

FOREX CLASS 22

HOME WORK SUPPORT

COVERAGE

Question			Answer			Lecture Time
Q. No	Page no.	Book	Q. No	Page no.	Book	
49	19	HW Q BOOK	49	31	HW ANS BOOK	00:00:34 - 00:01:26
43	17	HW Q BOOK	43	28	HW ANS BOOK	00:01:27 - 00:04:08
EXTRA Q	75	HW ANS BOOK	EXTRA Q	76	HW ANS BOOK	00:04:09 – 00:07:27

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 24 PPP AND IFE

Question 49: SSEI HW Book Page No. 19

The rate of inflation in USA is likely to be 3% per annum and in India it is likely to be 6.5%. The current spot rate of US \$ in India is ₹ 43.40. Find the expected rate of US \$ in India after one year and 3 years from now using purchasing power parity theory.

(Source: ICAI)

ANSWER:

According to Purchasing Power Parity forward rate is

$$\text{Spot rate} \left[\frac{1 + r_H}{1 + r_F} \right]^t$$

So spot rate after one year

$$= ₹ 43.40 \left[\frac{1 + 0.065}{1 + 0.03} \right]^1$$

$$= ₹ 43.4 (1.03399)$$

$$= ₹ 44.8751$$

After 3 years

$$₹ 43.40 \left[\frac{1 + 0.065}{1 + 0.03} \right]^3$$

$$= ₹ 43.40 (1.03398)^3$$

$$= ₹ 43.40 (1.10544) = ₹ 47.9761$$

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 21 FC VS MMC

Question 43: SSEI HW Book Page No. 17

An exporter is a UK based company. Invoice amount is \$3,50,000. Credit period is three months. Exchange rates in London are:

Spot Rate (\$/£) 1.5865 – 1.5905
3-month Forward Rate (\$/£) 1.6100 – 1.6140

Rates of interest in Money Market:

	Deposit	Loan
\$	7%	9%
£	5%	8%

Compute and show how a money market hedge can be put in place. Compare and contrast the outcome with a forward contract.

(Source: ICAI)

ANSWER:

Identify: Foreign currency is an asset. Amount \$ 3,50,000.

Create: \$ Liability.

Borrow: In \$. The borrowing rate is 9% per annum or 2.25% per quarter.

Amount to be borrowed: $3,50,000 / 1.0225 = \$ 3,42,298.29$

Convert: Sell \$ and buy £. The relevant rate is the Ask rate, namely, 1.5905 per £,

(Note: This is an indirect quote). Amount of £s received on conversion is 2,15,214.27 ($3,42,298.29 / 1.5905$).

Invest: £ 2,15,214.27 will be invested at 5% for 3 months and get £ 2,17,904.45

Settle: The liability of \$3,42,298.29 at interest of 2.25 per cent quarter matures to \$3,50,000 receivable from customer.

Using forward rate, amount receivable is $= 3,50,000 / 1.6140 = £2,16,852.54$

Amount received through money market hedge = £2,17,904.45

Gain = $2,17,904.45 - 2,16,852.54 = £1,051.91$

So, money market hedge is beneficial for the exporter

PART IV: INTERNATIONAL PARITY CONDITIONS

EXTRA QUESTION

Topic 21 FC VS MMC

Question: HW ANS BOOK PAGE 75

Myer Ltd is a Australian-based company which has the following expected transactions.

One month: Expected receipt of	\$4,20,000
One month: Expected payment of	\$2,80,000
Three months: Expected receipts of	\$4,50,000

The finance manager has collected the following information:

Spot rate (USD per AUD):	1.4950 ± 0.0003
One month forward rate (USD per AUD):	1.4965 ± 0.0005
Three months forward rate (USD per AUD):	1.5005 ± 0.0008

Money market rates for Myer Ltd:

	Borrowing	Deposit
One year Australian interest rate:	4.5%	4.1%
One year USA interest rate:	5.0%	4.6%

Assume that it is now 1 April.

- Calculate the expected AUD receipts in 1 month and in 3 months using the forward rates.
- Calculate the expected AUD receipts in 3 months using a money market hedge and recommend whether a forward market hedge or a money market hedge should be used.

(Source: FOD)

ANSWER: HW ANS BOOK PAGE 76

a. Forward market evaluation

Net receipt in 1 month = \$4,20,000 – \$2,80,000 = \$1,40,000

Myer needs to sell USD at an exchange rate of $(1.4965 + 0.0005) = \$1.4970$ per AUD

AUD value of net receipt = $1,40,000 / 1.4970 = \text{AUD } 93,520$

Receipt in 3 months = \$4,50,000

Myer needs to sell USD at an exchange rate of $1.5005 + 0.0008 = \$1.5013$ per AUD

AUD value of receipt in 3 months = $4,50,000 / 1.5013 = \text{AUD } 2,99,740$

b. Evaluation of money-market hedge

Expected receipt after 3 months = \$4,50,000

USD interest rate over three months = $5.0 / 4 = 1.25\%$

USD to borrow now to have \$4,50,000 liability

after 3 months = $4,50,000 / 1.0125 = \$4,44,444$

Spot rate for selling USD = $1.4950 + 0.0003 = \$1.4953$ per AUD

AUD deposit from borrowed USD at spot = $4,44,444 / 1.4953 = \text{AUD } 2,97,227$

AUD interest rate over three months = $4.1 / 4 = 1.025\%$

Value in 3 months of AUD deposit = $2,97,227 \times 1.01025 = \text{AUD } 3,00,274$

The money market is marginally preferable to the forward market hedge for the USD receipt expected after 3 months.