Understanding the Controversy over Dividend-Based Investing

By Geoff Considine
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Should investors favor dividend-paying stocks over non-payers? A long-held investment tenet contends that they should. But in a controversy that has pitted two highly respected investment firms – New York-based Tweedy Browne and Texas-based Dimensional Fund Advisors (DFA) – against one another, advisors are being asked to reexamine this issue.

Larry Swedroe, a well-known advisor, author and columnist, has argued that building a portfolio solely on the basis of dividend yield is misguided. Supported by DFA's research, Swedroe and others have concluded that screening stocks for high yield is a weak form of value investing and that investors will be better off by selecting stocks on the basis of low price-to-earning or price-to-book ratios.

In March 2013, DFA published a white paper, "Global Dividend-Paying Stocks: A Recent History," which compared portfolios of dividend-paying stocks to portfolios of non-payers and all stocks from 1991 to 2012. This paper is notable because much of the commonly cited research on dividend investing is U.S.-based. One of the paper's primary assertions is that portfolios that are selected on the basis of dividends sacrifice diversification. The new paper, along with a recent analysis from Morningstar, motivated me to revisit this critical issue, which I explored previously in this November 2012 article.

I will provide a brief overview of the theory behind the advantages of dividend-based investing and discuss the historical performance of dividend strategies. I will then delve into the question of diversification. I conclude by returning to the question of why investors might favor dividends in portfolio construction.

The theoretical advantage of dividends

Unless a theoretical advantage to dividend-based investing exists, any outperformance could be the result of data mining or an artifact of historical data that is not likely to persist in the future. Let's look at the theoretical justification for a bias toward dividends.

Stocks with above-average dividend yields tend to be those that are trading at low prices based on their fundamentals, such as book value and earnings per share. Dividend-payers are unlikely to be glamour stocks that become overvalued on the basis of media hype. In other words, dividend-paying stocks tend to be cheaper than average, based on value-oriented metrics. Depending upon market conditions, however, there will be periods in which investors bid up the prices of dividend stocks so that dividend portfolios are not cheap relative to the market. There also remains debate as to whether dividends are the best way to select those low-priced stocks (more on this later).

ETF	Description	P/E	P/B	P/CF
SDY	Seeks to match returns and characteristics of the S&P High Yield Dividend Aristocrats™ Index	17.21	2.49	10.52
VIG	Seeks to track the performance of stocks of companies with a record of growing their dividends year-over-year.	16.88	3.19	10.70
IWD	Russell 1000 Value Index	13.79	1.61	5.33
VTV	Vanguard Value ETF	14.18	1.89	6.37
VFINX	Vanguard 500 Index Fund Investor Class	15.75	2.41	8.28

Source: Morningstar as of 2/13/14

The exchange-traded funds (ETFs) SDY and VIG currently trade at a premium to the market (VFINX) and to the value oriented ETFs IWD and VTV, based on fundamental metrics (price to earnings, price to book and price to cash flow).

Dividend stocks tend to have lower beta than the broader market, and academic research shows that low-beta stocks have historically outperformed higher-beta stocks. Portfolios formed on the basis of dividends also have lower beta than portfolios formed using other value metrics such as low price-to-earnings or low price-to-book ratios.

One explanation for the advantage of low-beta stocks is that so-called glamour stocks tend to have high-beta. Their valuation is boosted by media exposure, but on average they perform poorly. A study in the most recent edition of the *Financial Analysts Journal* found no anomalous outperformance associated with low-volatility stocks. This paper is an exception, however, with a number of studies concluding that low-beta stocks out-perform. There is no ultimate agreement as to why low-beta stocks have outperformed, but the effect is very well documented. If an advantage exists for low-beta stocks, it may not be causally related to dividends, but dividend portfolios tend to be low-beta portfolios.

