S&P 500 Dividend Aristocrats®

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EXECUTIVE SUMMARY

- Dividends play an important role in generating equity total return. Since 1926, dividends have contributed approximately one-third of total return for the S&P 500®, while capital appreciations have contributed two-thirds. Therefore, sustainable dividend income and capital appreciation potential are important factors for total return expectations.
- Companies use stable and increasing dividends as a signal of confidence in their firm's prospects, while market participants consider such track records as a sign of corporate maturity and balance sheet strength.
- The S&P 500 Dividend Aristocrats is designed to measure the performance of S&P 500 constituents that have followed a policy of increasing dividends every year for at least 25 consecutive years.
- The S&P 500 Dividend Aristocrats exhibits both capital growth and dividend income characteristics, as opposed to other strategies that are pure yield or pure capital-appreciation oriented.
- Across all of the time horizons measured, the S&P 500 Dividend Aristocrats exhibited higher returns with lower volatility compared with the S&P 500, resulting in higher Sharpe ratios.
- As of 2018, S&P 500 Dividend Aristocrats constituents included 53 securities, diversified across 11 sectors (see Exhibit 13 in the Appendix).
  - The constituents have both growth and value characteristics.
  - The index has a significantly higher percentage of high-quality stocks (ranking 'A-' or higher) than the S&P 500.
- The composition of the S&P 500 Dividend Aristocrats contrasts with that of traditional dividend-oriented benchmarks that have a steep value bias and have high exposure to the financials and utilities sectors. At each rebalancing, a 30% sector cap is imposed to ensure sector diversification.
- The S&P 500 Dividend Aristocrats follows an equal weight methodology.
  - This treats each company as a distinct entity, regardless of size.
  - This also eliminates single stock concentration risk.

INTRODUCTION

Dividends have interested market participants and theorists since the origins of modlern financial theory. As such, many researchers have investigated the various topics related to dividends and dividend-paying firms. Previous studies by S&P Dow Jones Indices have shown that over a long-term investment horizon, dividend-paying constituents of the S&P 500 have outperformed the non-dividend payers and the overall broad market on a risk-adjusted basis.[1]

In recent years, the increasing amount of academic and practitioner research demonstrates that dividend yield is a compensated risk factor and has historically earned excess returns over a market-cap-weighted benchmark. When combined with other factors such as volatility, quality, momentum, value, and size, dividend yield strategies can potentially offer exposure to systematic sources of return.

Dividend yield is a compensated risk factor and has historically earned excess returns over a market cap weighted benchmark.

In this paper, we show that dividend yield is an important component of total return. We also highlight pertinent characteristics of the S&P 500 Dividend Aristocrats, an index that seeks to measure the performance of the S&P 500 constituents that have increased their dividend payouts for 25 consecutive years. We show that the S&P 500 Dividend Aristocrats possesses desirable risk/return characteristics, offering higher risk-adjusted returns and downside protection than the broad-based benchmark. In addition, our analysis shows that the S&P 500 Dividend Aristocrats is sector diversified and displays growth and value characteristics.

IMPORTANCE OF DIVIDENDS

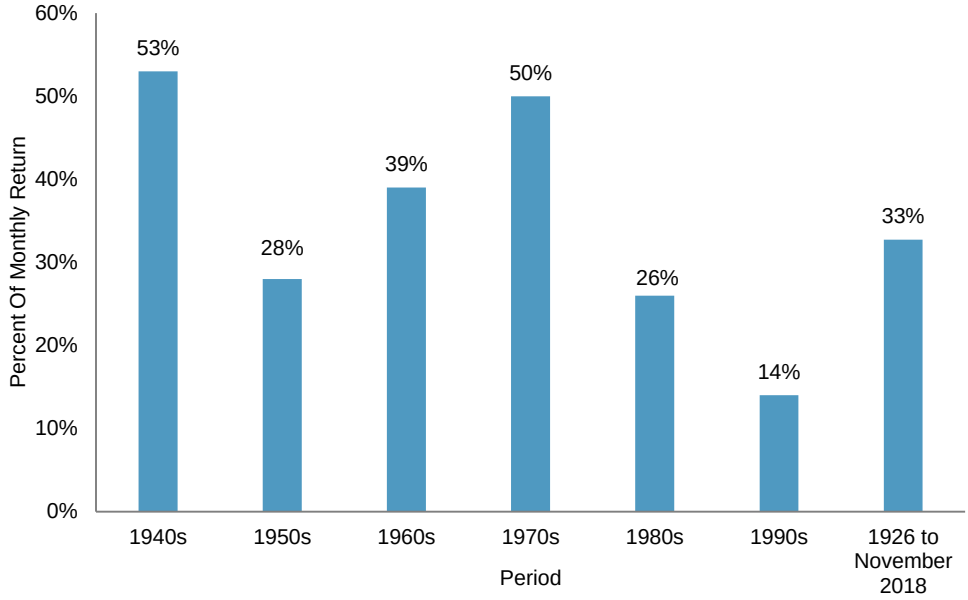
Dividends Contribute to More Than One-Third of Long-Term Total Return From Equity

Historically, dividends have contributed approximately one-third of total return for the S&P 500. Exhibit 1 shows the contribution of dividends to the average monthly total return of the S&P 500 throughout several decades.[1] From 1926 to November 2018, dividend income constituted 33% of the monthly total return of the S&P 500, with the remaining portion coming from capital appreciation. In some decades, such as the 1940s and 1970s, dividend income accounted for more than one-half of total return, whereas during the 1990s, dividends accounted for as little as 14%. Exhibit 1 excludes dividend income during the 2000s, during which it comprised more than 100% of total return.

