OShaughnessy
ASSET MANAGEMENT

Stocks, Bonds, and the Efficacy of Global Dividends

OSAM RESEARCH: WINTER 2012

No matter what moniker one uses to describe the current market environment — "New Normal", "Paranormal", etc. — we can all agree that fiscal issues in the U.S., Europe, and the rest of the developed world will likely play out in an ongoing theatre for the next several years. As always, we look to history to be our guide, not to predict potential macroeconomic outcomes but to find potential investment opportunities. First, we look at the prospects for the two assets classes that comprise a majority of investor's portfolios: stocks and bonds. Second, we review one of the most tried-and-true investment strategies that has been a part of the investment lexicon since the beginning of the modern investment era: dividends. But we do so with a caveat — *global* dividends. Finally, we review the results of two strategies back to 1977 to demonstrate the applicability of our approach. We think you will find the results both eye opening and compelling.

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CONTENTS

Stocks and Bonds

The age-old argument between stocks and bonds, ying and yang, will forever be unresolved. With a total market value of stocks at $54 trillion[1] and bonds at $157 trillion worldwide as of 2010, there is simply too much money chasing those two core assets to come to any definitive conclusion. The reality is that money oscillates between the two. Over the past few years bonds have certainly won the battle in terms of asset flows and returns. However, as dictated by OSAM's unemotional process, we like to avoid coming to any conclusions based on the near-term past. Instead, we review as much market history as possible, in this case more than 85 years of data.

Looking back to the 1920s is always an interesting exercise because the period encompasses so many political, fiscal, and monetary environments. What is often most striking are the things that remain unchanged through those environments. One such constant is relevant to bonds. Using the Ibbotson Intermediate Government Bond Index (non-callable five-year U.S. Treasury Bonds) we are able to look at intermediate government bond yields and total returns back to 1926. Yields tend to move in long structural trends for decades, as you can see in Figure 1 on the following page. This is a wonderful attribute of the asset class as it provides stability to the macroeconomic environment and, ultimately, investor portfolios. Another wonderful attribute of bonds is the high level of probability with which one can predict their ***forward*** ten-year return. Our research team has found that there is a 95-percent correlation between the forward ten-year return on bonds and their current yield. If historical correlations hold true, this suggests with a high degree of probability that investors can expect an annualized nominal return of approximately 0.59 percent on intermediate government bonds for the next ten years. We're not quite ready to buy into the "New Normal" but looking an investor in the face and telling them to expect less than a one-percent nominal total return is certainly a sea change.

One of the things that complicates the analysis is that pesky nuisance known

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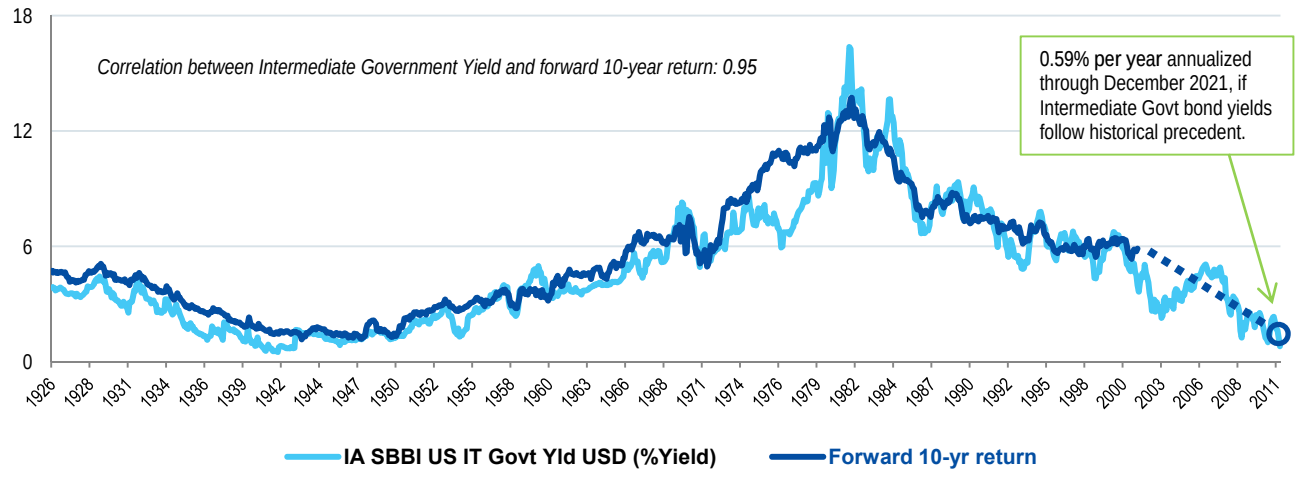
Figure 1: Intermediate U.S. Bond Yields and Forward 10-Year Annualized Return (%) (1/1/1926 to 12/31/2011)



