

A strategic approach to supplement income

Improve portfolio efficiency by accumulating dividends while abating risk



Overview

Given the persistent low interest rate environment, income-generating strategies continue to be on the minds of many types of investors. We continue to hear that enhancing income streams is critical for retirement plans, insurance companies, endowments, and a variety of other types of investors. A range of approaches have been discussed to help curb the loss of income, but do they make sense? For example, allocating part of a portfolio to high-dividend-paying stocks has been discussed in the press, but do investors want to expose themselves to that type of volatility? Private credit and other illiquid

strategies may offer nice yield premiums, but generally cost more and handcuff flexibility given their lockups. Is there a way that investors can harness other income sources while still maintaining bond-like volatility in a relatively liquid and efficient solution? We believe that there is an approach that may allow investors to do just that.

Investors can use equities to help supplement income while tempering volatility, if managed appropriately. We believe that you can generate income, control principal risk, and achieve low correlation to both stocks and bonds while neutralizing equity beta.

The current environment for income-oriented investors

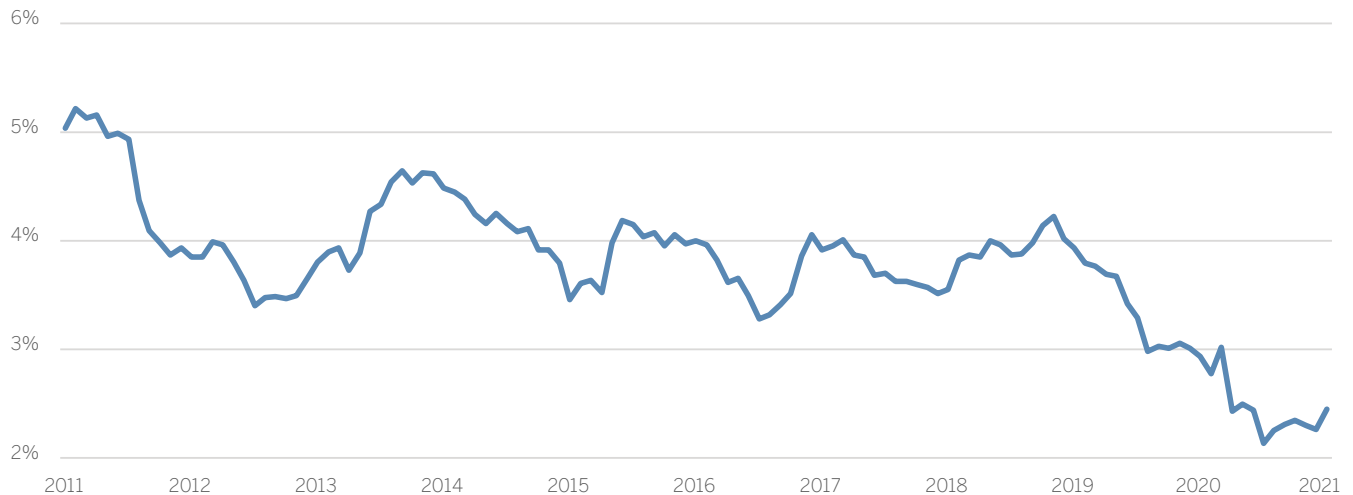
Over the past 10 years, bond yields have been cut in half and investors reliant on income have struggled to generate necessary cash flows.

Exhibit 1, from the Federal Reserve Bank of St. Louis, reflects the yield on Aaa corporate bonds as rated by Moody's. We can see that the yield on Aaa seasoned corporate bonds as of January 2021 was close to 2.5%, which is about half of what investors would have received 10 years prior. The math is rather straightforward, and the resulting loss of income on a \$100,000,000 portfolio would have resulted in a \$2,500,000 annual shortfall.

In addition, given that the duration on most intermediate duration or "core" bond portfolios is above five years, if rates rise by 100 basis points (bps), the principal will take a 5% or greater hit as well, all else equal.