[1] Soe, Aye, "Dividend Investing and a Look Inside the S&P Dow Jones Dividend Indices," September 2013, S&P Dow Jones Indices.

In some decades, dividend income accounted for more than one-half of total return.

Exhibit 1: Dividend Income as a Percent of Monthly Total Return of the S&P 500[2]



Source: S&P Dow Jones Indices LLC. Data from April 1926 to November 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Compounding Effect of Dividend Income

Another important aspect of dividends can be observed through the effect of compounding, as illustrated in Exhibits 2 and 3. Excluding dividends, a USD 1 investment made using the S&P 500 on Jan. 1, 1930, would have grown to USD 127 by the end of November 2018. During the same period, a USD 1 investment with dividends reinvested would have yielded USD 3,939.

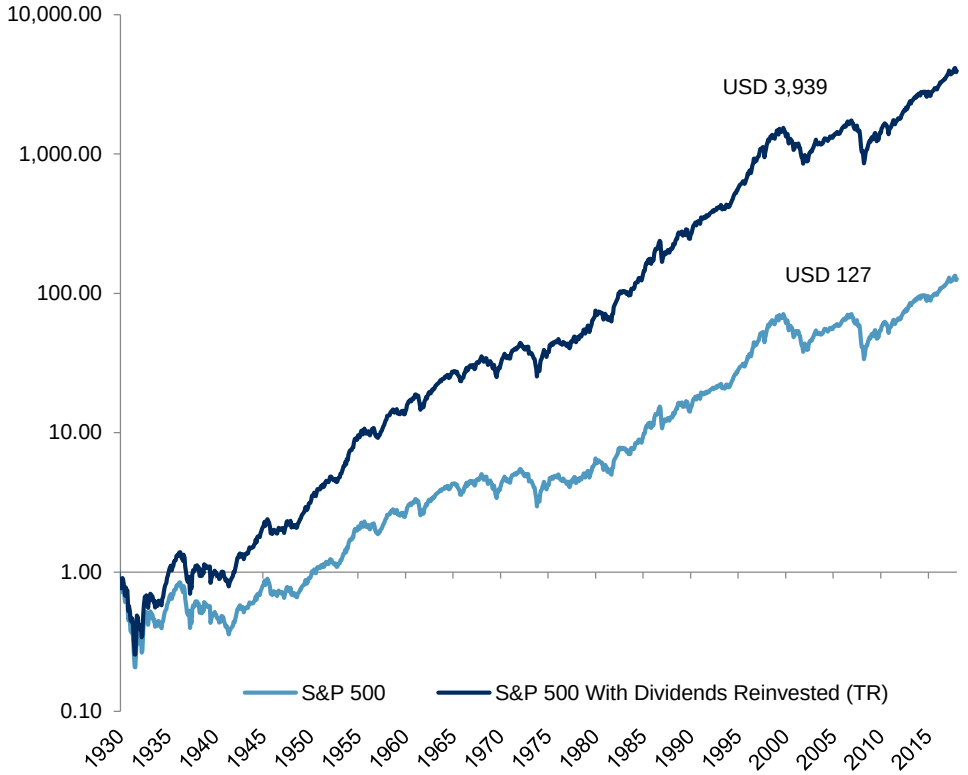
As the time horizon lengthens, the compounding effect increases.

Exhibit 3 plots this compounding effect for the S&P 500 over several time horizons. The plotted figures are averages for every continuous horizon, based on monthly data for the 50-year period ending Nov. 30, 2018. It can be observed that the compounding effect increases as the time horizon lengthens, exhibiting a positive relationship between the two. For example, the annualized difference between the price return and the total return of the S&P 500 over every 10-year horizon, on average, amounts to nearly 77%.

[2] The S&P 500 did not actually have 500 stocks prior to 1957, and it was known as the S&P Composite Index. However, for simplicity's sake, we use the term "S&P 500" throughout this paper.

A USD 1 investment with dividends reinvested would have yielded USD 3,939 by the end of November 2018.

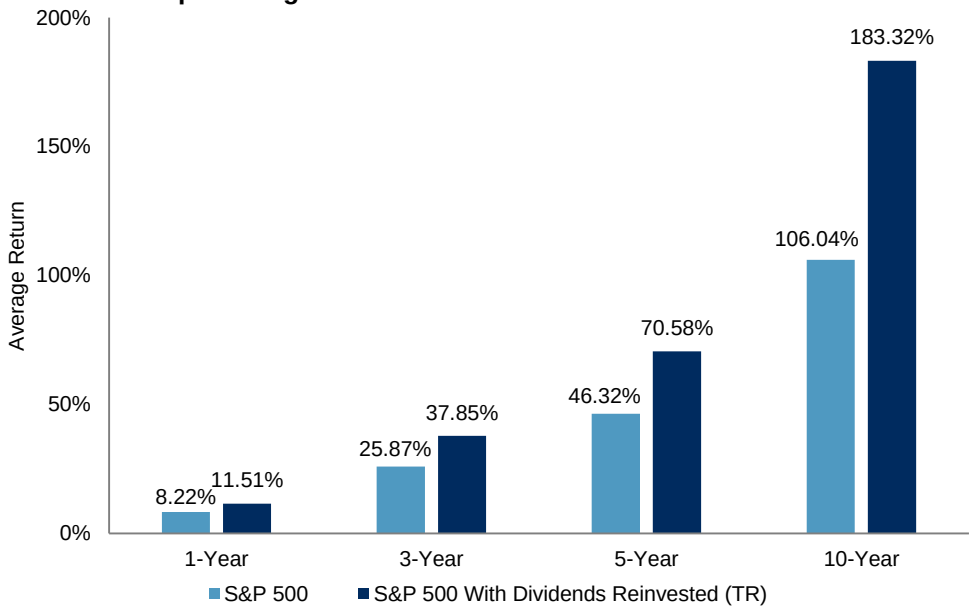
Exhibit 2: S&P 500 Cumulative Growth of USD 1



Source: S&P Dow Jones Indices LLC. Index performance based on price return and total return in USD. Data from January 1930 to November 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

The annualized difference between the price return and the total return of the S&P 500 over every 10-year horizon amounts to nearly 77%.

