

Analyzing a Stock by Its Dividend and Shareholder Yield

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Article Highlights

- If you know what you can reasonably expect in terms of future dividends, you can calculate a stock's valuation.
- A dividend-paying stock can also be valued by comparing its current yield to its historical range or to that of other stocks.
- Shareholder yield factors in both stock buybacks and dividend payments; higher relative shareholder yields have been associated with higher returns.

One theory of valuation is that a stock is worth the cash distributable to shareholders.

An advantage to methodologies based on this concept is that cash distributions are not influenced by accounting adjustments. Cash is either returned to shareholders or it's not.

Investors with a controlling stake in a company (including influence on decisions made by the board of directors) have the ability to determine how corporate cash is spent and distributed. Shareholders who do not hold a controlling stake in a company will typically only receive cash via dividends and/or see their ownership stakes increased via stock repurchases. As such, the valuation of their shares can be calculated based on these distributions.

In this article, I discuss strategies for valuing stocks both based on their dividend yield and on their shareholder yield, which combines dividends and share buybacks. I also discuss the potential drawbacks to using such strategies.

Valuing a Stream of Future Dividends

The concept of valuing a stock based on its dividends has ties to the world of bonds. The concept is that a stock is worth the present value of the dividends likely to be paid in the future. Put differently, if you know what you can expect in terms of future dividends, you can calculate what you would be willing to pay today to receive the future stream of cash.

The dividend discount model does this. The formula calculates the value of a stock by dividing the expected



dividend per share for the coming year by a required rate of return less projected growth. The math is:

$$\text{Stock Value} = D_1 \div (k - g)$$

Where:

D_1 = dividend per share for the coming year

k = required rate of return; k must be greater than g

g = growth rate of dividends

(Decimals and not percentages must be used for the model to work.)

As long as the current stock price is below the calculated fair value, the stock is a candidate for purchase. Though a fairly simple formula, it requires making a few big assumptions.

The first is the required rate of return; also referred to as the risk rate. It is the discount you would demand to part with your money today in exchange for a future stream of income. Put another way, the required rate of return is the compensation you want for not having access to the money invested in the stock as well as for the chance of losing some or all of your invested capital.

The second assumption is the growth rate. You must project the rate at which the dividend will grow in the future. There are a few ways to do this. Some companies provide long-term guidance regarding their dividend policy. This can be either in the form of a projected range for dividend growth or a projected range of payout ratios (dividends per share divided by earnings per share). The guidance may be provided in earnings releases or during investor and analyst presentations. If a projection for dividend growth is given,

you will have the growth rate. If a target payout ratio is given, multiply projected earnings per share by the target payout ratio (in decimal form) to get next year's forecast dividend per share. The growth rate is then simply:

$$\text{Growth Rate} = (\text{Dividend per Share for the Next Year} - \text{Dividend per Share for the Current Year}) \div \text{Dividend per Share for the Current Year}$$

If a target is not given, look at the historical trends in the dividend growth. Consider whether dividend increases have been fairly steady either in percentage terms (e.g., 8% per year) or in absolute dollar amounts (e.g., \$0.04 per share each year). If so and if there has not been a fundamental change in the business or payout policy, then it is reasonable to assume the past trends will continue until otherwise proven wrong. If there is not a clear trend, you can make one of two assumptions: either the recent increase will be repeated or no dividend increase will occur. (In a situation where no growth is assumed, the formula simply becomes the indicated dividend divided by the rate of return.) Many companies list a history of their dividend payments on the investor relations section of their website. A search of press releases and Securities and Exchange Commission filings (specifically, the 10-K, the 10-Q and the 8-K) can also reveal past dividend declarations.

If the growth rate is known or can be reasonably assumed, an alternative and simpler formula can reveal the fair value of a stock based on its dividend. Known as the capitalization approach, it equates the share price to a stream of income, such as dividends. In other words, the approach "capitalizes" the stream of cash payments paid via the dividend to define a value. The dividend capitalization formula is:

$$\text{Stock Value} = \text{Expected Dividends per Share} \div \text{Capitalization Rate for Dividends}$$

Expected dividends per share is simply the expected next annual dividend. The capitalization rate is the dividend

yield based on the next annual dividend. If the next annual dividend is \$1.10 and the current stock price is \$55, the capitalization rate is 2% ($\$1.10 \div \$55 = 2\%$). This capitalization rate can be substituted for $(k - g)$ in the dividend discount model. If you have reason to believe the implied required rate of return is too low, it can be adjusted upward, which will in turn reduce the calculated fair value of the stock.