as inflation. As Reinhart and Rogoff point out in their most recent book, inflation has become an increasingly more prevalent phenomenon in the post World War II era for the simple fact that, absent a gold standard, governments tend to inflate their way out of debt.[2] So a look back 85+ years simply is not complete without accounting for inflation. In Figure 2, you will see that we ran the same analysis but on an inflation-adjusted return basis. We find that there is still a high 70-percent correlation between intermediate government bond yields and the ***forward*** ten year real return on the bond assets. In rolling periods the forward ten-year real return is less than the yield on those inter-mediate bonds 92 percent of the time. We find similar results when comparing long term government yields and forward returns with ten-year real returns being less than long-term yields 91 percent of the time. Long-term corporate bonds also do little better with ten-year forward real returns underperforming the yield on long-term governments 90 percent of the time since 1926.[3]

Notice the exception to the rule depicted on the left-hand side of Figure 2. In extreme deflationary environments like the Great Depression safe haven assets like bonds or cash tend to do very well for the simple fact that the value of everything else is falling around you. That being said, comparisons are often made between the current environment and the Great Depression. Though the

Figure 2: Intermediate U.S. Bond Yields and Forward Real 10-Year Annualized Return (%) (1/1/1926 to 12/31/2011)

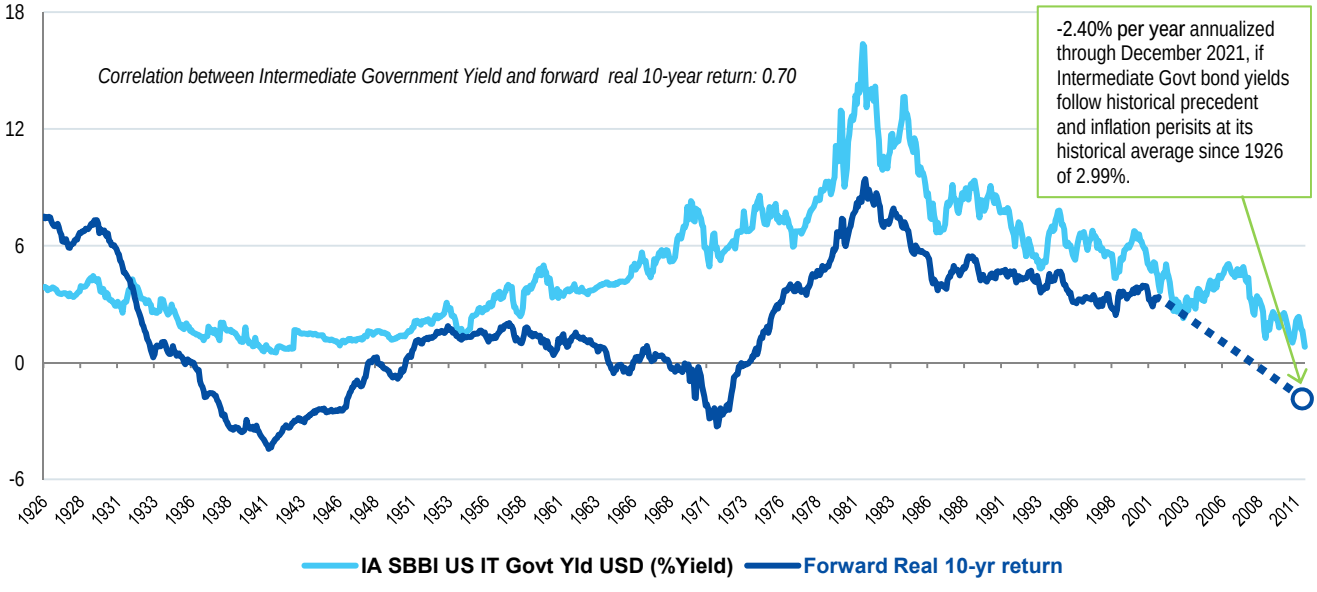


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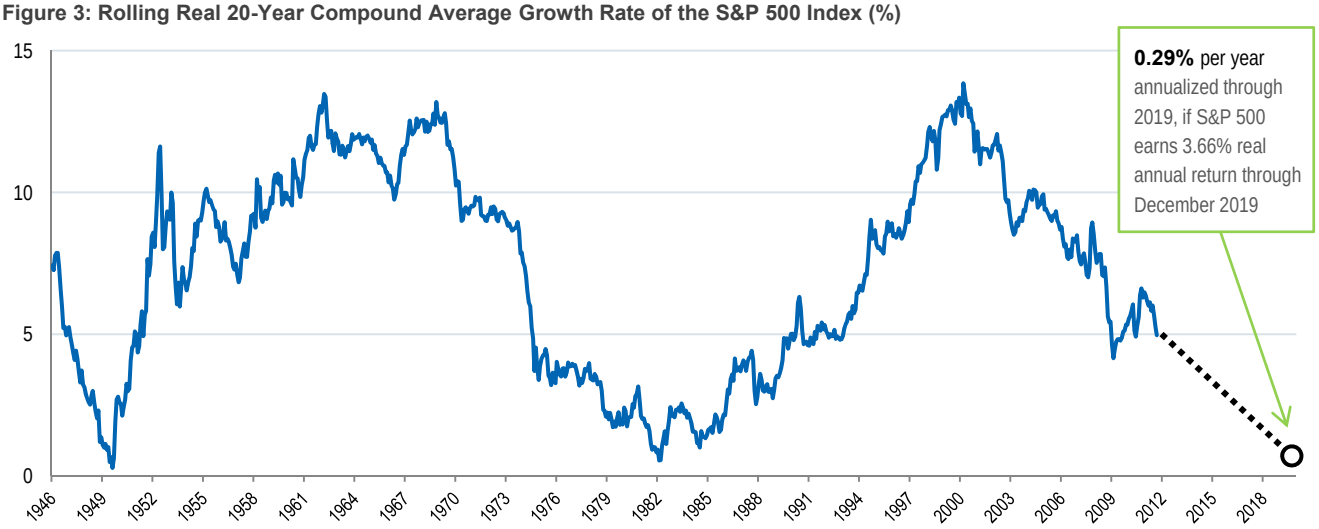
Figure 3: Rolling Real 20-Year Compound Average Growth Rate of the S&P 500 Index (%)



financial crisis has been tough sledding, it's a bit of a stretch to compare it to a market decline of -83 percent, nearly 19.8-percent unemployment, and the 27-percent fall in real GDP of the Great Depression.[4] Since 1926, inflation has run on average at 2.99 percent with some wild swings to both extremes. Assuming historical correlations hold true and inflation runs at its historical average since 1926, the data points to a -2.40-percent forward ten-year real return on those intermediate government bonds. In sum, the prospects for fixed income do not seem great.

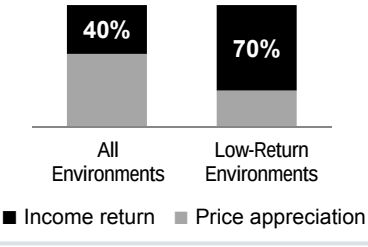