Exhibit 3: Compounding Effect



Source: S&P Dow Jones Indices LLC. Data as of Nov. 30, 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

THE S&P 500 DIVIDEND ARISTOCRATS

Dividend growth has been intricately linked to equity valuation since the late 1930s.

Dividend growth has been intricately linked to equity valuation since John Burr Williams' Dividend Discount Model of the late 1930s. As noted, managers use stable and increasing dividends as a signal of their confidence in a firm's prospects. S&P Dow Jones Indices has been identifying stocks with a long history of consistent dividend increases (which it terms "dividend aristocrats") since the early 1970s. The S&P 500 Dividend Aristocrats is designed to measure stocks with a long track record of dividend growth. To be eligible, securities must meet the following criteria.

Managers use stable and increasing dividends as a signal of their confidence in a firm's prospects.

1. Be members of the S&P 500.
2. Have increased dividends for at least 25 consecutive years.

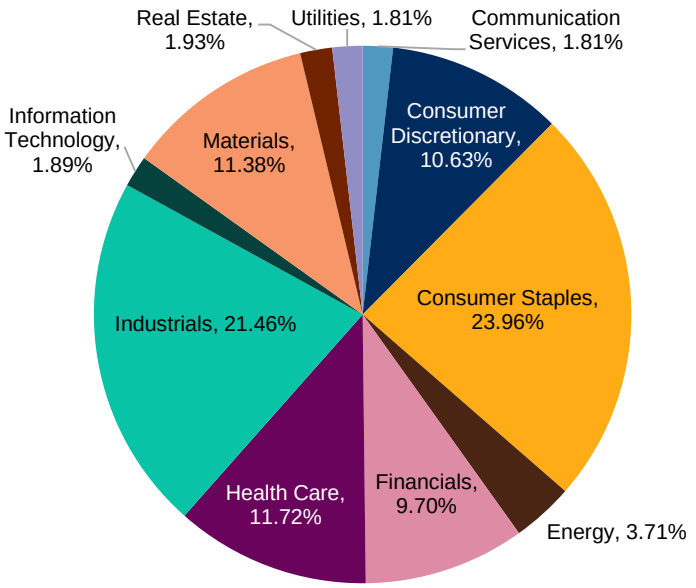
Constituents are equal weighted and re-weighted on a quarterly basis.

Sector Diversification

The S&P 500 Dividend Aristocrats is well diversified without any sector weighing more than 30% at the time of rebalance.

As of 2018, the S&P 500 Dividend Aristocrats constituents consisted of 53 securities, diversified across 11 sectors. Unlike many dividend-yield strategies, which tend to be concentrated in the Financials and Utilities sectors to achieve high yield, the S&P 500 Dividend Aristocrats is well diversified without any sector weighing more than 30% at the time of rebalance.[3] Exhibit 4 illustrates the sector diversification of the S&P 500 Dividend Aristocrats as of Nov. 30, 2018.

