CA FINAL

# STRATEGIC FINANCIAL MANAGEMENT

CHALLENGER SERIES

3

# PROBLEM – 1

The risk free rate of interest rate in USA is 8% p.a. and in UK is 5% p.a. The spot exchange rate between US $ and UK £ is 1$ = £ 0.75.

Assuming that is interest is compounded on daily basis then at which forward rate of 2 year there will be no opportunity for arbitrage.

Further, show how an investor could make risk-less profit, if two year forward price is 1 $ = 0.85 £. Given $e^{0.-06} = 0.9413$ & $e^{-0.16} = 0.852$, $e^{0.16} = 1.1735$, $e^{-0.1} = 0.9051$

## Solution :

2 year Forward Rate will be calculated as follows:

$$F = Se^{(r_{uk} - r_{us})t}$$

Where F = Forward Rate
S = Spot Rate
$r_{UK}$ = Risk Free Rate in UK
$r_{US}$ = Risk Free Rate in US
t = Time

Accordingly,

$$F = 0.75e^{(0.05-0.08)2}$$

= 0.75 x 0.9413
= 0.706
Thus,

1 US $ = £ 0.706

If forward rate is 1 UK $ = 0.85$ then an covered interest arbitrage opportunity exists. Take following steps.

***Step 1*** - Should borrow UK £, say pound 100000 at 5% p.a. for 2 years.
Therefore, Outflow after 2 years = 1,00,000*e^(0.05*2) = 1,10,517

***Step 2*** - Convert the borrowed amount that is Pound 1,00,000 spot, getting 1,00,000/0.75 = $1,33,333

***Step 3*** - Invest $1,33,333 at 8% p.a. for 2 years, getting 1,33,333*e^(0.08*2) = $1,56,468.

***Step 4*** - Sell $ Forward at 0.85, getting 1,56,468*0.85 = $1,32,998

Hence, Riskless Profit = $1,32,998 - 1,10,517 = 22,481.

# PROBLEM – 2

True view Ltd. a group of companies controlled from the United Kingdom includes subsidiaries in India, Malaysia and the United States. As per the CFO's forecast that , at the end of the June 2010 the position of inter-company indebtedness is as follows:

i. The Indian subsidiary will be owned or will receive ₹1,44,38,100 by the Malaysian subsidiary and will to owe or will pay the US subsidiary US$ 1,06,007.

ii. The Malaysian subsidiary will be owed or will receive MYR 14,43,800 by the US subsidiary and will owe it or will pay US$ 80,000

Suppose you are head of central department of the group and you are required to net off inter-company balances as far as possible and to issue instructions for settlement of the net balance. For this purpose, the relevant exchange rates may be assumed in term of £1 are US$ 1.415; MYR 10.215; ₹68.10. What are the net payments to be made in respect of the above balances?

## Solution :

**Indian Subsidiary :**

1. Receipt from Malaysia = Rs. 1,44,38,100, i.e. Pound 2,12,013
2. Payment to US = $ 1,06,007,i.e. Pound 74,917

   Therefore, Net Amount to be received by India = Pound 1,37,096

**Malaysian Subsidiary :**

1. Receipt from US = MYR14,43,800, i.e. Pound 1,41,341
2. Payment to India = Rs. 1,44,38,100, i.e. Pound 2,12,013
3. Payment to US = $80000,i.e. Pound 56,537

   Therefore, net Amount to be paid by Malaysia = Pound 1,27,209

**US Subsidiary :**

1. Receipt from India = $ 1,06,007,i.e. Pound 74,917
2. Receipt from Malaysia = $80000,i.e. Pound 56,537
3. Payment to Malaysia = MYR14,43,800, i.e. Pound 1,41,341

   Therefore, Net Amount to be paid by US Subsidiary = Pound 9887

Instruction from UK head office – Malaysia to pay India Pound 127209 and US to pay India Pound 9887.

# PROBLEM – 3

OJ Ltd. Of UK is supplier of leather goods to retails in the UK and other Western European countries. The company is considering entering into a joint venture with a manufacturer in South America. The two companies will each own 50% of the limited liability company JV(SA) & will share profits equally. £450,000 of the initial capital is being provided by OJ Ltd. and the equivalent in South American dollars (SA$) is being provided by the foreign partner. The managers of the joint venture expect following cash flows :

| | SA$ 000 | Forward rates of exchange to the £ Sterling [SA$/£] |
|---|---|---|
| Year 1 | 4,250 | 10 |
| Year 2 | 6,500 | 15 |
| Year 3 | 8,350 | 21 |

For tax reasons JV(SA) the company to be formed for the joint venture, will be registered in South America. Ignore taxation in your calculations Requirements :

Assume you are financial adviser retained by OJ Limited to advise on the proposed joint venture.

