

# How to Value a Stock with the Benjamin Graham Formula

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## How to value stocks series

For other posts in the series, follow the links below.

## Quick Word on the Science and Art of Valuation

Valuation is an art.

Assumptions are needed to perform any type of analysis as the whole topic of stock valuation is forward looking.

Throughout these valuation exercises, it's important to understand that the final stock value will vary based on the assumption of scenarios.

Instead of trying to pinpoint one number, the science behind valuing stocks is to come up with a range of values. By doing so, it helps you to think about the downside as well as the upside possibilities.

Now, let's see how Graham valued stocks.

## Using Benjamin Graham's Formula to Value a Stock

The second method I use to **value a stock** is by using [Benjamin Graham's formula](#) from *The Intelligent Investor*.

With the extremely popular free [Ben Graham stock spreadsheet](#) I offer, the stock valuation method deserves a closer look.

## Benjamin Graham Formula

The original formula from Security Analysis is

$$V^* = EPS \times (8.5 + 2g)$$

where V is the intrinsic value, EPS is the trailing 12 month EPS, 8.5 is the PE ratio of a stock with 0% growth and g being the growth rate for the next 7-10 years.

However, this formula was later revised as Graham included a required rate of return.

The formula is essentially the same except the number 4.4 is what Graham determined to be his minimum required rate of return. At the time of around 1962 when Graham was publicizing his works, the risk free interest rate was 4.4% but to adjust to the present, we divide this number by today's AAA corporate bond rate, represented by Y in

$$V^* = \frac{EPS \times (8.5 + 2g) \times 4.4}{Y}$$



The Benjamin Graham Formula was Created by this man.

the formula above.

*(credit to wikipedia for the formula images)*

## Adjust Earnings Per Share

But intrinsic value shouldn't be calculated based on a single 12 month period which is why I have the EPS automatically adjusted to a normalized number ignoring one time huge or depressed earnings based on 5 year or 10 year history depending on the company you are looking at.

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EPS is never really a good number on its own as it is highly prone to manipulation with modern accounting methods. Another reason why you have to always normalize EPS is because management will never understate earnings on purpose. While companies may follow accounting procedures which inflates earnings, they will never go out of their way to make it lower than it is.

Another variation of the formula will use the projected EPS but unless it is a pure growth stock with exponential growth like characteristics, the stock value will become absurdly high.

EPS by analysts are also always over optimistic, so by following Wall Street guidance, you're starting off on the wrong foot.

## Adjust Growth Rate

The drawback of the Benjamin Graham formula is that growth is a big element of the overall valuation.

You can change 8.5 to whatever you feel is the correct PE for a no growth company. Depending on your conservativeness, anything between 7 and 8.5 should be fine.

For the actual growth rate, if convenience is important, you could just use the analyst 5yr predictions from Yahoo or other sites, but for most [value stocks](#) that I search for, predictability is important so a regression of the historical EPS to project the following year is a method I like to use.

The "2 x G" however, is quite aggressive. So I've recently reduced the multiplier to 1.5 instead of 2.

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## Corporate Bond Rate

I currently have the [stock value spreadsheet](#) set up to use the 20 year A corporate rate which is just above 6%. This provides a slightly more conservative intrinsic value than the 20 year AAA or AA.

## Final Adjusted Benjamin Graham Formula

So by making the adjustments, the new formula is now

## Testing the Formula

Testing this equation on Microsoft, the inputs are

$$V^* = \frac{EPS \times (\overset{7.1}{8.5} + \overset{1.5}{2g}) \times 4.4}{\underset{\substack{20yr\ A \\ corp}}{Y}}$$

- Normalized EPS = \$1.40
- g = 12.6%
- Y = 6.05%

which results in an [Ben Graham intrinsic value](#) of \$29.10. Current price as of writing is \$29.41.

Results look pretty good, but not all companies are as predictable or stable as MSFT so the stock valuation could be a coincidence.

A growing company DLB.

- Normalized EPS = \$2.1
- g = 17%
- Y = 6.05%
- **Intrinsic value** = \$53.56
- Current price = \$44.72

What about growth story AAPL?

- Normalized EPS = \$7.6
- g = 18.6%
- Y = 6.05%
- **Intrinsic value** = \$207.41 (much different to my [dcf valuation of AAPL](#) )
- Current price = \$199.91

The results aren't all too bad but obviously, you will need to be careful of your inputs. And never forget margin of safety.

## Disclosure

No positions at time of writing.