Exhibit 4: Sector Diversification of the S&P 500 Dividend Aristocrats



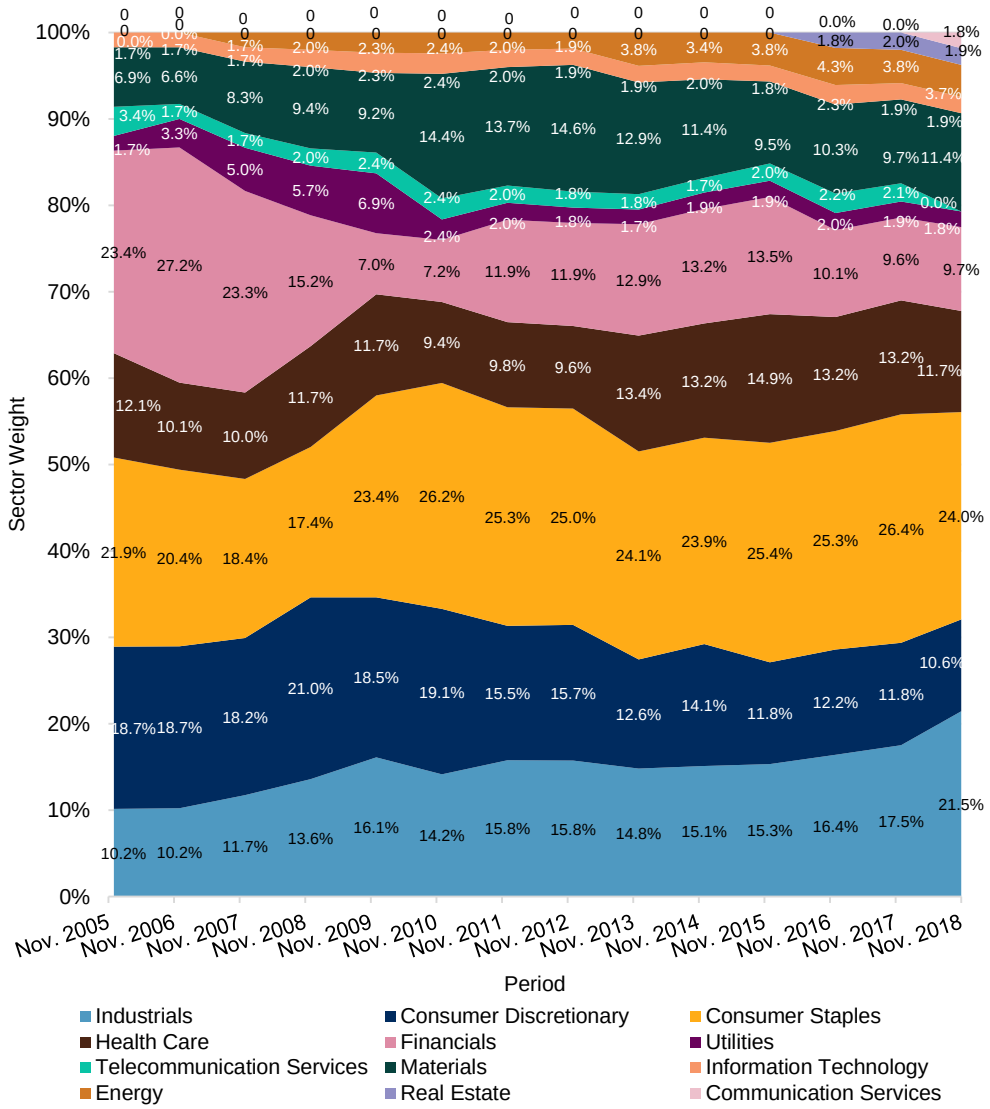
Source: S&P Dow Jones Indices LLC. Data as of November 2018. Chart is provided for illustrative purposes.

[3] For further information about the rebalancing of the S&P Dividend Aristocrats, please see the S&P 500 Dividend Aristocrats Methodology.

As companies across sectors can exhibit a long track record of consistent dividend growth, the S&P 500 Dividend Aristocrats has drawn its constituents from a broad range of sectors throughout its history. Exhibit 5 charts the sector composition of the S&P 500 Dividend Aristocrats from year-end 2005 to November 2018.

The S&P 500 Dividend Aristocrats has drawn its constituents from a broad range of sectors throughout its history.

Exhibit 5: Sector Composition of S&P 500 Dividend Aristocrats



Source: S&P Dow Jones Indices LLC. Data from December 2005 to November 2018. Chart is provided for illustrative purposes.

The ability of management to maintain stable or increasing dividends indicates the quality of a firm's earnings and its growth prospects.

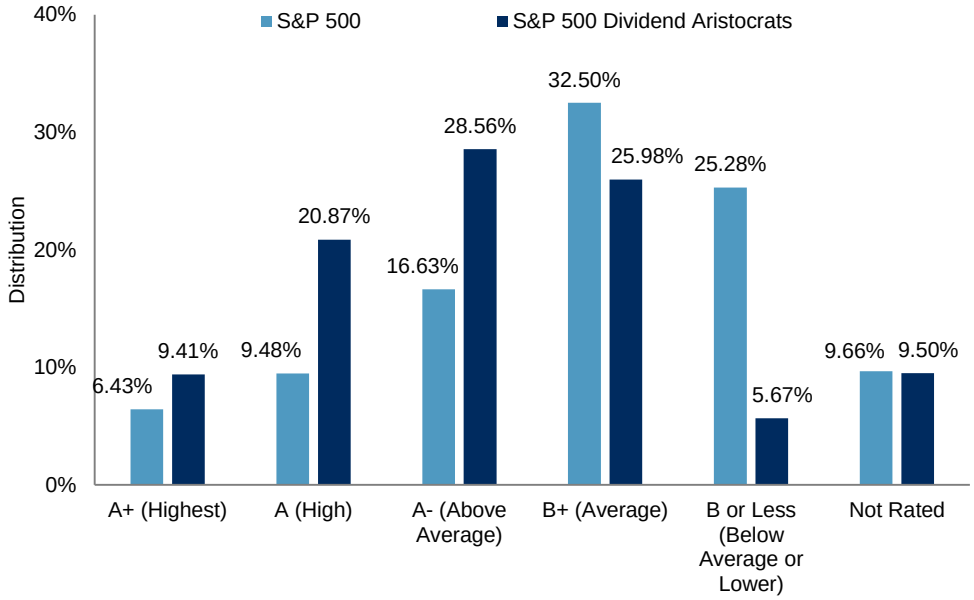
Quality Rankings

The ability of management to maintain stable or increasing dividends indicates the quality of a firm's earnings and its growth prospects. For over 50 years, the S&P Quality Ranking Systems has ranked stocks in categories based on the growth and stability of earnings and dividends. Exhibit 6 plots the distribution of the quality rankings of the constituents of

the S&P 500 Dividend Aristocrats against those of the S&P 500. Nearly 59% of the index constituents had rankings of 'A-' or higher, while the same was true for only 33% of constituents in the underlying benchmark, the S&P 500.

Nearly 59% of the S&P 500 Dividend Aristocrats had rankings of 'A-' or higher, while the same was true for only 33% of constituents in the S&P 500.

