FORWARD CONTRACTS

Delivery, Cancellation & Extension

Bank's Angle

In order to hedge foreign currency exposure we enter into forward contracts with forex Dealers. Wherein we fix the exchange rate today for future settlement (due date)

In some circumstances because of some uncertain or uncontrollable situation honoring the contract on due date becomes impossible

₹1$50
$10000

This type of situation can come into picture before due date or on due date.

Thus we may want to cancel or extend the original contract.

In such case, the FEDAI Rules will be applicable

FEDAI - Foreign Exchange Dealers Association of INDIA

Early ↑ Late ↑

	Before Due Date	On Due Date	After Due Date
Delivery	6	1	7
Cancellation	3	2	8
Extension	5	4	9

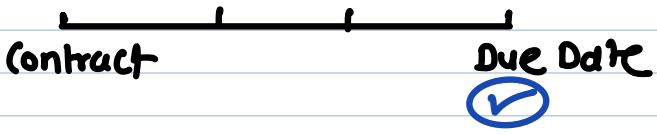
Exporter Sell FC → BANK Buy Forward Buy

Importer ← FC BANK Sell Forward Sell

Exporter – Receivable – Sell FC > Forward contract

Importer – Payable – Buy FC

1



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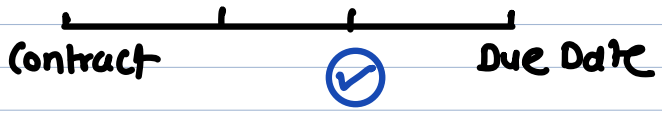

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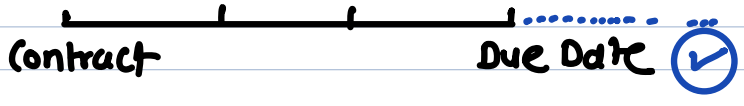

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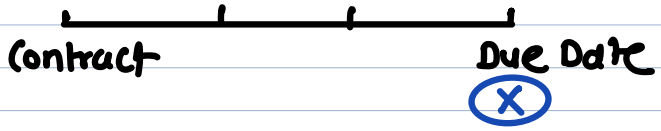

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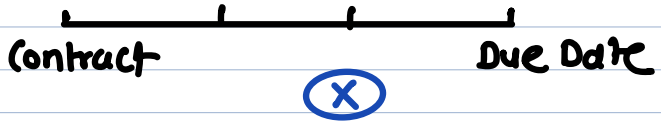

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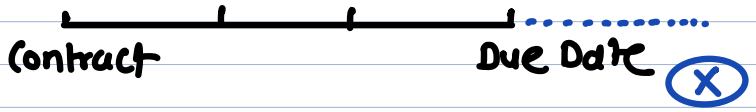

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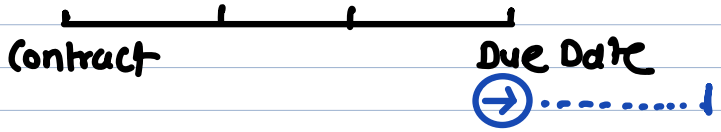

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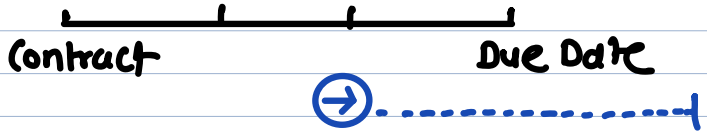

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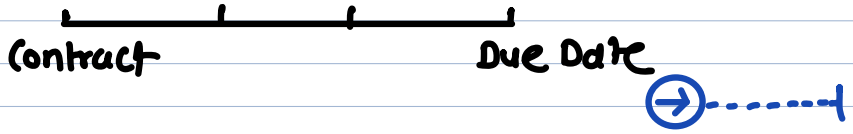
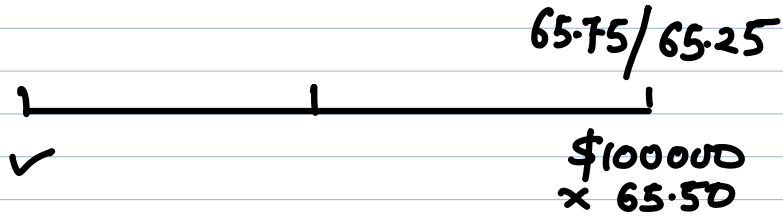


(1) Delivery on due date

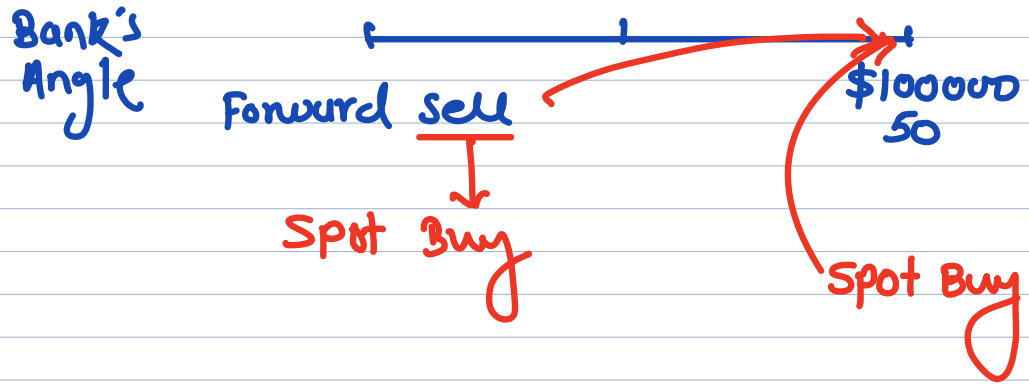
this is straight forward contract as you honor the contract as agreed on due date.

Eg0

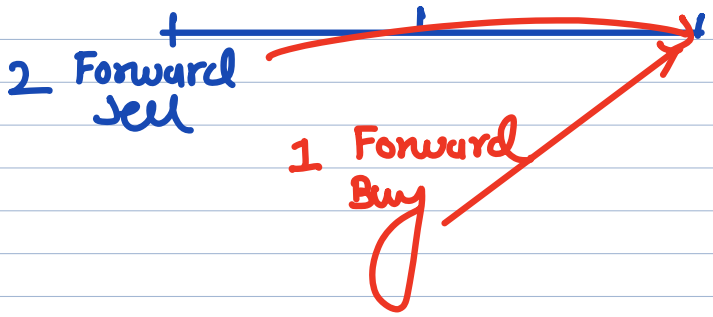


Bank will Debit ₹6550000 (1000000 x 65.50) at the forward rate agreed with customer

② Cancellation on due date



③ Cancellation before due date (Early cancellation)



Two things to Remember

1. Take opposite position to cancel any contract
2. Expiry of Both the contracts [original & cancellation] should be same

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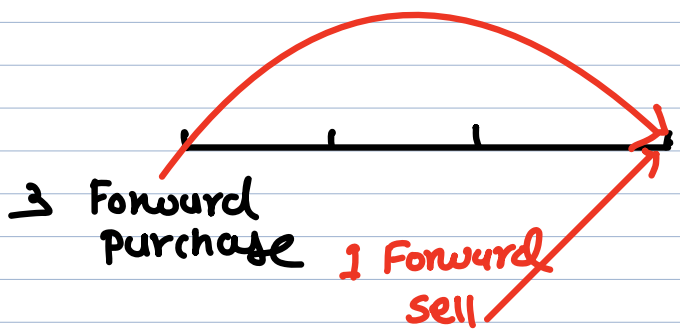
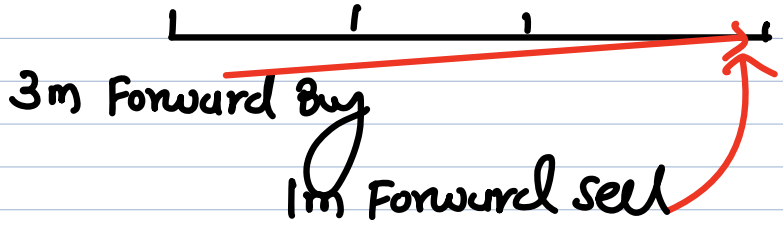


			Customer
Original contract	3m Forward Buy	27.25	Sell
Cancellation	1m Forward sell	27.52	Buy
Loss to customer		0.27	

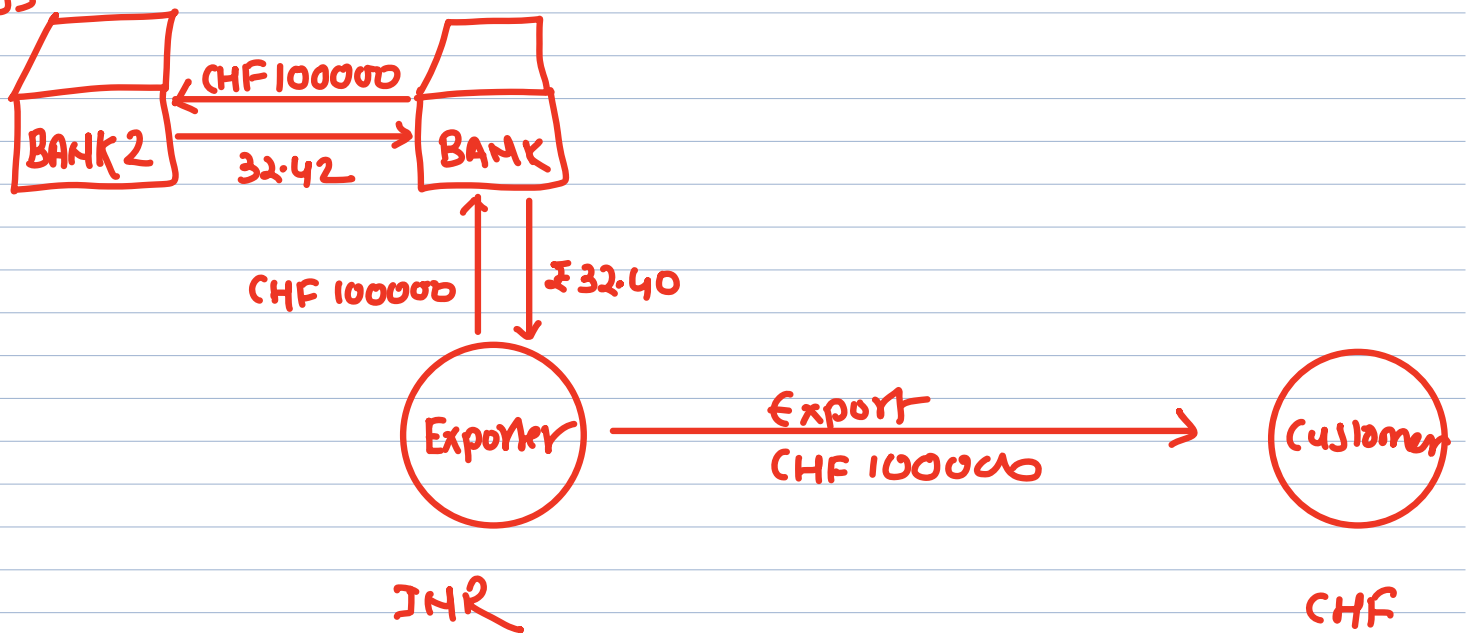
Contract value	CHF 10000
Total Loss to customer	₹2700