Equities have certainly been a disappointment over the past decade. Equities also move in long structural trends that resemble sine waves (see Figure 3). As mentioned above, massive swings in inflationary environments require any 85+ year analysis to be done on an inflation-adjusted basis. We turn our attention to rolling 20-year real returns for equities. Note that the absolute worst period occurred in the 20 years following the Great Depression. The 20-year real return ending August 1949 was 0.29 percent annualized. At that point the generation which had so direly suffered from an 83-percent and 34-month equity market drawdown literally started dying off.[5] Conversely, in 1949 their offspring were coming of savings and investment age. They tip-toed into the equity markets and, by the late 1960s, interest had turned into excessive enthusiasm. This boom-bust cycle repeated itself again with returns falling in the inflationary 1970s. On a real basis, investors for that decade suffered a -1.4-percent return.[6] A perfect characterization of the mood was a 1979 *BusinessWeek* cover story titled "The Death of Equities." Equities then took off on the greatest bull market run in modern history, peaking in March 2000 with a real return of 13.8 percent annualized. But now let's examine the prospects for equities…

To obtain a projection for equities so as to compare with our bond projection above we look to that worst real 20-year return period ending August 1949 of 0.29 percent annualized. We assume that equities generally move in 20-year cycles, as has been the case since 1926, and further assume that we are 12 years into a period that will match the worst 20-year period ending with the 0.29 percent annualized return mentioned above. Finally, we determine at what rate the equity markets would need to appreciate over the next eight years to equal that 0.29-percent average annual real rate of return. That number is 3.66 percent. Equity markets today would need to appreciate at 3.66 percent (adjusted for inflation) just to equal that worst 20-year period coming out of the Great Depression. If inflation runs at its historical average of 2.99 percent, that implies a nominal equity return projection of 6.65 percent through 2019.

Low-Return Environments

Given the last decade, 6.65 percent certainly sounds great. But in reality it falls short of the 10.3-percent long-term average nominal equity return since 1926.[7] In essence, our fixed income and equity return projections are telling us that we are likely in a "low-return" environment. If that is the case, then what opportunities typically present themselves in these environments historically? To answer that question we look at the composition of total returns over time. Using Ibbotson price and total return indices which proxy the S&P 500 back to 1926 we find that, in general, price appreciation accounts for 60 percent of total returns while dividends account for about 40 percent (see Figure 4 on the following page).