The dividend discount model assumes the dividend will grow at a constant rate. If the dividend growth is projected to slow or otherwise change over time, the calculation will need to be adjusted to reflect the varying growth rates. An explanation of how to do this is given in the March 2014 *AII Journal* article "Calculating Intrinsic Value With the Dividend Growth Model." Keep in the mind that even small changes in the assumed growth rate or rate of return can have a large impact on the calculated valuation.

Relative Dividend Yields

An alternative to making the assumptions required for the dividend discount model is to analyze a stock's relative yield. This method compares a stock's yield to a benchmark, either what investors have historically been willing to pay for the stock in the past or the yield for the universe of stocks.

Relative to a Stock's Historical Yield

The first approach was used by Geraldine Weiss. As discussed in the June 2016 *AII Journal* ("The Weiss Approach to Value in Blue-Chip Stocks"), Weiss viewed investors as being attracted to stocks with relatively high yields and wanting to sell stocks with relatively low yields. This behavior resulted in a repeatable pattern, which Weiss used to determine when to get into and out of a stock.

She plotted a stock's historical yields to identify its dividend cycle. This enabled her to identify when yields were high on a historical basis (implying a low valuation) and when yields were low on

a historical basis (implying a high valuation). She would target stocks trading within 10% of their historical high yields and sell stocks trading within 10% of their historical low yields.

She preferred to examine at least 10 years of yield data, and 20 years if possible. Weiss wasn't just seeking out cheap stocks, but rather looking for fundamentally sound dividend growers trading at discounted valuations.

One shortfall of looking at a stock's yield relative to its historical range is that sometimes a deterioration in the company's strength or operations justifies a higher high yield to reflect the greater risk. Similarly, investors might be willing to accept a lower yield if growth prospects have significantly improved.

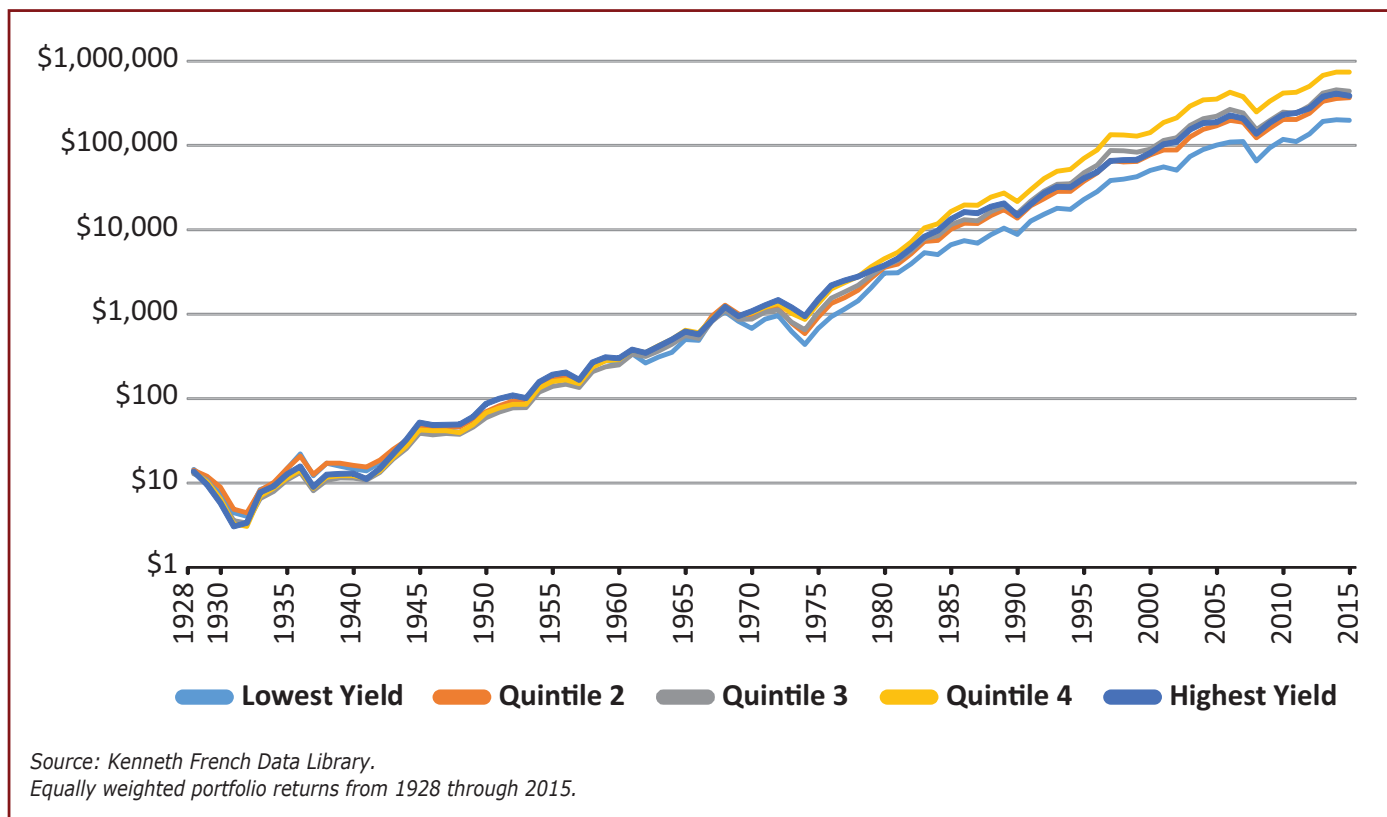
Another shortfall revolves around the absolute level of the yield. A stock can have a high yield relative to its trading history, but still be below the market's yield. Consider a stock yielding 1.0%. If this stock has historically traded within a high/low range of 1.0% to 0.5%, the stock looks cheap relative to what investors have been willing to pay in the past. If the yield on a broad index fund is 2.0%, however, then the valuation is less favorable. The stock is expensive relative to the broader market.

