

(a) Money Market Hedge

1. Determine the amount in euros to be borrowed:

- Stone Co needs €900,000 in 6 months.
- Interest rate on euros = 4% per year.
- 6-month interest rate on euros = $4\% \times \frac{1}{2} = 2\%$.

Formula:

$$\text{Amount to borrow in euros} = \frac{900,000}{1 + 0.02} = \frac{900,000}{1.02} \approx 882,353 \text{ EUR}$$

2. Convert euros to USD at the current spot rate:

- Spot rate = €2.347 per \$1.

Formula:

$$\text{Amount in USD} = \frac{882,353}{2.347} \approx 375,000 \text{ USD}$$

So, Stone Co would borrow **\$375,000** now.

3. Repay USD loan in 6 months:

- USD borrow rate = 4% per year.
- 6-month interest rate on USD = $4\% \times \frac{1}{2} = 2\%$.

Formula:

$$\text{Repayment in USD} = 375,000 \times (1 + 0.02) = 375,000 \times 1.02 = 382,500 \text{ USD}$$

So, in 6 months, Stone Co will need to repay **\$382,500**.

Forward Market Hedge

1. Convert €900,000 into USD at the 6-month forward rate:

- Forward rate = €2.410 per \$1.

Formula:

$$\text{Amount in USD} = \frac{900,000}{2.410} \approx 373,877 \text{ USD}$$

So, Stone Co would receive **\$373,877** in 6 months.

Conclusion:

- **Money Market Hedge:** Stone Co will repay \$382,500.
- **Forward Market Hedge:** Stone Co will receive \$373,877.

The **money market hedge** is better because it results in a higher USD amount (\$382,500 vs. \$373,877).

(b) International Fisher Effect (IFE)

The IFE theory states that the difference in interest rates between two countries will impact their exchange rate. If a country has a higher interest rate, its currency is expected to depreciate.

1. Interest Rates:

- Euro interest rate = 4% (deposit rate).
- USD interest rate = 2% (deposit rate).

2. Forward Rate Prediction: The IFE formula is:

$$\frac{E(S_1)}{S_0} = \frac{1 + i_{\text{domestic}}}{1 + i_{\text{foreign}}}$$

Where:

- $E(S_1)$ is the expected future spot rate.
- S_0 is the current spot rate.
- i_{domestic} and i_{foreign} are the interest rates of the domestic and foreign countries.

The higher interest rate in euros (4% vs. 2% for USD) suggests the euro will depreciate against the dollar, which is why the **forward rate** is higher than the **spot rate**.

Conclusion: The **forward rate** of €2.410 reflects the expectation that the euro will depreciate, which aligns with the IFE theory.