Q92

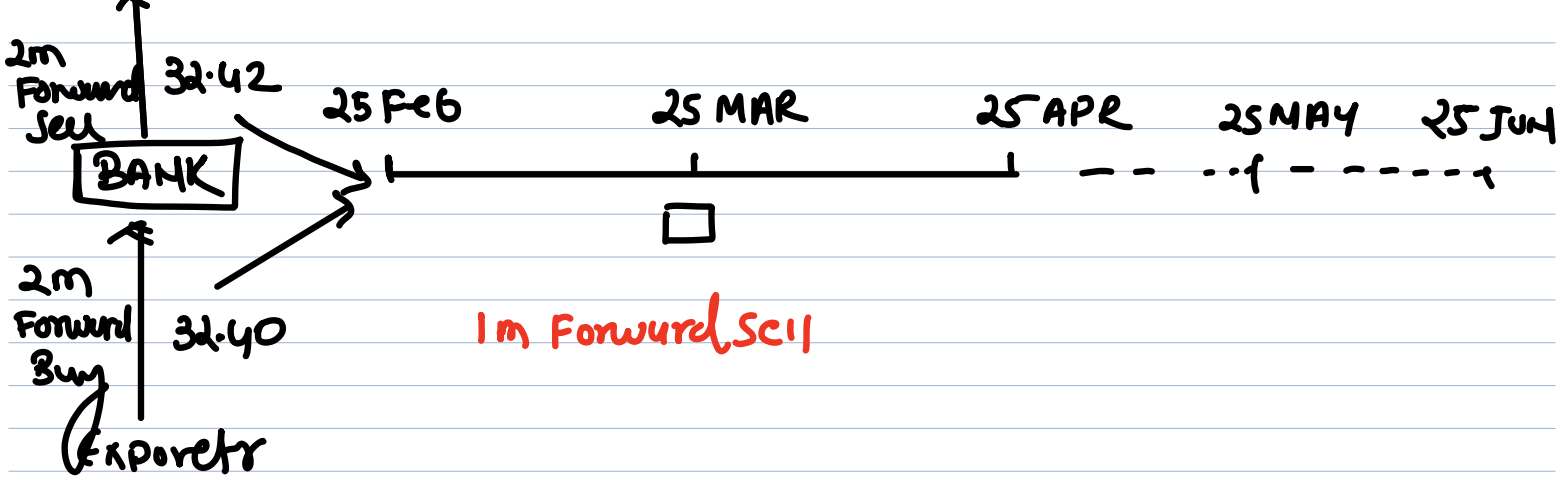


Original contract	3m Forward Buy	47.2500
Cancellation	1m Forward sell	47.5200
Loss to customer		0.2700
Contract value		AUD 100000
Total Loss to customer		INR 27000

Q93



BANK2



Original contract 2m Forward Buy 32.40

Cancellation contract 1m Forward Sell

↓

ASK (CHFINR)

↓

$$ASK(CHFINR) = ASK(CHFUSD) \times ASK(USDINR)$$

$$= \frac{1}{Bid(USDCHF)} \times ASK(USDINR)$$

$$= \frac{1}{1.5150} \times 49.9154$$

$$= 32.9475$$

1 month Forward Merchant Rate USDINR

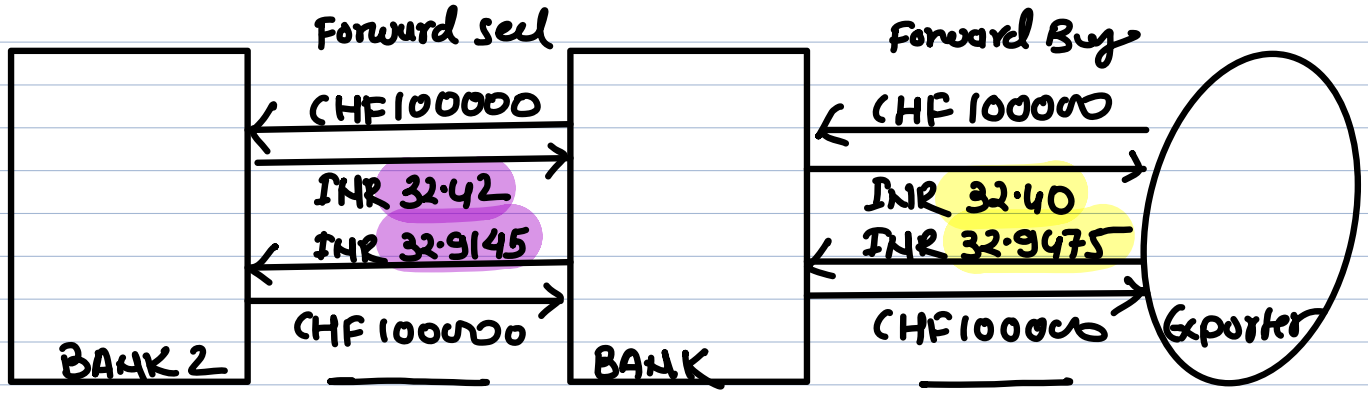
Inter Bank Rate

Spot Rate	49.4302	49.4455
1m Swap	+ .4100	.4200 ↗
1m Forward Rate	COF 49.8402	CCF 49.8655
Margin @0.10%	− CCF .0498	+ CCF .0499
Merchant Rate	49.7904	49.9154

Cancellation Charges

2 Forward Buy	32.40
1 Forward sell	32.9475
Loss to exporter	0.5475
contract value	100000
Charges payable by exporter	**54750**

What happened to cover contract



0.4945 × 100000 = 49450

0.5475 × 100000 = 54750

ASK (USD CHF) = 49.8655 / 1.5150

= 32.9145

- Profit on original Contract: 2000 [32.42 − 32.40 × 100000]
- Loss on cancellation of Interbank Contract: 49450
- Margin on $: 3294

= 54744

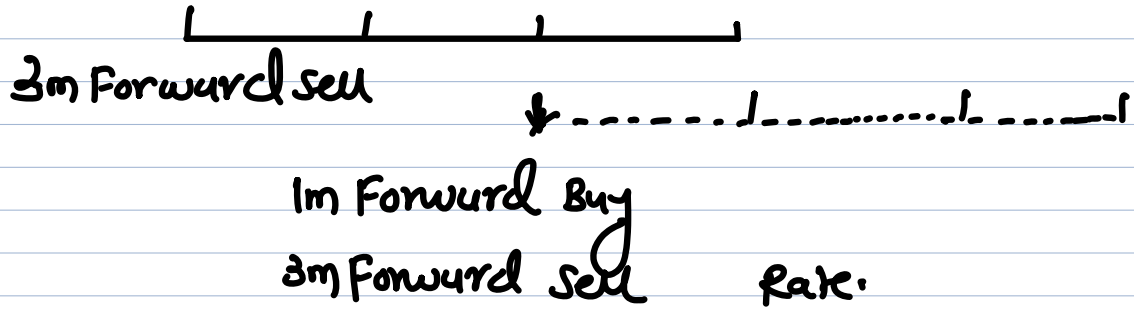
Equivalent $ 100000 / 1.5150

= $66007 × 0.0499

= 3294

④ Extension on due date

⑤ Extension Before due date (early extension)

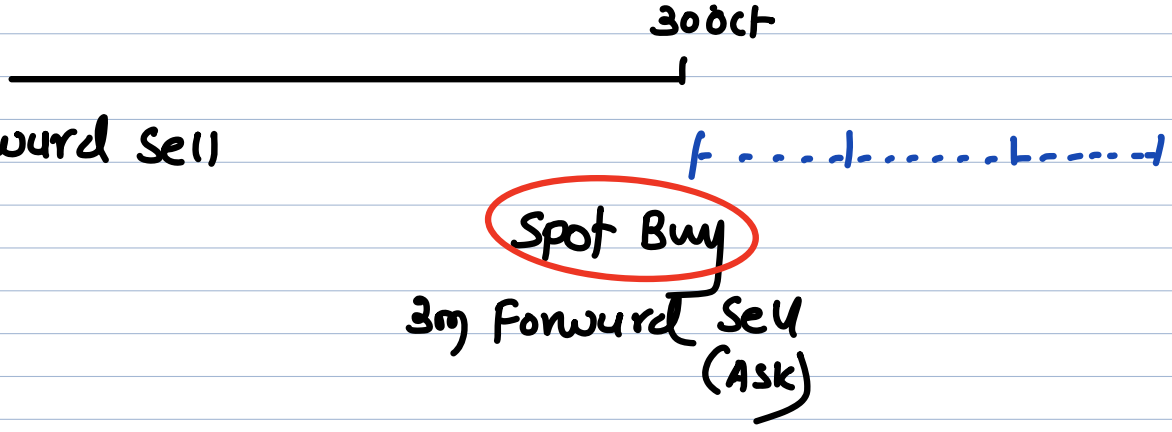


Things to Remember

a. cancel original contract < position - opposite, Expiry - same

b. Take New forward contract for the new expiry date.

Q 95



1. cancellation charges

Contracted selling Rate		42.32
Cancellation		
spot Buy (Bid)	41.5000	
(-) Margin @ 0.075%	0.0311	41.4689
Cancellation charges		0.8511
Contract value		20000
Cost to the importer		17022

2. Rate of New Forward contract

spot selling Rate (Bank)		41.52
(+) Forward Margin 0.93%		.3861
Forward selling Rate (Interbank)		41.9061
(+) Exchange Margin 0.20%		0.0838
Forward Selling Rate (Merchant)		41.9899

Q96

Forward Buy

Spot Sell

3m Forward Buy

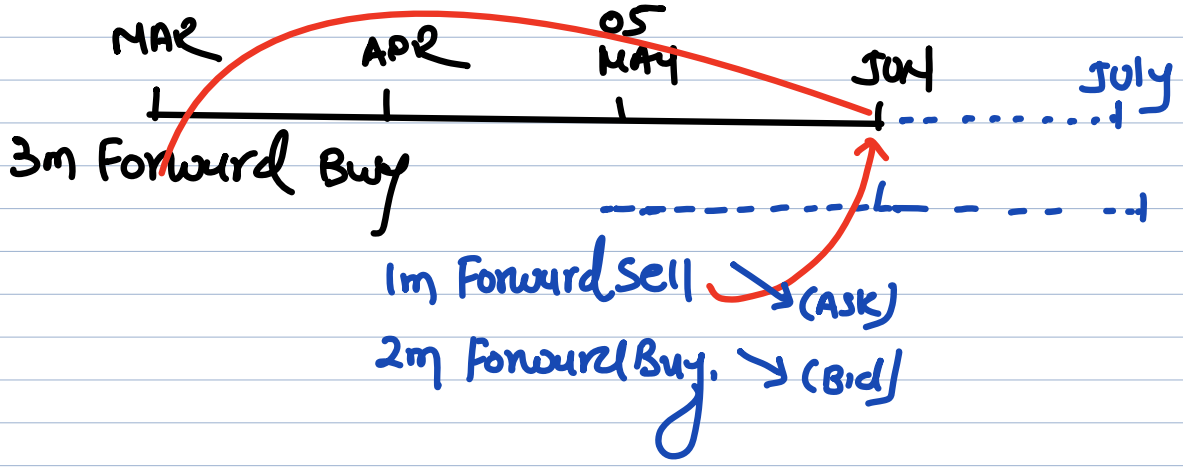
a. Cancellation charges

Contracted Buying Rate		62.32
Cancellation Selling Rate		
Spot sell (ASK)	61.5200	
(+) Margin 0.20%	.1230	61.6430
Loss to bank / charges payable to customer		0.677
Contracted value		$20000
Cancellation charges payable to customer		13540

b. New Forward Rate (Bid Rate)