**i.** Calculate NPV of the project under the two assumptions explained below. Use a discount rate of 16% for both assumptions.

**Assumption 1 :** The South American country has exchange controls which prohibit the payment of cash flows above 50% of the annual cash flows for the first three years of the project. The accumulated balance can be repatriated at the end of the third year.

**Assumption 2** : The government of the South American country is considering removing exchange controls and restriction on repatriation of profits. If this happens all cash flows will be distributed to the partner companies at the end of each year.

**ii.** Comment briefly on whether or not the joint venture should proceed based on these calculations.

# Solution :

## i. With Exchange Controls

| Year | Profit After Tax SA$000 | O.J. Share 50% SA$0000 | 50% div. ER[£/$] SA$ 000 | OJ Share in £000 | | PVF @ 16% | Present Value £000 |
|---|---|---|---|---|---|---|---|
| 0 | - | | | | (450) | 1.000 | (450) |
| 1 | 4,250 | 2,125 | 1,062 | .1 | 106 | 0.862 | 91 |
| 2 | 6,500 | 3,250 | 1,625 | .067 | 108 | 0.743 | 80 |
| 3 | 8,350 | 4,175 | 2,088 | .0476 | 100 | 0.641 | 64 |
| 3 | - | - | 4,775 | .0476 | 227 | 0.641 | 146 |
| **Net Present Value** | | | | | | | (69) |

**Exchange controls removed and all earnings distributed as divide**

| Year | Profit After Tax SA$000 | OJ Share SA$0000 | ER[£/$] S | OJ Share in £000 | | PVF @ 16% | Present Value flow £000 |
|---|---|---|---|---|---|---|---|
| 0 | | | | | (450) | (1.000) | (450) |
| 1 | | 4,250 | 2,125 | .1 | 212 | 0.862 | 183 |
| 2 | | 6,500 | 3,250 | .067 | 217 | 0.743 | 161 |
| 3 | | 8,350 | 4,175 | .0476 | 199 | 0.641 | 127 |
| **Net Present Value** | | | | | | | 21 |

## ii. Decision :

If exchange controls exist in the South American Country the project has a negative and NPV should not be undertaken.

If exchange control are removed then project may be undertaken as then the project has a positive NPV. Investing in countries with a history of high inflation and political volatility adds to the risk of the project and OJ Ltd. Should proceeds with caution.

# PROBLEM – 4

A multinational company has surplus fund of £ 300,000 in UK for 90 days. The company is planning to invest the fund for 90 days. The company is considering to invest the fund in 90-day deposit in banks or invest in CDs for 90 days. The interest rate offered by a British bank on 90-day deposit is 6.5%. The interest rate on CD is 10%, but the minimum size of investment in CD is £ 500,000 and in multiples of £ 500,000. The overdraft charges applicable to the company is 14%. You are required to

**i.** Find out the break-even size of investment in CD and suggest the bank whether to invest in CD or not.

**ii.** Compare the gain/loss if the company have decided to invest in a CD against the investment in bank deposits.

# Solution :

**i.** Let x be breakeven size of Investment

[x = owned fund].

Alternative 1 Bank Deposit

Int. income = $= 6.5\%\ \text{of}\ x \times \frac{3}{12} = 0.01625x$

Alternative 2 Invest 5,00,000 in C.D by borrowing [5,00,000 - x]

Net Int. Income $= 10\%\ \text{of}\ 5,00,000 \times \frac{3}{12} - 14\%\ \text{of}\ (5,00,000 - x) \times \frac{3}{12}$

$= 12,500 - \left(\frac{70000 - 0.14x}{4}\right)$

= 12,500 - 17,500 + 0.035x

= 0.035x - 5000

At break even, 0.01625x = 0.035x - 5000

$x = \frac{5000}{00.1875} = 2,66,666.67$

= 2,66,667

Since the Co. has owned fund of ₹ 3,00,000 (> 2,66,667)

It should choose Alternative 2 i.e. invest in C.D.

