

HIGH DIVIDENDS: MYTH VS. REALITY

A STUDY OF DIVIDEND YIELDS, RISK AND RETURNS

EXECUTIVE SUMMARY

This paper examines the relationship between dividend yields, risk, and returns, through an exhaustive analysis that was performed across the global equity universe. The analysis covers the period from 2003-2012 and shows that:

- Based on numerous metrics, stocks that paid dividends **outperformed those that did not**.
- This outperformance generally **increased as the dividend yield increased**, with the highest return for 10-17% dividend payers and the second highest return for above 17% dividend payers.
- Various risk measures **of dividend paying stocks were lower than non-dividend paying stocks**. More surprisingly, 6-10% dividend payers had similar risk to 0-2% and 2-6% dividend payers.
- Risk-adjusted returns generally increased with dividends, with the **highest risk-adjusted return coming from 10-17% dividend payers**.
- Interestingly, stocks in this dividend range of 10-17% are **often not included in dividend indexes and funds**.

THE IMPORTANCE OF DIVIDENDS

Unless noted otherwise, all charts and data referenced in this paper are derived from a comprehensive dividend analysis completed by Indxx, LLC.

The impending retirement of baby boomers is expected to lead to a surge in demand for income producing investments.

US Treasuries may be losing their viability as current income instruments, as their low yields may not keep up with inflation, resulting in an erosion in purchasing power over time.

According to the US census bureau, 13% of the population in the U.S. is classified as 'retired' (greater than 65 years of age). This group owns a disproportionate amount of household financial assets. Considering that average life expectancy in the US is around 79 and increasing, these individuals often rely, for decades, on regular income from their investments to meet their expenses. With an increasing number of 'baby boomers' (born from 1946-1964) joining this group every day, demand for current income products is expected to increase in the years ahead. In the past, these investors relied overwhelmingly on fixed income products (bonds), with US Treasury bonds usually considered the primary vehicle of investment. These investors could purchase US Treasury bonds, backed by the credit of the US government, and generally earn decent yields to cover their living expenses.

However, for the past few years, US Treasuries have been trading at extremely low yields. For example, 3 month Treasury Bills have been trading at an annual yield of 0.10%, compared to a 50 year historical average of 4.55%¹. Another popular Treasury, the 10 year note, has been yielding a meager 1.66%, down from around 5.25%² before the financial crisis struck in 2008. It has not been this low since the 1940s, and spent most of the past seven decades in the 4% to 8%³ range, peaking at more than 14% in the early 1980s. These rates are likely to remain low for the next few years, as the US Federal Reserve (which controls monetary policy) has indicated that it will keep interest rates low until at least 2014. These yields are too low to keep up with current inflation, and as a result, investors who rely on them for income may have their purchasing power reduced.

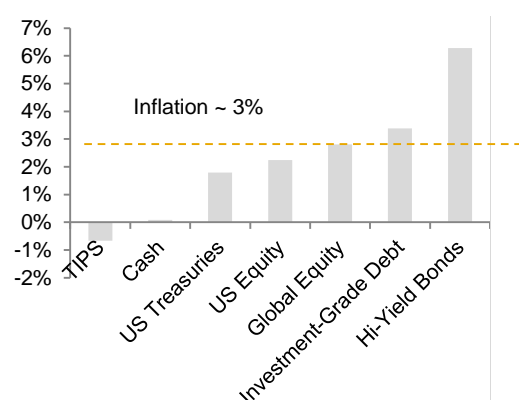
In the past, two other traditionally safe, income generating investments were TIPS (Treasury Inflation Protected Securities) and investment grade corporate bonds. TIPS are US Treasuries with a built-in hedge against inflation, but over the last few years they too have seen their yields drop significantly. Generally, in normal inflation scenarios, TIPS cannot make up for the erosion in purchasing power. Investment grade corporate bonds are also paying out very low yields (see Table 1). Due to this drop in yields, some investors that rely on their investment portfolios for income have been driven into riskier parts of the market, like junk bonds.

¹ Federal Reserve database for secondary market 90D T-bill yield, 2012.

² Federal Reserve database for 10 year Treasury note yield, 2012.

³ Annual inflation data for US available at inflationdata.com, 2012.

