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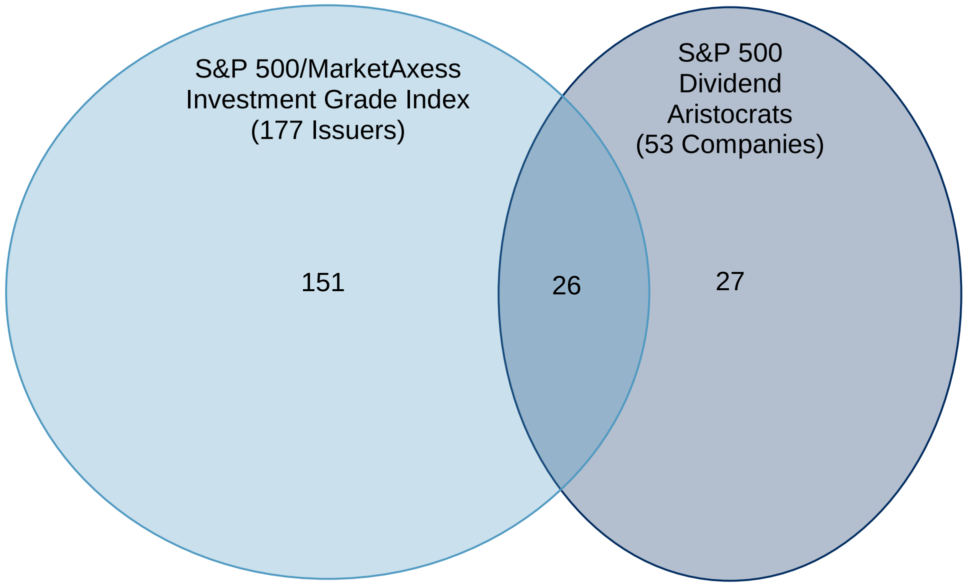
Elevating the Aristocrats:
Pairing the S&P 500® Dividend Aristocrats® With the S&P 500/MarketAxess Investment Grade Corporate Bond Index

Both the S&P 500 Dividend Aristocrats and the S&P 500/MarketAxess Investment Grade Corporate Bond Index were designed to measure the performance of blue-chip, high-quality companies of the S&P 500. They both focus on well-capitalized U.S. companies with strong credit fundamentals and proven capital management. Taken together, they offer an opportunity for steady income, protection against market volatility, and enhanced liquidity.

- The S&P 500 Dividend Aristocrats is designed to measure the performance of S&P 500 constituents that have increased dividends every year for at least 25 years.
- The S&P 500/MarketAxess Investment Grade Corporate Bond Index tracks the largest-issued, high-quality bonds of S&P 500 constituents. The index offers efficient exposure to the broader U.S. investment-grade corporate bond market, while also including bonds that tend to trade in larger volume and with higher frequency, thus offering greater depth of liquidity.
- Combining the complementary attributes of the S&P 500/MarketAxess Investment Grade Bond Index and the S&P 500 Dividend Aristocrats can potentially result in increased yield, reduced volatility, and higher risk-adjusted returns.

Constituents of the S&P 500 Dividend Aristocrats or the S&P 500/MarketAxess Investment Grade Corporate Bond Index are limited to just 200 of the S&P 500 companies, but there are only 26 companies that reside in both. These include the household names such as AT&T, Coca-Cola, Exxon Mobil, Johnson & Johnson, McDonald’s, Procter & Gamble, and Walmart.

Exhibit 1: Only 200 S&P 500 Constituents Represented



Source: S&P Dow Jones Indices LLC. Data as of Feb. 28, 2018. Chart is provided for illustrative purposes.

Membership in the S&P 500 Dividend Aristocrats requires a proven record of balance sheet strength and disciplined capital management.

Membership in the S&P 500 Dividend Aristocrats requires a proven record of balance sheet strength and disciplined capital management. However, the strict eligibility rules exclude some of the highest-quality companies in the world. Many of the largest U.S. blue-chip companies do not have the dividend history to be eligible for inclusion; others may have halted dividends during the financial crisis but have shored up balance sheets and are now fundamentally solid. Members of the S&P 500/MarketAxess Investment Grade Corporate Bond Index that are not in the S&P 500 Dividend Aristocrats include highly rated companies such as Microsoft, Apple, Cisco Systems, and Berkshire Hathaway (see Exhibit 2).