Investors may seek to shift assets into equity strategies that emphasize dividend income to help supplement the loss of coupon. An issue that investors may have with that strategy is that equities historically have carried significantly more volatility than fixed income. *Exhibit 2* illustrates the difference in volatility between the Bloomberg Barclays US Aggregate Index ("Agg"), a bond market index, the Russell 1000® Yield Factor Index, an equity index that focuses on stocks with high yields, and finally the S&P 500® Index, a general equity market index.

EXHIBIT 1
Aaa corporate bond yields



Past performance is no guarantee of future results.

Source: St. Louis Federal Reserve Economic Data. Data as of January 2021.

EXHIBIT 2

Equities may offer attractive yields but often come with higher risk

	Standard Deviation (%)				Maximum Drawdown (%)			
	1-Year	3-Year	5-Year	10-Year	1-year	3-Year	5-Year	10-Year
Bloomberg Barclays US Aggregate Index	3.61	3.56	3.31	3.04	3.56	3.56	3.56	3.67
Russell 1000 Yield Factor Index	17.51	18.86	15.24	13.07	4.59	25.78	25.78	25.78
S&P 500 Index	17.33	18.40	14.89	13.58	6.36	19.60	19.60	19.60

Past performance is no guarantee of future results.

Source: eVestment. As of March 2021.

The standard deviation is meaningfully higher over various time periods for the equity strategies, which may not be appealing to income-focused investors. In addition, the maximum drawdown is much higher. Given the higher volatility that equity strategies carry, income-oriented investors may shy away from incorporating equities into their portfolio.

Does this rule out equity strategies? Not necessarily. Dividends can still be a source of income, but there needs to be a way to control the volatility. One way to control the volatility is by structuring a hedge to neutralize the broad market volatility of the equities. Indeed, by using tools similar to those already used by some bond managers to control risk and applying them to an equity portfolio, volatility can be moderated. There are fixed income managers who use various types of derivatives to control duration, credit risk, and other exposures; the use of liquid, broad-market equity futures to help control the beta of the portfolio could be an acceptable tool to control risk.

The transparent three-step process

The process we propose is rather straightforward and consists of three steps:

- 1. Capture equity income**
- 2. Neutralize equity risk**
- 3. Manage factor risk**

This transparent, three-step approach aims to create a strategy that is viable in all market environments and at all points of the economic cycle.

To begin, the investor crafts an income engine that consists of a portfolio of high-dividend-paying stocks. Once the portfolio is built, the process of neutralizing equity beta is accomplished by shorting liquid, core broad-market index futures against the dividend-paying stocks. Given that shorting of these indexes is not a perfect 1:1 match, investors can further mitigate equity beta by applying a futures overlay strategy that also applies liquid, core broad-market index futures.

The first step is to build the income engine by constructing a portfolio of high-dividend stocks. This portfolio could reflect any combination of sectors, regions, or market capitalizations. For example, an investor could choose to allocate equally among various classifications to eliminate biases or may choose to overweight one sector, region, or market cap over the others.

The second step is to neutralize the equity beta of these stocks. To accomplish this, investors can short core broad-market equity index futures that correspond to the asset class(es) of the high-dividend equity portfolio. Exchange-traded futures may be appropriate vehicles, providing transparency to the investor given that price quotes are readily available, they are liquid, and they don't carry the

counterparty risk that is inherent in some other types of derivatives. Against each long basket of equity securities, the idea is to short an appropriate core broad-market index to neutralize beta.

Each short is *beta adjusted in size*, not dollar for dollar, making this beta neutral

It is worth noting that a benefit of beta hedging each pair of long dividend stocks by shorting broad-market indexes is that it allows the investor to remain agnostic as to the relative systematic risk of one pair to the other (for example, generally an allocation to emerging markets is riskier and you wouldn't be able to allocate to it equally under normal constructs; however, by pairing it with a beta-neutral hedge of MSCI EM futures, you get the benefit of the higher yields while mitigating the resulting volatility). In practice, the volatility of the pairs will ebb and flow relative to one another and provide important risk reduction via their interaction and the benefit of the resulting diversification.

