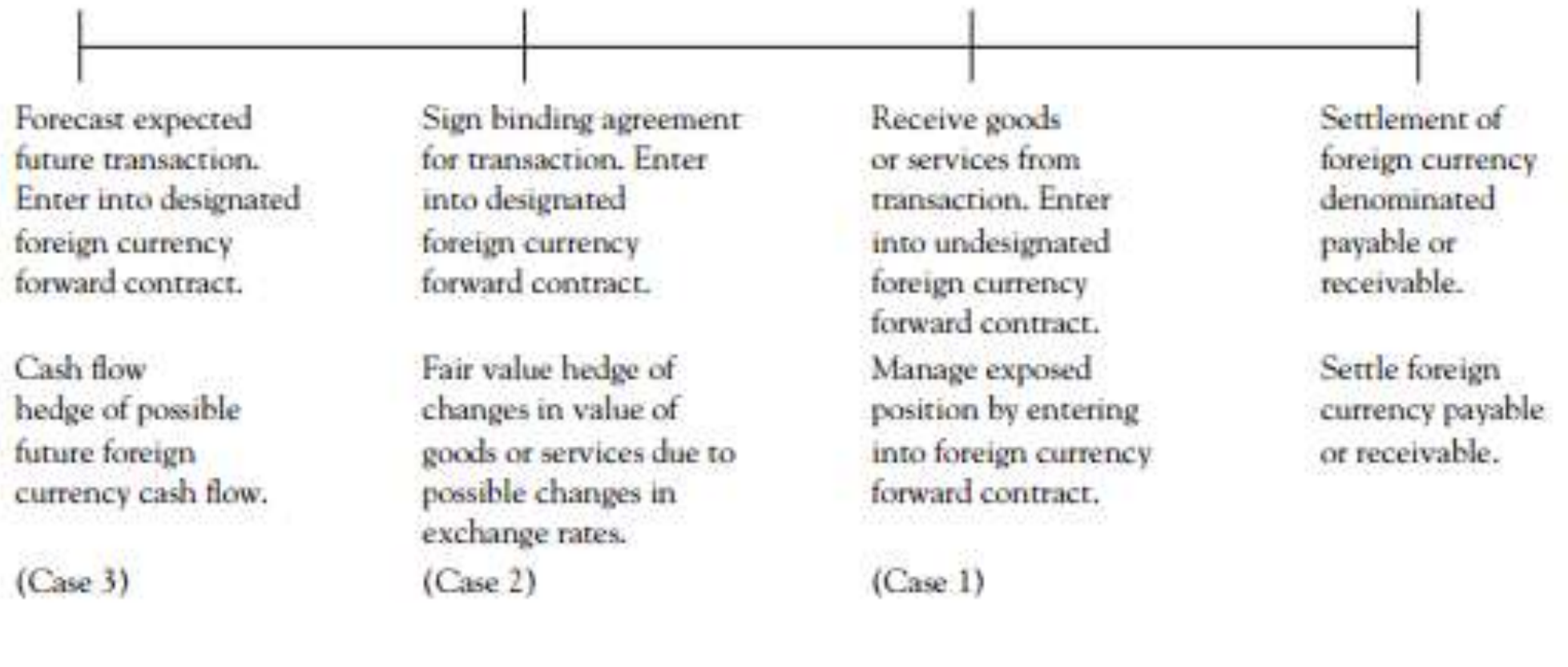
Derivatives that meets the requirements for a hedge and are designated as such by the company's management are accounted for in accordance with **PSAK 55**, as follow:

1. Fair value hedges
2. Cash flow hedges
3. Hedge of a net investment in a foreign operation



Forward Exchange Contracts

The following four cases illustrate the accounting for the major uses of forward exchange contracts.



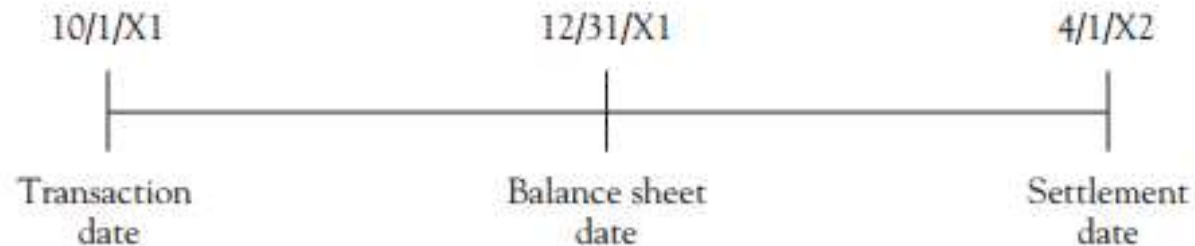


Case 1: Managing an Exposed Foreign Currency Net Asset or Liability Position: Not a Designated Hedging Instrument

The relevant direct exchange rates are as follows:

Date	U.S. Dollar–Equivalent Value of 1 Yen	
	Spot Rate	Forward Exchange Rate
October 1, 20X1 (transaction date)	\$0.0070	\$0.0075 (180 days)
December 31, 20X1 (balance sheet date)	0.0080	0.0077 (90 days)
April 1, 20X2 (settlement date)	0.0076	

The following timeline summarizes these transactions:



- Incur liability denominated in yen.
- Sign 180-day forward exchange contract to receive yen.
- Obtain yen by settling forward exchange contract.
- Pay yen to settle account payable.