Figure 1: Average Yield by Asset Class



The dividend yields of blue chip stocks were significantly higher than bond yields from these same companies.

While yields on junk bonds have typically been higher than the Treasury or investment grade corporates, they have dropped from 9.1% to 6.3% in just one year⁴, while new issuance grew to \$243⁵ billion as of October 2012, compared to \$167 billion the year before.

Dividends paid out by corporations can serve as an alternative for investors looking for additional current income and help offset the risk of inflation. If we consider yields for 10 year investment grade corporate bonds issued by blue chip corporations, they were providing yields in the range of 1.75%-2.25%⁶. In Table 1, we compare the bond and dividend yields for some of the most well-known US blue chip companies with AAA ratings and a 10-year track record of regular dividend payments.

Table 1: Corporate Bond Yields vs. Stock Dividend Yields*

Company	Bond Yield	Dividend Yield
Coca-Cola Co.	1.89%	2.68%
Wal-Mart Stores Inc.	1.91%	2.18%
3M Co.	1.92%	2.57%
Proctor & Gamble Co.	1.94%	3.12%
Chevron Corp.	2.23%	3.27%
PepsiCo Inc.	2.27%	3.01%

* Annual Yields as of 12/05/12

As we can see from Table 1, the yields on 10 year investment grade corporate bonds issued by these companies were significantly lower than the dividend yields they achieved.

However, unlike fixed cash payment from bonds, dividends can be changed by corporations according to their capital needs and financial positions. Additionally, while bonds seek to return principal at maturity, stocks do not have this feature. So, owning just one stock can lead to some uncertainty about dividend payments and returns. However, owning a broader range of stocks can help diversify this risk and uncertainty. For example, the S&P 500 index includes some stocks that do not pay dividends consistently and some that pay no dividends at all. Yet the dividend yield for this index over the last 4 years ranged from 1.8% to 3.2%⁷, which is higher than the current 1.58% yield on the 10 year Treasury (as of 12/5/2012).

Dividends can also serve as a hedge against inflation. Historically, the dividend yield for the S&P 500 had a correlation of 0.78⁸ with the

⁴ November 2011 to November 2012

⁵ Article published on efinancialnews.com titled "Junk Bond Yield Sink even Lower". Data is sourced from Dealogic. Data as of 10/31/2012

⁶ As of November 2012

⁷ Source: Bloomberg

⁸ Correlation on dividend yields for the S&P 500 index and annual US inflation data during the period 1971-2012 (Source: Indxx LLC)

This dividend yield study addresses the common concerns of investors about high dividend yielding stocks, such as perceived higher risk, low potential for price appreciation, and unattractive valuations.

US inflation rate. However, it should be considered that, historically, the S&P 500 dividend yield failed to keep up with significant, rapid spikes in inflation. Historical dividend yields for the S&P500 have rarely been above 6%, while the US experienced significantly higher annual inflation from 1973-1982⁹. By comparison, 10 year Treasuries provided double-digit yields over that time. Over longer time periods, however, dividend growth for S&P 500 constituents managed to outpace inflation in the US. From 1976-2012, for example, the average annual inflation rate was 4.04%, while the growth in dividends from S&P 500 stocks was 5.83%¹⁰. In addition, during this same time period, earnings for the S&P 500 grew by nearly 6.70% on an annualized basis. These positive trends persisted despite a decline in dividend payout ratios, which as of 2012 were just 30%. This figure is significantly lower than the historical average of approximately 50%.

Investors often have concerns about dividend paying stocks, especially those with high yields. First, there is a general perception that there simply aren't that many stocks with high yields that pay dividends consistently. Another concern is that some stocks only appear to have high yields because they have seen their prices drop significantly. As a trend, this was clearly visible during 2008-2009, when most financial and insurance sector companies had high dividend yields due to sharp deteriorations in their stock prices. Another concern is that high dividend yields may be unsustainable and companies that pay out high dividends may cut or eliminate them in the future. There are also concerns that high dividends are only paid by companies that have reached a 'mature' or 'declining' phase of their businesses and therefore have limited price appreciation potential when compared to high-growth companies that do not pay dividends. A final issue that investors often raise is that there is currently too much focus on dividend stocks and that, as a result, these stocks must be trading at premiums to the market.