**ii.** Int income on bank deposit $= 0.1625x = 0.01625 \times 3,00,000$

$= £\ 4875$

Net Int. income in CD $= 0.035x - 5000$

$= 0.035 \times 3,00,000 - 5000 = £\ 5,500$

$\therefore$ Gain to company $= £\ 625$

Due to CD investment.

# PROBLEM – 5

A multinational company based in Germany has its subsidiaries in UK, Singapore, Hongkong and Japan. The cash position of these subsidiaries for the month of February 2003 is as follows:

| | |
|---|---|
| UK. | Cash surplus of £1 million |
| Singapore | Cash deficit of S$1 million |
| Hongkong | Cash deficit of HK$2 million |
| Japan | Cash surplus of JPY 50 million |

The current exchange rates are given below:

| | |
|---|---|
| Euro/£ | 1.5025 |
| S$/Euro | 1.8910 |
| Euro/HK$ | 0.1190 |
| JPY/Euro | 130 |

You are required to determine the cash requirement of the MNC if it adopts:

**i.** Centralized cash management.
**ii.** Decentralized cash management.

## Solution :

**i. Total cash requirement under centralized cash management**

=+£1 million + JP ¥50 million - S$1 million - HK$2 million

=Euro $\left[1\times1.5025+\frac{50}{130}-\frac{1}{1.8910}-2\times0.119\right]$

=Euro [1.5025+0.3846-0.5288-0.2380]

=Euro 1.1203 million.

**ii. Total cash requirement under decentralized cash management**

=S$1 million +HK$2 million

=Euro $\left(\frac{1}{1.8910}+2\times0.119\right)$

= Euro 0.7668 million

Surplus available at U.K subsidiary and Japan subsidiary is not available for adjustment against the deficit of the other subsidiaries.

# PROBLEM – 6

The covered after tax lending and borrowing rates for three unit of a Multinational corporation located in the United States and having Subsidiaries in Singapore and Hongkong are :

| | Lending (%) | Borrowing (%) |
|---|---|---|
| **United States** | 4.9 | 5.0 |
| **Singapore** | 2.70 | 3.9 |
| **Hong Kong** | 2.75 | 3.3 |

Currently, the Singapore and Hong Kong units owe $25,00,000 and $35,00,000, respectively to their US parent. The Singapore unit also has $10,00,000 in receivables from is Hong Kong affiliate. The timing of these payment can be changed by up to 60 days in either direction. If US Parent is borrowing funds, while both the Singapore and Hong Kong subsidiaries have surplus cash available, you are required to

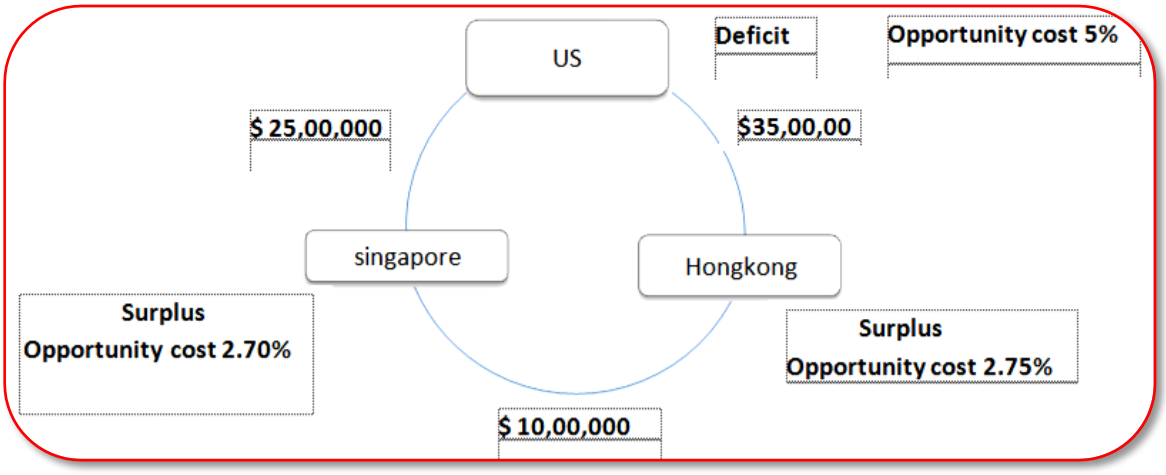
**i.** Determine the MNC's optimal leading and lagging strategies

**ii.** Calculate the net profit impact of these adjustments

**iii.** Indicate the change in the MNC's optimal strategy, if the US parents has surplus cash available.

# Solution :

## i. The entire situation is shown below



Optimum leading an lagging strategies

I. Singapore should pay US $ 25,00,000 today.

II. Hongkong should pay US $ 3,500,000 today.

III. Hongkong should pay Singapore 10,00,000 after 60 days.

**Self Note:** Always decide in favour of the entity which has higher opportunity cost. The word favour means -

If the entity is suppose receive/ pay, we advice leading/lagging.