The following entries record the events for this illustration.

October 1, 20X1

(5)	Inventory	14,000	
	Accounts Payable (¥)		14,000

Purchase inventory on account:

$\$14,000 = ¥2,000,000 \times \0.0070 Oct. 1 spot rate.

(6)	Foreign Currency Receivable from Exchange Broker (¥)	15,000	
	Dollars Payable to Exchange Broker (\$)		15,000

Purchase forward contract to receive 2,000,000 yen:

$\$15,000 = ¥2,000,000 \times \0.0075 forward rate.



The required adjusting entries on December 31, 20X1, Peerless' fiscal year-end, are

(7)	Foreign Currency Receivable from Exchange Broker (¥)	400	
	Foreign Currency Transaction Gain		400

Adjust receivable denominated in yen to current U.S. dollar-equivalent value using the forward rate:

$$\begin{aligned} \$ 15,400 &= ¥2,000,000 \times \$0.0077 \text{ Dec. 31 90-day forward rate} \\ -15,000 &= ¥2,000,000 \times \$0.0075 \text{ Oct. 1 180-day forward rate} \\ \hline \$ 400 &= ¥2,000,000 \times (\$0.0077 - \$0.0075). \end{aligned}$$

(8)	Foreign Currency Transaction Loss	2,000	
	Accounts Payable (¥)		2,000

Adjust payable denominated in yen to current U.S. dollar-equivalent value using the spot rate:

$$\begin{aligned} \$ 16,000 &= ¥2,000,000 \times \$0.0080 \text{ Dec. 31, spot rate} \\ -14,000 &= ¥2,000,000 \times \$0.0070 \text{ Oct. 1, spot rate} \\ \hline \$ 2,000 &= ¥2,000,000 \times (\$0.0080 - \$0.0070). \end{aligned}$$



**Foreign Currency Receivable
from Broker (¥)**

(6)	15,000	
(7)	400	
Bal. 12/31	15,400	
		(9) 200
		(12) 15,200
Bal. 4/1	<u>0</u>	

Foreign Currency Units (¥)

(12)	15,200	(13) 15,200
Bal. 4/1	<u>0</u>	

Accounts Payable (¥)

	(5)	14,000
	(8)	2,000
	Bal. 12/31	16,000
(10)	800	
(13)	15,200	
	Bal. 4/1	<u>0</u>

Dollars Payable to Exchange Broker (\$)

	(6)	15,000
	Bal. 12/31	15,000
(11)	15,000	
	Bal 4/1	<u>0</u>



Accounts	U.S. Dollar–Equivalent Values of Foreign Currency–Denominated Accounts		Foreign Currency Transaction Gain (Loss)
	October 1, 20X1 (transaction date)	December 31, 20X1 (balance sheet date)	
Foreign Currency Receivable from Exchange Broker (¥)	\$15,000 (a)	\$15,400 (b)	\$ 400
Accounts Payable (¥)	14,000 (c)	16,000 (d)	(2,000)

(a) ¥2,000,000 × \$0.0075 October 1, 180-day forward rate
 (b) ¥2,000,000 × \$0.0077 December 31, 90-day forward rate
 (c) ¥2,000,000 × \$0.0070 October 1, spot rate
 (d) ¥2,000,000 × \$0.0080 December 31, spot rate



The required entries on April 1, 20X2, the settlement date, are

(9)	Foreign Currency Transaction Loss	200	
	Foreign Currency Receivable from Exchange Broker (¥)		200

Adjust receivable to spot rate on settlement date:

$$\text{\$ } 15,200 = \text{¥} 2,000,000 \times \text{\$} 0.0076 \text{ Apr. 1, 20X2, spot rate}$$

$$\underline{- 15,400} = \text{¥} 2,000,000 \times \text{\$} 0.0077 \text{ Dec. 31, 20X1, 90-day forward rate}$$

$$\underline{\text{\$ } 200} = \text{¥} 2,000,000 \times (\text{\$} 0.0076 - \text{\$} 0.0077).$$

(10)	Accounts Payable (¥)	800	
	Foreign Currency Transaction Gain		800

Adjust payable denominated in yen to spot rate on settlement date:

$$\text{¥} 2,000,000 \times (\text{\$} 0.0076 - \text{\$} 0.0080).$$

(11)	Dollars Payable to Exchange Broker (\$)	15,000	
	Cash		15,000

Deliver U.S. dollars to currency broker as specified in forward contract.