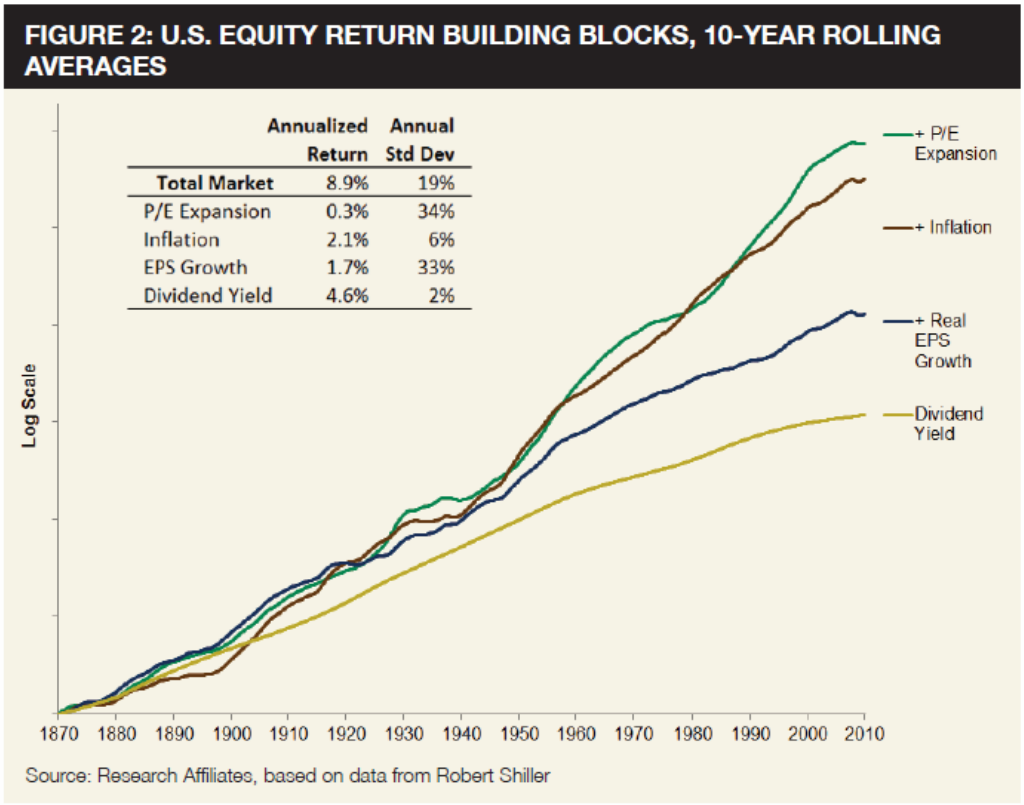
Dividend payers tend to have higher quality (more consistent) earnings streams than non-payers. As such, they are less likely to experience earnings surprises that cause unexpected shocks in valuation.

This brings us to the most significant appeal of dividend payers. Dividends increase investors' ability to accurately estimate at least some portion of future returns. Effective asset allocation depends on the assumption that investors can accurately estimate the expected returns from stocks and bonds. In reality, our estimates of expected return are highly uncertain. This uncertainty is called estimation risk. I introduced and explained the importance of estimation risk in a previous article. The issue of estimation risk is widely understood in the academic world but is not widely discussed beyond the academic journals.

Historical data verify that estimation risk is lower for dividend-paying stocks. The nominal return from stocks is the sum of the dividend yield, changes in the price-to-earnings ratio (P/E expansion), inflation and changes in the earnings-per-share (EPS growth):

Return = Dividend Yield + EPS Growth + P/E Expansion + Inflation

A 2012 analysis of the historical average contribution and volatility of each component showed that dividends are consistently the largest and most stable of these terms.



Components of equity returns, from Expected Return by Christopher Brightman (Investments and Wealth Monitor, 2012)

Dividend yield represents just over half of the total return from U.S. equities (4.6% per year from dividends out of a total return of 8.9%). Since it has, by far, the lowest standard deviation (2%), it follows that the total return of dividend-paying stocks are less volatile and easier to predict.

Dividends are the most predictable element of equity returns. As such, they provide important information that lowers estimation risk associated with expected total return. This, in turn, means that the estimation risk for portfolios of dividend-paying stocks is lower than for non-payers.

Historical performance of dividend stocks

Having briefly reviewed some of the theory as to why investors might favor dividend payers, I will now explore the data on the performance of dividend stocks.