**ii. Profit as a result of 1st strategy**

= $2,500000 × ( 5-2.7) % × 2/12
= $2,500000 × 2.30 % × 2/12
= $9583.33

Profit due to 2nd strategy
=$ 3,500000 × ( 5% - 2.75 ) % × 2/12
=$ 3,500000 × 2.25 % × 2/12
= $13,125

Profit due to 3rd advice

= $ 10,00,000 × (2.75 - 2.70) % × 2/12
=$10,00,000 × 0.05% × 2/12
=$ 83.33
Overall profit = $ [ 9583.33+13,125+83.33] = $ 22,791.66

**iii.** If US has surplus its opportunity cost is 4.9% that is stillmore than Opportunity Cost of the other two firms. So, there is no change in advice.

# PROBLEM – 7

An Indian company is planning to set up a subsidiary in South Africa. The initial project cost is estimated to be ZAR 500 million; Working Capital required is estimated to be ZAR 30 million. The finance manager of company estimated the data as follows:

| | |
|---|---|
| **Variable Cost of Production (Per Unit Sold)** | **ZAR 5.20** |
| **Fixed cost per annum** | **ZAR 4 million** |
| **Selling Price** | **ZAR 15** |
| **Production capacity** | **16 million units** |
| **Expected life of Plant** | **5 years** |
| **Method of Depreciation** | **Straight Line Method (SLM)** |
| **Salvage Value at the end of 5 years** | **NIL** |

The subsidiary of the Indian company is subject to 40% corporate tax rate in the South Africa and the required rate of return of such types of project is 15%. The current exchange rate is ₹ 5/ZAR and the rupee is expected to depreciate by 3% per annum for next five years.

The subsidiary company shall be allowed to repatriate 60% of the CFAT every year along with the accumulated arrears of blocked funds at the end of 5 years, the withholding taxes are 10%. The blocked fund will be invested in the South African money market by the subsidiary, earning 6% (free of taxes) per year.

Determine the feasibility of having a subsidiary company in the South Africa, assuming no tax liability in India on earnings received by the parent company from the South Africa subsidiary.

## Solution :

**Step - 1** Calculation of CFAT (Cash flow After Tax)

| | |
|---|---|
| Selling Price | ₹ 15 |
| (-) V. cost | 5.2 |
| Contribution | 9.8 |
| Quantity | 16m |
| Annual cost | 156.8 |
| (- ) Cash Flow Cost | 4 |

| | |
|---|---|
| EBDIT | 152.8 |
| (-) Dep (500/5) | 100 |
| EBIT | 52.8 |
| NOPAT @ 60% | 31.68 |
| + Dep | 100 |
| CFAF | 131.68 |

**Step - 2** PV of Repatriated amount each year

| Years | Repatriated Amount (60% of CFAT) | E(S) | Repatriated ₹ | PV @ 15% |
|---|---|---|---|---|
| 1 | 79.01 | 5.15 | 406.90 | 353.83 |
| 2 | 79.01 | 5.30 | 418.75 | 316.64 |
| 3 | 79.01 | 5.46 | 431.39 | 283.65 |
| 4 | 79.01 | 5.62 | 444.04 | 253.88 |
| 5 | 79.01 | 5.79 | 457.47 | 227.44 |

After applying 10% withholding tax, PV = 1435.44 × 0.9 = 1291.90

**Step - 3** PV of the blocked funds Repatriated at the end

Blocked funds each year = 40% of CFAT = 52.67

| Years | Blocked fund | Reinvested @ 6% |
|---|---|---|
| 1 | 52.67 | 66.49 |
| 2 | 52.67 | 62.73 |
| 3 | 52.67 | 59.18 |
| 4 | 52.67 | 55.83 |
| 5 | 52.67 | 52.67 |
| | FV of Reinvested | 296.9 |
| | (-) CF withholding Tax @ 10% | 29.69 |
| | | 267.21 |
| | E (Ss) | 5.82 |
| | Expected ₹ proceeding | ₹ 1555.16 |
| | PV @ 15% | 773.19 |

**Step - 4** We assume that working capital of 30m is received in full. No withholding tax is charged on its repatriation.