(12)	Foreign Currency Units (¥)	15,200	
	Foreign Currency Receivable from Exchange Broker (¥)		15,200

Receive ¥2,000,000 from exchange broker; valued at Apr. 1, 20X2, spot rate:

$$\text{\$} 15,200 = \text{¥} 2,000,000 \times \text{\$} 0.0076.$$

(13)	Accounts Payable (¥)	15,200	
	Foreign Currency Units (¥)		15,200

Pay 2,000,000 yen to Tokyo Industries, Inc., in settlement of liability denominated in yen.



Accounts	U.S. Dollar–Equivalent Values of Foreign Currency–Denominated Accounts		Foreign Currency Transaction Gain (Loss)
	December 31, 20X1 (balance sheet date)	April 1, 20X2 (settlement date)	
Foreign Currency Receivable from Exchange Broker (¥)	\$15,400 (a)	\$15,200 (b)	\$(200)
Accounts Payable (¥)	16,000 (c)	15,200 (d)	800

(a) ¥2,000,000 × \$0.0077 December 31, 90-day forward rate
 (b) ¥2,000,000 × \$0.0076 April 1, 20X2, spot rate
 (c) ¥2,000,000 × \$0.0080 December 31, spot rate
 (d) ¥2,000,000 × \$0.0076 April 1, 20X2 spot rate



Assets

Inventory \$14,000

Liabilities

Accounts Payable (¥) \$14,000

Assets

Forward Exchange Contract (¥) \$400
(at net fair value)

Liabilities and Equity

Accounts Payable (¥) \$16,000

Retained Earnings (for
net exchange loss) (1,600)

Assets

Forward Exchange Contract (¥) \$200
(at net fair value)

Liabilities and Equity

Accounts Payable (¥) \$15,200

Retained Earnings (for
amount of the premium) (1,000)

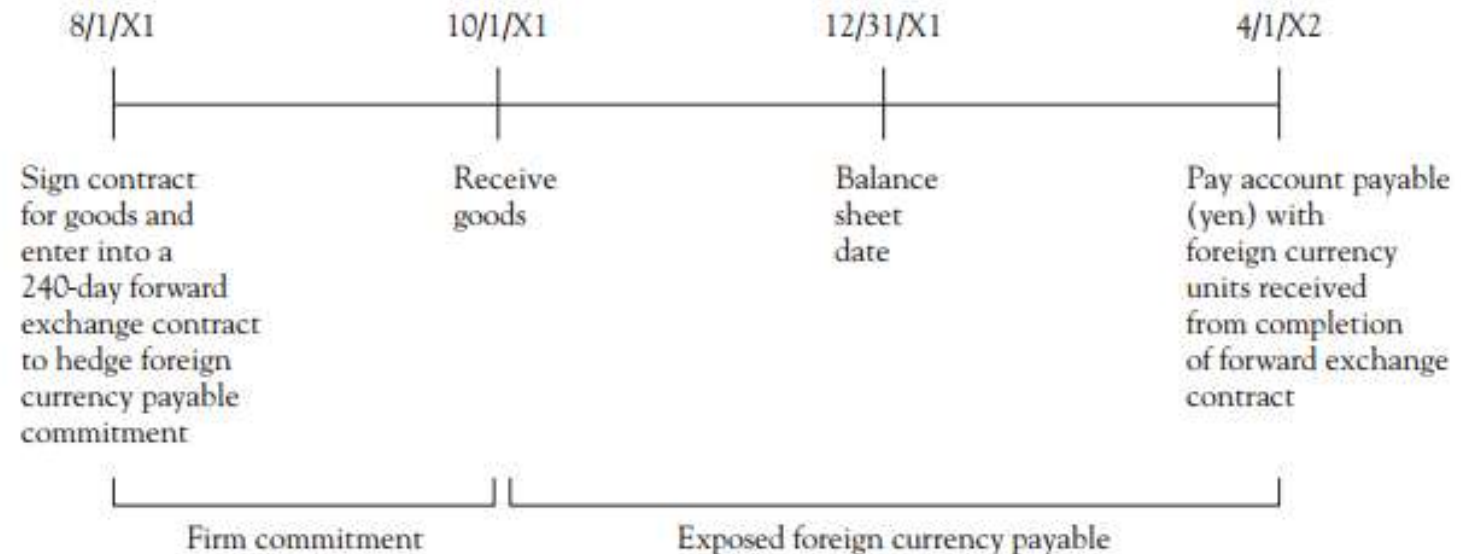


Case 2: Hedging an Unrecognized Foreign Currency Firm Commitment: A Foreign Currency Fair Value Hedge

The relevant exchange rates for this example are as follows:

Date	U.S. Dollar–Equivalent Value of 1 Yen	
	Spot Rate	Forward Exchange Rate
August 1, 20X1	\$0.0065	\$0.0073 (240 days)
October 1, 20X1	0.0070	0.0075 (180 days)

A time line for the transactions follows:





August 1, 20X1

(14)	Foreign Currency Receivable from Exchange Broker (¥)	14,600	
	Dollars Payable to Exchange Broker (\$)		14,600

Sign forward exchange contract for receipt of 2,000,000 yen in 240 days:

$$\$14,600 = ¥2,000,000 \times \$0.0073 \text{ Aug. 1, 240-day forward rate.}$$

On October 1, 20X1, the forward exchange contract is revalued to its fair value. The accounts payable in yen are recorded at the time the inventory is received.

October 1, 20X1

(15)	Foreign Currency Receivable from Exchange Broker (¥)	400	
	Foreign Currency Transaction Gain		400

Adjust forward contract to fair value, using the forward rate at this date, and recognize gain:

$$\$ 15,000 = ¥2,000,000 \times \$0.0075 \text{ Oct. 1, 180-day forward rate}$$

$$-14,600 = ¥2,000,000 \times \$0.0073 \text{ Aug. 1, 240-day forward rate}$$

$$\underline{\underline{\$ 400}} = ¥2,000,000 \times (\$0.0075 - \$0.0073).$$

(16)	Foreign Currency Transaction Loss	400	
	Firm Commitment		400

To record the loss on the financial instrument aspect of the firm commitment:

$$\$ 15,000 = ¥2,000,000 \times \$0.0075 \text{ Oct. 1, 180-day forward rate}$$

$$-14,600 = ¥2,000,000 \times \$0.0073 \text{ Aug. 1, 240-day forward rate}$$

$$\underline{\underline{\$ 400}} = ¥2,000,000 \times (\$0.0075 - \$0.0073).$$



Assets		Liabilities and Equity	
Forward Exchange Contract (¥) (at net fair value)	\$400	Firm Commitment	\$400

(17)

Inventory	13,600	
Firm Commitment	400	
Accounts Payable (¥)		14,000

Record accounts payable at spot rate and record inventory purchase:
 $\$14,000 = ¥2,000,000 \times \0.0070 Oct. 1, spot rate.



FIGURE 11-5 Comparison of Journal Entries: Hedge of an Unrecognized Firm Commitment