Exhibit 6: Quality Rankings of the S&P 500 Dividend Aristocrats Versus the S&P 500



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

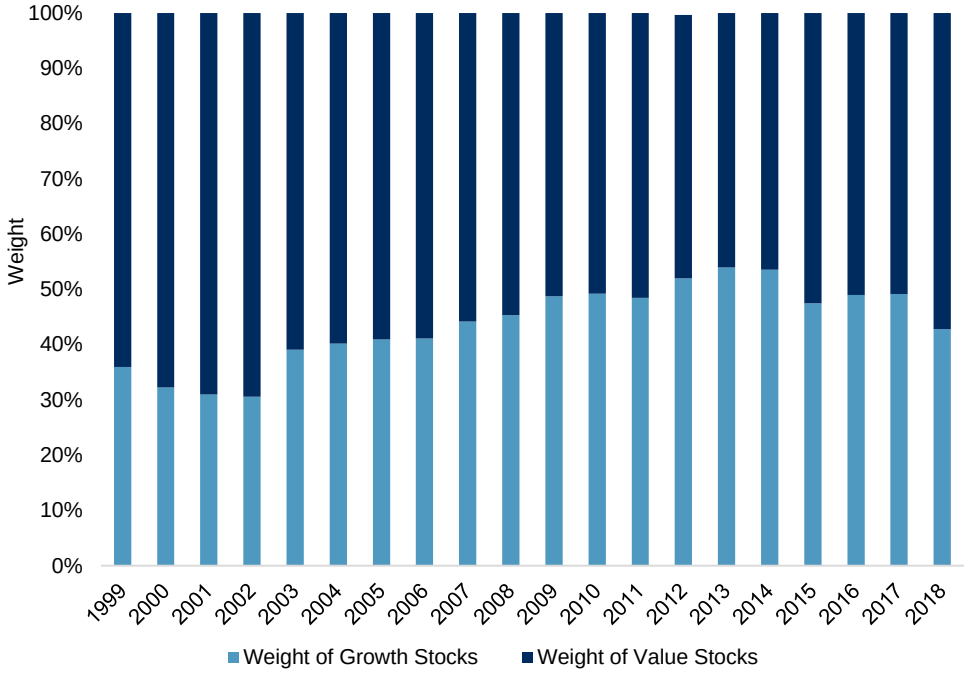
The S&P 500 Dividend Aristocrats exhibits both growth and value characteristics without any persistent heavy tilt toward a single style.

The S&P 500 Dividend Aristocrats Has Growth and Value Characteristics

Traditionally, income-seeking strategies tend to have heavy value characteristics, as market participants tend to seek securities with high dividend yield and lower price multiples. The S&P 500 Dividend Aristocrats, on the other hand, exhibits both growth and value characteristics without any persistent heavy tilt toward a single style. Exhibit 7 illustrates the style breakdown of the index composition since 1999. On average, the index has 56.22% exposure to value and 43.76% exposure to growth.

On average, the S&P 500 Dividend Aristocrats has 56.22% exposure to value and 43.76% exposure to growth.

Exhibit 7: The Growth[4] and Value[5] Characteristics of the S&P 500 Dividend Aristocrats From 1999 to 2018



Source: S&P Dow Jones Indices LLC. Growth and Value characteristics based on the style weights for the S&P Global BMI Americas from year-end 1999 to November 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 this document for more information regarding the inherent limitations associated with back-tested performance.

Current and Historical Yield

The index has consistently delivered higher yields than its benchmark.

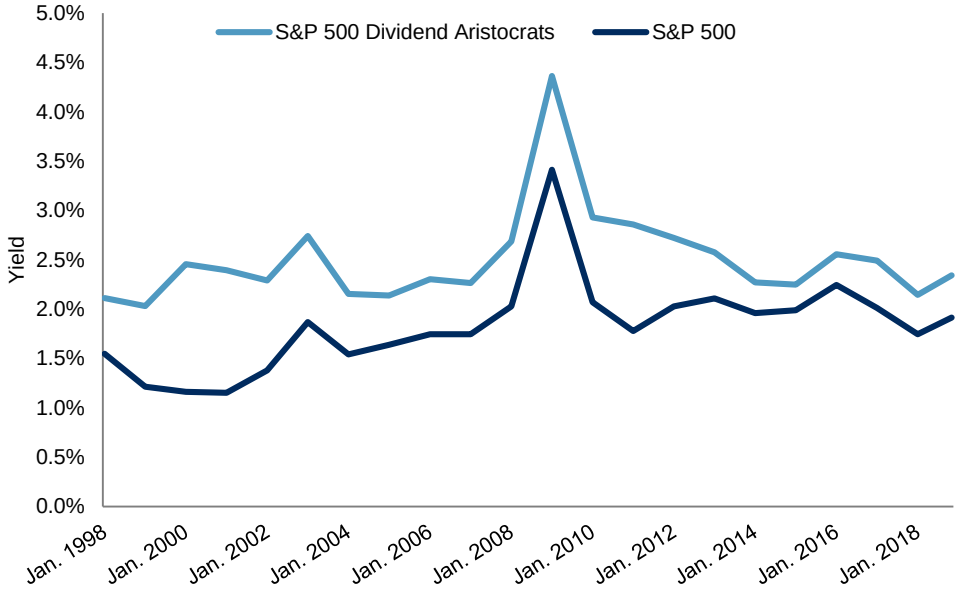
The ability to increase dividends for 25 consecutive years does not come at the expense of lower yield. The S&P 500 Dividend Aristocrats has consistently delivered higher yields than its benchmark, the S&P 500, with yields in the range of 2.1%-2.9% over the 10-year period, as shown in Exhibit 8. The average yield of the index was 2.5%, while that of the S&P 500 was 1.8%.