The third step is to address the potential for basis risk, such as sector, style or region bias. This is important to investors who might prefer to neutralize the inherent style bias of dividend-paying equities in their portfolio. For instance, a portfolio of high-dividend-paying stocks typically has a value tilt, so generating complementary growth exposure would be a possible solution. This type of process

can be done for a variety of unintended exposures that the investor might prefer to neutralize.

The approach sized up

In order to evaluate how viable this strategy is in all market environments and at all points of the economic cycle, we developed a hypothetical approach using the process outlined above, coupled with specific style, sector, and region requirements.

The first step of our hypothetical approach, the income engine of the strategy's process, is constructing a global high-dividend portfolio of stocks to capture dividend income (we chose U.S. Large Cap High Dividend, U.S. Small Cap High Dividend, International High Dividend, and Emerging Markets High Dividend) by allocating to the underlying stocks of the rules-based Nasdaq Victory High Dividend Indexes. The income engine invests directly into the underlying stocks represented in each index. This provides a rules-based stock selection process that focuses on global high-dividend stocks, providing us with a systematic, consistent process that helps to avoid behavioral biases but also provides a portfolio with a yield higher than a simple, domestic portfolio. This allocation helps to provide additional diversification, which aims to be viable in a variety of market environments and throughout an economic cycle.

EXHIBIT 3

Average yield of Nasdaq Victory High Dividend indexes – hypothetical back-tested data

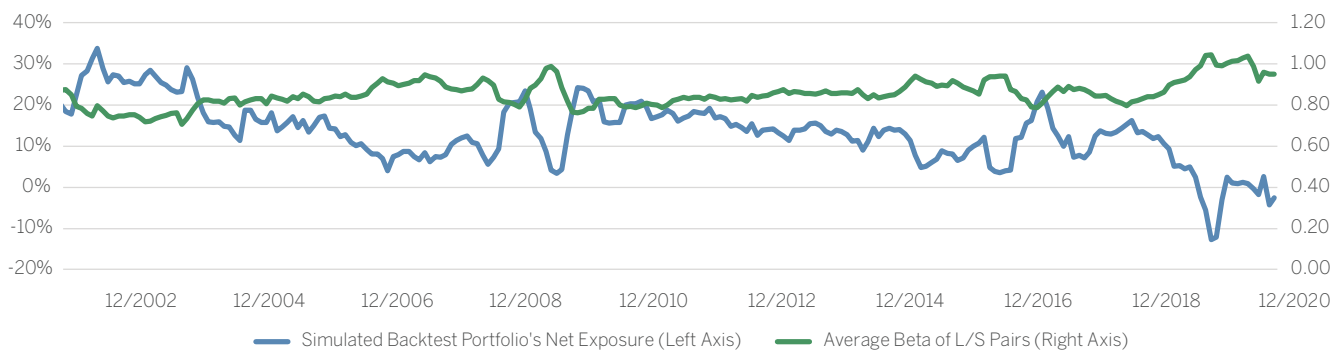


Past performance is no guarantee of future results.

The performance shown is hypothetical, back-tested performance. See last page for important details.

Source: FactSet. From December 2001 to December 2020.

EXHIBIT 4
Hypothetical back-test portfolio



The data shown is hypothetical, back-tested data. See last page for important details.

Net exposure refers to the weight of the long positions less the weight of the short positions.

Source: FactSet. From March 2001 to December 2020.

As presented, the strategy is long (in equal allocations) U.S. Large Cap High Dividend, U.S. Small Cap High Dividend, International High Dividend, and Emerging Markets High Dividend. The resulting hypothetical yield of the income engine is illustrated in *Exhibit 3*.