Spot Buy		61.50
(-) Forward Margin 0.93%		0.5720
Forward Rate (Interbank)		60.928
(-) Exchange Margin 0.45%		0.2742
Forward Rate (Merchant)		60.6538

Q98



a. Cancellation charges

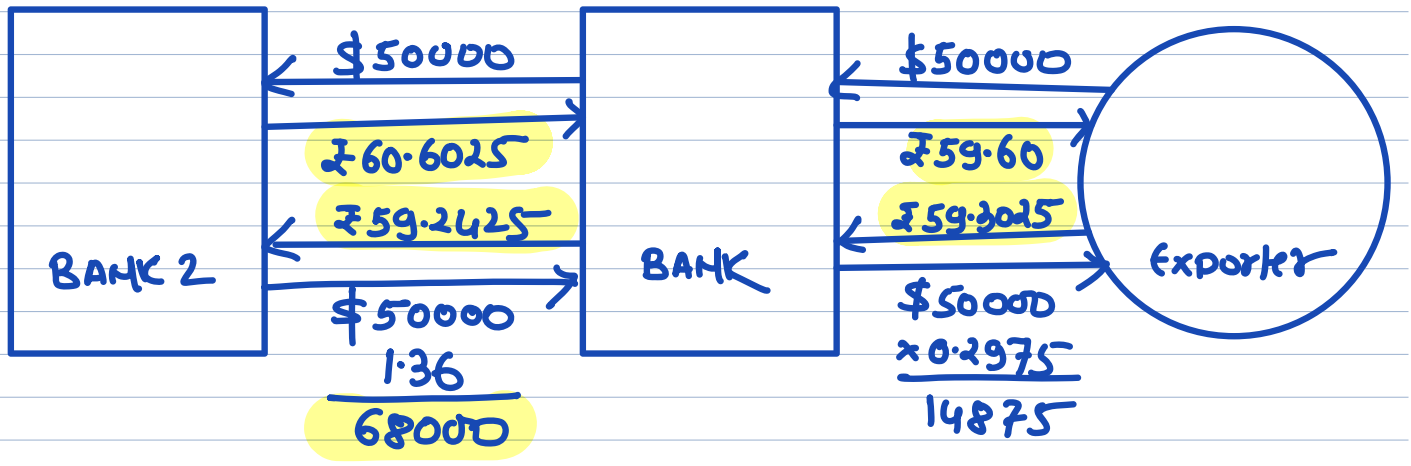
Original contract - Forward Buy		59.6000
Cancel Contract - 1m Forward Sell	59.2425	
+ Margin @ 0.10%.	0.0592	59.3017
	Rounded off	59.3025
Loss to bank		0.2975
Contracted Value		$50000
Charges payable to customer		14875

b. New Forward Rate

2m Forward Buy (Interbank)	59.6300	
- Margin @ 0.10%	0.0596	
2m Forward Buy (Merchant)	59.5704	i.e. 59.5700

(14875)

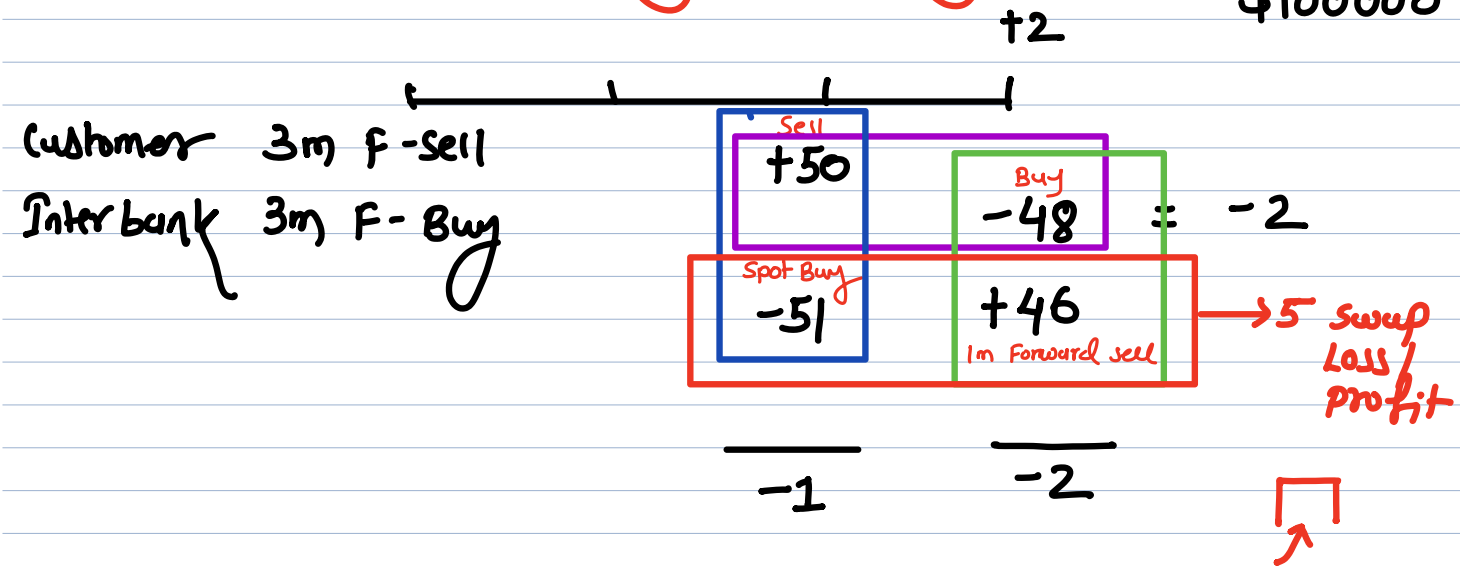
Profit of Bank	Cancellation of interbank contract	Margin
=(60.6025 − 59.60) x 50000	68000	$50000 x 0.0592
= (50125)		= 2960



68000
- 50125
17875
- 2960
14915

Early Delivery

$100000



1. In some circumstances customer may come to bank before due date for delivery of FC [Buy or sell]

2. In such situation Bank may accept or reject customers request. Normally bank will accept the request

3. Once accepted Bank will Buy or sell FC at previously agreed rate on early date.

4. However Bank was not prepared for delivery on early date hence it will honor the contract with spot Buy or sell transaction

5. Profit or loss at early delivery date will be shared with customer

6. Also early delivery results into early cash outflow or inflow thus Bank will
   Recover Interest on cashoutflow or
   pay Interest on cashinflow
   for the remaining period of contract

7. Also Bank will enter into new forward contract for the remaining period to cancel the cover contract and the profit or loss in such transaction will be shared with the customer.

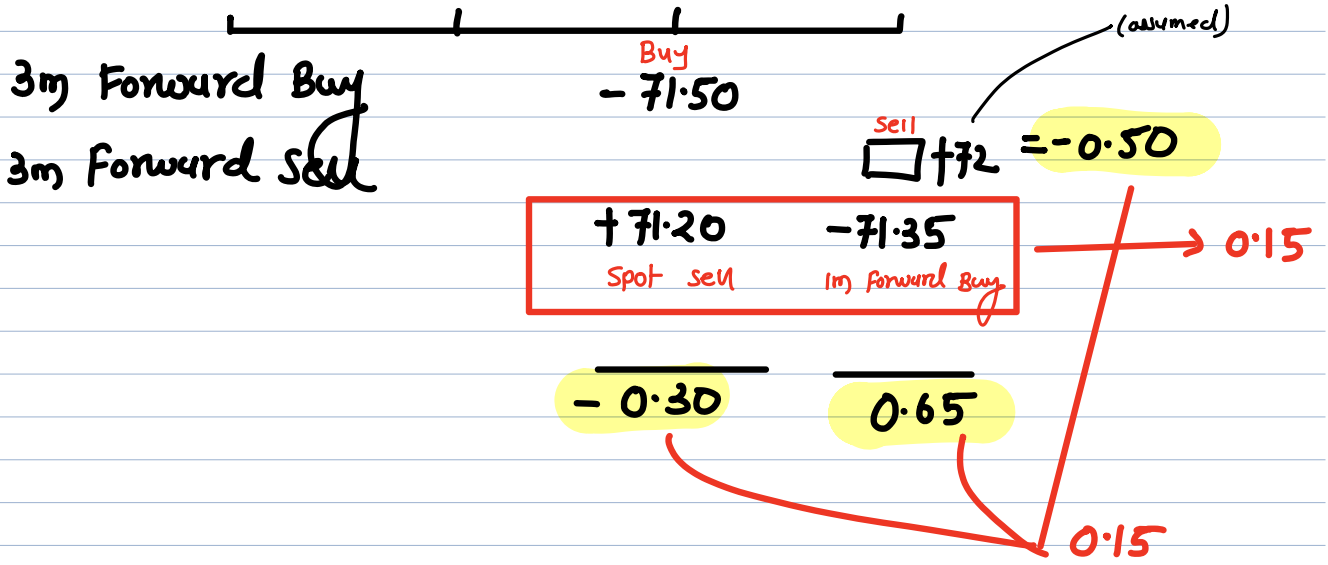
8. In total Bank will recover/pay following

a. profit on original contract 2
b. profit/Loss on early delivery 1
c. profit/Loss on cancellation of cover contract 2
d. Swap Loss/profit 5
e. Interest on outflow/Inflow at early date

9. Swap Loss/profit is calculated as the difference between two new contracts entered into to cancel two old contracts

10. According to FEDAI, swap Loss/profit will be recovered or paid to customer irrespective of the fact whether Bank has entered into swap transaction or not

Q99



a. Swap loss

Spot sell	+71.20
1m Forward Buy	-71.35
Swap loss	0.15
Contract value	100000
Swap loss	15000

