PORTFOLIO CLASS 16

HOME WORK SUPPORT

COVERAGE

Question			Answer			Lecture Time
Q. No	Page no.	Book	Q. No	Page no.	Book	
28	41	HW Q BOOK	28	109	HW ANS BOOK	00:00:31 - 00:26:53
EXTRA Q	-	-	EXTRA Q	-	-	00:26:54 - 00:28:40

PART VI: PORTFOLIO REBALANCING

Topic 23 PORTFOLIO REBALANCING

Question 28: SSEI HW Book Page No. 41

Ms. Sunidhi is working with an MNC at Mumbai. She is well versant with the portfolio management techniques and wants to test one of the techniques on an equity fund she has constructed and compare the gains and losses from the technique with those from a passive buy and hold strategy. The fund consists of equities only and the ending NAVs of the fund he constructed for the last 10 months are given below:

Month Ending	NAV (₹/unit)	Month Ending	NAV (₹/unit)
December 2008	40.00	May 2009	37.00
January 2009	25.00	June 2009	42.00
February 2009	36.00	July 2009	43.00
March 2009	32.00	August 2009	50.00
April 2009	38.00	September 2009	52.00

Assume Sunidhi had invested a notional amount of ₹ 2 lakhs equally in the equity fund and a conservative portfolio (of bonds) in the beginning of December 2008 and the total portfolio was being rebalanced each time the NAV of the fund increased or decreased by 15%. You are required to determine the value of the portfolio for each level of NAV following the Constant Ratio Plan.

(Source: ICAI)

ANSWER:

Constant Ratio Plan:

Stock Portfolio NAV (₹)	Value of Conservative Portfolio (₹)	Value of aggressive Portfolio (₹)	Total value of Constant Ratio Plan (₹)	Revaluation Action	Total No. of units in aggressive portfolio
40.00	1,00,000	1,00,000	2,00,000	-	2500
25.00	1,00,000	62,500	1,62,500	-	2500
	81,250	81,250	1,62,500	Buy 750 units	3250
36.00	81,250	1,17,000	1,98,250	-	3250
	99,125	99,125	1,98,250	Sell 496.53 units	2753.47
32.00	99,125	88,111.04	1,87,236.04	-	2753.47
38.00	99,125	1,04,631.86	2,03,756.86	-	2753.47
	1,01,878.43	1,01,878.43	2,03,756.86	Sell 72.46 units	2681.01
37.00	1,01,878.50	99,197.37	2,01,075.87	-	2681.01
42.00	1,01,878.50	1,12,602.42	2,14,480.92	-	2681.01
43.00	1,01,878.50	1,15,283.43	2,17,161.93	-	2681.01
50.00	1,01,878.50	1,34,050.50	2,35,929	-	2681.01
	1,17,964.50	1,17,964.50	2,35,929	Sell 321.72 units	2359.29
52.00	1,17,964.50	1,22,683.08	2,40,647.58	-	2359.29

Hence, the ending value of the mechanical strategy is ₹ 2,40,647.58 and buy & hold strategy is ₹ 2,60,000.

PART VI: PORTFOLIO REBALANCING

EXTRA QUESTION

Topic 23 PORTFOLIO REBALANCING

Question:

Ramesh has a fund of ₹ 5 lacs which he wants to invest in share market with rebalancing target after every 3months to start with for a period of 9 months from now. The present NIFTY is 17600. He doesn't want to risk more than 15% drawdown on his funds. He wants to know as to how he should rebalance his portfolio under the following situations, according to the theory of Constant Proportion Portfolio Insurance Policy, using "1.4" as the multiplier:

1. Immediately to start with.
2. 3 months later-being the 1st day of rebalancing if NIFTY falls to 15840.
3. 3 months further from the above date if the NIFTY touches 19008.

For the sake of simplicity, assume that the value of his equity component will change in tandem with that of the NIFTY and the risk free securities has a return of 8% pa compounded quarterly

(Source: FOD)

ANSWER:

So floor value = 5,00,000 × 85% = 4,25,000

i. Immediately to start with

Investment in equity = Multiplier x (Portfolio value – Floor value)
= 1.4 (5,00,000 – 4,25,000)
= ₹1,05,000

Ramesh may invest ₹ 1,05,000 in equity and balance of 3,95,000 in risk free securities.

ii. After 3 months

Value of equity = 1,05,000 × (15840/17600) = 94,500

Value of risk free investment = 3,95,000(1.02) = 4,02,900

Total value = 4,97,400

F = 4,25,000(1.02) = 4,33,500

Equity = m(A-F) = 1.4(4,97,400-4,33,500) = 89460

So revised portfolio

Equity : 89,460

Risk free investment: 4,07,940

An amount of 5040 should be transferred from equity to risk free investment

iii. After another 3 months

Value of equity = 89460 × (19008/15840) = 1,07,352

Value of risk free investment = 4,07,940 × 1.02 = 4,16,099

Total value = 5,23,451

F= 4,33,500 × 1.02 = 4,42,170

Therefore Equity = 1.4(5,23,451 – 4,42,170) = 1,13,794

So revised portfolio:

Equity – 1,13,794

Risk free investment – 4,09,657

An amount of 6,442 should be transferred from risk free investments to equity