[4] The growth score is computed using the following three factors: 1) The three-year change in earnings per share over price per share; 2) The three-year sales per share growth rate; 3) Momentum (12 month % price change). The growth score for each company is computed as the average of the standardized values of the three growth factors.

[5] The value score is computed using the following three factors: 1) Price/book ratio; 2) Price/earnings ratio; 3) Price/sales ratio. The value score for each company is computed as the average of the standardized values of the three value factors.

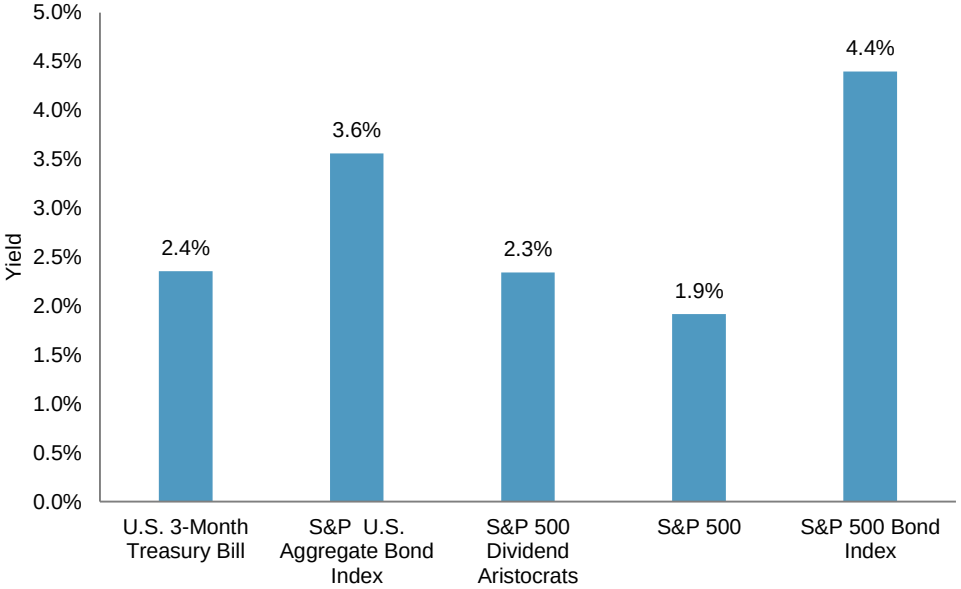
The average yield of the S&P 500 Dividend Aristocrats was 2.5%, while that of the S&P 500 was 1.8%.

Exhibit 8: Historical Yield of the S&P 500 Dividend Aristocrats Versus the S&P 500



Source: S&P Dow Jones Indices LLC. Data from January 1998 to November 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 this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 9: Current Yields



Source: S&P Dow Jones Indices LLC. Data as of Nov. 30, 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Risk/Return Profile of the S&P 500 Dividend Aristocrats

Historically, the S&P 500 Dividend Aristocrats has outperformed the S&P 500 with lower volatility, as shown by higher Sharpe ratios, regardless of the time horizon being measured. Exhibit 10 compares the performance characteristics of the S&P 500 Dividend Aristocrats against those of the S&P 500. Exhibit 11 plots the historical annual performance of the S&P 500 Dividend Aristocrats against the S&P 500.

The S&P 500 Dividend Aristocrats has outperformed the S&P 500 70.34% of the time in down months and 44.10% of the time in up months.

The ability of the S&P 500 Dividend Aristocrats to provide downside protection can be seen in the upside and downside capture ratios. The S&P 500 Dividend Aristocrats has outperformed the S&P 500 70.34% of the time in down months and 44.10% of the time in up months. It should also be noted that the S&P 500 Dividend Aristocrats had lower drawdown level as compared to the benchmark index.

Exhibit 10a: Average Outperformance Over the S&P 500

AVERAGE OUTPERFORMANCE HISTORY (USING MONTHLY RETURNS)	S&P 500 DIVIDEND ARISTOCRATS (%)
All Months	53.03
Up Months[6]	44.10
Down Months[7]	70.34

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 1990, to Nov. 30, 2018. 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 this document for more information regarding the inherent limitations associated with back-tested performance.

The S&P 500 Dividend Aristocrats provided an average excess return of 1.13% in down months over the broad-based benchmark.

Further, the S&P 500 Dividend Aristocrats provided an average excess return of 1.13% in down months over the broad-based benchmark. We have observed that the S&P 500 Dividend Aristocrats had a market beta of 0.8 in the analysis period from Jan. 31, 1990, to Nov. 30, 2018.

Exhibit 10b: Average Excess Return Over the S&P 500

AVERAGE EXCESS MONTHLY RETURN HISTORY (%)	S&P 500 DIVIDEND ARISTOCRATS
All Months	0.16
Up Months	-0.34
Down Months	1.13

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 1990, to Nov. 30, 2018. 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 this document for more information regarding the inherent limitations associated with back-tested performance.

[6] The up month is defined as a month when the return of the S&P 500 was positive for the month.

[7] The down month is defined as a month when the return of the S&P 500 was negative for the month.

We have observed that the S&P 500 Dividend Aristocrats had a market beta of 0.8 in the analysis period.