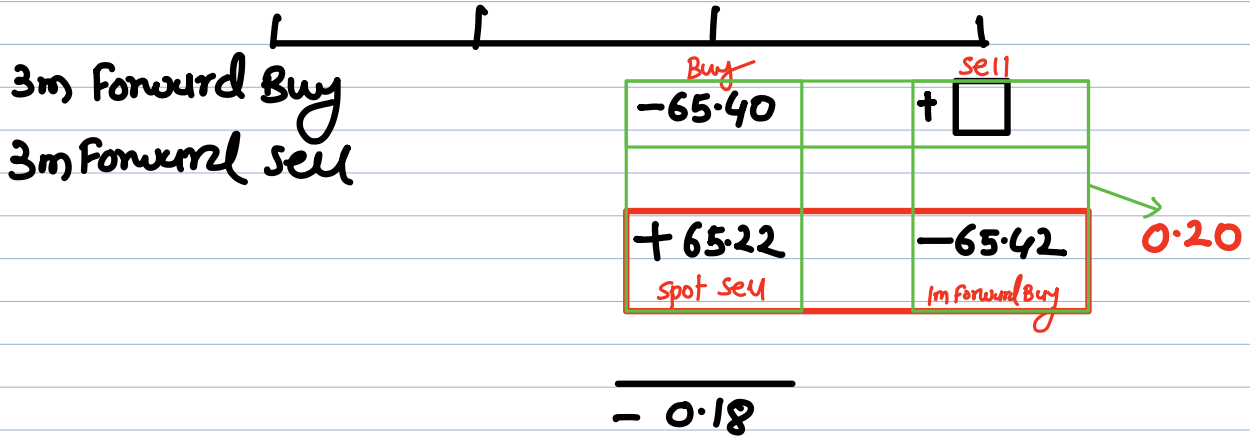
b. Interest on outlay of funds

Agreed Rate with customer	-71.50
spot sell	+71.20
	£ 0.30 /$
Contract value	200000
Total outflow	60000
Interest $60000 \times 15\% \times \frac{29}{365}$	715

c. Net Inflow of Funds to customer

Early Delivery $20000 x 71.50	14300000
(-) Swap loss	30000
(-) Interest on outflow of funds	715
	14269285

Q100



a. Swap loss

Spot sell	+65.22
1m Forward Buy	-65.42
	0.20
Contract value	100000
Swap loss	20000

b. Interest on outlay

Agreed Rate	- 65.40
spot sell	+ 65.22
	0.18
Contract value	100000

180000

Interest 180000 x 18% x 31/365 275

c. Net Inflow to Exporter

Dollars sold by customer 1000000 x 65.40	6540000
(-) swap loss	20000
(-) Interest on outlay of funds	275
	6519725

Q101

2m Forward Sell — Sell +46.67 — Buy -46.655 — -0.015

2m Forward Buy

Spot Buy -46.58 — 1m Forward Sell +46.3550 = -0.225

0.09 — -0.30

a. Swap Loss

Spot Buy	-46.58
Forward Sell	+46.3550
Swap loss	-0.2250
Contract value	$7000
Swap loss	1575

b. Interest on inflow of funds

Forward	Sell	+46.67
Spot	Buy	-46.58
		0.09
Contract value		7000
Inflow of Funds		₹ 630
Interest $630 \times 12\% \times \frac{1}{12}$		6.30

c. Net Recoverable from Customer

Sell $7000 x 46.67	326690
(+) Swap loss	1575
(+) Flat charges	100
(-) Interest	6.30
	328358.70

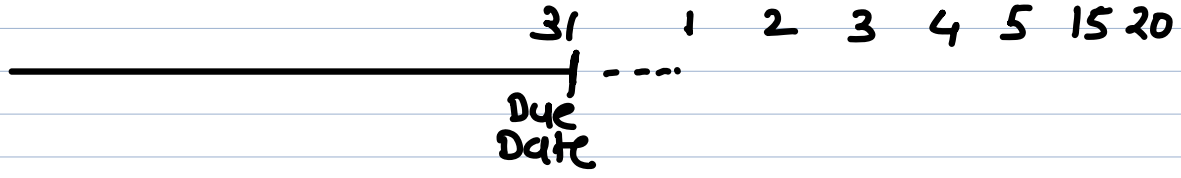
⑦ Late Delivery
⑧ Late cancellation
⑨ Late Extension

a. Bank will treat the customer as defaulter in all the case of Late transaction

b. this means that only Losses will be recovered but gains if any will not be shared with customer.

Cancellation Loss ✓	Cancellation Gain ✗
Swap Loss ✓	Swap Gain ✗
Interest on outlay ✓	Interest on Inflow ✗

c. In all the cases of Late transaction original contract will be cancelled at
1. spot rate when customer appeared
2. spot rate of 3rd day after due date whichever is earlier [Automatic cancellation]



Cancellation Rate 1 2 3 3 3 3 3

these cancellation charges will be recovered from customer. Gain if any will not be shared.

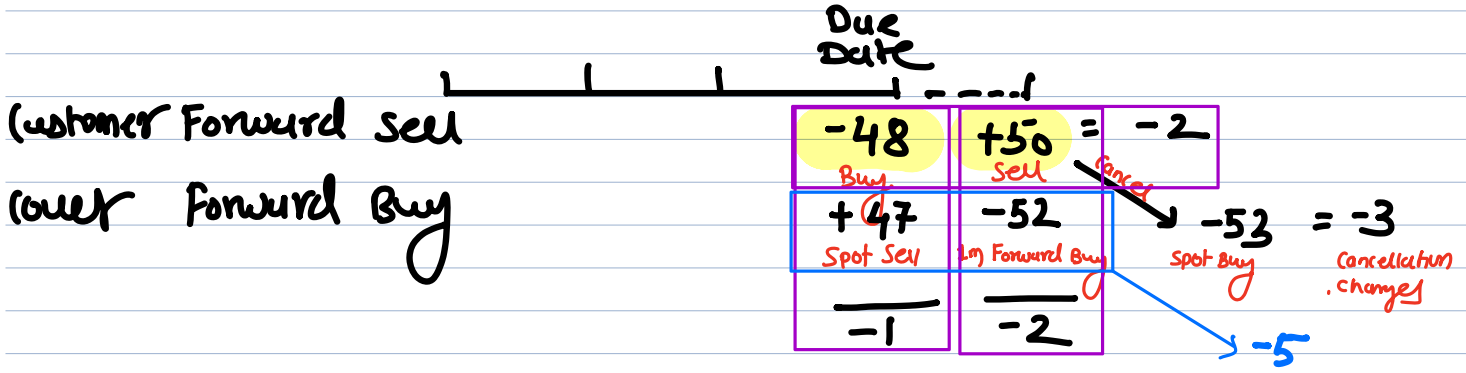
d. Apart from cancellation charges bank will also recover

i] swap loss

ii] Interest on outlay of funds

e. On due date Bank will cancel the cover contract by entering into spot transaction. This will result into cash inflow or outflow & Bank will recover interest on outflow from due date till the settlement by customer

f. Bank will also take cover for the closest forward contract expecting that customer might come for settlement



Early Delivery

a. Swap Loss / gain

b. Int. on outflow / inflow

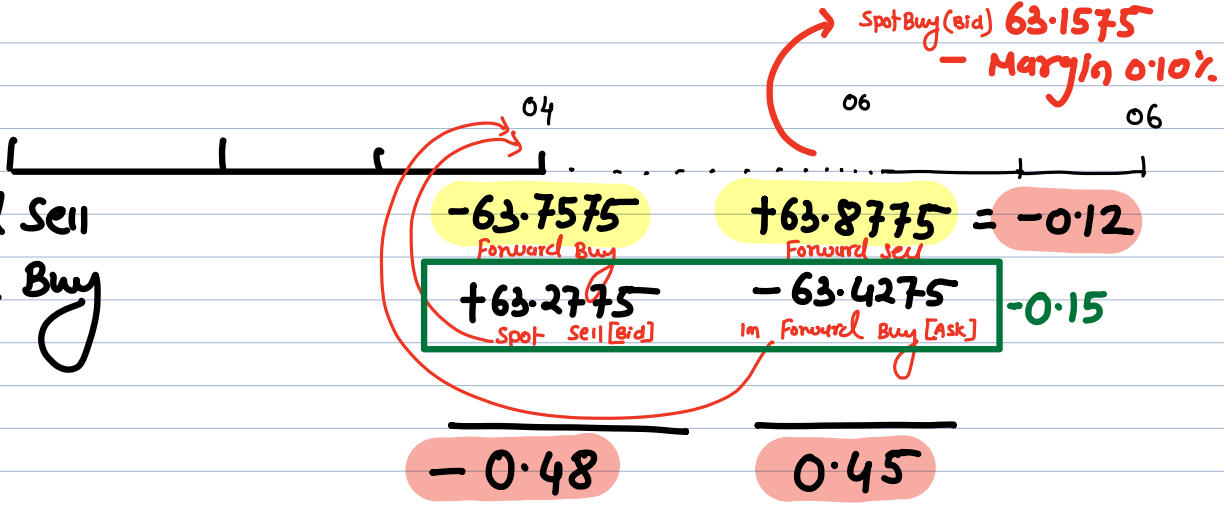
Late Delivery, Extension, Cancellation

a. Swap loss

b. Interest on on outflow

c. Cancellation Charges

Q104



a. Cancellation Rate

In order to cancel original Forward sell with customer Bank will enter int Spot buy on 6th April (Bid)

Spot Buy	63.1575
(-) Margin 0.10%	0.0632
	63.0943
Rounded off	63.0950

b. Cancellation Charges

Forward sell	+63.8775
Spot Buy	-63.0950
	0.7825
Contract value	$1000000
Payable by customer	78250

c. Swap Loss

Spot sell	+63.2775
1m Forward Buy	-63.4275
	0.1500
Contract value	100000
Swap Loss	15000

d. Interest on outlay of Fundy

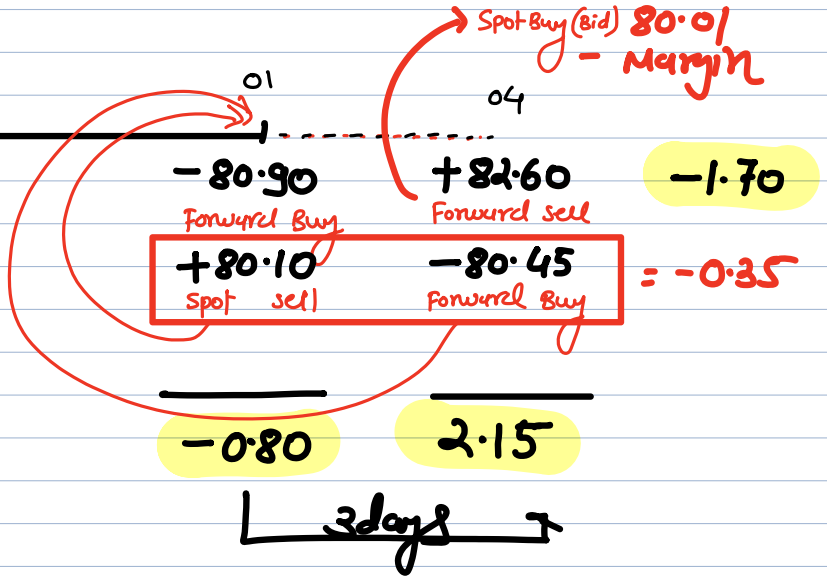
Forward Buy	-63.7575
spot sell	+63.2775
	0.48
Contract value	$100000
Outflow of fundy	48000
Interest $48000 \times 12\% \times \frac{2}{365}$	32

e. New Contract Rate (6th APRIL)

2m Forward sell	63.7275
(+) Margin @ 0.10%	0.0637
	63.7912
Rounded off	63.7900

f. Total cost = cancellation charges + swap loss + Interest
= 78250 + 15000 + 32
= 93282