Figure 4: Percentage Contribution to Total Return (S&P 500 Index)
Rolling 10-year average, 1/1/1926–12/31/2011



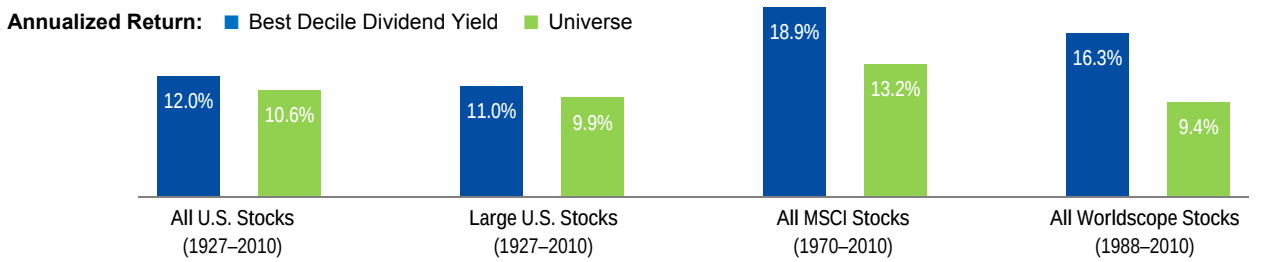
The "Aha!" moment comes when reviewing the composition of total returns in low-return environments, which we define as periods where the ten-year average annual return is less than the overall average since 1926. In those environments, the return on equities falls to 5.7 percent from the long-term average of 10.3 percent. In low-return environments the composition of total returns actually inverts, with the component attributable to dividends increasing to 70 percent of total returns. When looking at other developed markets, using MSCI data back to 1970, we find a similar phenomenon in the U.K. In all environments, dividends typically account for 34 percent of total returns. This allocation increases to 61 percent in low-return environments. Suffice it to say that if we are in a low-return environment, dividends will play an extremely important role for the foreseeable future. But let's not discount the importance of dividends to just low return environments. As we show next, yield is a powerful factor in all environments and across geographies.

Global Dividends

As Jim O'Shaughnessy shows in *What Works on Wall Street*, yield is one of the more intuitive and consistent factors in equity investing. Yield works because it is predicated on one of the two most tangible ways a company's management can prove their alignment with shareholder interests. Management can either write a check once per quarter (dividends) or repurchase shares (buybacks) on the open market. As shown in Figure 5, investing in a portfolio consisting of the top decile of dividend-yielding stocks since 1926 produces a positive 1.4-percent return differential over our proxy for the U.S. market (see Notes for All Stocks definition). Putting that in perspective, it is a 13.2-percent increase in the average annual total return over the course of 84 years. And the results occur with consistency. This high-yielding portfolio outperforms the market 74 percent of the time in rolling ten-year periods. It is even more consistent when the analysis focuses on Large U.S. stocks (those with a market capitalization greater than average). The portfolio beats Large Stocks 81 percent of the time in rolling ten-year periods.

We could have stopped the analysis there but, being keenly aware of the home bias that is so prevalent among U.S. investors, we kept going. The U.S. is a great place but we all like to take a vacation once in a while to Italy, Brazil, or maybe even China. When we do, we tend to realize that indeed there are large, high-quality, stable corporations outside of the U.S. that might just be worthy of our investment dollars. And it's a good thing because our research demonstrates that, since 1990, the percentage of dividend-paying companies in the U.S. has fallen from 77 percent to about 46 percent in 2011 (see Figure 6 on the following page). That statistic drastically contracts the opportunity set available when selecting dividend-paying stocks. Compare that to Europe, where about 78 percent of companies in 2011 were dividend payers. We suspect that 30 years ago, one could easily make the case that domestic U.S. and international developed markets should be considered independent from each other. But, in an increasingly globalized

Figure 5: Dividend Yield Performance



Base Rates*

Best Decile Dividend Yield vs. U.S. All Stocks Universe			
1-Yr	3-Yr	5-Yr	10-Yr
55%	64%	68%	74%

Best Decile Dividend Yield vs. U.S. Large Stocks Universe			
1-Yr	3-Yr	5-Yr	10-Yr
52%	63%	70%	81%

Best Decile Dividend Yield vs. MSCI All Stocks Universe			
1-Yr	3-Yr	5-Yr	10-Yr
77%	92%	97%	100%

Best Decile Dividend Yield vs. Worldscope All Stocks Universe			
1-Yr	3-Yr	5-Yr	10-Yr
81%	98%	100%	100%

* Base rate are a batting average for how often a strategy beats its benchmark over certain rolling time periods.