So, amount repatriated = 30 × 5.82 = ₹ 174.6m
PV @ 15% = 86.81 m

NPV = Step 2 + Step 3 + Step 4 - Initial Investment
= 1291.90 + 773.19 + 86.81 - (530 × 5)
= 2151.9 - 2650
= (498.1)

Project is not viable.

# PROBLEM – 8

On 1st March. 2008, A Inc, a US company bought certain products from Tapland. The currency of Tapland is Tapa. The price agreed was Tapa 900000 payable on 31st May, 2008.

The spot price on 1st March, 2008 was 10 Tapa per US $. The expected future spot rate was 8 Tapa per US $ : and the 3-months forward rate is 9 Tapa per US$. The US and Tapland annual interest rate are 12% and 8% respectively. The tax rate for both countries is 40%. A Inc., is considering three alternatives to deal with the risk of exchange rate fluctuations.

i. To enter the forward market to buy Tapa 9,00,000 a 3 months forward rate
ii. To borrow appropriate amount in $ to buy Tapa at current spot rate and to invest the Tapa purchased for 3 months
iii. To wait until May 31, 2008, and buy Tapas at whatever spot rate prevailing at that time.

Which alternative the A Inc. should follow in order to minimize its cost of future payment of Tapas.

## Solution :

### Alternative A

Forward Contract
900000÷9 = 100000
$ Outflow = $100000

### Alternative B

**Step 1:**

Invest the PV of Tapa 900000 at 8% p.a. for 3 months.
∴ Amount to be invested = 900000 ÷ (1+ 0.08/4)= 882352.94 Tapa

**Step 2:**

Buy Tapa spot @ 10 requiring,
882352.94 ÷ 10 = 88235.29 $

**Step 3:**

Borrow $ 88235.29 at 12% p.a for 3 months.

So, outflow after 3 months = 88235.29 × (1+ 0.12/4)= $90882.35

**Alternative C**

Outflow after 3 months = 900000/8 = $112500

∴ Outflow is least in Alternative (B),

∴ A Inc. should go for Alternative (B) to minimize the cost of future payment.

# PROBLEM – 9

Wenden Co is a Dutch-based company which has the following expected transactions.

| | |
|---|---|
| One month: Expected receipt of | £2,40,000 |
| One month: Expected payment of | £1,40,000 |
| Three months: Expected receipts of | £3,00,000 |

The finance manager has collected the following information:

| | | |
|---|---|---|
| Spot rate (£ per €) | : | 1.7820 ± 0.0002 |
| One month forward rate (£ per €) | : | 1.7829 ± 0.0003 |
| Three months forward rate (£ per €) | : | 1.7846 ± 0.0004 |

Money market rates for Wenden Co:

| | Borrowing | Deposit |
|---|---|---|
| One year Euro interest rate | 4.9% | 4.6 |
| One year Sterling interest rate | 5.4% | 5.1 |
| | | |

Assume that it is now 1 April.

**Required:**

**a.** Calculate the expected Euro receipts in one month and in three months using the forward market.

**b.** Calculate the expected Euro receipts in three months using a money-market hedge and recommend whether a forward market hedge or a money market hedge should be used.

# Solution :

**a. Forward market evaluation**

| | |
|---|---|
| Net receipt in 1 month = £2,40,000 – £1,40,000 | = £1,00,000 |
| WendenCo needs to sell Sterlings at an exchange rate of (1.7829 + 0.0003) | = £1.7832 per € |
| Euro value of net receipt = 1,00,000/ 1.7832 | = €56,079 |
| Receipt in 3 months | = £3,00,000 |
| Wenden Co needs to sell Sterlings at an exchange rate of 1.7846 + 0.0004 | = £1.7850 per € |
| Euro value of receipt in 3 months = 3,00,000/ 1.7850 | = €1,68,067 |