The next step is to neutralize the market risk, or beta, of each long basket by shorting a corresponding futures contract:

- > For U.S. Large Cap High Dividend Stocks – S&P 500 futures are shorted
- > For U.S. Small Cap High Dividend Stocks – Russell 2000 futures are shorted
- > For International High Dividend Stocks – MSCI EAFE futures are shorted
- > For Emerging Markets High Dividend Stocks – MSCI EM futures are shorted

At this point, we still need to address the basis risk. In this case, it is style factor risk where an overlay strategy is created that seeks to capture the outperformance of growth stocks to balance the value tilt of the dividend-paying stocks in the income engine. Very simply, the hedge is long Nasdaq 100 futures contracts and shorts the S&P 500 futures in order to capture growth stock exposure. Those are two of the most well-known and actively traded equity indexes. By being long growth and short core, the hypothetical

approach seeks to capture this growth premium to help offset the “value” exposure of the global dividend portfolio.

We show the hypothetical, historical market exposure of the strategy in *Exhibit 4*. If we apply the rules-based steps used to construct the income engine and then apply the corresponding beta-neutral shorts to reduce market risk, we can graph the hypothetical average beta of the long/short pairs as well as the simulated net exposure, which provides evidence that as the beta rises, the strategy reduces its exposure to equities.

Our hypothetical approach seeks to balance effectiveness and efficiency: we know that every additional degree of engineering comes with a trade-off, and we believe that investors are best suited to make that judgment themselves and that those approaches should be considered.

It is interesting to observe that the hypothetical, back-tested returns from the long/short sleeves add value. In *Exhibits 5 and 6*, we use hypothetical data to back-test the hedging program. Based on this data, we observe that the hedges have been additive to returns and are reflected in the gray-shaded area. These two long/short portfolios tend to produce offsetting excess return patterns that combine to neutralize beta. Typically, when one is underperforming, the other is outperforming. This is most apparent in the recent periods, but can be seen to smaller degrees throughout the

entire time period. This is what makes this pairing attractive in the pursuit of neutralizing beta. The strategy would generate negative returns if either the income engine or the growth overlay was off significantly more than the other or if both were down at the same time.

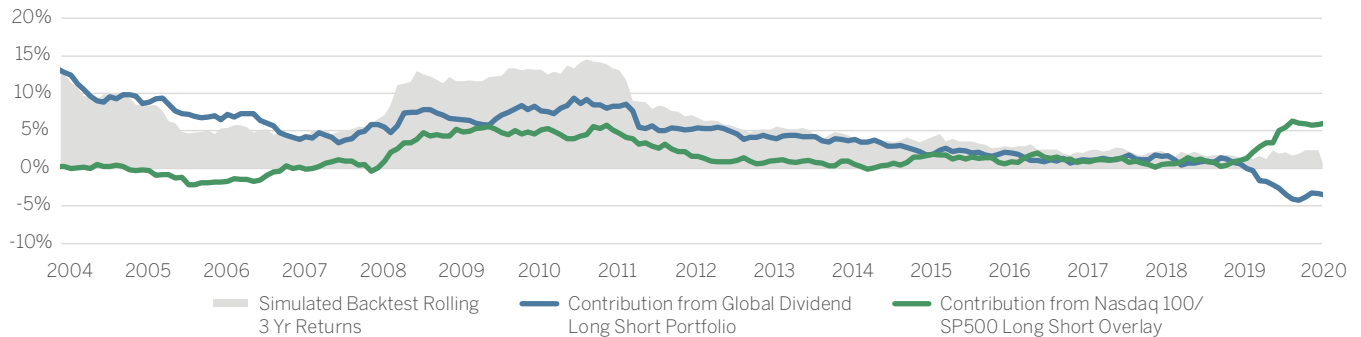
At this point, as illustrated in *Exhibit 6*, it is worthwhile to point out that pairing the dividend long/short approach with the futures overlay has performed as expected in the back-test: when dividends are underperforming, the futures have outperformed and vice versa. This is not based on manager timing but rather on market performance.

What may be surprising to some is that the hypothetical hedged strategy back-test reflects a bond-like volatility profile.

Indeed, we were pleased to see the results when we reviewed the following charts and data (*Exhibits 7 and 8*), and found that the strategy generated a return pattern that not only satisfied the goal of generating income but reflected a volatility profile similar to bonds and also produced correlation values that could improve portfolio efficiency.