Q 106



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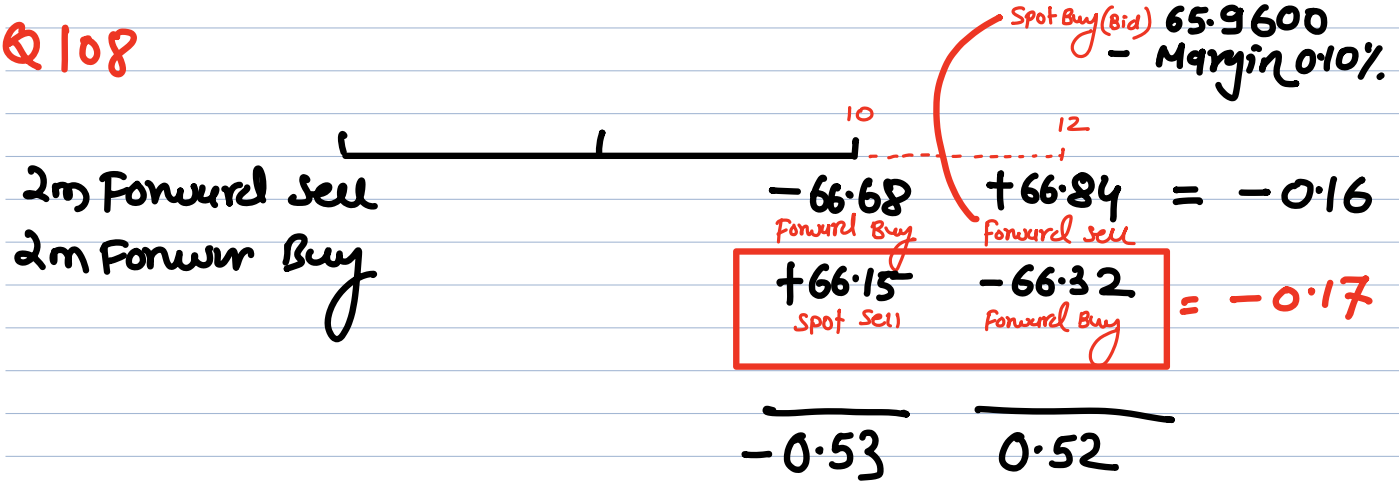


a. Cancellation charges

Forward sell		+66.84
Spot Buy	65.96	
(-) Margin 0.10%	0.0660	
	65.8940	
Rounded off		-65.8950
		0.945
Contract value		$ 50000
Cancellation Charges		47250

b. **Swap loss**

spot sell	+66.15
Forward Buy	−66.32
	−0.17
Contract value	$ 50000
Swap loss	**8500**

c. **Interest on outlay of funds**

Forward Buy	− 66.68
Spot sell	+66.15
	0.53
Contract value	$ 50000
	₹ 26500
Interest 26500 × 12% × 2/365	₹ 17

d. total cost = 47250 + 8500 + 17 = 55767

i] Cancel the contract = ₹ 55767

ii] Execute the contract

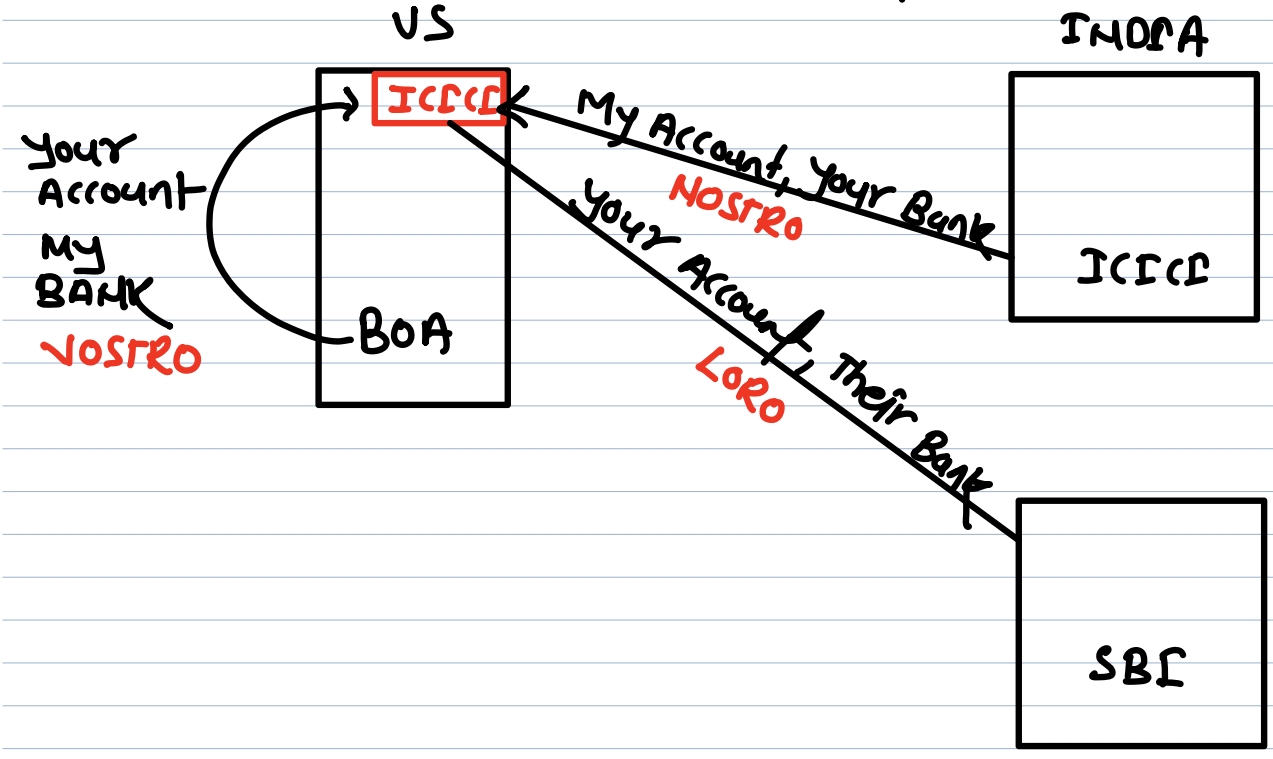
Cancellation charges		55767
Spot sell	65.9900	
(+) Margin 0.10%	0.0660	
	66.0560	
Rounded off	66.0550	
Contract value	50000	3302750

3358517

iii] Extend the contract

Cancellation charges		55767
2m Forward sell	66.4900	
(+) Margin 0.10%	0.0665	
	66.5565	
Rounded off		66.5575

Nostro , Vostro , Loro



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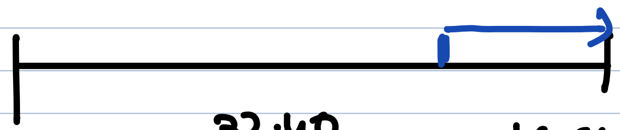


32.40
BANK - customer Forward Buy +CHF 100000
−INR 3240000

BANK - BANK Forward sell −CHF 100000
32.50 +INR 3250000

10000

$$ASK\left[\frac{₹}{CHF}\right] = Ask\left[\frac{₹}{\$}\right] \times Ask\left[\frac{\$}{CHF}\right]$$

$$= 49.9154 \times \frac{1}{Bid\left[\frac{CHF}{\$}\right]}$$

$$= \frac{49.9154}{1.5150}$$

Sell $= 32.9475$

Buy $= 32.4000$

Loss to customer 0.5475

100000

Loss 54750

₹/$	49.4302	49.4455
	.41	.42
COF	49.8402	49.8655
CIF Margin (0.10)	− .0498	+ 0.0499
	49.7904	49.9154

54750

Loss of profit

₹ 2000

[32.42 - 32.40] x 100000

Loss due to Cancellation of cover Contract

Sell 32.42

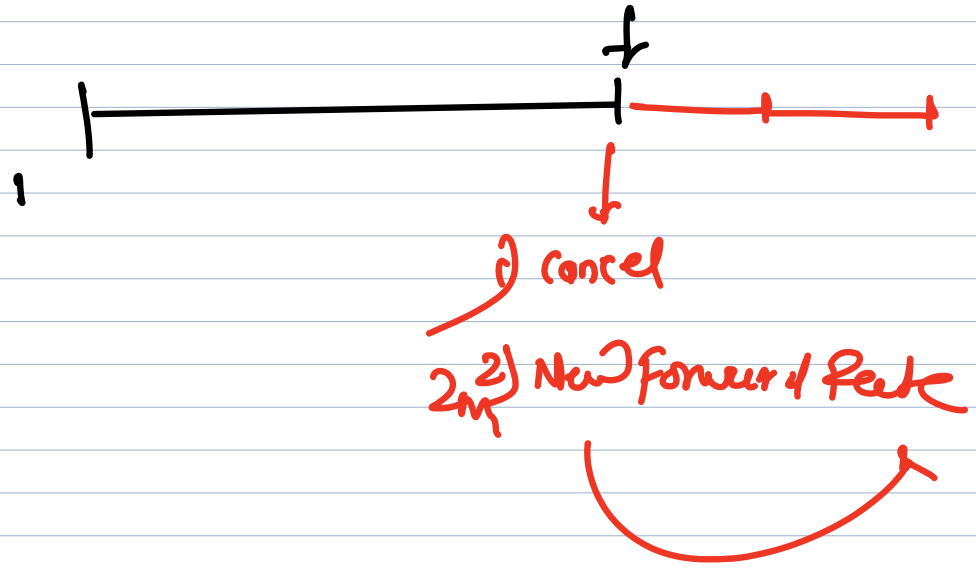
Buy 32.9475

0.5275

10 lacs

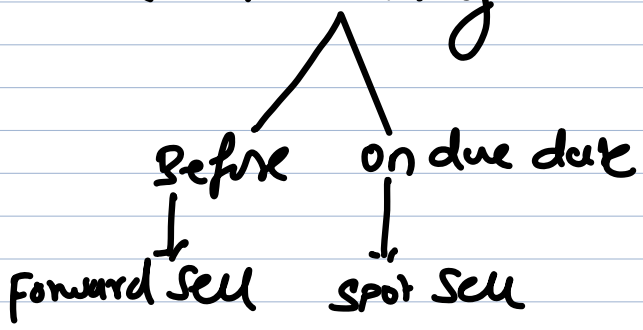
52750

Loss to BANK


1) Cancel
2) New Forward Peak

Exporter [Sell FC]