Tweedy Browne documented research showing that dividend-paying stocks have outperformed both non-dividend stocks and the broader market on an absolute basis. They also showed that dividends contributed to superior risk-adjusted returns. But this research relied on volatility as a measure of risk and did not consider Fama-French (F-F) factor models.

Swedroe has asserted that any advantage associated with dividend-paying stocks is due to non-dividend-paying glamour stocks in other types of value portfolios. Remove those poor-performing stocks, he says, and the value strategies formed using price-to-earnings or price-to-book will dominate dividend strategies. It is not clear, however, how those glamour stocks can be identified and eliminated when a portfolio is constructed.

U.S. equities

Long-term historical U.S. data tend to show that value-oriented portfolios formed on the basis of high earnings-to-price (E/P) or high book value-to-price (B/P) ratios outperform dividend strategies. But this outperformance can only be properly judged with consideration for risk levels.

Morningstar analyst Alex Bryan recently reviewed dividend strategies and compared them to other value-oriented strategies, using the latest U.S. stock data in Ken French's research library.

Returns from portfolios of U.S. equities formed on the basis of dividend yield, book/price, and earnings/price from August 1953-July 2013

	Annualized Return				
	No Div	Low 30%	Mid 40%	High 30%	Market
Dividend Yield	9.2%	10.2%	11.4%	12.9%	10.9%
Book/Price		10.1%	11.9%	14.3%	
Earnings/Price		9.3%	12.0%	15.7%	

Source: Dividends-A Better Approach to Value, Morningstar, December 2013

The high-30%, mid-40%and low-30% portfolios are those that contain stocks in those brackets based on dividend yield, book-to-price and earnings-to-price ratios over the 12 months prior to portfolio selection. The portfolios are held for 12 months and then recalculated, and the returns are compounded.

Bryan found that high-30% dividend portfolio outperformed the stock market by 2% per year. He also found greater outperformance for high-book-to-price and high-earnings-to-price portfolios. But the data show that high-book-to-price and high-earnings-to-price portfolios are more volatile than the market, while those formed on the basis of dividend yield are less volatile.

I calculated ratio of return to annualized volatility, a form of the Sharpe ratio, for each of these portfolio strategies:

Return/risk for portfolios of U.S. equities formed on the basis of dividend yield, book/price, and earnings/price from August 1953-July 2013

	Return/Risk				
	No Div	Low 30%	Mid 40%	High 30%	Market
Dividend Yield	39.0%	59.0%	79.2%	94.2%	72.2%
Book/Price		63.1%	81.5%	87.7%	
Earnings/Price		57.1%	83.9%	98.7%	

Source of underlying data: Dividends-A Better Approach to Value, Morningstar, December 2013

High-earnings-to-price portfolios outperformed all other portfolios on this basis and the high-dividend-yield portfolios were the second-best. These portfolios are riskier than dividend portfolios but have higher return.

Bryan also ran a four-factor FF model to analyze value and size tilts, as well as to calculate market risk for these alternative portfolios.[1]

Using data from 1953 through July 2013, Bryan found that the high-30% dividend-yield portfolio had an average four-factor beta of 0.85, as compared to a beta of 1.05 for the high-book-to-price portfolios and 1.03 for the high-earnings-to-price portfolios. This illustrates the difference between high-dividend portfolios and those formed on the basis of book-to-price and earnings-to-price. The outperformance of the high-earnings-to-price portfolio can largely be explained by its higher beta. On the basis of the difference in beta, the high-earnings-to-price portfolio ought to have a return 1.21 (1.03/0.85) times that of the high-dividend portfolio. Its annualized return was actually 1.22 (15.7%/12.9%) times that of the high-dividend portfolio. I confirmed Bryan's results. The high-earnings-to-price will tend to gain more when the market rises but will also tend to lose more when the market falls. Certain types of investors may favor high beta, but others will quite rationally favor low-beta portfolios.