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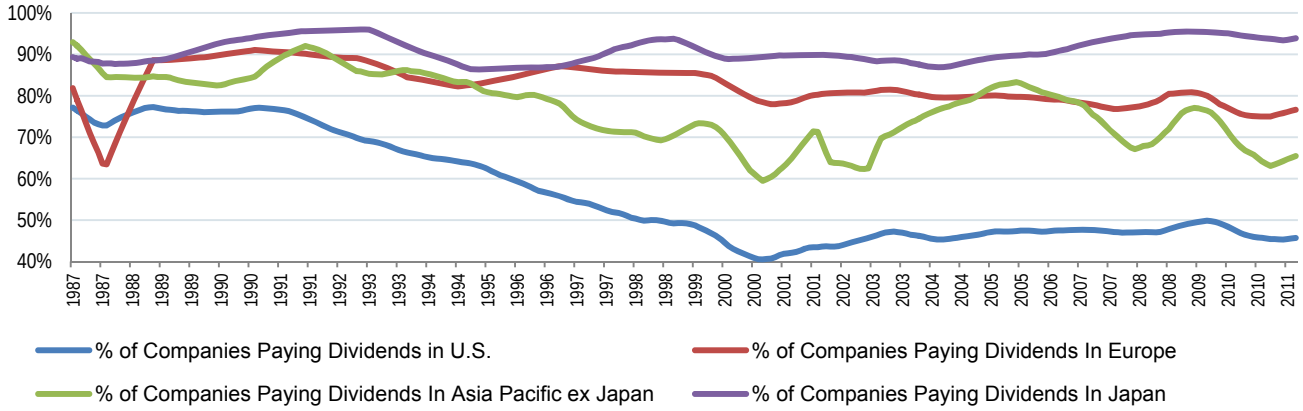
Figure 6: Percentage of Universe Paying Dividends



world, the argument becomes muddled. Standard and Poors estimates that S&P 500 companies derived 46 percent of their revenues from foreign sources in 2010.[8] This globalization of revenue streams has likely played a part in pushing correlations of major developed indices to 95 percent (S&P 500 and MSCI EAFE) over the past five years, and above 80 percent since 2001.[9] Globalization will likely persist, thus diminishing the benefits of viewing developed markets separately over time.

Dividend yield works well in the U.S. but it works much better globally (see Figure 5). Looking back to 1970, using MSCI data, we find that investing in a portfolio of the top decile of dividend-yielding companies produces a 5.7-percent positive excess return versus the market. Again, putting that in perspective, it is a substantial 43-percent improvement in average annual total return. And the results improve when we expand our universe even further, using the Worldscope database. From 1988 to 2010, the top decile of the yield portfolio outperforms the market by 6.9 percent on average, a 73-percent improvement in average annual total return. And it does so with amazing consistency; the high-yielding decile outperforms the MSCI database in 92 percent of the three-year rolling periods since 1970 and 98 percent of the rolling three-year periods versus the Worldscope database since 1988.

One of the advantages we find by taking a global perspective is the ability to source yield from different regions at different points in time. Figure 7 depicts the median yield in four distinct global regions over time. The chart demonstrates that — as is the case with investment factors — different regions lead the yield pack depending on their position in the economic cycle and interest rate regime. Limiting oneself to a particular region arbitrarily restricts the amount of income that can be generated by the portfolio. For example, as of June 2011, the median yield on European stocks was around 2.8 percent versus U.S. stocks at 1.8 percent. Sourcing yield globally allows the investor to access the highest yields in any given region while also providing key diversification of exposure to monetary policy across the globe.

Yield works. And it does so across geographies, market cap ranges, political regimes, and fiscal and monetary environments through time.