This study intends to address all these questions and perceived issues while exploring the relationship between risk and return with dividend yield.

⁹ Between 1973-1982, inflation ranged from 5.75% to 13.58% with average inflation for period at 8.76%

¹⁰ Source: Bloomberg

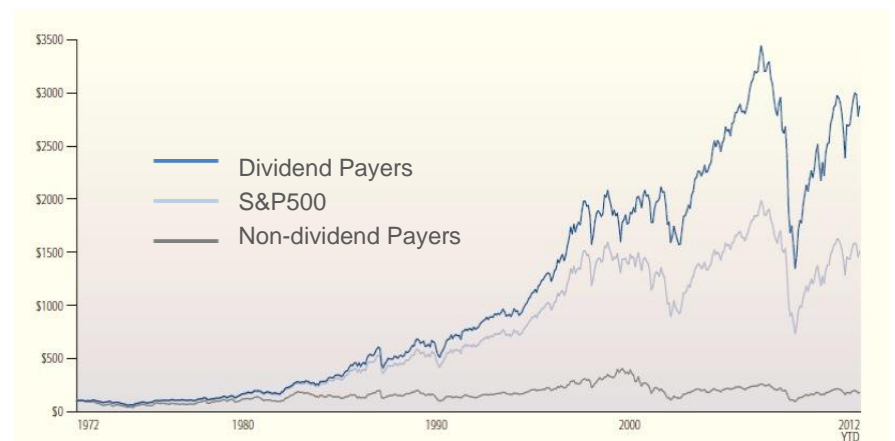
A STUDY OF VARIOUS DIVIDEND GROUPS

METHODOLOGY OF THE STUDY

For the study, we examined the entire global equity security universe, screening out stocks that did not meet minimum liquidity or market capitalization requirements. This was to ensure that any stocks we included in this study were investable and likely to be included in an index. We then divided the remaining eligible securities into different groups on the basis of dividend yield. To facilitate the analysis, we created six groups of 60 securities each, covering six dividend yield ranges of 0% (or non-dividend payers), stocks paying 0%-2% dividend yields, 2%-6%, 6%-10%, 10%-17% and stocks paying dividend yield above 17%. This methodology was applied for the last 10 years (2003-2012) for each dividend group, and our analysis is based on the results of this exercise. Please refer to the Appendix for a detailed methodology.

RETURNS BY DIVIDEND CATEGORY

Figure 2: S&P 500 Returns: Dividend Payers vs. Non-Dividend Payers¹¹

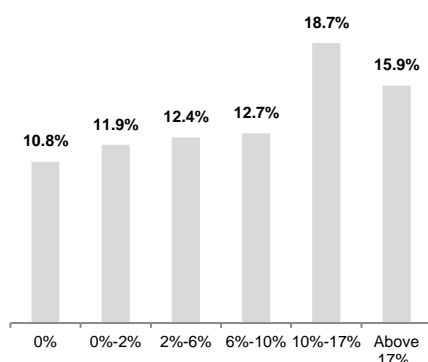


Index performance shown is for illustrative purposes only. Past performance does not guarantee future results.

In our analysis of global stocks from 2003 to 2012, stocks that paid dividends outperformed stocks that did not a majority of the time (see Table 2).

¹¹ Ned Davis Research, 2012.

Figure 3: Return (Annualized) for Dividend Groups (2003-2012)



KEY TAKEAWAY

Total returns increased as dividend yield increased, with highest returns for companies that paid yields of 10%-17%.

In addition, dividend-paying stocks showed a general improvement in performance in higher dividend yield categories, and the group containing stocks with dividend yields in the range of 10%-17% showed the best returns in the study (Figure 3 on the left). The analysis also reveals that at dividend yields higher than 17%, performance started to decline, but is still had the second best returns.