The high-dividend-to-price portfolio has zero alpha in the four-factor model. The returns of the high-D/P portfolio have a large value-tilt and a minor tilt towards large-cap stocks. The magnitude of the value tilt is statistically indistinguishable between the high-dividend-to-price and high-earnings-to-price portfolios. These results suggest that the outperformance of portfolios formed on the basis of dividends can be explained by the value tilt and that the dividend portfolios provide the same exposure to the value factor as the high-earning-to-price portfolios, but with lower market risk. While Swedroe claims that dividend portfolios are subject to a performance loss because they have lower average return than some other value

[1] This model attributes the total return of a portfolio to each of four factors: market exposure, value/growth tilt, market-capitalization tilt and momentum. The returns from a portfolio can be regressed against the historical returns for each of these factors, for which historical data is available in Ken French's data library. Market exposure is measured by beta, but beta, in this case, must be estimated in a regression that also captures the other factors. The more traditional calculation of beta ignores the other factors. The regression calculation to estimate the various factors also provides an estimate of alpha, the additional return of the portfolio beyond what can be explained by these factors. If alpha is positive, the portfolio has historically generated excess returns. If alpha is negative, the portfolio is sub-optimal relative to its factor exposures.

strategies, the factor models suggest that the lower historical return simply reflects the lower risk of the dividend strategies, as reflected in lower beta and lower total volatility.

In response to these results, Swedroe cited unpublished research that suggested that another dividend-selection method – a dividend growth strategy – has no performance advantage relative to the total market index. A dividend-growth strategy is a distinctly different approach to portfolio construction than a high-dividend strategy, and the results that Swedroe presented in no way detract from the results discussed above for high-dividend portfolios.

Global equities

DFA's white paper provides a global perspective on dividend investing. Its analysis encompassed 23 developed countries over the 22-year period from 1991 to 2012.

Global dividend-paying portfolios have essentially identical returns to the market, but substantially lower volatility, as measured by the monthly and annual standard deviation in returns, according to the DFA study:

Returns for all stocks, dividend payers and non-payers

Table 1. RETURNS IN USD: JAN 1991–DEC 2012

Returns are computed for global equity portfolios formed at the end of each December for the entire market and for stocks, based on the dividend-paying status of the firm during the preceding year.

	MARKET	PAYERS	NONPAYERS
Monthly Mean	0.70%	0.70%	0.80%
Monthly Std. Dev.	4.40%	4.18%	6.11%
Annual Mean	9.14%	9.06%	11.14%
Annual Std. Dev.	18.35%	16.79%	27.22%
Annualized Compound Return	7.42%	7.60%	7.58%

Source: "Global Dividend-Paying Stocks: A Recent History," DFA, 2013

The dividend portfolio had nearly identical return to the market portfolio, but it had only 91.5% of the annual volatility (16.79% for dividend payers vs. 18.35% for the market).

Non-payers have the highest average returns and risk, with the result that their compounded annual return is very close to that of dividend payers and of the market.

Dividend-paying portfolios had the same returns as the total market portfolio, but with lower volatility. These new global results provide a compelling reason for selecting dividend-paying stocks on the basis of risk-adjusted returns when constructing global portfolios.

Do dividend investors sacrifice diversification?

One of DFA's primary claims is that dividend-oriented investors sacrifice diversification benefits. Lack of diversification, its paper posits, is the cost of a preference for dividends:

> *Global portfolios that purchase only dividend-paying stocks will exclude about 47% of available small-cap stocks. Investors may be able to achieve greater dividend yield from their portfolio by investing in higher yielding stocks. But, as we have seen, investors who desire increased yields sacrifice diversification to achieve that goal.*

The universe of investable assets is markedly smaller if we exclude non-payers — hence, the potential for reduced diversification.

The percentage of firms paying dividends has declined through time, according to the study, as previously documented by Fama and French for the U.S. In 2012, for example, DFA found that 39% of public firms, representing 17% of global market capitalization, paid no dividends at all. In other words, a lot of small firms pay no dividends. Investors who limit their portfolios to dividend payers can invest in the remaining 83% of the global stock market. Limiting the universe of available investments could, theoretically, lower the risk-adjusted returns from a portfolio of global stocks because of lost diversification potential. It should be noted, however, that many of small-cap stocks are likely to be the high-beta stocks that have historically underperformed.