Forward Exchange Contract (Use forward exchange rate)	Hedge of an Unrecognized Firm Commitment (Use forward exchange rate)												
August 1, 20X1. Recognize forward exchange contract valued at forward rate.													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(14)</td> <td style="width: 75%;">Foreign Currency Receivable (¥)</td> <td style="width: 20%; text-align: right;">14,600</td> </tr> <tr> <td></td> <td>Dollars Payable to Exchange Broker</td> <td style="text-align: right;">14,600</td> </tr> </table>	(14)	Foreign Currency Receivable (¥)	14,600		Dollars Payable to Exchange Broker	14,600							
(14)	Foreign Currency Receivable (¥)	14,600											
	Dollars Payable to Exchange Broker	14,600											
October 1, 20X1. Revalue foreign currency receivable and firm commitment hedge using forward rate.													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(15)</td> <td style="width: 75%;">Foreign Currency Receivable (¥)</td> <td style="width: 20%; text-align: right;">400</td> </tr> <tr> <td></td> <td>Foreign Currency Transaction Gain</td> <td style="text-align: right;">400</td> </tr> </table>	(15)	Foreign Currency Receivable (¥)	400		Foreign Currency Transaction Gain	400	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(16)</td> <td style="width: 75%;">Foreign Currency Transaction Loss</td> <td style="width: 20%; text-align: right;">400</td> </tr> <tr> <td></td> <td>Firm Commitment</td> <td style="text-align: right;">400</td> </tr> </table>	(16)	Foreign Currency Transaction Loss	400		Firm Commitment	400
(15)	Foreign Currency Receivable (¥)	400											
	Foreign Currency Transaction Gain	400											
(16)	Foreign Currency Transaction Loss	400											
	Firm Commitment	400											
Economic Management of an Exposed Foreign Currency Payable (Use spot exchange rate)													
October 1, 20X1. Receive inventory, close firm commitment, and recognize foreign currency accounts payable.													
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(17)</td> <td style="width: 75%;">Inventory</td> <td style="width: 20%; text-align: right;">13,600</td> </tr> <tr> <td></td> <td>Firm Commitment</td> <td style="text-align: right;">400</td> </tr> <tr> <td></td> <td>Accounts Payable (¥)</td> <td style="text-align: right;">14,000</td> </tr> </table>	(17)	Inventory	13,600		Firm Commitment	400		Accounts Payable (¥)	14,000			
(17)	Inventory	13,600											
	Firm Commitment	400											
	Accounts Payable (¥)	14,000											
December 31, 20X1. Revalue forward contract using forward rate, and accounts payable in yen using spot rate.													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(7)</td> <td style="width: 75%;">Foreign Currency Receivable (¥)</td> <td style="width: 20%; text-align: right;">400</td> </tr> <tr> <td></td> <td>Foreign Currency Transaction Gain</td> <td style="text-align: right;">400</td> </tr> </table>	(7)	Foreign Currency Receivable (¥)	400		Foreign Currency Transaction Gain	400	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(8)</td> <td style="width: 75%;">Foreign Currency Transaction Loss</td> <td style="width: 20%; text-align: right;">2,000</td> </tr> <tr> <td></td> <td>Accounts Payable (¥)</td> <td style="text-align: right;">2,000</td> </tr> </table>	(8)	Foreign Currency Transaction Loss	2,000		Accounts Payable (¥)	2,000
(7)	Foreign Currency Receivable (¥)	400											
	Foreign Currency Transaction Gain	400											
(8)	Foreign Currency Transaction Loss	2,000											
	Accounts Payable (¥)	2,000											
April 1, 20X2. Revalue forward contract at its termination to spot rate, and accounts payable in yen to spot rate.													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(9)</td> <td style="width: 75%;">Foreign Currency Transaction Loss</td> <td style="width: 20%; text-align: right;">200</td> </tr> <tr> <td></td> <td>Foreign Currency Receivable (¥)</td> <td style="text-align: right;">200</td> </tr> </table>	(9)	Foreign Currency Transaction Loss	200		Foreign Currency Receivable (¥)	200	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(10)</td> <td style="width: 75%;">Accounts Payable (¥)</td> <td style="width: 20%; text-align: right;">800</td> </tr> <tr> <td></td> <td>Foreign Currency Transaction Gain</td> <td style="text-align: right;">800</td> </tr> </table>	(10)	Accounts Payable (¥)	800		Foreign Currency Transaction Gain	800
(9)	Foreign Currency Transaction Loss	200											
	Foreign Currency Receivable (¥)	200											
(10)	Accounts Payable (¥)	800											
	Foreign Currency Transaction Gain	800											
April 1, 20X2. Deliver \$14,600 in U.S. dollars to exchange broker, receiving yen. Use yen to settle accounts payable.													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(11)</td> <td style="width: 75%;">Dollars Payable to Exchange Broker</td> <td style="width: 20%; text-align: right;">14,600</td> </tr> <tr> <td></td> <td>Cash</td> <td style="text-align: right;">14,600</td> </tr> </table>	(11)	Dollars Payable to Exchange Broker	14,600		Cash	14,600							
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(12)</td> <td style="width: 75%;">Foreign Currency Units (¥)</td> <td style="width: 20%; text-align: right;">15,200</td> </tr> <tr> <td></td> <td>Foreign Currency Receivable (¥)</td> <td style="text-align: right;">15,200</td> </tr> </table>	(12)	Foreign Currency Units (¥)	15,200		Foreign Currency Receivable (¥)	15,200	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(13)</td> <td style="width: 75%;">Accounts Payable (¥)</td> <td style="width: 20%; text-align: right;">15,200</td> </tr> <tr> <td></td> <td>Foreign Currency Units (¥)</td> <td style="text-align: right;">15,200</td> </tr> </table>	(13)	Accounts Payable (¥)	15,200		Foreign Currency Units (¥)	15,200
(12)	Foreign Currency Units (¥)	15,200											
	Foreign Currency Receivable (¥)	15,200											
(13)	Accounts Payable (¥)	15,200											
	Foreign Currency Units (¥)	15,200											



Case 3: Hedging a Forecasted Foreign Currency Transaction: A Foreign Currency Cash Flow Hedge

FIGURE 11-6 Journal Entries for Cash Flow Hedge Redesignated as Fair Value Hedge When a Forecasted Transaction Becomes a Transaction