Table 2: Return Performance across Dividend Groups

Time Period	Non-Div	Categories by Dividend Yield				
	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%*
YTD	10.80%	12.21%	10.39%	13.83%	19.09%	17.01%
1 Yr.	10.34%	12.11%	14.92%	16.68%	25.07%	21.05%
3 Yr.	-0.76%	21.40%	25.53%	27.69	47.87%	33.68%
5 Yr.	-31.64%	3.82%	-8.82%	-4.40%	4.76%	15.62%
Since 2003	151.54%	175.53%	186.67%	193.00%	369.02%	225.35%

When we look at returns since the beginning of the study period (Table 3 below), we see quite clearly that, for stocks that paid dividends, the dividends were a key contributor to total returns. In fact, returns from dividend reinvestment gradually grew with increasing dividend yield, up to a point (stocks with a dividend yield greater than 17%). Total returns also increased with increasing dividend yields, again up to the same point. There appeared to be no clear relationship between price appreciation and dividend yield, and that increasing dividend yield did not have any significant negative impact on price appreciation.

Table 3: Cumulative Returns since 2003

Group	Price Appreciation	Return from Dividends	Total Return
0%	130.48%	21.06%	151.54%
0%-2%	140.85%	34.68%	175.53%
2%-6%	107.48%	79.19%	186.67%
6%-10%	70.04%	122.96%	193.00%
10%-17%	149.99%	219.03%	369.02%
Above 17%	92.32%	133.03%	225.35%

In bear markets, stock prices face a declining trend, and investors tend to focus on downside protection (minimizing losses). The period of 2008-2010 Q2 was the most significant bear market in the period covered by our study (2003-2012), and was marked by extreme negative events including a global recession, financial crisis, and the Eurozone sovereign debt crises.

In the bear market starting in 2008, all dividend paying categories outperformed non-dividend payers. The best performing category was the group with the highest dividend yield (above 17%).

Table 4: Returns Analysis - Bear Market (2008 - 2010 Q2)

Returns	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%
2008 Q1	-14.32%	-9.83%	-8.02%	-1.49%	-9.58%	-4.61%
2008 Q2	-3.19%	-4.84%	-5.95%	-9.55%	-11.81%	-9.21%
2008 Q3	-27.87%	-21.46%	-16.19%	-15.37%	-13.41%	-18.65%
2008 Q4	-33.06%	-17.94%	-18.72%	-25.72%	-31.57%	-30.16%
2009 Q1	1.26%	0.29%	-10.60%	-11.35%	-12.22%	-10.78%
2009 Q2	37.10%	34.38%	29.01%	27.76%	33.88%	43.32%
2009 Q3	23.67%	18.50%	13.59%	21.14%	27.30%	46.57%
2009 Q4	3.72%	2.64%	6.69%	2.48%	6.41%	5.33%
2010 Q1	6.59%	3.65%	4.89%	5.53%	9.07%	11.95%
2010 Q2	-15.70%	-6.59%	-10.61%	-10.16%	-8.98%	-9.69%
2008 - 2010 Q2	-35.92%	-12.24%	-22.76%	-25.35%	-25.31%	-1.79%

As we can see from our analysis, stocks that paid dividends performed better than stocks that did not during this bear market period. In fact, all dividend paying groups outperformed the non-dividend paying group.

Wharton Business School professor Jeremy Siegel – a famed value investor – notes that reinvesting dividends allows investors to take advantage of down markets by buying more shares at cheap prices, which “accelerates” the upside once the market begins to recover. Value Line, in a 2010 article titled, “Yielding to the Allure of Dividends,” cites the famous example of the market crash of 1929: “Investors unlucky enough to get in at the peak (and hang on) would have had to wait about 25 years for prices to make up their losses. Following the strategy of reinvesting dividends would have shortened the wait by roughly 10 years.”

Table 5: Return Analysis - Market Recovery (2010 Q3 - 2011 Q1)

Returns	Non-Div	Categories by Dividend Yield				
	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%
2010 Q3	13.69%	19.38%	14.80%	18.77%	16.42%	16.03%
2010 Q4	6.17%	10.80%	9.49%	7.56%	6.83%	15.06%
2011 Q1	3.27%	1.04%	3.50%	5.53%	5.82%	2.04%
2010 Q2 - 2011 Q1	24.65%	33.64%	30.09%	34.82%	31.62%	36.24%
2007 Q4 - 2011 Q1	-20.12%	17.29%	0.48%	0.65%	-1.70%	33.80%

Dividend-paying stocks have historically recouped their losses from bear markets more quickly than non-dividend paying stocks.