Exhibit 10c: Risk/Return Characteristics

ANNUAL RETURN (%)	S&P 500 DIVIDEND ARISTOCRATS	S&P 500
1-Year	7.8	6.3
3-Year	12.6	12.2
5-Year	11.4	11.1
10-Year	15.5	14.3
15-Year	11.0	8.8
20-Year	9.5	6.4
Since Inception	11.9	9.7
ANNUAL VOLATILITY (%)		
3-Year	9.3	9.4
5-Year	9.8	10.0
10-Year	13.0	13.2
15-Year	12.3	13.3
20-Year	13.0	14.4
Since Inception	13.2	14.2
RISK-ADJUSTED RETURN		
3-Year	1.3	1.3
5-Year	1.2	1.1
10-Year	1.2	1.1
15-Year	0.9	0.7
20-Year	0.7	0.4
Since Inception	0.9	0.7

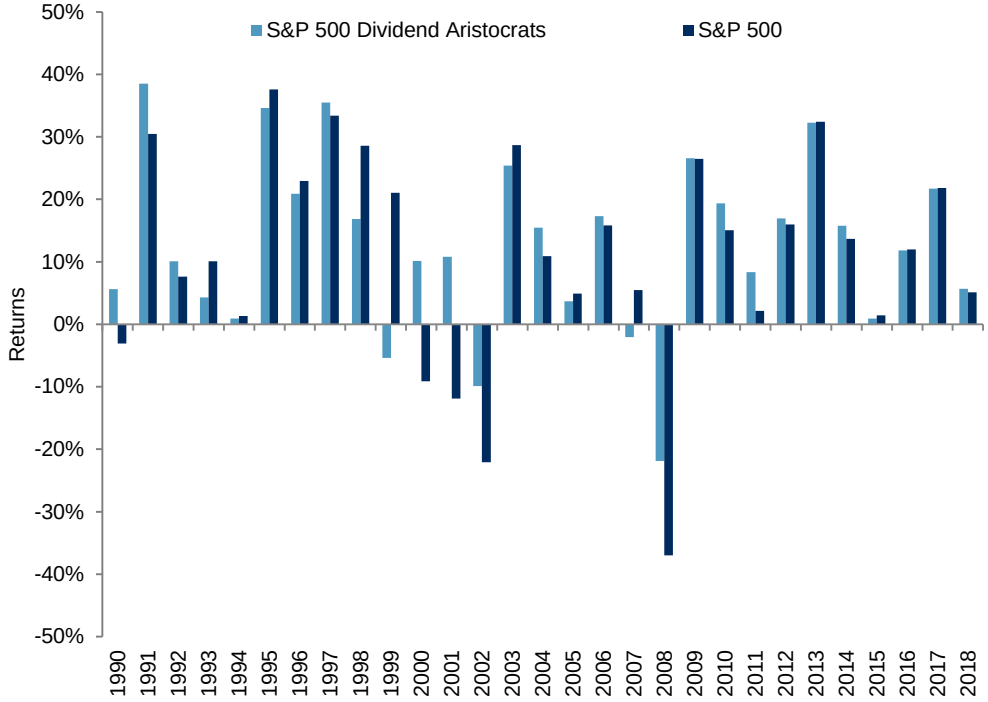
Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 1990, to Nov. 30, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 10d: Risk/Return Characteristics

RISK STATISTICS SINCE INCEPTION	S&P 500 DIVIDEND ARISTOCRATS	S&P 500
Maximum Drawdown (%)	-44.1	-50.9
Best Monthly Return (%)	14.4	11.4
Worst Monthly Return (%)	-13.2	-16.8
Average Monthly Return (%)	1.0	0.9
Minimum Rolling 12-Month Return (%)	-34.9	-43.3
Maximum Rolling 12-Month Return (%)	62.6	53.6
Beta With Benchmark	0.8	1.0
Correlation With Benchmark	0.9	1.0
Sharpe Ratio	0.7	0.5

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 1990, to Nov. 30, 2018. 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 this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 11: Historical Annual Performance



Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 1990, to Nov. 30, 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 this document for more information regarding the inherent limitations associated with back-tested performance.

Performance attribution analysis shows that the majority of relative outperformance stems from security selection.

Decomposition of Excess Returns

Performance attribution attempts to explain the sources of a strategy's performance relative to its benchmark over a specified period of time. An attribution analysis typically breaks down the sources of a strategy's returns into three components: the allocation effect, the selection effect, and the interaction effect.[8]

In order to understand the return drivers behind the excess returns of the S&P 500 Dividend Aristocrats relative to its benchmark, we performed a holdings-based attribution analysis using the 15-year period from January 2004 to November 2018.[9]

Our analysis shows that the S&P 500 Dividend Aristocrats outperformed its benchmark, the S&P 500, by an average of 1.73% per year. The majority of the outperformance stems from the security selection plus the interaction effect, at 1.67%, and the remaining 0.06% comes from the allocation effect.

[8] The allocation effect is the portion of a strategy's excess return attributable to the over or underweighting of securities in a particular grouping (country, sector, beta, etc.) relative to the benchmark. The selection effect is the portion of a strategy's excess return attributable to selecting different securities within each group from the benchmark. The interaction effect is the portion of a strategy's excess return attributable to combining the allocation effect with the selection effect.

[9] We used the Portfolio Analysis tool from Factset for the attribution analysis. The holdings data in FactSet matched with that of the S&P Dow Jones Indices since 2004.

The results confirm that the fundamental characteristics of the constituents have been the major driver behind the outperformance.

The S&P 500 Dividend Aristocrats outperformed S&P 500 by an average of 1.73% per year.