Figure 7: Median Yield of Dividend Payers By Region

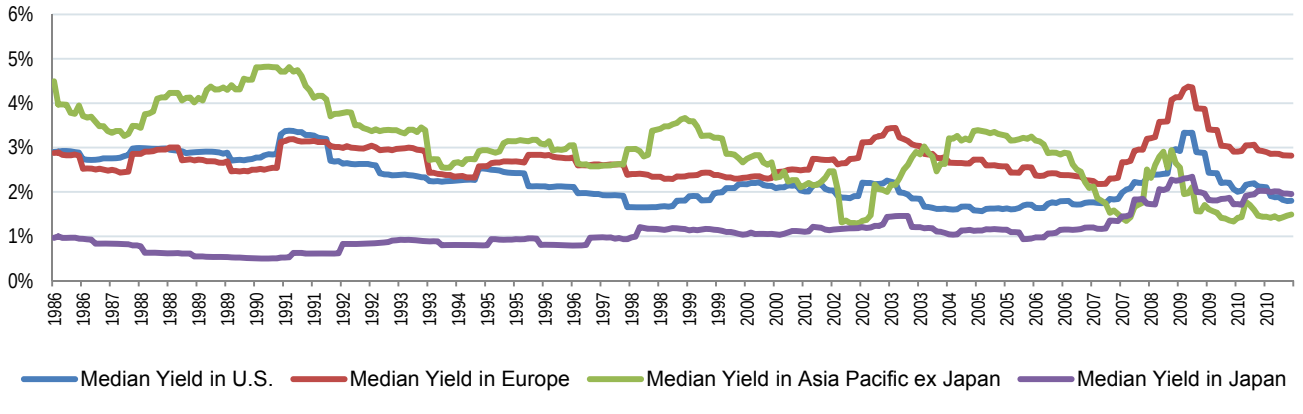


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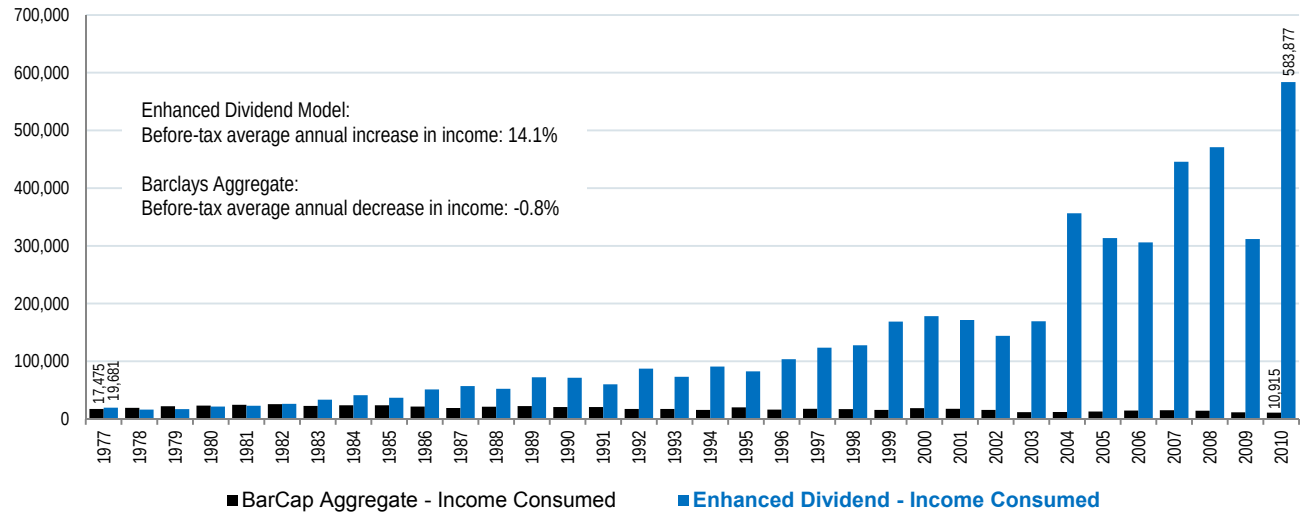
Figure 8: Before-Tax Income Consumed by Strategy (1977–2010) Portfolio Value = $250,000 as of 1/1/1977