The study shows that recovery of losses was relatively quicker in the case of dividend-paying stocks than non-dividend paying stocks, with most every dividend groups recovering from the 2008 bear market by 2011 Q1. In contrast, non-dividend paying stocks experienced a net loss of more than 20% during the period from 2008-2011 Q1.

In contrast to bear markets, where investors tend to value downside protection, in bull market many investors look for companies that can generate strong growth potential. Many pieces of literature on stock markets state that dividends are usually paid by companies which have a limited scope for growth; therefore, non-dividend paying stocks should outperform dividend paying stocks in a bull market. Let us examine our findings in Table 6.

Table 6: Return Analysis for Bull Market (2006 - 2007)

Returns	Non-Div	Categories by Dividend Yield				
	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%
2006 H1	12.85%	8.66%	14.76%	7.65%	6.81%	17.91%
2006 H2	21.03%	9.68%	23.30%	19.29%	19.41%	27.86%
2007 H1	17.75%	13.46%	13.84%	20.80%	45.83%	27.02%
2007 H2	11.81%	-0.82%	-6.46%	5.90%	9.46%	-7.18%
2005Q4-2007Q4	79.81%	34.10%	50.68%	64.29%	103.58%	77.75%

As shown above, in a bull market, performance of most of the dividend groups lagged behind non-dividend payers, but the 10%-17% group and the group of stocks above 17% out-performed in some periods.

Table 7: Return Analysis for Bull Market (2006-2007)

Group	Price Appreciation	Return from dividends	Total Return
0%	74.96%	4.85%	79.81%
0%-2%	30.49%	3.61%	34.10%
2%-6%	40.64%	10.04%	50.68%
6%-10%	45.98%	18.31%	64.29%
10%-17%	80.33%	23.25%	103.58%
Above 17%	60.50%	17.25%	77.75%

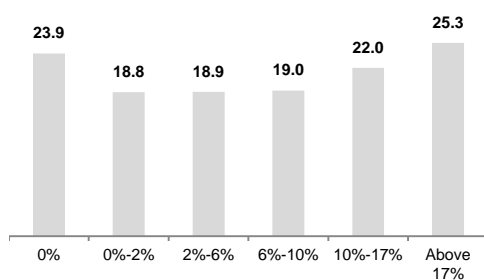
Contrary to popular perception, during bull markets, investment in high dividend yielding stocks in the range of 10%-17% outperformed non-dividend paying stocks.

Unlike in bear markets, dividend income in bull markets formed a smaller part of total returns for dividend paying stocks.

According to a recent Wall Street Journal article, dividend paying stocks have returned 8.92% on average since 1982, compared with just 1.83% for non-dividend payers.¹² Our analysis reveals that dividend paying stocks outperformed non-paying stocks. It also reveals that returns increased as dividend yield increased. Specifically, stocks with dividend yields in the range of 10%-17% in our study outperformed non-paying stocks in both bull and bear markets.

Even in bull markets, possibly due to the general trend of preference given by investors to growth stocks rather than dividend stocks, volatility for dividend payers remains lower than non-dividend payers. In addition, dividends add focus to management teams to return cash to shareholders and reinvest earnings only in the best opportunities.

Figure 4: Volatility for Dividend Groups



KEY TAKEAWAY

Dividend-paying stocks with dividend yields of up to 17% had lower volatility than non-dividend paying stocks in both long-term and short-term time periods.

Table 8: Volatility Analysis (Standard Deviation)

Period	Non-Div	Categories by Dividend Yield				
	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%
YTD	19.49	13.98	13.32	13.31	13.21	14.99
1 Yr	25.86	20.64	19.51	20.07	18.42	24.26
3 Yr	20.85	17.29	16.63	17.33	17.33	21.91
5 Yr	29.16	22.83	22.6	23.07	25.88	30.4
Since Inception	23.87	18.80	18.87	19.02	21.98	25.26

In our study, we used volatility as the typical measure of risk. Volatility decreased from around 24% for non-dividend payers to around 19% for the first 3 dividend-paying groups (up to 10% dividend yield.) Volatility increased for 10-17% dividend payers but remained lower than the volatility of non-dividend payers. Dividend payers above 17% was the only group that had higher volatility than non-dividend payers.