Entries for Forward Contract (Use forward exchange rate)	Entries for Foreign Currency Account Payable (Use spot rate)																
<p>August 1, 20X1. Acquire forward exchange contract valued at forward rate.</p>																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; padding-right: 10px;">(14)</td> <td style="padding-right: 20px;">Foreign Currency Receivable (¥)</td> <td style="text-align: right; padding-right: 20px;">14,600</td> <td></td> </tr> <tr> <td></td> <td>Dollars Payable to Exchange Broker</td> <td></td> <td style="text-align: right;">14,600</td> </tr> </table>	(14)	Foreign Currency Receivable (¥)	14,600			Dollars Payable to Exchange Broker		14,600									
(14)	Foreign Currency Receivable (¥)	14,600															
	Dollars Payable to Exchange Broker		14,600														
<p>October 1, 20X1. Receive inventory that was a forecasted transaction and recognize the foreign currency accounts payable at the spot rate. Change designation from a cash flow hedge to a fair value hedge; bring the forward contract to fair value as of this date.</p>																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; padding-right: 10px;">(15C)</td> <td style="padding-right: 20px;">Foreign Currency Receivable (¥)</td> <td style="text-align: right; padding-right: 20px;">400</td> <td></td> </tr> <tr> <td></td> <td>Other Comprehensive Income</td> <td></td> <td style="text-align: right;">400</td> </tr> </table> <p>¥2,000,000 × (\$0.0075 – \$0.0073).</p>	(15C)	Foreign Currency Receivable (¥)	400			Other Comprehensive Income		400	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; padding-right: 10px;">(17C)</td> <td style="padding-right: 20px;">Inventory</td> <td style="text-align: right; padding-right: 20px;">14,000</td> <td></td> </tr> <tr> <td></td> <td>Accounts Payable (¥)</td> <td></td> <td style="text-align: right;">14,000</td> </tr> </table>	(17C)	Inventory	14,000			Accounts Payable (¥)		14,000
(15C)	Foreign Currency Receivable (¥)	400															
	Other Comprehensive Income		400														
(17C)	Inventory	14,000															
	Accounts Payable (¥)		14,000														
<p>December 31, 20X1. Revalue the forward contract to year-end fair values using the change in the forward rate since October 1 and recognize gain or loss in net income. Revalue accounts payable in yen using the spot rate.</p>																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; padding-right: 10px;">(7)</td> <td style="padding-right: 20px;">Foreign Currency Receivable (¥)</td> <td style="text-align: right; padding-right: 20px;">400</td> <td></td> </tr> <tr> <td></td> <td>Foreign Currency Transaction Gain</td> <td></td> <td style="text-align: right;">400</td> </tr> </table> <p>¥2,000,000 × (\$0.0077 – \$0.0075).</p>	(7)	Foreign Currency Receivable (¥)	400			Foreign Currency Transaction Gain		400	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; padding-right: 10px;">(8)</td> <td style="padding-right: 20px;">Foreign Currency Transaction Loss</td> <td style="text-align: right; padding-right: 20px;">2,000</td> <td></td> </tr> <tr> <td></td> <td>Accounts Payable (¥)</td> <td></td> <td style="text-align: right;">2,000</td> </tr> </table>	(8)	Foreign Currency Transaction Loss	2,000			Accounts Payable (¥)		2,000
(7)	Foreign Currency Receivable (¥)	400															
	Foreign Currency Transaction Gain		400														
(8)	Foreign Currency Transaction Loss	2,000															
	Accounts Payable (¥)		2,000														



April 1, 20X2. Revalue the forward contract using the spot rate at the termination of the contract and accounts payable in yen using the spot rate. Offset transaction gain on payable against other comprehensive income.

(9)	Foreign Currency Transaction Loss	200	(10)	Accounts Payable (¥)	800
	Foreign Currency Receivable (¥)	200		Foreign Currency Transaction Gain	800

¥2,000,000 × (\$0.0076 – \$0.0077).

April 1, 20X2. Deliver \$14,600 in U.S. dollars to the exchange broker and receive yen. Use yen to settle accounts payable.

(11)	Dollars Payable to Exchange Broker	14,600			
	Cash	14,600			
(12)	Foreign Currency Units (¥)	15,200	(13)	Accounts Payable (¥)	15,200
	Foreign Currency Receivable (¥)	15,200		Foreign Currency Units (¥)	15,200

Assumed sale of inventory and culmination of earnings process of other comprehensive income from forward contract.

	Other Comprehensive Income	400		Cost of Goods Sold	14,000
	Cost of Goods Sold	400		Inventory	14,000



Case 4: Speculation in Foreign Currency Markets

FIGURE 11-7 Journal Entries for Cash Flow Hedge of a Forecasted Transaction

Entries for Forward Contract (Use forward exchange rate)	Entries for Foreign Currency Account Payable (Use spot rate)
<p>August 1, 20X1. Acquire forward exchange contract valued at forward rate.</p>	
<p>(14) Foreign Currency Receivable (¥) 14,600 Dollars Payable to Exchange Broker 14,600</p>	
<p>October 1, 20X1. Receive inventory that was a forecasted transaction and recognize the foreign currency accounts payable at the spot rate.</p>	
<p>(No revaluation of foreign currency receivable required at this date)</p>	<p>(17C) Inventory 14,000 Accounts Payable (¥) 14,000</p>
<p>December 31, 20X1. Revalue the forward contract to year-end fair value using the change in the forward rate since August 1 and recognize the effective portion of the change in value as other comprehensive income. Revalue accounts payable in yen using the spot rate. Then, in accordance with ASC 815, reclassify a portion of the other comprehensive income to equally offset the foreign currency transaction loss recognized on the foreign currency payable that was remeasured using the spot exchange rate in accordance with ASC 830.</p>	
<p>(7C) Foreign Currency Receivable (¥) 800 Other Comprehensive Income 800 [¥2,000,000 × (\$0.0077 – \$0.0073)]</p>	<p>(8) Foreign Currency Transaction Loss 2,000 Accounts Payable (¥) 2,000</p>
<p>(C) Other Comprehensive Income 2,000 Foreign Currency Transaction Gain 2,000 To offset loss on account payable.</p>	



April 1, 20X2. Revalue the forward contract at its termination using the spot rate and accounts payable in yen using the spot rate. Offset transaction gain on payable against other comprehensive income.