There are many notable S&P 500 Bond issuers that are members of the S&P 500/MarketAxess Investment Grade Corporate Bond Index but are not in the S&P 500 Dividend Aristocrats.

Exhibit 2: Notable S&P 500 Bond Issuers and Constituents of S&P 500/MarketAxess Investment Grade Corporate Bond Index Not in the S&P 500 Dividend Aristocrats

ISSUER	TICKER	MARKET VALUE WEIGHT (%)	CREDIT RATING
Amazon.com Inc	AMZN	0.5	AA-
Apple Inc	AAPL	3.9	AA+
Berkshire Hathaway Inc	BRK	0.7	AA
Caterpillar Inc	CAT	0.3	A
Cisco Systems Inc	CSCO	1.0	AA-
Citibank Na	C	3.1	A+
Costco Wholesale Corp	COST	0.1	A+
Eli Lilly And Co	LLY	0.1	AA-
General Electric Co	GE	2.9	A
Home Depot Inc	HD	0.8	A
Honeywell International Inc	HON	0.2	A
IBM	IBM	0.4	A+
Intel Corp	INTC	0.7	A+
John Deere Capital Corp	DE	0.1	A
JPMorgan Chase Bank Na	JPM	4.5	A+
Merck & Co Inc	MRKX	0.6	AA
Microsoft Corp	MSFT	3.3	AAA
Oracle Corp	ORCL	2.4	AA-
Pfizer Inc	PFE	0.7	AA
Qualcomm Inc	QCOM	1.0	A
U.S. Bancorp	USB	0.6	A+
United Parcel Service Inc	UPS	0.2	A+
UnitedHealth Group Inc	UNH	0.5	A+
Visa Inc	V	1.0	A+
Walt Disney Co	DIS	0.2	A+
Wells Fargo Bank Na	WFC	4.4	A-

Source: S&P Dow Jones Indices LLC. Data as of Feb. 28, 2018. Ratings have been presented in accordance with the S&P Global Ratings scale. S&P Dow Jones Indices incorporates ratings from Moody's, S&P Global Ratings, and Fitch in its indices where available; the lowest rating in each category is used to determine the ratings distribution. Table is provided for illustrative purposes.

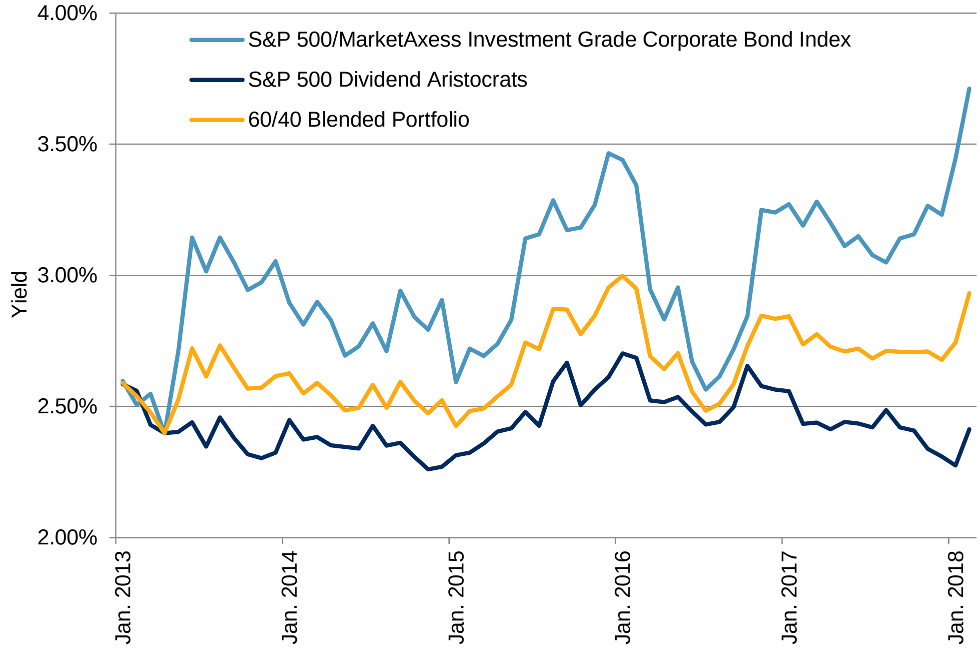
ENHANCED INCOME STREAM

One of the more compelling reasons to pair these high-quality, focused memberships is the steady stream of income that can be generated.