BANK – Forward Buy

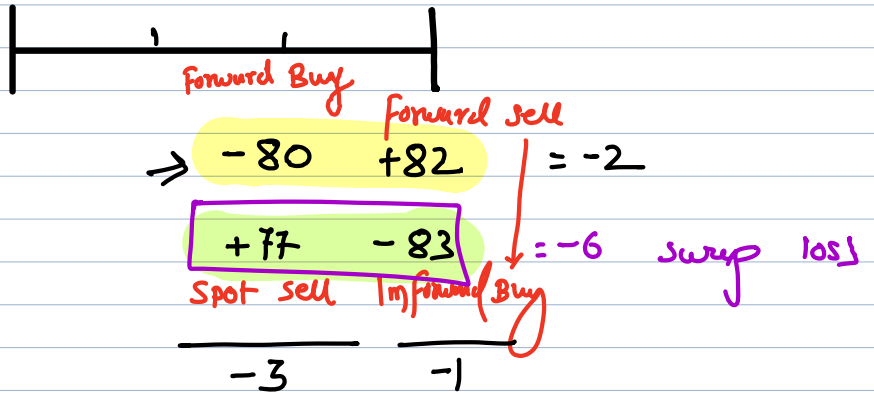


Early Delivery

$100000

3m Forward Buy

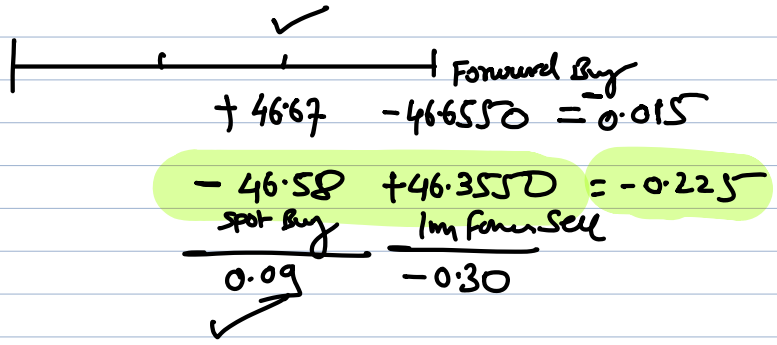
3m Forward Sell

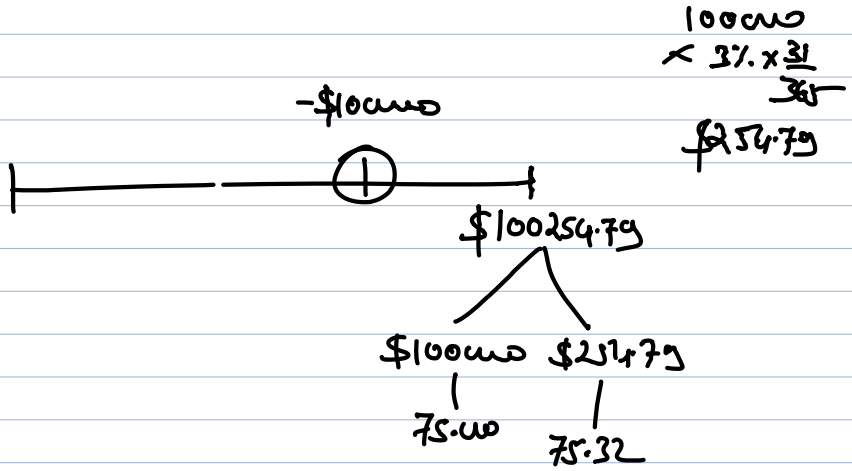


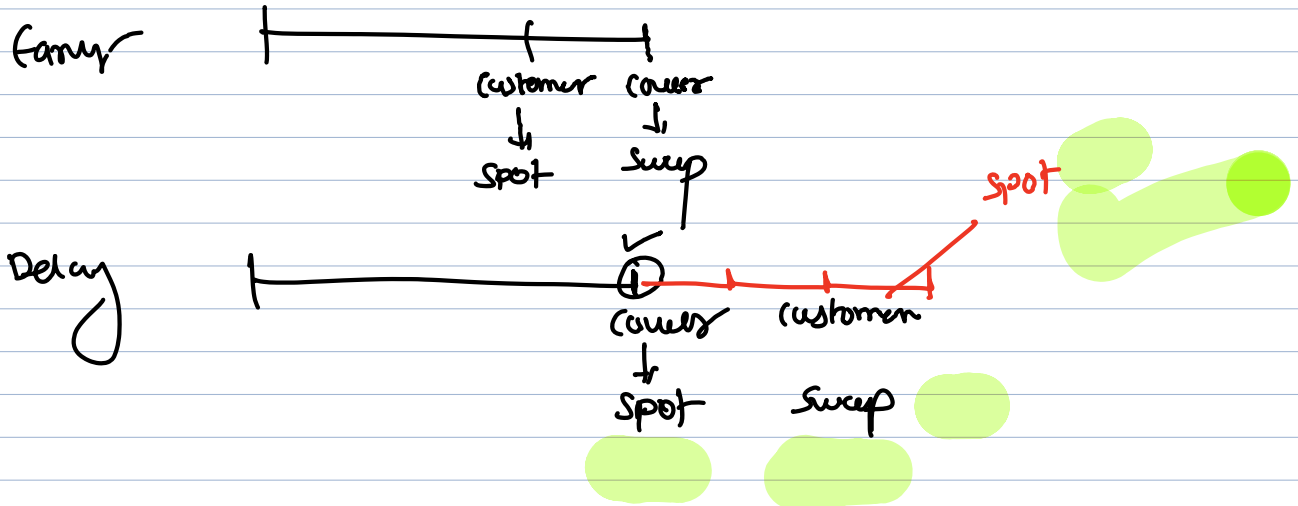
1. Interest on outflow / inflow = customer contracted Rate ✓
   New spot contract to ✓
   cancel above ☐

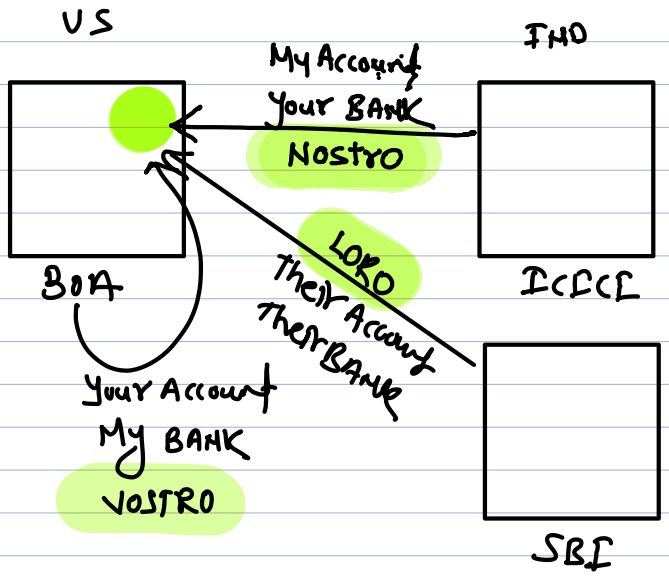
2) Swap loss / gain

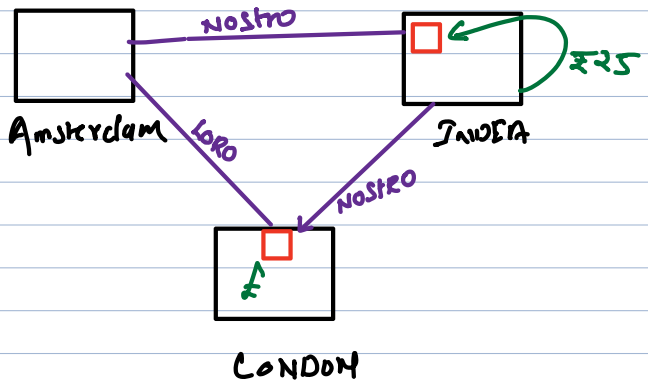
Q10


Forward Buy
+46.67
-46.6550
=0.015
-46.58
+46.3550
=-0.225
spot Buy
1m Forw Sell
0.09
-0.30


100000
× 3% × 31/365
$254.79
-$100000
$100254.79
$100000
$254.79
75.00
75.32


Fanny
customer
cover
spot
swap
Delay
spot
cover
customer
spot
swap





$$\text{Ask}\left[\frac{£}{₹}\right] = \text{Ask}\left[\frac{£}{\$}\right] \times \text{Ask}\left[\frac{\$}{₹}\right]$$

$$= \frac{1}{\text{Bid}\left[\frac{\$}{£}\right]} \times \frac{1}{\text{Bid}\left[\frac{₹}{\$}\right]}$$

$$= \frac{1}{1.5266} \times \frac{1}{61.3625}$$

$$£/₹ = 0.0107$$

25000000

£267500

F-B 20

Q112

NOSTRO A/C (in GBP)

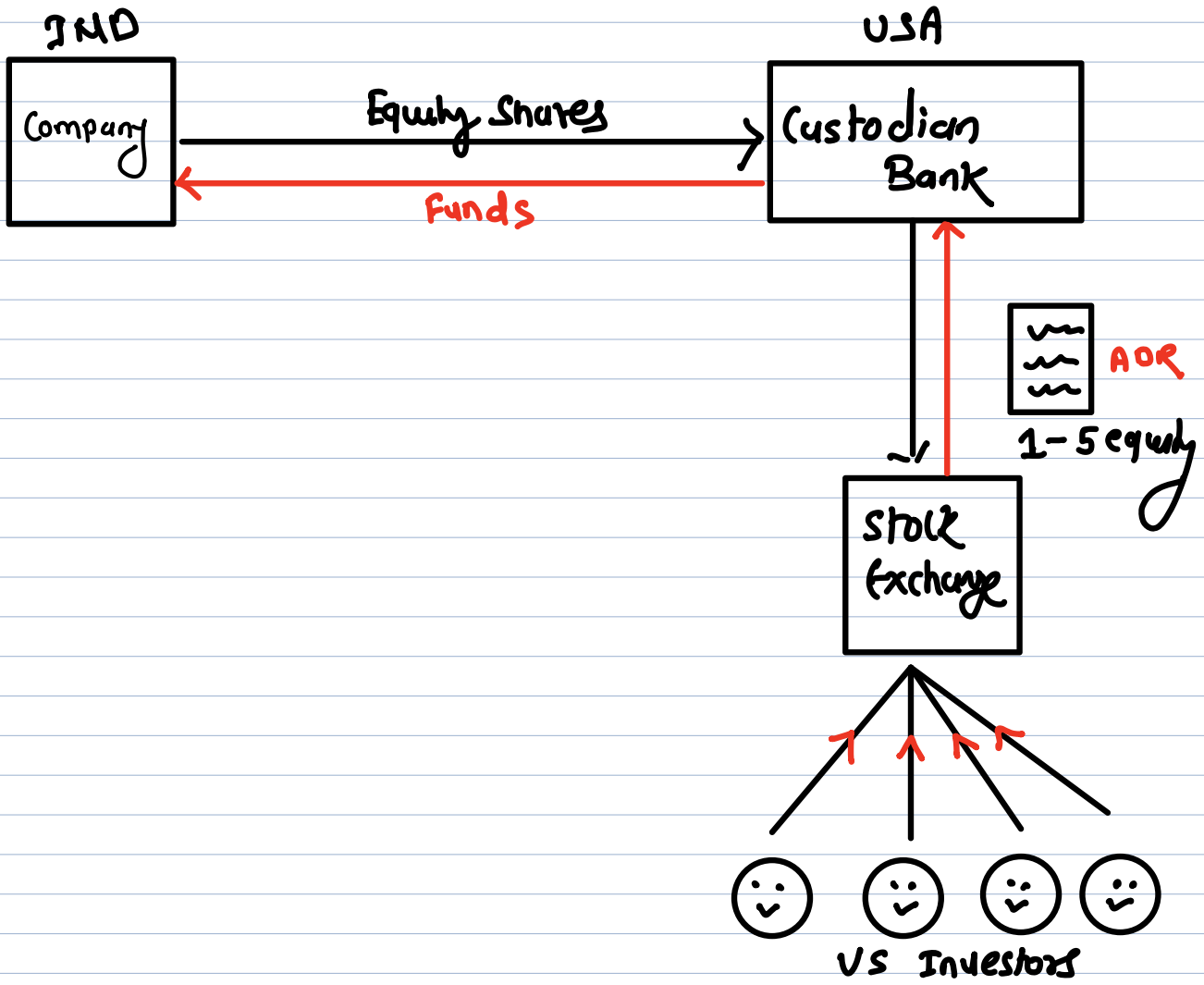
	Debit	Credit
opening		200000
remitted by TT	150000	
Spot Buy		15000
closing Balance	65000	
	215000	215000

