

Intro to Markup

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Expanding Basic Profit Equation Into A Key Performance Ratio: Markup

Basic Profit Equation--Identity

- $PQ - VQ - F = Z$

Or

- $(P - V)Q - F = Z$

– Where P = Price per Unit, Q = quantity of units sold, V = Variable Cost per Unit, F = Total Fixed Costs, Z = Profits

Expand Variable Cost Into Markup Topics

- $PQ - VQ - F = Z$

Or

- $(P - V)Q - F = Z$

– Where P = Price per Unit, Q = quantity of units sold, V = Variable Cost per Unit, F = Total Fixed Costs, Z = Profits

Expand Variable Cost Into Markup Topics

- $PQ - VQ = Z + F$

Or

- $(P - V)Q = Z + F$

– Where Z + F is called the Total Contribution
– And Contribution means the contribution to Fixed Costs and Profits

Expand Variable Cost Into Markup Topics

- $PQ - VQ = Z + F$

Or

- $(P - V)Q = Z + F$

- $(P - V) = (Z + F) / Q$

- $(P - V) = \text{Unit Margin or Dollar Markup}$

- Markup on Price = $(P - V) / P$

- Markup on Cost = $(P - V) / V$

The Difference Between Price & Cost

Price
- Variable Cost

**Dollar Markup or
Contribution per Unit**

P
-V
M

Dollar Markup Problem

- A boy buys a wagon for $V = \$20$ and sells it for $P = \$50$. What is his dollar markup or unit contribution (M) to Fixed costs and Profits?

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- $P - V = M$
- $\$50 - \$20 = M$
- $M = \$30$

Markup is most commonly discussed and talked about in terms of percentage.

I am charging 20% markup.

The markup on these shoes is 50%.



Markup Is discussed as

Markup on Cost
and

Markup on Price

Markup is a percent of the selling price

It is **NOT** a percent of the cost unless otherwise stated.

Example

- A boy buys an apple for 60 cents and sells it for a dollar.
- What is his markup (in money)?
- Answer: $M = 40$ cents
- What is his markup (percent)?
- Answer: $M_p = 40/100 = 40\%$
- What is his markup on cost?
- Answer: $M_v = 40/60 = 66.67\%$

Sample Markup Problems

1 Markup Problem

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- $P - V = M$
- $\$5 - \$2 = M$
- $\$3 = M = \text{Unit Contribution}$

2 Markup Problem

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- $(P - V) / P = M_p$
- $(\$5 - \$2) / \$5 = M_p$
- $\$3/\$5 = 0.6 = 60\% = M_p$

3 Discount Off List

- A store pays an apple distributor $V = \$2$ per dollars per apple and sells it the suggested list price $P = \$5$. What is the store's Discount Off List or Markup (M_p)?

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4 Markup on Cost

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4 Markup on Cost

- An boy buys an apple for $V = \$2$ and sells it for $P = \$5$. What is the Markup on Cost (M_v)?
- $(P - V) / V = M_v$
- $(5 - 2) / 2 = M_v$
- $3/2 = 1.50 = 150\% = M_v$
- **Markup on cost = $M_v = 150\%$**

5 How to Choose a Price

Markup on Price given Cost

- An boy buys an apple for $V = \$2$ and wants to sell it with a markup on price of 60% (i.e., $M_p = 60\%$). What is the selling price of the apple?

5 How to Choose a Price

Markup on Price given Cost

- An boy buys an apple for $V = \$2$ and wants to sell it with a markup on price of 60% (i.e., $M_p = 60\%$). What is the selling price of the apple?
- $(P - V) / P = M_p$
- $(P - 2) / P = 0.6$
- $P - 2 = 0.6P$
- $P - 0.6P = 2$
- **$P = 2/.4 = 5$ or the price per apple = \$5**

Why is Markup on Price Important?

You will need it to solve business cases.

8 good reasons

8 Uses of Markup Formula

- 1 The calculation of Breakeven Revenue, R^*
- 2 Setting Target Markup when retailers negotiate with manufacturers regarding the necessary discount off list
- 3 Setting a price using Markup pricing
- 4 Estimating the change in quantity needed to maintain the current total contribution given a change in price.

8 Uses of Markup Formula

- 5 Determining the optimal stocking rule (V/P is often used here as it is more convenient to write)
- 6 Calculating the Breakeven or Lowest Possible Discount Price (markup on cost is more convenient here)
- 7 Channel Efficiency (V/P is more convenient to write)
- 8 Store Markdowns and Add-Ons (V/P is more convenient to write)

How To Convert from Markup on Price to Markup on Cost

Why is The "Markup to Markup On Cost" Conversion Important?

1. Because Case Writers are Nasty People
2. It will be on the exam

The Formal Conversion Formula

Conversion Formula

$$\frac{1}{\text{Markup on price}} - \frac{1}{\text{Markup on cost}} = 1$$

or

$$\frac{1}{M_p} - \frac{1}{M_v} = 1$$

Conversion Formula

$$\frac{1}{M_p} - \frac{1}{M_v} = 1$$

or

$$\frac{1}{P-V} - \frac{1}{P-V} = 1$$

Old Accountant's Rule of Thumb

"Think of your markup on cost as a fraction"

$$25\% = 25/100$$

Old Accountant's Rule of Thumb

- "Think of your markup on cost as a fraction"
 - $25\% = 25/100$
 - "Add top part to the bottom part"
- $$\frac{25}{25+100} = \frac{25}{125} = 0.20$$

$$25\% \text{ markup on cost} = 20\% \text{ markup on price}$$

Example: Old Accountant's Rule

- The Markup on Cost (Mv) is 150%. What is the Markup on Price (Mp)?

Example: Old Accountant's Rule

- The Markup on Cost (M_v) is 150%. What is the Markup on Price (M_p)?
- **Add the top part to the bottom part and solve the ratio.**
- $M_v =$ ratio of 150/100
- **Apply Rule = 150/(100+150)**
- $M_p = 150/250 = 0.6 = 60\%$

Another Way to Get The Old Accountant's Rule

- $1/M_p - 1/M_v = 1$
- $1/M_p = 1 + (1/M_v)$
- $1/M_p = (1 + M_v)/M_v$ cross multiply
- $M_p (1 + M_v) = M_v$
- **$M_p = M_v / (1 + M_v)$**

Yes! Converting markup on cost to markup on price will be on the exam!

Like to Memorize Formulas?

- 5 for markup on price
- $M_p = 1 - (V/P)$
- $M_p = (F + Z)/PQ$ or $(F + Z)/R$
- $M_p = (P - V)/P$
- $M_p = (P - V)Q/R$
- $M_p = M_c / (1 + M_c)$