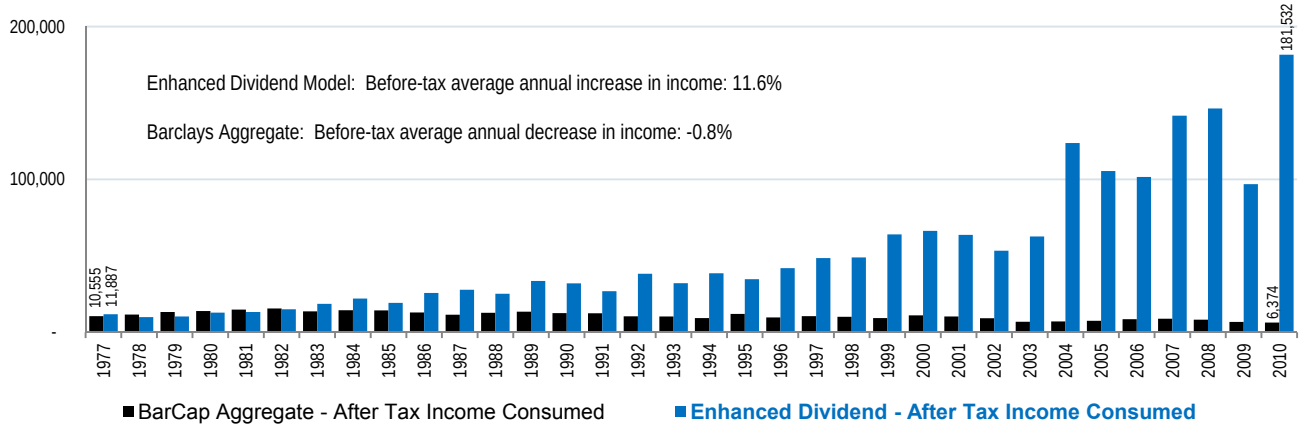


Specific Application of a Global Dividend Strategy

To demonstrate the power of dividend investing over time, we looked at how a proxy for our own dividend strategy would have done compared to the widely used Barclays Aggregate Bond Index. The Barclays Aggregate was incepted in 1976 with price return and total return data starting in January 1977. We use 1977 as a starting point for our analysis. We assume an investor starts with a $250,000 portfolio and consumes 100 percent of the income generated by their investment in either the Barclays Aggregate or our Enhanced Dividend strategy. Income is approximated using gross realized yields for each calendar year for the dividend investment and using the yield-to-worst on the bond index. On a before-tax basis, the income generated by the bond index investment falls from $17,475 in 1977 to $10,915 in 2010. Compare that to the high yield dividend investment which rises from $19,681 in 1977 to $588,877 in 2010. Keep in mind that this phenomenon is occurring in the midst of an unprecedented bull market in bonds. Before-tax income generated by the Enhanced Dividend model increases in 22 of 34 years of the study by an average 14.1 percent per year and with an average gross realized dividend yield of 6.3 percent over all 34 years. The bond index investment increases in 16 of 34 years and averages a -0.8 percent decrease per year.

On an after-tax basis, the results are similar. Given the divisiveness Washington has exhibited in recent months, tax rates are anything but certain. We take a conservative view and assume for the life of our study that the applicable income tax rate is 39.6 percent while capital gains are taxed at 20 percent. The income generated by the dividend strategy increases in 22 of 34 years by an average 11.6 percent increase. The bond index investment increases in 16 of 34 years by an average -0.8 percent decrease.

Figure 9: After-Tax Income Consumed by Strategy (1977–2010) Portfolio Value = $250,000 as of 1/1/1977



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After-tax income on the bond index decreases from $10,555 to $6,374 in 2010. After-tax income on the dividend strategy investment increases from $11,887 in 1977 to $181,532 in 2010.

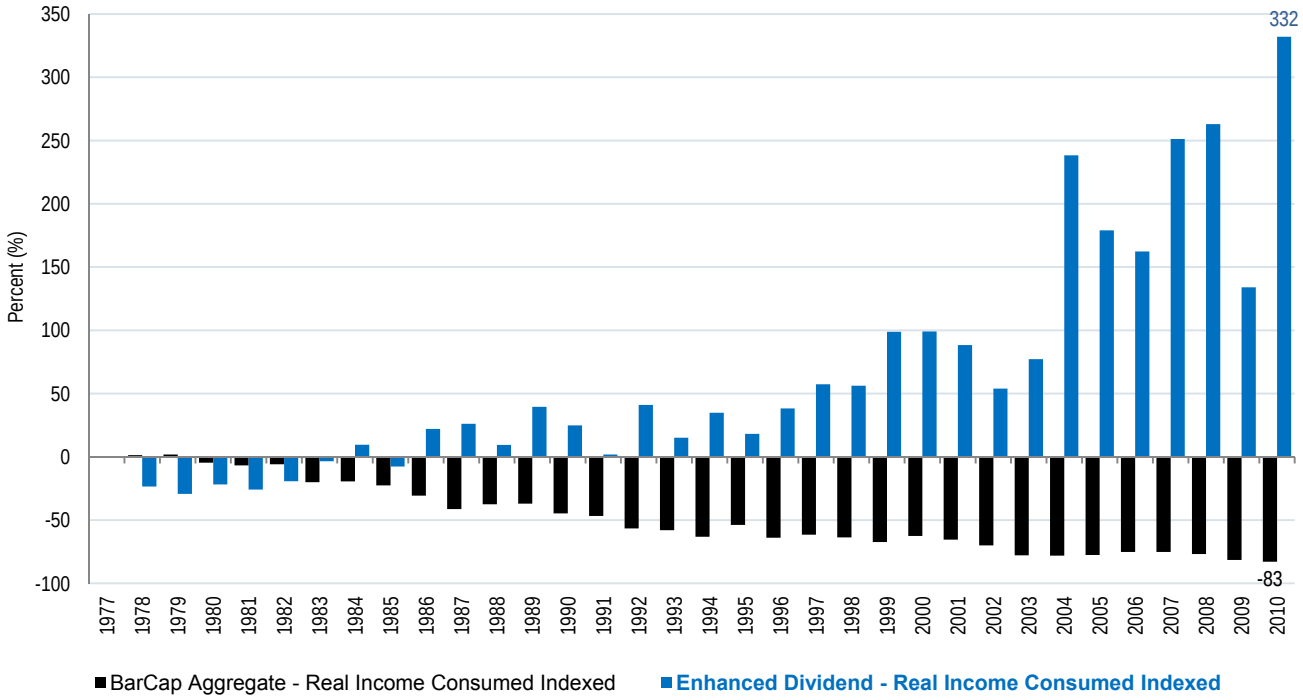
As we alluded to earlier, no long-term evaluation would be complete without a look at the impacts of inflation. Using our after-tax analysis as a starting point, we adjusted each year's income for the impacts of inflation over time.
In Figure 10 we find that over the 34 years of the study, the after-tax inflation adjusted income produced by the bond index investment falls 83 percent!
The investment in the dividend strategy produces a 332-percent increase in the income received after-tax and adjusted for inflation. This clearly demonstrates that any investor seeking income from their portfolio needs to balance the needs of portfolio volatility, income generation, capital appreciation and protection of purchasing power.