One of the more compelling reasons to pair these high-quality focused memberships is the steady stream of income that can be generated. Although 25 years of increasing dividends is difficult to improve upon, adding the coupon yield through an allocation to the S&P 500/MarketAxess Investment Grade Bond Index could increase the expected income stream one would expect to receive. From Jan. 1, 2013, to Dec. 31, 2017, the yield-to-worst on the S&P 500/MarketAxess Investment Grade Corporate Bond Index averaged approximately 60 bps more than the dividend yield of the S&P 500 Dividend Aristocrats—and this was during a period of record low corporate bond yields. As of Feb. 28, 2018, the yield-to-worst of the

S&P 500/MarketAxess Investment Grade Corporate Bond Index was 130 bps higher than the dividend yield of the S&P 500 Dividend Aristocrats (see Exhibit 3).

Exhibit 3: Yield Comparison (Dividend Yield Versus Yield-to-Worst)



Source: S&P Dow Jones Indices LLC. Data as of Feb. 28, 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of the document for more information regarding the inherent limitations associated with back-tested performance.

INTEGRATION OF COMPLEMENTARY ATTRIBUTES

Arguably, the most fundamental tenet of portfolio construction is to utilize assets that have low correlation. The primary benefit of low correlation is the potential reduction of volatility and, as a result, increased risk-adjusted returns. When measuring their three-month rolling correlation, the S&P 500 Dividend Aristocrats and the S&P 500/MarketAxess Investment Grade Corporate Bond Index exhibited negative correlation 94% of the time from March 31, 2008, to Feb. 28, 2018 (see Exhibit 4).

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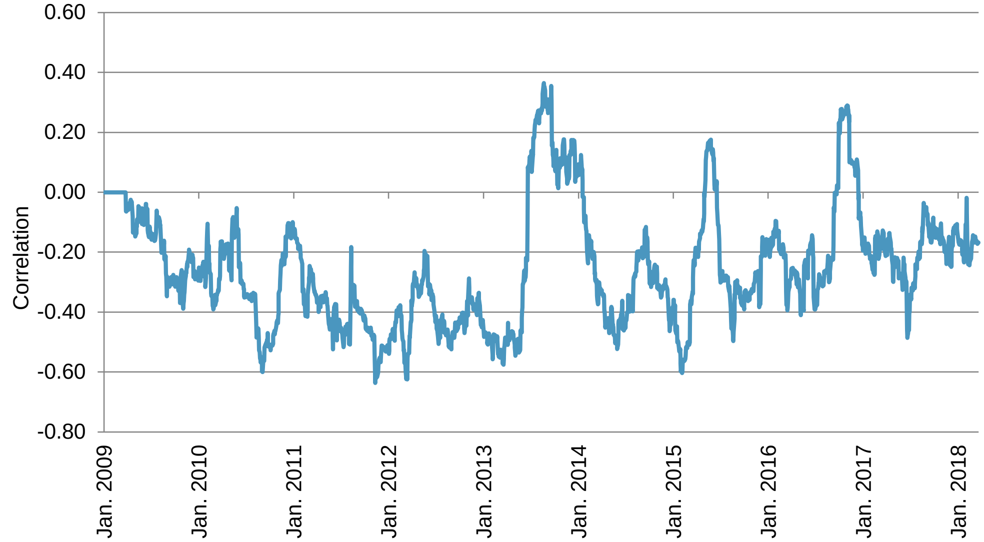
Exhibit 4: Rolling Three-Month Correlation



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Based on a hypothetical portfolio with a 60% weighting of S&P 500 Dividend Aristocrats and 40% weighting of S&P 500/MarketAxess Investment Grade Corporate Bond Index, the benefits of this negative correlation were evidenced by the increased Sharpe ratios. Exhibit 5 shows that, despite the muted volatility in equity markets during the timeframe, the 60/40 blended portfolio benefited from a greater reduction in volatility while maintaining enough total return to produce increased Sharpe ratios every year from 2014 to 2017.