(9C)

Other Comprehensive Income	200	
Foreign Currency Receivable (¥)		200

(10)

Accounts Payable (¥)	800	
Foreign Currency Transaction Gain		800

(C)

Foreign Currency Transaction Loss	800	
Other Comprehensive Income		800

To offset gain on account payable.

April 1, 20X2. Deliver \$14,600 in U.S. dollars to the exchange broker and receive yen. Use yen to settle accounts payable.

(11)

Dollars Payable to Exchange Broker	14,600	
Cash		14,600

(12)

Foreign Currency Units (¥)	15,200	
Foreign Currency Receivable (¥)		15,200

(13)

Accounts Payable (¥)	15,200	
Foreign Currency Units (¥)		15,200

Assumed sale of inventory and culmination of earnings process of other comprehensive income from forward contract.

Cost of Goods Sold	600	
Other Comprehensive Income		600

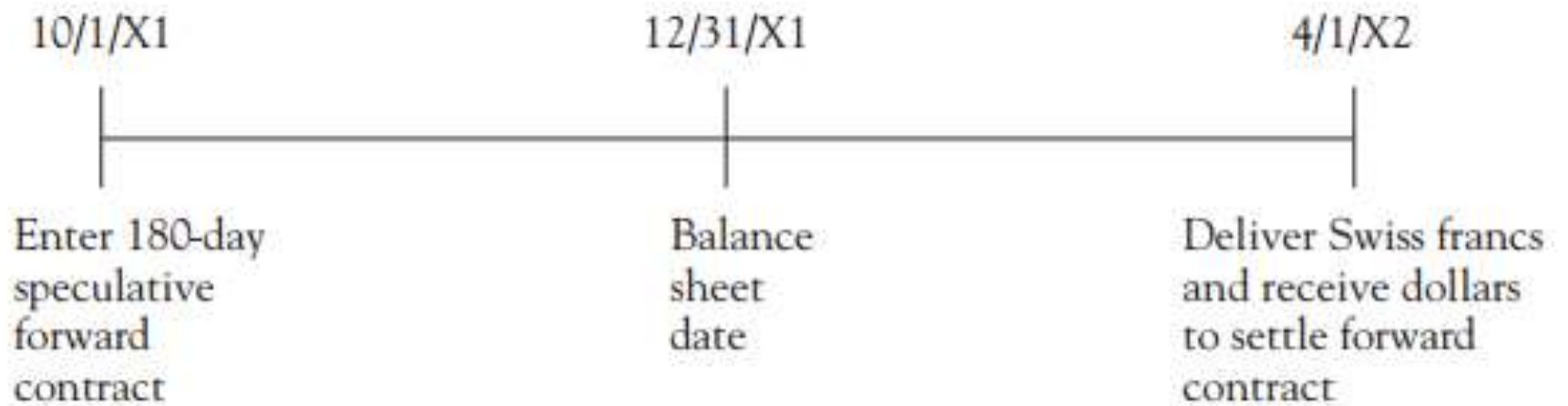
Cost of Goods Sold	14,000	
Inventory		14,000



A summary of the direct exchange rates for this illustration follows.

Date	U.S. Dollar–Equivalent of 1 Franc	
	Spot Rate	Forward Rate
October 1, 20X1	\$0.73	\$0.74 (180 days)
December 31, 20X1	0.75	0.78 (90 days)
April 1, 20X2	0.77	

A time line of the economic events is as follows:





The entries for these transactions are as follows:

October 1, 20X1

(18)	Dollars Receivable from Exchange Broker (\$)	2,960	
	Foreign Currency Payable to Exchange Broker (SFr)		2,960

Enter into speculative forward exchange contract:

$\$2,960 = \text{SFr } 4,000 \times \0.74 , the 180-day forward rate.

December 31, 20X1

(19)	Foreign Currency Transaction Loss	160	
	Foreign Currency Payable to Exchange Broker (SFr)		160

Recognize speculation loss on forward contract for difference between initial 180-day forward rate and forward rate for remaining term to maturity of contract of 90 days:

$\$160 = \text{SFr } 4,000 \times (\$0.78 - \$0.74)$.