But it is well documented that one need not own every stock in the global markets in order to hold a fully diversified portfolio. In a widely cited paper, Have Individual Stocks Become More Volatile?, the authors demonstrated that a portfolio holding as few as 50 individual stocks can fully exploit available diversification benefits, as measured by reducing idiosyncratic risk (see Figure 6 in that paper). There is, in fact, no research that demonstrates that reducing the universe of small-cap stocks by half would hinder the construction a fully diversified portfolio.[2] I am not suggesting that investors will be well-served by a 50-stock portfolio; rather, it is unnecessary to hold a number of stocks that is anywhere close to the total number in the market.

The ultimate determinant of the cost of less diversification comes from long-term risk and return. An under-diversified portfolio should exhibit a reduced return for its risk level. The DFA study shows that the portfolio comprised only of global dividend stocks had the same annualized return and lower volatility compared to the market portfolio. The 20+-year sample over 23 countries did not provide evidence of lower risk-adjusted returns in the dividend portfolio.

Conclusions

The alpha of the high-dividend-to-price portfolio is indistinguishable from zero using the four-factor F-F model. The exposure to the value factor is the same for both the high-earnings-to-price and high-dividend

[2] The same argument could not be applied, for example, to constructing a portfolio of dividend-paying small-value stocks, which would constrict the universe of investable stocks too severely.

portfolios. A portfolio selected on the basis of dividends is neither sub-optimal, nor does it offer any risk-adjusted return advantage.

Domestic high-earnings-to-price portfolios, although they are more volatile, outperform high-dividend portfolios. Bryan noted that the betas of the dividend portfolios, calculated using a four-factor model, are also substantially lower than those of the high-earnings-to-price and high-book-to-price portfolios. I confirmed those results. The higher absolute return of high-earnings-to-price portfolios reflects their higher beta and absolute risk levels.

The DFA analysis found that global dividend stocks outperformed the broader stock market on a risk-adjusted basis. In addition, portfolios of non-payers are much riskier than portfolios of dividend payers and have the same compounded annual return. This study did not compare dividend-oriented investing to other fundamental measures such as earnings to price, nor did it examine returns in a F-F factor model.

If DFA had run a four-factor analysis of the global dividend portfolios, we could assess whether the outperformance of the dividend portfolios was entirely attributable to a value tilt. Without that analysis, we can only state that the DFA research demonstrates that portfolios selected on the basis of dividend yield have higher risk-adjusted returns than the broader global stock market. It would not be surprising if the global dividend portfolios' outperformance were due entirely to a value tilt. This remains an open question.

What is the takeaway from these latest analyses? Domestic dividend-stock portfolios outperformed the stock market on an absolute basis but had zero alpha when analyzed using a four-factor model. The global stock portfolios constructed by DFA outperformed the global stock market on a risk-adjusted basis.

Let's assume for the moment that the global stock portfolios follow the same pattern as domestic stocks and that their outperformance was due to a value tilt. What does this mean for dividend investors? Zero alpha for dividend portfolios suggests that there is no risk-adjusted performance penalty for investors who prefer dividends (as compared to some other value-oriented strategies), and investors may prefer lower estimation risk and higher quality of earnings.

Whether or not investors choose dividends because they find the estimation risk and quality of earnings argument compelling, the data demonstrate that dividend investors can obtain the equivalent exposure to value stocks as with high-earning-to-price portfolios, but with lower market risk. The historical outperformance of high-earnings-to-price portfolios is attributable to the higher risk of these portfolios.

The analysis of high-dividend strategies using the F-F factor model is based on more than 50 years of data spanning multiple market cycles. But advisors must also consider whether behavioral factors and current market conditions make high-dividend strategies less attractive today. Investors are known to exhibit recency bias – chasing whatever strategy has done well in the recent past. The low-rate environment that has gone on for five years has caused some investors to indiscriminately chase yield in search of cash flow by investing in riskier bonds and high-dividend strategies as substitutes for safe bonds like CDs, Treasury and AAA/AA municipal bonds. That behavior impacts valuations and current yields, which are the best predictor of future returns. Yield chasing without consideration for current valuations and risks is not likely to end well.

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