Relative to the Yield for Other Stocks

To get around the problem of a stock having a yield high relative to its own history but low on an absolute basis, it is useful to consider how the stock's current yield compares to that of the universe of all stocks, and particularly to that of other dividend payers. The higher the yield is, the cheaper the valuation. (Yields and valuations are inversely related, with lower yields reflecting higher valuations and vice versa.)

Annualized returns improve as yields rise, up to a point, as Figure 1 shows. The data used in the chart is from Dartmouth professor's Kenneth French's online library (mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html). Annualized returns rise as relative yields increase up through the fourth quintile (top 60%–80%) and

Figure 1. Stock Returns by Relative Yield



then decline. More specifically, annualized returns peak as relative yields rise until the seventh decile (about 70%) and then weaken for relative yields ranking in the top 30%. The annualized returns for stocks whose yields rank in the top 10% are the second-worst for all dividend-paying stocks, trailing only those whose yields are small enough to rank in the bottom 10%.

In his book, “What Works on Wall Street” (McGraw Hill, 2011), James O’Shaughnessy found a similar pattern. He determined that annualized returns rise until yields reached the top two deciles. Annualized returns declined for the stocks whose relative yields ranked in the top 20%.

While French’s and O’Shaughnessy’s data does not fully cover the exact same periods (French’s data is through the end of 2015, whereas O’Shaughnessy’s is through 2009), they both reveal the existence of a return penalty for seeking out too high of yield. Why would this be the case? Yield can be a proxy for risk. Stocks with the highest yields are those

most likely to be perceived as risky by investors. The perception becomes justified when such companies encounter business or financial problems.

Should those problems result in the dividend being cut, the return suffers. Ned Davis Research calculated that shares of dividend cutters realized a 4.6% annualized return from June 1994 through February 2016 compared to a 12.4% annualized return for stocks where the dividend was raised (“Investment Strategies for Non-Dividend Payers,” March 2016). Eliminating the dividend is even worse, with such stocks incurring a –0.9% return. Figure 2 shows the return differential between stocks with rising dividends and those with flat or cut/suspended dividends.

Shareholder Yield

An alternative to using relative dividend yield is to use shareholder yield. Shareholder yield considers cash paid out both as dividends and as stock buybacks. The formula is:

$$\text{Shareholder Yield} = \text{Dividend Yield} + \text{Buyback Yield}$$

Buyback yield is the percentage change in average number of shares outstanding (stock held by all shareholders). For example, assume a stock has averaged 90 million outstanding shares during its most recently reported quarter and averaged 100 million shares outstanding during the same quarter a year prior. The buyback yield would be 10%.