April 1, 20X2

(20)	Foreign Currency Payable to Exchange Broker (SFr)	40	
	Foreign Currency Transaction Gain		40

Revalue foreign currency payable to spot rate at end of term of forward contract:

$\$40 = \text{SFr } 4,000 \times (\$0.78 - \$0.77)$.

(21)	Foreign Currency Units (SFr)	3,080	
	Cash		3,080

Acquire foreign currency units (SFr) in open market when spot rate is $\$0.77 = \text{SFr } 1$:

$\$3,080 = \text{SFr } 4,000 \times \0.77 spot rate.



(22)	Foreign Currency Payable to Exchange Broker (SFr)	3,080	
	Foreign Currency Units (SFr)		3,080

Deliver foreign currency units to exchange broker in settlement of forward contract:

$$\$3,080 = \text{SFr } 4,000 \times \$0.77 \text{ spot rate.}$$

(23)	Cash	2,960	
	Dollars Receivable from Exchange Broker (\$)		2,960

Receive U.S. dollars from exchange broker as contracted.

October 1, 20X1

(24)	Foreign Currency Receivable from Exchange Broker (SFr)	2,960	
	Dollars Payable to Exchange Broker (\$)		2,960

Sign forward exchange contract for future receipt of foreign currency units:

$$\$2,960 = \text{SFr } 4,000 \times \$0.74.$$



Foreign Exchange Matrix

FIGURE 11–8 Foreign Exchange Matrix

Transactions or Accounts Denominated in Foreign Currency Units	Direct Exchange Rate Changes	
	Exchange Rate Increases (dollar has weakened)	Exchange Rate Decreases (dollar has strengthened)
Net monetary asset position, for example: (1) Foreign Currency Units (2) Accounts Receivable (3) Foreign Currency Receivable from Exchange Broker	EXCHANGE GAIN	EXCHANGE LOSS
Net monetary liability position, for example: (1) Accounts Payable (2) Bonds Payable (3) Foreign Currency Payable to Exchange Broker	EXCHANGE LOSS	EXCHANGE GAIN



ADDITIONAL CONSIDERATIONS

A Note on Measuring Hedge Effectiveness

ASC 815 states that, at the beginning of each hedging transaction, a company must define the method it will use to measure the effectiveness of the hedge. *Effectiveness* means that there will be an approximate offset, within the range of 80 to 125 percent, of the changes in the fair value of the cash flows or changes in fair value to the risk being hedged. Effectiveness must be assessed at least every three months and when the company reports financial statements or earnings. A company may elect to choose from several different measures for assessing hedge effectiveness. The examples to this point in the chapter use the change in forward rates, but a company may use the change in spot prices or change in intrinsic value. The *intrinsic value of a derivative* is the value related to the changes in value of the underlying item. The *time value of a derivative* is related to the value assigned to the opportunity to hold the derivative open for a period of time. The time value expires over the term of the derivative and is zero at the derivative's maturity date. If the company uses spot prices for measuring hedge effectiveness, any difference between the spot price and the forward price is excluded from the assessment of hedge effectiveness and is included currently in earnings.



Interperiod Tax Allocation for Foreign Currency Gains (Losses)

Temporary differences in the recognition of foreign currency gains or losses between tax accounting and GAAP accounting require interperiod tax allocation. Generally, the accrual method of recognizing the effects of changes in exchange rates in the period of change differs from the general election for recognizing exchange gains for tax purposes in the period of actual conversion of the foreign currency–denominated item. The temporary difference is recognized in accordance with **ASC 740** as a deferred tax asset or liability.

Hedges of a Net Investment in a Foreign Entity

In the earlier discussions of the use of forward exchange contracts as a hedging instrument, the exchange risks from transactions denominated in a foreign currency could be offset. This same concept is applied by U.S. companies that view a net investment in a foreign entity as a long-term commitment that exposes them to foreign currency risk. A number of balance sheet management tools are available for a U.S. company to hedge its net investment in a foreign affiliate. Management may use forward exchange contracts, other foreign currency commitments, or certain intercompany financing arrangements, including intercompany transactions. For example, a U.S. parent company could borrow



10,000 British pounds to hedge against an equivalent net asset position of its British subsidiary. Any effects of exchange rate fluctuations between the pound and the dollar would be offset by the investment in the British subsidiary and the loan payable.

ASC 815 specifies that for derivative financial instruments designated as a hedge of the foreign currency exposure of a net investment in a foreign operation, the portion of the change in fair value equivalent to a foreign currency transaction gain or loss should be reported in Other Comprehensive Income. That part of other comprehensive income resulting from a hedge of a net investment in a foreign operation then becomes part of the cumulative translation adjustment in accumulated other comprehensive income. Chapter 12 presents both the translation adjustment portion of other comprehensive income and accumulated other comprehensive income.



THANK YOU