¹² Wall Street Journal, September 15, 2011, "The Dividend as a Bulwark Against Global Economic Uncertainty"

Figure 5: Beta for Dividend Groups

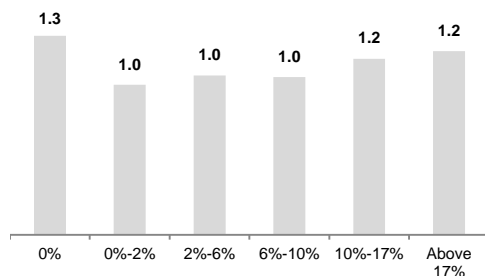
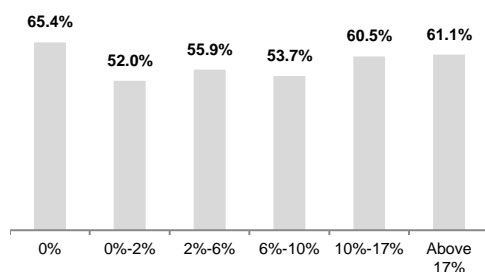


Figure 6: Maximum Drawdown for Dividend Groups



MYTH vs. REALITY

6-10% dividend payers experienced far less volatility, beta and drawdowns than non-dividend payers and about the same as 0-2% dividend payers.

Table 9: Beta Analysis

Period	Non-Div	Categories by Dividend Yield				
	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%
YTD	1.11	0.65	0.88	0.86	0.83	0.88
1 Yr.	1.29	0.85	0.98	1.03	0.92	1.17
3 Yr.	1.12	0.84	0.92	0.95	0.92	1.12
5 Yr.	1.26	0.96	1.00	1.00	1.10	1.20
Since Inception	1.30	0.98	1.04	1.03	1.15	1.20

We used a beta analysis of the dividend groups to analyze their market risk. As our portfolios consist of global stocks, we used beta with respect to the MSCI All Country World Index for our analysis. In our study, dividend paying stocks had relatively lower market risk, across all groups, than non-dividend paying stocks.

Table 10: Maximum Drawdown Analysis

Period	Non-Div	Categories by Dividend Yield				
	0%	0%-2%	2%-6%	6%-10%	10%-17%	Above 17%
YTD	11.68%	7.13%	8.63%	7.78%	6.88%	7.41%
1 Yr.	12.57%	9.40%	8.63%	8.30%	6.88%	9.97%
3 Yr.	25.09%	18.53%	20.28%	20.11%	18.59%	24.97%
5 Yr.	65.42%	52.04%	55.91%	53.71%	60.47%	59.62%
Since Inception	65.42%	52.04%	55.91%	53.71%	60.47%	61.14%

An analysis of maximum drawdown for each dividend group showed that the maximum drawdown for stocks that paid dividends was lower than non-dividend paying stocks over different time horizons. However, the better drawdown statistics did narrow for the top two dividend categories.

BRINGING IT TOGETHER: RISK-ADJUSTED RETURN

Figure 7: Sharpe Ratio for Dividend Groups

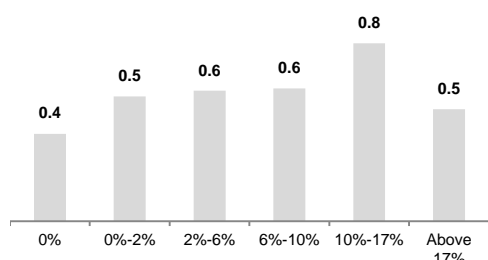


Figure 8: Alpha for Dividend Groups

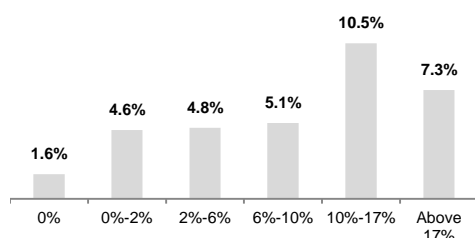
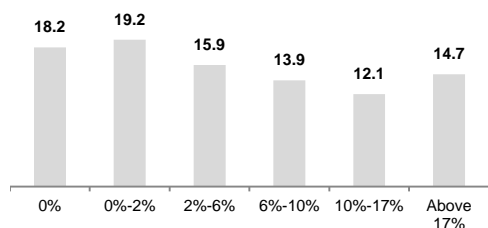


Figure 9: 2012 PE Multiples for Dividend Groups



A Sharpe ratio is a common method used for the calculation of excess return per unit of risk as measured by the standard deviation. Our analysis of dividend groups reveals that the Sharpe ratio increased with dividend yield, and that only for stocks with a yield greater than 17% did the trend reverse.