Here’s the math:

$$\text{Buyback Yield} = \frac{\text{Change in Number of Shares Outstanding}}{\text{Previous Number of Shares Outstanding}}$$

Applying the formula to the example given:

$$\begin{aligned} &= (100 \text{ million} - 90 \text{ million}) \div 100 \text{ million} \\ &= 10 \text{ million} \div 100 \text{ million} \\ &= 10\% \end{aligned}$$

Say this stock traded at \$50 per share and paid a quarterly dividend of

\$0.25. Based on an indicated annual dividend (most recent quarterly dividend multiplied by four) of \$1.00, its dividend yield would be 2% ($\$1.00 \div \50). Adding the dividend yield and the buyback yield together results in a shareholder yield of 12% ($2\% + 10\%$).

There are fewer studies on shareholder yield than on dividend yield, but the data that is available shows a performance advantage for stocks with higher buyback yields. O'Shaughnessy's data for the period of 1927 through 2009 shows that stocks whose buyback yields ranks in the top 60% have historically realized higher-than-average returns. Unlike dividends, the performance increased with each decile of return.

A study by Wesley Gray and Jack Vogel of Alpha Architect ("Enhancing the Investment Performance of Yield-Based Strategies," SSRN, 2012) found that stocks with shareholder yields ranking in the top 40% experienced higher annualized returns, particularly those ranking in the top 20%. The Gray/Vogel study excluded financial stocks and covered the period of July 1972 through December 2011.

In updated data Gray shared with us, stocks whose shareholder yields ranked in the top 25% realized annualized returns of 15.3%, versus 10.7% for stocks whose shareholder yields ranked in the bottom 25%. Grey's data covers July 1981 through December 2015. Vogel observed on the company's blog (<http://blog.alphaarchitect.com>) that stocks with the largest shareholder yields (the top 20%) outperform those stocks with solely the highest dividend yield.

A potential reason why performance continues to improve for the highest quintiles and deciles of shareholder yield but falls for dividend yield is a company's underlying fiscal strength. Investors demand a high dividend yield when they sense that a company may incur difficulty maintaining its current dividend. To the extent that a company is undergoing turbulent business conditions or is otherwise under financial duress, it may seek to issue shares through a secondary offering to raise cash. By doing so, the buyback yield is reduced;

this can cause the shareholder yield to turn negative if the increase in shares is greater than the dividend yield.

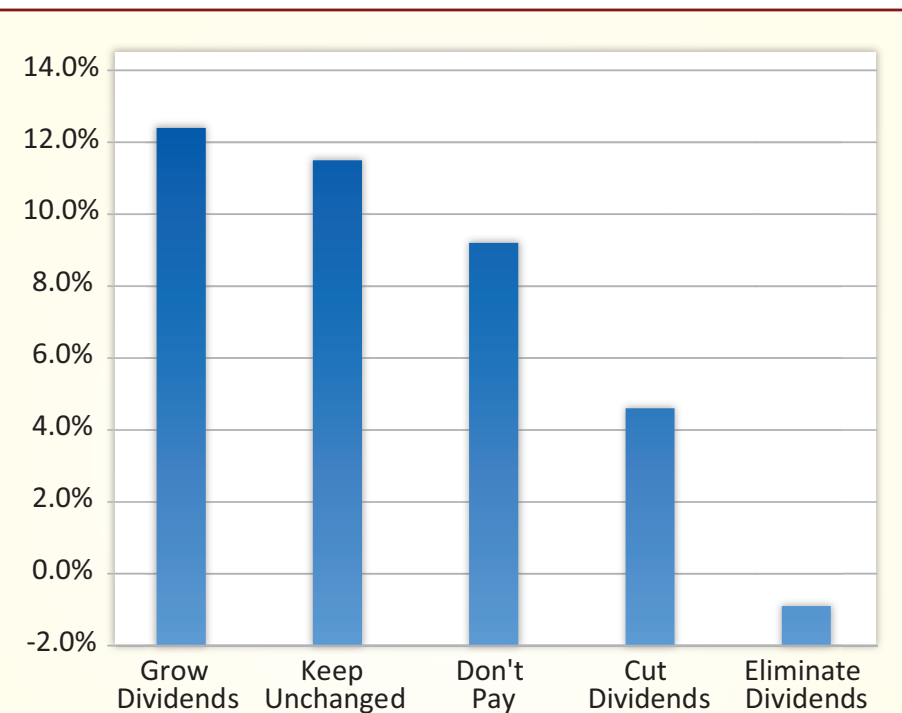
Let's assume a company increases its outstanding share count by 10% through a secondary offering of its shares. At the same time, the stock is yielding 5%. The share buyback yield would be -5%. Since the buyback yield is based on a change in share count, the equation treats the offering as a negative change, or -10%. This results in a shareholder yield calculation of $-10\% + 5\% = -5\%$. An offering increases the number of shares outstanding. The buyback yield treats this change as a negative since the ownership percentage each share represents is diluted by the offering. The size of the company does not change when an offering is conducted, but the ownership of the company becomes divided among a greater number of shares. A share repurchase has the opposite effect by increasing the percentage ownership each share of stock represents and thus results in a positive buyback yield.