Exhibit 5: Increased Risk-Adjusted Returns

INDEX		2014	2015	2016	2017
S&P 500 Dividend Aristocrats	Total Return (%)	13.1	-1.5	9.0	18.8
	Volatility (%)	10.1	14.0	12.1	6.8
	Sharpe Ratio	1.29	-0.11	0.74	2.77
S&P/MarketAxess Investment Grade Corporate Bond Index	Total Return (%)	7.2	0.3	5.2	6.3
	Volatility (%)	3.4	5.1	4.3	3.5
	Sharpe Ratio	2.12	0.05	1.21	1.79
60/40 Blended Portfolio	Total Return (%)	11.1	-0.3	8.5	14.1
	Volatility (%)	6.8	9.5	8.4	4.7
	Sharpe Ratio	**1.63**	**-0.03**	**1.01**	**3.00**

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2017. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of the document for more information regarding the inherent limitations associated with back-tested performance. The 60/40 Blended Portfolio is a hypothetical portfolio.

In addition to higher risk-adjusted returns, there are other portfolio risks that can potentially be mitigated by minimizing overall volatility. These include reduced portfolio drawdown, lower frequency of loss, and increased probability of recovery following loss.

PERFORMANCE DURING PERIODS OF MARKET STRESS

Up until recently, the current nine-year bull market had seen historically low levels of volatility. Despite the low volatility environment, a hypothetical allocation to investment-grade bonds illustrates the potential advantages of effective diversification. These benefits were perhaps most apparent during three specific periods of increased market volatility experienced since the financial crisis of 2009. As shown in Exhibit 6, a hypothetical 60/40 blended portfolio of the S&P 500 Dividend Aristocrats with the S&P 500/MarketAxess Investment Grade Corporate Bond Index resulted in a significant reduction in volatility and 300-700 bps of improvement in drawdown compared to both the S&P 500 as well as the S&P 500 Dividend Aristocrats.

Exhibit 6: Performance Through Recent Market Corrections

MARKET TIMEFRAME	S&P 500		S&P 500 DIVIDEND ARISTOCRATS		S&P 500/MARKETAXESS INVESTMENT GRADE CORPORATE BOND INDEX		60/40 BLENDED PORTFOLIO	
	TOTAL RETURN (%)	VOLATILITY (%)	TOTAL RETURN (%)	VOLATILITY (%)	TOTAL RETURN (%)	VOLATILITY (%)	TOTAL RETURN (%)	VOLATILITY (%)
July 2011-September 2011	-15.4	18.9	-16.1	16.4	2.4	4.1	**-8.7**	**9.8**
January 2016-February 2016	-10.2	8.6	-7.3	7.2	0.7	1.7	**-4.1**	**4.3**
January 2018-February 2018	-9.1	7.4	-10.2	6.7	-1.8	1.4	**-6.8**	**4.6**

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of the document for more information regarding the inherent limitations associated with back-tested performance. The 60/40 Blended Portfolio is a hypothetical portfolio.

Pairing the S&P 500 Dividend Aristocrats with the S&P 500/MarketAxess Investment Grade Corporate Bond Index can provide higher overall yield by adding stable income from high-quality issuers of the S&P 500 while also offering increased relative liquidity.

CONCLUSION

Pairing the S&P 500 Dividend Aristocrats with the S&P 500/MarketAxess Investment Grade Corporate Bond Index can provide higher overall yield by adding stable income from high-quality issuers of the S&P 500 while also offering increased relative liquidity compared to the broader investment-grade corporate market. Additionally, the complementary performance characteristics can provide diversification benefits that may result in lower volatility and potentially higher risk-adjusted returns. The reduced volatility can potentially protect against drawdown risk and lessen the expected frequency of loss.

PERFORMANCE DISCLOSURE

The S&P 500/MarketAxess Investment Grade Corporate Bond Index was launched on January 9, 2017. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. Complete index methodology details are available at www.spdji.com.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

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