The S&P 500 Dividend Aristocrats has delivered higher returns than the benchmark, and it has done so with lower volatility.

Exhibit 12: Attribution Analysis

YEAR	ALLOCATION (%)	SELECTION PLUS INTERACTION (%)	TOTAL (%)
2004	0.02	4.57	4.58
2005	-1.74	0.55	-1.19
2006	0.67	0.94	1.61
2007	-4.99	-3.07	-8.06
2008	-0.95	16.63	15.67
2009	2.21	-2.22	-0.02
2010	2.60	1.64	4.24
2011	0.99	5.22	6.21
2012	1.15	-0.21	0.94
2013	0.65	-0.84	-0.19
2014	-0.22	2.52	2.30
2015	0.12	-0.55	-0.43
2016	-0.13	0	-0.13
2017	-0.10	0	-0.10
2018	0.57	0	0.57
Average	0.06	1.67	1.73

Source: S&P Dow Jones Indices LLC. Data from Jan. 1, 2004, to Nov. 30, 2018. 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 this document for more information regarding the inherent limitations associated with back-tested performance.

CONCLUSION

A high percentage of the outperformance comes from security selection.

Dividends have been an important contributor to total return, in addition to providing a cushion during down markets. The S&P 500 Dividend Aristocrats, which is designed to measure the performance of blue-chip, high-quality companies that have increased their dividends for 25 consecutive years, has delivered higher returns than the broad-based, large-cap equity market, and it has done so with lower volatility. The decomposition of the index's excess returns over those of the benchmark also shows that a high percentage of the outperformance comes from security selection, highlighting that the fundamental characteristics of the index are the major return drivers.

APPENDIX

Exhibit 13: S&P 500 Dividend Aristocrats Constituents in 2018

NUMBER	TICKER	COMPANY	SECTOR	RANKING
1	MMM	3M Co	Industrials	A+
2	AFL	AFLAC Inc.	Financials	A-
3	T	AT&T Inc.	Communications	B
4	ABBV	AbbVie Inc.	Health Care	--
5	ABT	Abbott Laboratories	Health Care	B
6	APD	Air Products & Chemicals Inc.	Materials	A-
7	ADM	Archer-Daniels-Midland Co	Consumer Staples	B+
8	ADP	Automatic Data Processing	Information Technology	A
9	BDX	Becton Dickinson & Co	Health Care	B+
10	BF.B	Brown-Forman Corp B	Consumer Staples	A-
11	CAH	Cardinal Health Inc.	Health Care	B+
12	CVX	Chevron Corp	Energy	B
13	CINF	Cincinnati Financial Corp	Financials	B+
14	CTAS	Cintas Corp	Industrials	A-
15	CLX	Clorox Co	Consumer Staples	A
16	KO	Coca-Cola Co	Consumer Staples	B+
17	CL	Colgate-Palmolive Co	Consumer Staples	A-
18	ED	Consolidated Edison Inc.	Utilities	B+
19	DOV	Dover Corp	Industrials	B+
20	ECL	Ecolab Inc.	Materials	A
21	EMR	Emerson Electric Co	Industrials	A
22	XOM	Exxon Mobil Corp	Energy	B+
23	FRT	Federal Realty Invt Trust	Real Estate	A-
24	BEN	Franklin Resources Inc.	Financials	B+
25	GD	General Dynamics	Industrials	A
26	GPC	Genuine Parts Co	Consumer Discretionary	A
27	GWW	Grainger W.W. Inc.	Industrials	A
28	HRL	Hormel Foods Corp	Consumer Staples	A+
29	ITW	Illinois Tool Works Inc.	Industrials	A-
30	JNJ	Johnson & Johnson	Health Care	A-
31	KMB	Kimberly-Clark	Consumer Staples	A-
32	LEG	Leggett & Platt	Consumer Discretionary	B+
33	LIN	Linde plc	Materials	--
34	LOW	Lowe's Cos Inc.	Consumer Discretionary	A+
35	MKC	McCormick & Co	Consumer Staples	A+
36	MCD	McDonald's Corp	Consumer Discretionary	A
37	MDT	Medtronic plc	Health Care	--

Source: S&P Dow Jones Indices LLC. Data as of Nov 30, 2018. Table is provided for illustrative purposes.

Exhibit 13: S&P 500 Dividend Aristocrats Constituents in 2018 (cont.)

NUMBER	TICKER	COMPANY	SECTOR	RANKING
38	NUE	Nucor Corp	Materials	B+
39	PPG	PPG Industries Inc.	Materials	B+
40	PNR	Pentair PLC	Industrials	--
41	PEP	PepsiCo Inc.	Consumer Staples	A-
42	PG	Procter & Gamble	Consumer Staples	A
43	ROP	Roper Technologies, Inc.	Industrials	A
44*	SPGI	S&P Global Inc.	Financials	--
45	SHW	Sherwin-Williams Co	Materials	A+
46	AOS	Smith A.O. Corp	Industrials	A-
47	SWK	Stanley Black & Decker	Industrials	A-
48	SYY	Sysco Corp	Consumer Staples	B+
49	TROW	T Rowe Price Group Inc.	Financials	A
50	TGT	Target Corp	Consumer Discretionary	B+
51	VFC	VF Corp	Consumer Discretionary	A-
52	WBA	Walgreens Boots Alliance Inc.	Consumer Staples	A-
53	WMT	Walmart Inc.	Consumer Staples	A-

Source: S&P Dow Jones Indices LLC. Data as of November 2018. Table is provided for illustrative purposes.

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