

Think about things systematically and ***break them into components***:

We must forecast ***EPS for the next 5 years...***

It is **better** to be **approximately right** than **precisely wrong...**

Forecast years uniquely with caution...

EPS = Earnings per Share

OR

Net Income / Shares Outstanding

So in other words...

We must forecast **EPS Net Income / Shares Outstanding** for the **next 5 years...**

First let's start at the top with **Net Income...**

How do we find Net Income... well there are several ways to answer this question...

Let's start with the **most basic...**

Revenue - Expenses = Net Income

This is the most simple way to find Net Income...

Looking more **in-depth** into **Revenue** and **Expenses** can lead to some profound conclusions...

Revenue can be split into many different factors for many different businesses...

For example let's go through 3 great companies **AZO, V/MA, and UNP.**

AZO:

There are several factors to consider for a business that has stores in its operation...

- Same Store Sales
 - Number of Transactions
 - \$ Per Transaction
 - Basket Size
 - Price
- New Stores
 - Old Stores

What would be an equation that we would make to solve for revenue?

Revenue = Last Years Revenue * (1 + Same Store Sales) * (1 + % New Stores)

- Same Store Sales = Transaction Growth (%) + (Price Increases (%) + Basket Size Increase (%))
- % New Stores = (New Stores / Old Stores) - 1

So...

If **Same Store Sales is up 3%...**

- 1% Price Increase
- 0% Basket Change
- 2% Transaction Volume Increase

And % **New Stores is 1%...**

- 100 stores last year
- 1 new store

Revenue would be up 4% total

V/MA:

There are different factors to consider for V/MA business model...

- Volume
- Take Rate
- Client Incentives

What would be an equation that we would make to solve for revenue?

Revenue = (Volume * Take Rate) - Client Incentives

- Volume = Last Years Volume * Volume Growth
- Client Incentives = Last Years Client Incentives * Growth in Client Incentives

UNP:

- Carloads
- Revenue Per Carload

What would be an equation that we would make to solve for revenue?

Revenue = Last Years Revenue * (1 + % New Carloads) * (1 + % Revenue Per Carload)

- % New Carloads = (Carloads / Carloads last year) - 1
- % Revenue Per Carload = (Revenue Per Carload / Last Year's Revenue Per Carload) - 1

It is important to note for each of these businesses that **revenue may have different segments**, for example **UNP** can have changes in Carloads and Revenue Per Carload for each of their 3 segments, so **growth** of each of these must be **weighted by their mix**.

Now looking more closely at **Expenses...**

There are several **different expenses...** **ALL** of which are on the **income statement** for the company.

Common ones we look at are...

- Cost of Goods Sold
- Operating Expenses
 - Selling, General, and Administrative Expenses
 - Research and Development Expenses
 - More...
- Interest
- Taxes

These **expenses... combined** with **revenue growth...** lead to our **margins...**

The one we want to get to at the bottom is **Net Margin...**

But first we must find our estimated **Gross** and **Operating Margin** as well...

$$\text{Revenue} - \text{Cost of Goods Sold} = \text{Gross Profit}$$

THEN

$$\text{Gross Profit} / \text{Revenue} = \text{Gross Margin}$$

Next we have the **Operating Margin...**

$$(\text{Gross Profit} \text{ OR } \text{Gross Margin} * \text{Revenue}) - \text{Operating Expenses} = \text{Operating Profit}$$

THEN

$$\text{Operating Profit} / \text{Revenue} = \text{Operating Margin}$$

Finally we have the **Net Margin...**

$$(\text{Operating Profit} \text{ OR } \text{Operating Margin} * \text{Revenue}) - \text{Interest and Taxes} = \text{Net Income}$$

THEN

$$\text{Net Income} / \text{Revenue} = \text{Net Margin}$$

Let's do an example...

First, let's assume that for our revenue analysis we came to a **10% growth** off of **\$10 in revenue** from a year prior...

Also:

- **Gross Margin** was **50%**
- **Operating Margin** was **20%**
- **Net Margin** was **10%**

Now through our analysis we found that it is expected for the **Cost of Goods Sold** to **increase** by **10% total**...

What is our new Cost of Goods Sold... \$5.50

What is our new Gross Margin... 50%

What is our new Gross Profit... \$5.50

Now let's say that our analysis concluded, by **adding together** growth from all **different operating expenses** that their **total growth** will be **5%**...

What are our new Operating Expenses... \$3.15

What is our new Operating Margin... 21%

What is our new Operating Profit... \$2.35

Finally, let's say that our analysis of **taxes and interest** concluded that their cost will **increase** by **20%**...

What is our new total of interest and taxes... \$1.20

What is our new Net Margin... 10.5%

What is our new Net Profit... \$1.15

Bringing these components of **Revenue** and **Expenses** together gets us a **very informed prediction** of **Net Income**...

Revenue - Expenses = Net Income

OR

Revenue * Net Margin = Net Income

So let's say **Revenue increases by 5%** and **Net Margin increases by 1%** from 19% last year...

If last year's **Revenue was \$1**... what is the **predicted** Net Income for this year...

$$\$1 * 5\% = \$1.05 * 20\% = \$0.21$$

Which is **10.5%** growth

But we still have not gotten to Earnings Per Share...

Remember...

EPS = Earnings per Share

OR

Net Income / Shares Outstanding

So.. if Net Income increased by 10% from last year... how much did our EPS increase by?

Well, it depends...

To find out we must estimate what our change in Shares Outstanding is going to be.

There are several ways to go about this...

1. What have they repurchased **historically**?
 - **Generally** there are **few changes** in a managements **repurchasing cadence**

But what if you need to be a bit more precise?

2. Calculate how many shares they can afford
 - Assume they buy back \$100 worth of shares...
 - If they pay \$10 per share...
 - Then they buyback 10 shares
 - Which would be 1% of total shares... if they had 1000 shares outstanding

To get to your EPS **growth rate** you can do 2 things...

1. Calculate the estimated EPS for the year... then **divide** it by last years and **subtract 1**

OR

2. Take your **Net Income growth** rate and **subtract** the **change** in **shares outstanding**
 - An **increase** of shares will **lower** the EPS growth rate
 - By **subtracting** a **decrease** in shares... the **negatives cancel** and you will **add** that amount to your growth

Example:

A company grows Net Income by 10% and buys back 5% of shares has 15% EPS Growth

A company grows Net Income by 5% and issues 2% of shares has 3% EPS Growth

Final Thoughts:

It is important, when faced with issues or problems, to **break them down** into their individual components.

Additionally, if a business is **predictable** and **consistent** with a wide moat... what is going to **stop them from performing** as they have in the past?