50 → 65 ✓
OS 10 → 20
OB 5

Statement of position in GBP

	purchase	sell
opening overbought	100000	
purchased abill	160000	
Sold Forward TT		120000
Forward purchase cancelled		60000
Remitted by TT		150000
Draft on London cancelled	60000	
	320000	330000
Spot Buy	15000	
Forward sell		25000
	335000	355000
closing oversold	20000	

International Financial Management


IND
USA
Company
Equity Shares
Funds
Custodian Bank
ADR
1-5 equity
Stock Exchange
US Investors

Home currency Approach

IRPT
PPPT

yr	CF ($) FC	Exchange Rate	CF (₹) HC	PVF [HCOR]	PV [₹]

NPV [₹]

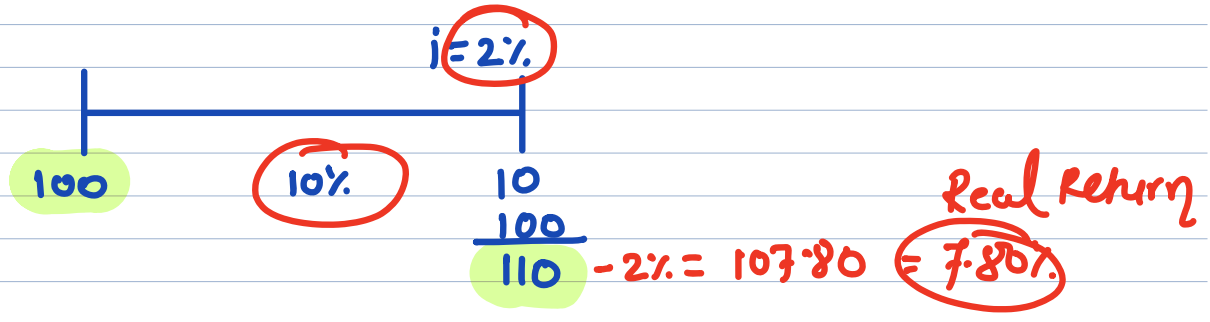
Foreign currency Approach

yr	CF ($)	PVF [FCOR]	PV [$]

NPV ($)

Spot Rate

NPV (₹)



100 → r Mouse

2% 102 → r Mouse

Real Return 0%

100 → 78 + 2 = RR + IR = HR X

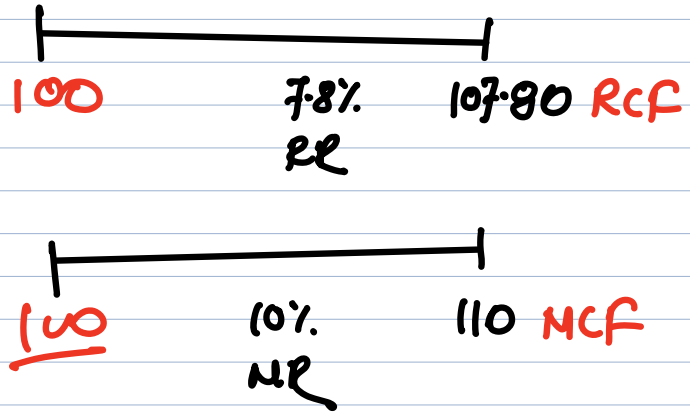
$[1+RR][1+IR] = [1+NR]$

$[1+0.078][1+0.02] = [1+NR]$

$1.10 = 1+NR$

$NR = 10\%$

Internation of Fisher Effect



1. Nominal CF should be discounted of Nominal Rate
2. Real CF — " — — Real Rate
3. Unless otherwise given all CF & Rates are assumed to be Nominal.

Discount Rate 14%

↓

Required Rate 14%

↓

→ Cost of capital 14%

↓

WACC 14%

$$[1+RR][1+CR] = [1+MR]$$

$$[1+R_f][1+\text{Risk premium}] = [1+MR]$$

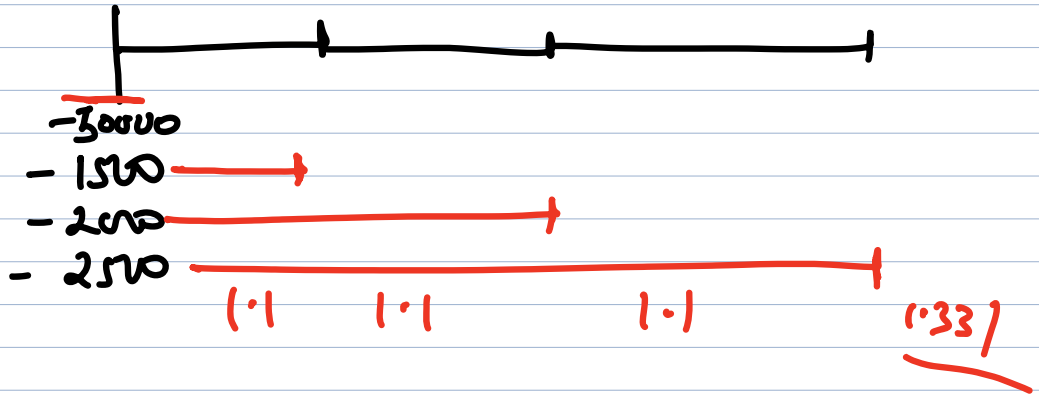
India $[1.12][1+\text{Risk premium}] = [1.14]$ HCOR

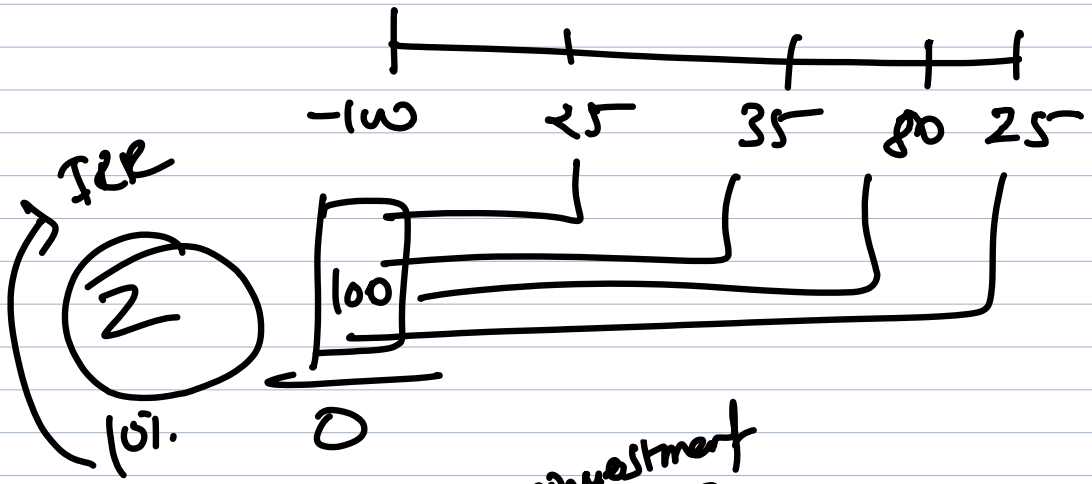
$$[1+\text{Risk premium}] = 1.0179$$

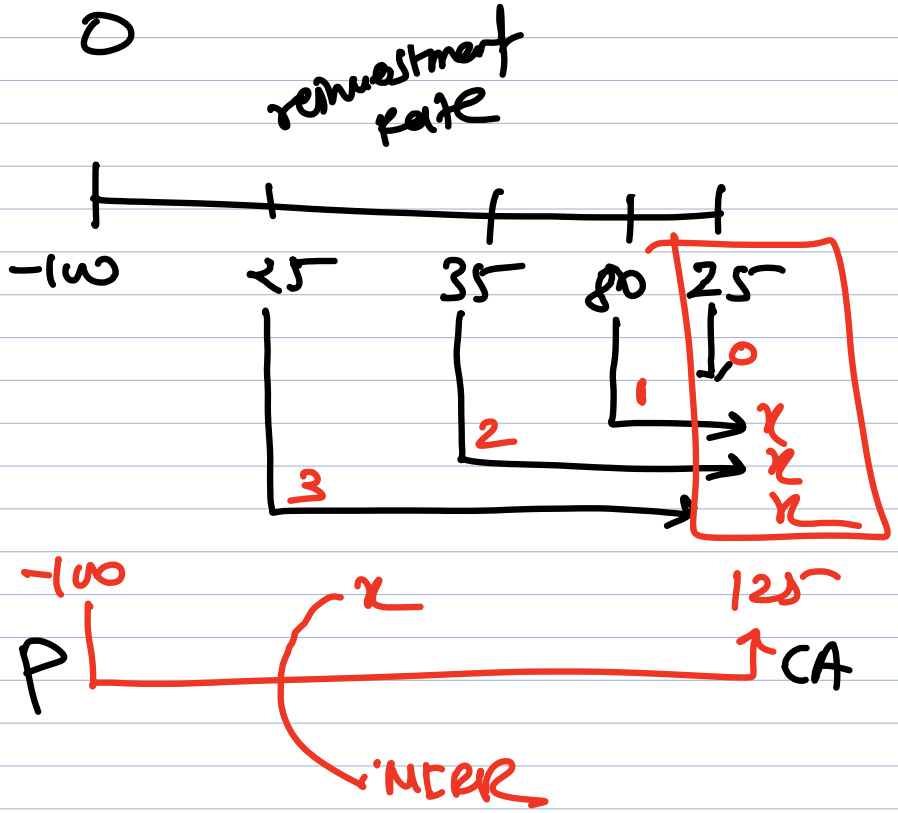
US $[1+R_f][1+\text{Risk premium}] = [1+MR]$

