

# Investment and equity cost

[Finance](#), [Investment](#)



2. Suppose the market portfolio has an expected return of 10% and a volatility of 20%, while Microsoft's stock has a volatility of 30%.

- A. Given its higher volatility, should we expect Microsoft to have an equity cost of capital that is higher than 10%?

No, Microsoft is diversifiable and it will not be affected by the changes in the market. We do not expect Microsoft's equity cost of capital to be higher than 10%. Each stock carries its own weight.

- B. What would have to be true for Microsoft's equity cost of capital to be equal to 10%?

In order for Microsoft's equity cost of capital to be 10% its beta will have to be 1. 4. Suppose all possible investment opportunities in the world are limited to the five stocks listed in the table below.

- What does the market portfolio consist of (what are the portfolio weights)?

Stock	Price/Share (\$)	Number of Shares Outstanding (millions)
A	10	10
B	20	12
C	8	3
D	50	1
E	45	20

- Total value of the market =  $10 \times 10 + 20 \times 12 + 8 \times 3 + 50 \times 1 + 45 \times 20 = \$1.314$  billion
- Stock Portfolio Weight A  $10 \times 10 = 100$   $100 / 1314 = 0.0761 \times 100 = 7.61\%$
- B  $20 \times 12 = 240$   $240 / 1314 = 0.1826 \times 100 = 18.26\%$
- C  $8 \times 3 = 24$   $24 / 1314 = 0.0183 \times 100 = 1.83\%$
- D  $50 \times 1 = 50$   $50 / 1314 = 0.0381 \times 100 = 3.81\%$

- $E_{45 \times 20} = 900\,900 / 1314 = 0.6859 \times 100 = 68.49\%$
- Total = 100% 5.

Using the data in Problem 4, suppose you are holding a market portfolio, and have invested \$12,000 in Stock C.

A. How much have you invested in Stock A?  $12,000 \times (10 \times 10) / (8 \times 3) = \$50,000$