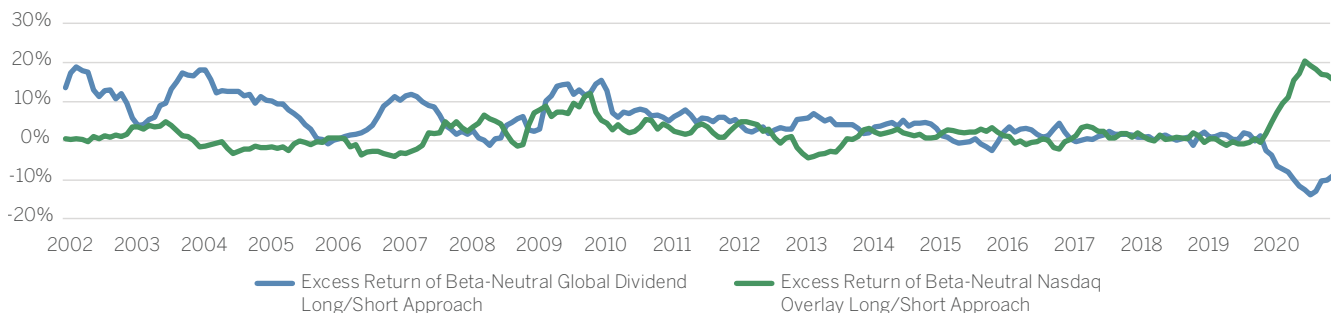
Notice that the analysis dates back to 2001 and covers several different market events. On an absolute basis, the performance in down markets fared much better than the S&P 500. The worst period for the simulated back-test was -3.26% in a month and -1.74% for a year, which is in line with the Agg. On the other hand, the S&P 500 was down -16.79% for a month and -43.32% over a year for the same period.

EXHIBIT 5
3-Year rolling return of hypothetical back test and contribution from long/short sleeves



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The performance shown is hypothetical, back-tested performance. See last page for important details.
Source: FactSet from February 2004 to December 2020.

EXHIBIT 6
Excess return of the global high-dividend long/short portfolio versus the excess return of the Nasdaq long/short overlay (1 year rolling returns)



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The performance shown is hypothetical, back-tested performance. See last page for important details.
Source: FactSet from February 2004 to December 2020.

Along the same line, the simulated back-test generated a Standard Deviation of 3.87% versus 3.43% for the Agg and 15.04% for the S&P 500. Interestingly, the Sharpe Ratio of the simulated back-test results for the strategy beat both indexes.

Another often discussed metric is the beta relative to the indexes. Note that the portfolio generated a very low beta

relative to the benchmark, which further attests to the relatively low volatility relative to the S&P 500.

In addition to the attractive risk metrics, helping to make this approach interesting from an asset allocation view, it has a low correlation to stocks and bonds in the back-test. *Exhibit 9* shows a 0.09 correlation to the Agg, and the chart shows its 0.22 correlation to the S&P 500. The

EXHIBIT 7

Market Capture – the portfolio design exhibited a bond-like level of volatility and drawdown profile

	# of Months		Avg. Return (%)		Month (%)		1-Year (%)		Market Benchmark (%)		
	Up	Down	Up	Down	Best	Worst	Best	Worst	Up Capture	Down Capture	R- Squared
Simulated Backtest - Beta Adj	170	72	1.05	-0.57	7.75	-3.26	25.75	-1.74	18.40	-12.50	4.84
S&P 500 Index	160	82	3.08	-3.93	12.82	-16.79	56.35	-43.32	74.70	-72.50	0.85
Bloomberg Barclays US Aggregate Index	159	83	0.91	-0.66	3.73	-3.36	13.79	-2.47	100.00	100.00	100.00

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Sources: Bloomberg, S&P, Zephyr, Style ADVISOR. From February 2001 to March 2021.