Alpha is another risk-adjusted measure of the so-called active return of an investment. It is the return in excess of the compensation for the risk borne. Our analysis of dividend groups revealed that Alpha for dividend groups increased with dividend yield. Only for stocks with a dividend yield greater than 17% did the trend reverse.

Overall, our analysis revealed that dividend-paying stocks provided higher risk-adjusted returns than non-dividend paying stocks. More surprisingly, dividend paying stocks with dividends in the range of 10%-17% provided the highest risk-adjusted returns.

VALUATIONS BY DIVIDEND CATEGORY

There has been significant focus by investors recently on dividend paying stocks, which raises the question of whether prices of dividend paying stocks have appreciated too much and it is too late for investors to participate in the dividend investment segment. Price-to-earnings multiples seem to suggest that, if anything, current valuations¹³ across dividend categories are low compared to historical levels (See Table 11).

Table 11: P/E Multiple Analysis

P/E (x times)	2004	2005	2006	2007	2008	2009	2010	2011	Sept 2012
0%	26.61	22.95	20.48	25.31	24.16	23.02	24.55	22.13	18.21
0%-2%	20.80	20.20	20.87	19.34	22.71	21.18	23.61	20.77	19.19
2%-6%	15.88	15.99	19.11	16.19	18.33	15.42	17.21	18.99	15.90
6%-10%	19.05	14.65	16.48	14.29	16.83	13.50	17.31	16.33	13.91
10%-17%	14.90	12.12	15.04	14.68	15.18	9.88	13.11	13.15	12.08
Above 17%	18.39	11.71	23.69	22.20	12.01	10.43	12.19	11.56	14.67

¹³ As of September 2012

KEY TAKEAWAY

Dividend paying stocks are trading at lower valuation multiples than their historical averages.

Furthermore, the study reveals that dividend-paying stocks are trading at significant discounts to non-dividend paying stocks. Moreover, by comparing the P/E multiples for non-dividend paying stocks to the stocks in the 10%-17% dividend group for each given year, the table shows that this 10%-17% group consistently traded at a discount compared to non-dividend paying stocks. This trend was only reversed for stocks with a dividend yield greater than 17%. Stocks with a dividend yield in the range of 10%-17% historically provided higher risk-adjusted returns and as of September 2012 are the cheapest in the market, as well as at lower multiples than their historical averages.

Conclusion

Results from our dividend group study indicate that risk-adjusted returns generally increase with dividends, with the highest risk-adjusted return coming from 10-17% dividend payers, much higher than generally assumed, and a segment generally overlooked by the financial community.

Appendix – Methodology of Dividend Study

- Country of Domicile – Global.
- Rebalance Date – June 30th.
- Market Capitalization – Market Capitalization greater than \$500 million.
- Turnover – Average daily turnover for 6 months greater than \$1 million.
- Public Float - Public float or free float should be greater than 10% of the total shares outstanding of each stock.
- Screened stocks are divided into different dividend groups based on dividend yield. The six groups are 0% (non-dividend payers), 0%-2%, 2%-6%, 6%-10%, 10%-17%, and Above 17%.
- The same process is repeated each year from 2003-2012.
- Portfolio Selection – Sample of 60 stocks is selected for each year for each group. Due to a lack of stocks over the life of the study, the above 17% group has 20 constituents.
- Weighting – Portfolios for each year for every dividend group are equal-weighted, aside from the distinction below.
- To remove bias of large-cap stocks in the 0% portfolio, at the time of portfolio selection, a market cap distribution 15% weight to large-cap stocks, 42.5% weight to mid-cap stocks and 42.5% weight to small-cap stocks, is applied.

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