Problems on portfolio revision

1. An investor has SAR 2,000,000 of surplus, which she wants to invest using the constant dollar value plan. She decided that the value of the aggressive portfolio should be SAR 1,000,000 and that the remaining SAR 1,000,000 should be invested in a conservative portfolio comprising bonds. She purchases 50,000 shares of a company currently trading at SAR 20 for the aggressive portfolio. She wants to rebalance the portfolio each time the value of the aggressive portfolio moves up or down by 20%. Rebalancing will be done in such a way that the amount invested in the aggressive portfolio becomes equal to SAR 1,000,000 after each rebalancing. Stock price changes during the period of study are SAR 22, SAR 24, SAR 23, SAR 20, SAR 19.20. Compare the value of buy-and-hold portfolio with constant dollar plan.

2. Use the data in problem 1 to illustrate how the constant ratio plan works.

3. Show how the variable ratio plan works for the data in problem 1. Let us assume, that the investor decided that the current stock price of SAR 20 is the median value for the stock price. So she wants to invest equally in the aggressive and conservative portfolios, SAR 1,000,000 each. If the stock prices increase by 20%, she wants to reduce the proportion of aggressive portfolio to 30% of the total portfolio and to 70% of the total portfolio if the stock price falls by 20%. Show how the plan works out.

4. You invest SAR 10,000 every year for the past five years. Price of the stock on the days of investment in each of the five years was SAR 50, SAR 45, SAR 40, SAR 50 and SAR 45. Show how the dollar cost averaging works out.