**b. Evaluation of money-market hedge**

| | |
|---|---|
| Expected receipt after 3 months | = £300,000 |
| Sterling interest rate over three months | = 5.4/ 4 = 1.35% |
| Sterlings to borrow now to have £300,000 liability after 3 months = 300,000/ 1.0135 | = £296,004 |
| Spot rate for selling Sterling = 1.7820 + 0.0002 | = £1.7822 per € |
| Euro deposit from borrowed Sterling at spot = 296,004/ 1.7822 | = €166,089 |
| Euro interest rate over three months = 4.6/ 4 | = 1.15% |
| Value in 3 months of Euro deposit = 166,089 x 1.0115 | = €167,999 |

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

# PROBLEM – 10

Opus Technologies Ltd., an Indian IT company is planning to make an investment through a wholly owned subsidiary in a software project in China with a shelf life of two years. The inflation in China is estimated as 8 percent. Operating cash flows are received at the year end.

For the project an initial investment of Chinese Yuan (CN¥) 30,00,000 will be in land. The land will be sold after the completion of project at estimated value of CN¥ 35,00,000. The project also requires an office complex at cost of CN¥ 15,00,000 payable at the beginning of project. The complex will be depreciated on straight-line basis over two years to a zero salvage value. This complex is expected to fetch CN¥ 5,00,000 at the end of project.

The company is planning to raise the required funds through GDR issue in Mauritius. Each GDR will have 5 common equity shares of the company as underlying security which are currently trading at ₹ 200 per share (Face Value = ₹10) in the domestic market. The company has currently paid the dividend of 25% which is expected to grow at 10% p.a. The total issue cost is estimated to be 1 percent of issue size.

The annual sales is expected to be 10,000 units at the rate of CN¥ 500 per unit. The price of unit is expected to rise at the rate of inflation. Variable operating costs are 40 percent of sales. Fixed operating costs will be CN¥ 22,00,000 per year and expected to rise at the rate of inflation.

The tax rate applicable in China for income and capital gain is 25 percent and as per GOI Policy no further tax shall be payable in India. The current spot rate of CN¥ 1 is ₹ 9.50. The nominal interest rate in India and China is 12% and 10% respectively and the international parity conditions hold

**You are required to**

**i.** Identify expected future cash flows in China and determine NPV of the project in CN¥.

**ii.** Determine whether Opus Technologies should go for the project or not assuming that there neither there is restriction on the transfer of funds from China to India nor any charges/taxes payable on the transfer of funds.

# SOLUTION :

## Working Notes:

### 1. Calculation of Cost of Capital (GDR)

| | |
|---|---|
| Current Dividend ($D_0$) | 2.50 |
| Expected Divedend ($D_1$) | 2.75 |
| Net Proceeds (Rs. 200 per share – 1%) | 198.00 |
| Growth Rate | 10.00% |

$$k_e = \frac{2.75}{198} + 0.10 = 0.1139 \text{ i.e. } 11.39\%$$

### 2. Calculation of Expected Exchange Rate as per Interest Rate Parity

| Year | Expected Rate |
|---|---|
| 1 | $9.50 \times \frac{(1+0.12)}{(1+0.10)} = 9.67$ |
| 2 | $9.50 \times \frac{(1+0.12)^2}{(1+0.10)^2} = 9.85$ |

### 3. Realization on the disposal of Land net of Tax

| | CN¥ |
|---|---|
| Sale value at the end of project | 3500000.00 |
| Cost of Land | 3000000.00 |
| Capital Gain | 500000.00 |
| Tax paid | 125000.00 |
| Amount realized net of tax | 3375000.00 |

### 4. Realization on the disposal of Office Complex

| | (CN¥) |
|---|---|
| Sale value at the end of project | 500000.00 |
| WDV | 0.00 |
| Capital Gain | 500000.00 |
| Tax paid | 125000.00 |
| Amount realized net of tax (A) | 375000.00 |

## 5. Computation of Annual Cash Inflows

| Year | 1 | 2 |
|---|---|---|
| Annual Units | 10000 | 10000 |
| Price per bottle (CN¥) | 540.00 | 583.20 |
| Annual Revenue (CN¥) | 5400000.00 | 5832000.00 |
| **Less: Expenses** | | |
| Variable operating cost (CN¥) | 2160000.00 | 2332800.00 |
| Depreciation (CN¥) | 750000.00 | 750000.00 |
| Fixed Cost per annum (CN¥) | 2376000.00 | 2566080.00 |
| PBT (CN¥) | 114000.00 | 183120.00 |
| Tax on Profit (CN¥) | 28500.00 | 45780.00 |
| Net Profit (CN¥) | 85500.00 | 137340.00 |
| Add: Depreciation (CN¥) | 750000.00 | 750000.00 |
| Cash Flow | 835500.00 | 887340.00 |

