

CFA® SAMPLE QUESTION – LEVEL I

Equity Investments

Q: An analyst gathered the following information about an industry.

Industry Beta	0.9
Industry Profit Margin	8%
Total Asset Turnover Ratio	1.5
Leverage Multiplier	2
Dividend Payout Ratio of the industry	60%
Risk Free Rate	7%
Expected Market Return	15%

The industry P/E is around:

CORRECT ANSWER:

(d) 13.04

First, remember under CAPM setting
 $k = \text{risk free rate return} + \text{beta} \times (\text{Expected Market Return} - \text{Risk Free rate return})$
 so $k = 7\% + 0.9 (15\% - 7\%) = 14.2\%$

Then by using the DuPont equation:
 $\text{ROE} = \text{Profit Margin} \times \text{Asset Turnover} \times \text{Leverage Multiplier}$
 so $\text{ROE} = 8\% \times 1.5 \times 2 = 24\%$

$$g = \text{retention ratio} \times \text{ROE} = 0.40 \times 24\% = 9.6\%$$

$$\begin{aligned} \text{Finally P/E ratio} &= \text{Payout Ratio} / (k - g) \\ &= 0.6 / (14.2\% - 9.6\%) \\ &= 13.04 \end{aligned}$$



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