EXHIBIT 8

Risk and return analysis – relative to fixed income market

	Return	Cumulative Return	Standard Deviation	Sharpe Ratio	Maximum Drawdown	Alpha	Beta	Correlation
Simulated Backtest - Beta Adj	6.92%	285.29%	3.85%	1.44	-3.26%	6.53%	0.10	0.09
S&P 500 Index	7.54%	333.03%	15.04%	0.41	-50.95%	10.74%	-0.40	-0.09
Bloomberg Barclays US Aggregate Index	4.53%	144.36%	3.43%	0.91	-3.83%	0.00%	1.00	1.00

Past performance is no guarantee of future results.

The performance shown is hypothetical, back-tested performance. See last page for important details.

Sources: Bloomberg, S&P, Zephyr, Style ADVISOR. From February 2001 to March 2021.

EXHIBIT 9

Risk and return analysis – relative to equity market

	Return	Cumulative Return	Standard Deviation	Sharpe Ratio	Maximum Drawdown	Alpha	Beta	Correlation
Simulated Backtest - Beta Adj	6.92%	285.29%	3.85%	1.44	-3.26%	6.49%	0.06	0.22
Bloomberg Barclays US Aggregate Index	4.53%	144.36%	3.43%	0.91	-3.83%	4.78%	-0.02	-0.09
S&P 500 Index	7.54%	333.03%	15.04%	0.41	-50.95%	0.00%	1.00	1.00

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The performance shown is hypothetical, back-tested performance. See last page for important details.

Sources: Bloomberg, S&P, Zephyr, Style ADVISOR. From February 2001 to March 2021.

low correlation of the portfolio to the broad market indexes helps to enhance its diversification power in an allocation and can improve portfolio efficiency.

Conclusion

Investors looking for income can supplement their existing fixed income allocation by investing in a portfolio of dividend-paying equities. In order to control the volatility of the portfolio, futures can help neutralize the risk. Although a variety of tools can be used to control risk, we selected exchange-traded futures due to their transparency, liquidity, ease of implementation, and the fact that the clearinghouse structure of the exchange helps mitigate counterparty risk.

The process can be summarized as follows:

Long/short portfolio of global high-dividend paying stocks

- > Sector
- > Style
- > Region

The second long/short overlay strategy addresses basis risk

Specific to our approach, the global dividends seek to provide attractive levels of income, while shorting the index futures, plus the overlay, seeks to minimize equity volatility.

Indeed, the longer-term back-test reflects that this strategy has been able to deliver a solid income (see *Exhibit 3*) and return stream with volatility in line with the bond benchmark and low correlations to bond and equity indexes (see *Exhibits 7 to 9*).

The portfolio design appears to be a tool that investors could use not only to enhance the income streams that

have dwindled as interest rates have fallen, but it may also help to enhance the effectiveness and efficiency of a portfolio due to the relatively low risk measures and correlations. This is an important factor to consider, not only if one is concerned about inflated equity prices but also if interest rates begin to rise and bond values take a hit.

Finally, this is a relatively transparent strategy with a high degree of liquidity that overcomes the obstacles of some of the other strategies being proposed, such as private debt or private equity. Investors can easily check valuations and manage positions relatively easily. This is especially important as market conditions change.

We believe that this strategy could be helpful for investors searching for income enhancement but also for investors looking to craft a more efficient asset allocation across a variety of market conditions, making it more than simply a tactical income solution. Investors could use this to supplement income when rates are low, and it can be used to buffer principal values as rates rise and when investors are looking to help improve the efficiency of their portfolio design. We believe this because according to our back-tests the strategy reflected a low correlation to broad equity and fixed income indexes, and it would have acted as a solid diversifier. Given the income stream that it generates, it would have increased the yield on a portfolio, which could benefit retirement plans, LDI structured programs, endowments looking to make payments, foundations needing cash to support essential programs, and investors looking to boost returns on some types of cash management programs. We see this as a strategic tool to supplement income and to improve portfolio construction in many market environments. ■

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IMPORTANT INFORMATION

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