## i. Computation of NPV of the project in CN¥

**(CN¥)**

| Year | 0 | 1 | 2 |
|---|---|---|---|
| Initial Investment | -4500000.00 | | |
| Annual Cash Inflows | | 835500.00 | 887340.00 |
| Realization on the disposal of Land net of Tax | | | 3375000.00 |
| Realization on the disposal of Office Complex | | | 375000.00 |
| **Total** | **-4500000.00** | **835500.00** | **4637340.00** |
| PVF @11.39% | 1.000 | 0.898 | 0.806 |
| PV of Cash Flows | -4500000.00 | 750279.00 | 3737696.00 |
| **NPV** | | | **-12,025** |

**ii. Evaluation of Project from Opus Point of View**

**a. Assuming that inflow funds are transferred in the year in which same are generated i.e. first year and second year.**

| Year | 0 | 1 | 2 |
|---|---|---|---|
| Cash Flows (CN¥) | -4500000.00 | 835500.00 | 4637340.00 |
| Exchange Rate (₹/ CN¥) | 9.50 | 9.67 | 9.85 |
| Cash Flows (₹) | -42750000.00 | 8079285.00 | 45677799.00 |
| PVF @ 12% | 1.00 | 0.893 | 0.797 |
| | **-42750000.00** | **7214802.00** | **36405206.00** |
| **NPV** | | | **870008.00** |

**b. Assuming that inflow funds are transferred at the end of the project i.e. second year.**

| Year | 0 | 2 |
|---|---|---|
| Cash Flows (CN¥) | -4500000.00 | 5472840.00 |
| Exchange Rate (Rs./ CN¥) | 9.50 | 9.85 |
| Cash Flows (Rs.) | -42750000.00 | 53907474.00 |
| PVF | 1.00 | 0.797 |
| | **-42750000.00** | **42964257.00** |
| **NPV** | | **214257.00** |

**Though in terms of CN¥ the NPV of the project is negative but in Rs. it has positive NPV due to weakening of Rs. in comparison of CN¥. Thus Opus can accept the project.**

# PROBLEM – 11

Place the following strategies by different persons in the Exposure Management Strategies Matrix.

**Strategy 1**: Kuljeet a wholesaler of imported items imports toys from China to sell them in the domestic market to retailers. Being a sole trader, he is always so much involved in the promotion of his trade in domestic market and negotiation with foreign supplier that he never pays attention to hedge his payable in foreign currency and leaves his position unhedged.

**Strategy 2**: Moni, is in the business of exporting and importing brasswares to USA and European countries. In order to capture the market he invoices the customers in their home currency. Moni enters into forward contracts to sell the foreign exchange only if he expects some profit out of it other-wise he leaves his position open.

**Strategy 3**: TSC Ltd. is in the business of software development. The company has both receivables and payables in foreign currency. The Treasury Manager of TSC Ltd. not only enters into forward contracts to hedge the exposure but carries out cancellation and extension of forward contracts on regular basis to earn profit out of the same. As a result management has started looking Treasury Department as Profit Centre.

**Strategy 4**: DNB Publishers Ltd. in addition to publishing books are also in the business of importing and exporting of books. As a matter of policy the movement company invoices the customer or receives invoice from the supplier immediately covers its position in the Forward or Future markets and hence never leave the exposure open even for a single day.

# Solution:

**Strategy 1**: This strategy is covered by High Risk: Low Reward category and worst as it leaves all exposures unhedged. Although this strategy does not involve any time and effort, it carries high risk.

**Strategy 2**: This strategy covers Low Risk: Reasonable reward category as the exposure is covered wherever there is anticipated profit otherwise it is left.

**Strategy 3**: This strategy is covered by High Risk: High Reward category as to earn profit, cancellations and extensions are carried out. Although this strategy leads to high gains but it is also accompanied by high risk.

**Strategy 4**: This strategy is covered by Low Risk : Low Reward category as company plays a very safe game.

Diagrammatically all these strategies can be depicted as follows:

| | High Risk | | |
|---|---|---|---|
| Low | Strategy 1 | Strategy 3 | High |
| Reward | Strategy 4 | Strategy 2 | Reward |
| | Low Risk | | |