Conclusion

Bonds seem poised for low single-digit returns and, potentially, negative real returns. A conservative analysis of historical equity returns leads us to believe that equities could see mid to high single-digit nominal equity returns, though still below average. Dividend investing has historically been a reliable strategy producing superior excess returns in both U.S. and foreign markets. Expanding the universe of potential investments to include a global framework provides a greater opportunity set of high-quality, cash-rich multi-national companies with strong dividend yields.

Dividends are historically a significant component of total equity returns during low-return environments. When applied to pre- and post-tax income investors, a high-yield dividend strategy not only offers protection of purchasing power but also growth of income on a real basis.

Figure 10: Inflation-Adjusted Purchasing Power of After-Tax Income Consumed by Strategy Indexed to 0.0 at 1/1/1977



Endnotes

[1] McKinsey Global Institute, "Mapping Global Capital Markets 2011"

[2] *This Time Is Different: Eight Centuries of Financial Folly*, Carmen M. Reinhart

[3] Ibbotson Long-Term Government and Long-Term Corporate Indices

[4] "The Same Old Bear", O'Shaughnessy (http://www.osam.com/pdf/Commentary_Jan10.pdf). Robert M. Coen (1973). "Labor Force and Unemployment in the 1920s and 1930s: A Re-Examination Based on Postwar Experience", *The Review of Economics and Statistics*, 55(1): 46-55, U.S. Dept. of Commerce

[5] "The Same Old Bear", O'Shaughnessy (http://www.osam.com/pdf/Commentary_Jan10.pdf).

[6] EnCorr data

[7] Ibbotson data, OSAM Calculations

[8] "S&P 500: 2010 Global Sales," 7/19/2011

[9] Bloomberg, OSAM Calculations

Notes

Universes

1. The All Stocks Universe includes all stock included in the Compustat Database listed on a U.S. exchange with a market value greater than $200mm and a price per share greater than $1.
2. The Large Stocks Universe consists of all the stocks in the All Stocks Universe where the market capitalization is greater than the universe average.
3. The ADR All Stocks Universe consists of all the stocks where the headquarters are domiciled outside of the United States and Canada.
4. The ADR Large Stocks Universe consists of all the stocks in the ADR All Stocks Universe where the market capitalization is greater than the universe average.

Characteristics

1. Market Capitalization Ranges are defined follows: Small Cap stocks range from $200m to $2bn, Mid Cap from $2bn to $10bn, Large Cap stocks greater than $10bn. Market capitalizations are inflation-adjusted to December 2008. Universes are equally weighted
2. Dividend Yield is calculated by the indicated annual dividends in IDC ex-Share divided by the current market capitalization.
3. Realized Yield is calculated by the actual dividends in IDC ex-Share over the trailing twelve months divided by the current market capitalization.
4. Price to Sales is calculated by the trailing 12-month revenues from Compustat divided by the current market capitalization.
5. Momentum is the total return of the stock over the period indicated, including price appreciation and dividends.
6. Earnings Growth is a one-year calculation, looking at the percentage change in Earnings per Share in the last twelve months versus the twelve months before. To account for negative earnings, the scalar is taken as an absolute value.
7. Yield-to-worst is defined as the lowest potential yield that can be received on a bond without the issuer actually defaulting based upon assumptions that an issuer would exercise provisions resulting in prepayments, calls or sinking funds.