$$[1.08][1.0179] = 1.099$$

i.e. 9.90% FCOR


-30000
- 1500
- 2000
- 2500
1·1
1·1
1·1
1·33


-100
25
35
80
25
IRR
2
100
101.
0


reinvestment rate
-100
25
35
80
25
0
1
2
3
x
x
x

-100
x
125
P
CA
MIRR

$$CA = P[1+r]^{t}$$

MIRR

$$CA = P\,[1+r]^t$$

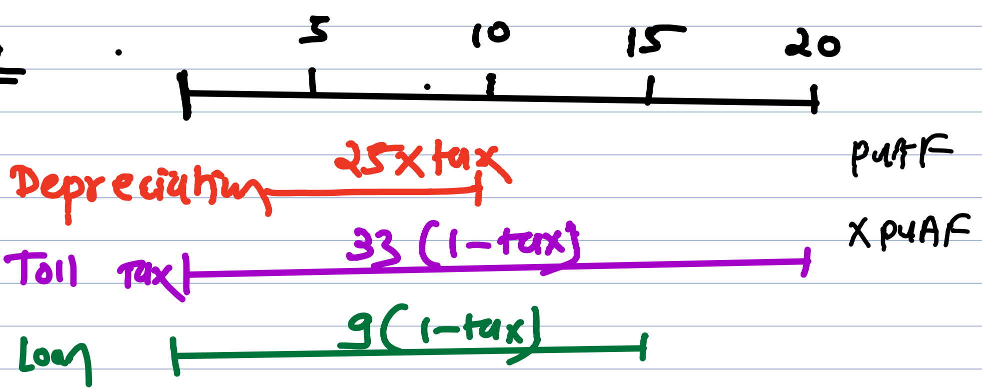
$$19.53 = 15625\,(1+r)^3$$

$$\left[\frac{19.53}{15.625}\right]^{1/3} = (1+r)$$

$$(1.25)^{1/3} = (1+r)$$

1.25
√ 12
− 1
÷ 3
+ 1
X = 12 times

Q12



Adjusted NPV = Base case NPV + Tax shield on Interest

→ Base case NPV + Impact of Loan

→ Equity Financing + Loan Financing

Q15

		Subsidiary	Export	Incremental		
0	P&M	−490	0	−490		
0	WC	−60	−25	−35		
1–5	SP	90	90			
	VC	30	50			
	Contn	60	40			
	Qty	5	1.5			112
		300	60	240		− 35%
	Fixed cost	30	0	30	(170.80)	72.80
	Depreciation	98	0	98		+ 98
5	WC	+60	+25	+35		(170.80)

0			−525
1–5	170.8	PVAF	PV
5	35	PVF	PV

+36 / 90 Forward —— +10 spot

10% Appreciation → Spot: 81 × 10 = 810 — Spot gain 810 — gain 36 = 126

Forward 90 × 10 = 900

10% Depreciation → Spot 99 × 10 = 990 gain — Loss 90 — 36 = 54

Geared & Ungeared Beta

Risk

$$\beta g = \beta u \left[1 + D/E\,(1-tax)\right]$$

① Bassets
Bungeared
Bunlevered

1 − 0.40 | Equity | 5 —— 2 (0.60)

② Bequity
Bgeared
Blevered

1 − 0 | Equity | 3 —— 0 (1)
Debt | 2 —— 2

$$\beta g > \beta u$$

The risk of the company having debt in capital will be more than risk of the company having no debt in capital (only equity)

Ungeared company $\beta_{Asset} = \beta_{Equity}$

Geared company $\beta_{Asset} = \beta_{Equity} \times W_{Equity} + \beta_{Debt} \times W_{Debt}$

$$\beta_A = \beta_E \times W_E + \beta_d \times W_d$$

$$= \beta_E \times \frac{E}{E+D(1-tax)} + \beta_d \times \frac{D}{E+D(1-tax)}$$

Generally β_{Debt} is assumed to be risk free $\beta_D = 0$

$$\beta_A = \beta_E \left[\frac{E}{E+D(1-tax)}\right]$$

$$\beta_E = \frac{\beta_A}{\left[\frac{E}{E+D(1-t)}\right]}$$

$$= \beta_A \times \frac{1}{\frac{E}{E+D(1-tax)}}$$

$$= \beta_A \times \frac{E+D(1-tax)}{E}$$

$$= \beta_A \left[\frac{E}{E} + \frac{D(1-tax)}{E}\right]$$

$$\beta_E = \beta_A \left[1 + D/E(1-tax)\right]$$

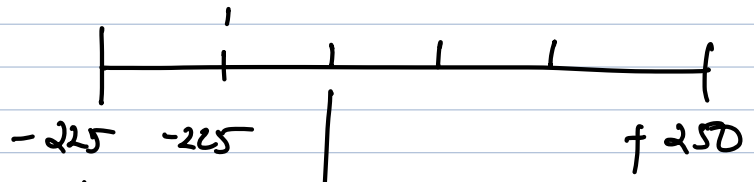
$$\beta_g = \beta_U \left[1 + D/E(1-tax)\right]$$

$$\beta_L = \beta_U \left[1 + D/E(1-tax)\right]$$

$\frac{12+3}{3} = 5$

$\frac{12}{3} + \frac{3}{3}$

$4+1 = 5$



WC

-65

68.25 71.66

-3.25 = 3.41

220 ×1.05 ×1.05 ✓

30

25

65

5

WACC = Ke × We + Kd(1-tax) Wd

✓ ✓ ✓ ✓

= 13.41 × 0.55 + 9(1-0.20) × 0.45

CAPM: Rf + βE (Rm - Rf)

= 8 + 1.83 (11-8)

= 13.49%.

βE =

	INDFA	HEPAL	Competitors
βE	0.45	?	1.35
D/E		45/55	510/1850

$$\beta_E = \beta_U \left[1 + D/E(1-tax)\right]$$

$$1.35 = \beta_U \left[1 + \frac{510}{1850}(1-0.20)\right]$$

$$1.35 = \beta_U \times 1.2205$$

$$\beta_U = 1.106$$

$$\beta_E = \beta_U \left[1 + D/E(1-tax)\right]$$

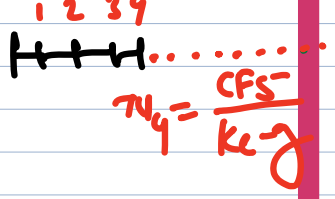
$$= 1.1061 \left[1 + 45/50(1-0.20)\right]$$

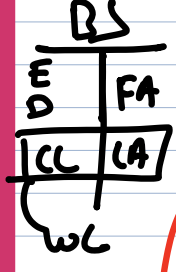
$$\beta_E = 1.83$$

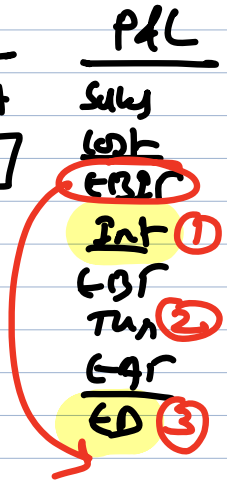
CORPORATE VALUATION

To do list

1. PE Ratio
2. Dividend Growth Model
3. Book Value
4. Net Realizable Value
5. Market Value
6. Discounted Cash Flow Method
7. Earnings Capitalisation Method
8. Net Asset Value
9. Chop Shop Approach
10. Free Cash Flow Approach
    - A. Value of Firm - FCFF - Ko
    - B. Value of Equity - FCFE - Ke
11. Enterprise Value
12. Economic Value Added







$\frac{EBIT}{D+P+E}$ $\frac{EBIT(1-tax)}{D+E}$

Sales
− Cost
EBIT | Ko (1−tax)
Debt − Int
EBT
− Tax
EAT | Ko = Value$_{PE}$
Pref → − PD
EAT$_E$ | Ke = Value$_E$
Equity − ED

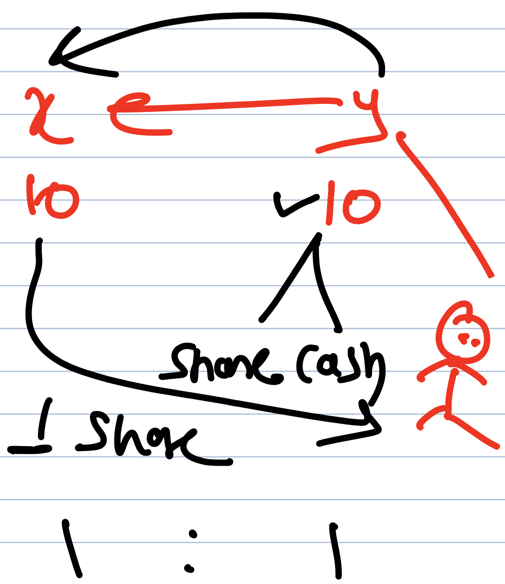
✓ Value$_{D,E,P}$

EBIT(1−tax)
+ Dep P&L
− Δ Capex BS
− Δ WC BS
FCFF
− Interest

PAT$_{EP}$

x	y
10	5
0.5	1

[Target Acquirer]



x	y
20	5

	MP	No.	MV
Market	75	12.5	937.5
NW+PAT	112.01	12.5	1400.12
	37.01		462.62

0.25 → 1

[5 Target
50 Acan]

$$MP = \frac{D(1+g)}{k_e - g}$$

$$75 = \frac{10(1.15)}{k_e - 0.15}$$

$$k_e = 30.33\%$$

$$MP = \frac{D(1+g)}{k_e - g}$$

$$= \frac{10(1.18)}{0.3033 - 0.18}$$

$$= 95.70$$

Premium = 95.70 − 75 = 20.70 (27.60%)

Q13

$$\frac{\text{capitalization}}{\text{sales}} = 0.75$$

$$\frac{\text{sales}}{\text{capitalization}} = 1.18$$

Q15

$$MU = \frac{FCF1}{ko - g}$$

$$500 = \frac{20}{ko - 0.05}$$

$ko = g\%$

↓

WACC $g\% = ke \times we + kd \times wd$

$g = 12 \times we + 6(1 - we)$

$g = 12we + 6 - 6ke$

$3 = 6we$

Surplus $we = 0.50$

$wd = 0.50$

$MVe = BVe = 3 \times 0.50 = 1.50$ 75%

$MVD = BVD = 1 \times 0.50 = \frac{0.50}{2.00}$ 25%

WACC $ko = ke \times we + kd \times wd$

$= 12\% \times 0.75 + 6\% \times 0.25$

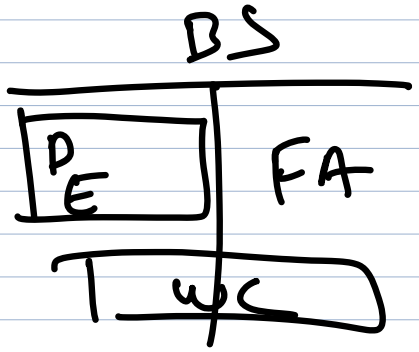
$= 9 + 1.5\%$

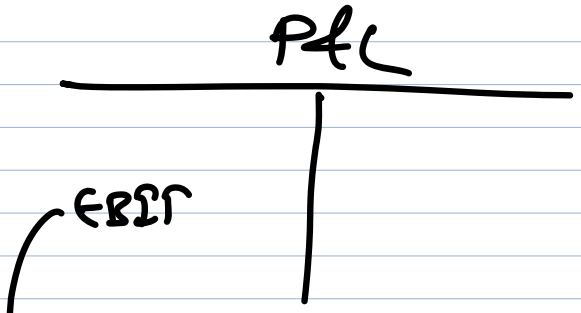
$= 10.58\%$

$$M_4 = \frac{ECF_1}{k_0 - g}$$

$$= \frac{20}{0.105 - 0.05}$$

$$M_4 = 363.64 \text{ lakhs}$$





EBIT(1-tax) 100

+ Dep 10

- CAPEX 15

- ΔWC 15

-5×1.15