On the other hand, a fiscally sound company may appear to be more attractive on a shareholder-yield basis than on a dividend-yield basis. A stock trading with a dividend yield of 1% can have a buyback yield of 11% if it has repurchased 10% of its shares outstanding. In order to do this, the company would need to have enough cash flow, cash on its balance sheet or ability to raise to debt. Thus, the trend in shareholder yields shows that investors are willing to reward companies they believe have the ability to continue returning capital to shareholders at a relatively high rate, but investors are more cautious with companies whose ability to maintain their dividends is more suspect.

A weakness to using shareholder yield is that it is reliant on past events being repeated. Whereas companies can be penalized for cutting or suspending their dividend, there is not the same negative reaction when share repurchases are reduced or postponed. Stock buybacks are viewed as discretionary actions, and

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Figure 2. Companies That Reduce or Cut Their Dividend Underperform



Source: "Investment Strategies for Non-Dividend Payers," Ned Davis Group.
Data from June 30, 1994, through February 29, 2016.

and long term,

- Some index funds in investment areas that have been long-term winners.

Portfolio changes will only be made every three months, as in the past, but changes will be posted the evening of the change at the Model Portfolios section of AAII.com.

Portfolio Management Notes

For the Model Fund Portfolio, the initial holdings are equally weighted. For the Level3 Passive Portfolio, the initial weightings are as previously indicated and as shown in Table 3. The approach to rebalancing in both cases is to keep

it to a minimum. While momentum is less of a factor with funds than it might be with stocks, and transaction costs for funds are much less than for stocks, rebalancing frequently is a distraction and can make taxes a significant consideration.

You should be able to achieve almost all the rebalancing necessary when you add and withdraw funds or when changes are made in the holdings. In the 12 years of the Model Fund Portfolio, no rebalancing has been thought as necessary to do. If over time a holding gets significantly out of line, adjustments can be made.

Decisions will have to be made by

the individual since every investor will have added assets at a different time, so everyone's weights will be different. But the following are general guidelines:

- Don't rebalance any holding unless you have held it for over a year.
- If a holding is 25% below where it should be with the planned weight, bring it back to the appropriate level by selling some overweighted holdings to provide funds.
- If a holding is 33% above where it should be with the planned weight, bring it back to the appropriate level by selling the excess and using the funds to buy underweighted holdings. ▲

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Stock Strategies

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companies are not beholden to a schedule of when they must repurchase stock. As such, a big buyback in one quarter may not be repeated in future quarters, leading to volatility in the buyback yield.

Which Method Is Best?

All of the aforementioned strategies have their advantages and their disadvantages. They are useful guides

for narrowing down the universe of stocks, but additional analysis must still be conducted. Particularly, a company's ability to continue paying (and growing) a dividend and its ability to repurchase more shares must be checked. Similarly, business trends and financial soundness should also be analyzed to ensure the stock is not merely cheap, but truly a bargain.

Keep in mind the impact of market conditions. A strong bull market will

create downward pressure on dividend yields, while a bad bear market will greatly increase them. Furthermore, buybacks and dividend payments will be influenced by prevailing economic, industry and business conditions. Share repurchases are more discretionary than dividends are, and there isn't a penalty when buyback programs are not completed. Thus, like any valuation measure, yields are just one trait making a stock attractive or unattractive. ▲

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