FA Module 18: Foreign currency transactions – practice problems

(The attached PDF file has better formatting.)

Exercise 18.1: Foreign currency transaction

ABC buys goods from a XYZ, a supplier in Europe, for resale in the United States.

ABC buys the goods on September 1, 20X1, for €100, on 90 days credit and pays for them on November 30.

All the goods remain in inventory on December 31, 20X1.

- ABC's functional currency (and presentation currency) is the U.S. dollar.
- XYZ's functional currency (and presentation currency) is the euro.

The foreign currency exchange rates are

- September 1, 20X1: $1.20 = €1.00
- November 30, 20X1: $1.40 = €1.00
- December 31, 20X1: $1.50 = €1.00

A. What is the inventory on ABC's balance sheet on December 31, 20X1?
B. What is the revenue on XYZ's balance sheet on December 31, 20X1?
C. What is ABC's foreign currency transaction gain or loss?
D. What is XYZ's foreign currency transaction gain or loss?
E. What is the effect of the foreign currency transaction gain or loss on ABC's total assets?
F. What is the effect of the foreign currency transaction gain or loss on ABC's net income?
G. What is the effect of the foreign currency transaction gain or loss on ABC's retained earnings and shareholders' equity?

Part A: The purchase price of the inventory is €100, which equals $120 on September 1, 20X1. The exchange rates when the payment was made (November 30) or on the balance sheet date (December 31) do not affect the carrying value of the inventory.

Part B: XYZ's net revenue is €100, which does not depend on the exchange rate.

Part C: ABC paid €100 on November 30, 20X1, when the exchange rate was $1.40 = €1.00. Even if ABC paid for the goods with money from its euro bank account, it records the payment in dollars as $140. ABC paid $140 for inventory of $120, so it has a foreign currency transaction loss of ($20).

Part D: XYZ reports its accounting entries in euros. It agreed to sell the goods for €100 on September 1 and it received €100 on November 30. It has no foreign currency transaction gain or loss.

Part E: ABC paid $140 for inventory of $120, so its total assets decrease $20.

Part F: ABC's foreign currency transaction loss of ($20) is included in net income, which decreases $20.

Part G: The net income of –$20 reduces retained earnings $20, so shareholders' equity decreases $20.

Exercise 18.2: Foreign currency transaction

ABC buys goods from a XYZ, a supplier in Europe, for resale in the United States.

ABC buys the goods on September 1, 20X1, for $300 on 90 days credit and pays for them on November 30.

All the goods remain in inventory on December 31, 20X1.

- ABC’s functional currency (and presentation currency) is the U.S. dollar.
- XYZ’s functional currency (and presentation currency) is the euro.

The foreign currency exchange rates are

- September 1, 20X1: $1.20 = €1.00
- November 30, 20X1: $1.50 = €1.00
- December 31, 20X1: $1.60 = €1.00

A. What is the inventory on ABC’s balance sheet on December 31, 20X1?
B. What is the revenue on XYZ’s balance sheet on December 31, 20X1?
C. What is ABC’s foreign currency transaction gain or loss?
D. What is XYZ’s foreign currency transaction gain or loss?

Part A: The purchase price of the inventory is $300, which does not depend on the exchange rate. Even if the price were set in euros, the carrying value of the inventory depends on the cost at the transaction date, not the payment date.

Part B: XYZ’s net revenue is $300 / ($1.20 / €1.00) = $300 × 5/6 = €250. The net revenue depends on the exchange rate at the transaction date, not the payment date, so it remains €250 on December 31, 20X1.

Part C: ABC paid for the goods in dollars ($300), and its presentation currency is dollars, so it has no foreign currency exchange exposure and no foreign currency transaction gain or loss.

Part D: XYZ received dollars for the goods but it reports its accounting entries in euros. Its net revenue on the transaction date is $300, which it reports as €250. It receives $300 on the payment date, which is worth

$$\$300 / (\$1.50 / €1.00) = \$300 \times \tfrac{2}{3} = €200.$$

Its net revenue in 20X1 is €250 but its cash increased only €200, so it has a foreign currency transaction loss of €50.

Exercise 18.3: Foreign currency transaction with intervening balance sheet date

ABC buys goods from a XYZ, a supplier in Europe, for resale in the United States.

ABC buys the goods on November 1, 20X1, for €100, on 90 days credit and pays for them on Jan 29, 20X2.

All the goods remain in inventory through January 29, 20X2.

- ABC's functional currency (and presentation currency) is the U.S. dollar.
- XYZ's functional currency (and presentation currency) is the euro.

The foreign currency exchange rates are

- November 1, 20X1: $1.20 = €1.00
- December 31, 20X1: $1.40 = €1.00
- January 29, 20X2: $1.50 = €1.00

A. What is the inventory on ABC's balance sheet on December 31, 20X1?
B. What is the revenue on XYZ's balance sheet on December 31, 20X1?
C. What is ABC's foreign currency transaction gain or loss in 20X1?
D. What is ABC's foreign currency transaction gain or loss in 20X2?
E. What is XYZ's foreign currency transaction gain or loss in 20X1?
F. What is the effect on ABC's net assets on December 31, 20X1?
G. What is the effect on ABC's net income in 20X1?
H. What is the effect on ABC's retained earnings and shareholders' equity on December 31, 20X1?

Part A: The purchase price of the inventory is €100, which equals $120 on September 1, 20X1. The exchange rates on the balance sheet date (December 31) or when the payment is made (January 29, 20X2) do not affect the carrying value of the inventory.

Part B: XYZ's net revenue is €100, which does not depend on the exchange rate.

Part C: On the balance sheet date (December 31, 20X1), the exchange rate is $1.40 = €1.00. ABC has not yet paid for the goods, but it records the accounts payable in dollars as $140. ABC has a liability of $140 and an asset of $120, so it has a foreign currency transaction loss of ($20).

Part D: XYZ reports its accounting entries in euros. It sold the goods for €100 on September 1 and it has an accounts receivable of €100 on December 31, so it has no foreign currency transaction gain or loss.

Part E: ABC pays €100 on January 29, 20X2, which is worth $150. ABC's cash asset decreases $150 and its accounts payable liability decreases $140, so it has a foreign currency transaction loss of ($10) in 20X2.

Part F: ABC has inventory of $120, and an accounts payable of $140, so its net assets decrease $20.

Part G: ABC's foreign currency transaction loss of ($20) is included in net income, which decreases $20.

Part H: The net income of –$20 reduces retained earnings $20, so shareholders' equity decreases $20.