

## Dividend Strategy with Quality Yields – The Dow Jones Dividend 100 Indices

### Contributors

#### Tianyin Cheng

Senior Director  
Strategy Indices  
[tianyin.cheng@spglobal.com](mailto:tianyin.cheng@spglobal.com)

#### Izzy Wang

Senior Analyst  
Strategy Indices  
[izzy.wang@spglobal.com](mailto:izzy.wang@spglobal.com)

#### Vinit Srivastava

[index\\_services@spglobal.com](mailto:index_services@spglobal.com)

#### Karina Tjin

[index\\_services@spglobal.com](mailto:index_services@spglobal.com)

### INTRODUCTION

Dividend-paying stocks have been in focus over the past decade—many income seekers have turned away from low-yielding fixed income instruments and are looking to equity markets for a more attractive level of income. However, high-yielding companies without strong financial stability may be prone to dividend cuts under the pressure from global economic uncertainties and future rising rates. Thus, an investment strategy searching for high yield should focus on quality as well.

Among different kinds of income-focused equity indices in the market, the Dow Jones Dividend 100 Index Series takes a unique approach. It seeks to track the performance of 100 high-dividend-yielding stocks in each market covered that have a record of consistently paying dividends, selected for solid fundamental strength.

S&P DJI launched the [Dow Jones U.S. Dividend 100 Index](#) in 2011. Recently, we expanded the index series to international markets with the launch of the [Dow Jones International Dividend 100 Index](#). This paper investigates the following potential benefits of the Dow Jones Dividend 100 Indices.

- **Sustainable dividends with financial quality.** The indices not only seek to track stocks with consistent dividend payouts, but they also apply a quality screen for the sustainability of yields. They seek to achieve “quality yields” by requiring stocks to have paid dividends for a minimum of 10 consecutive years, and by ranking stocks by a composite score calculated from the cash-flow-to-total-debt ratio, return on equity (ROE), dividend yield, and five-year dividend growth rate. In addition to the fundamental annual rebalancing, starting from July 2018, S&P DJI introduced a monthly dividend review as an on-going maintenance to ensure dividend sustainability. Every month, stocks that have canceled their dividends will be removed from the indices.
- **Dividend growth against future rising rates.** A focus on dividend growth in an environment where market participants are concerned

about rising rates may be important. Typically, high-yield equity strategies are biased toward rate-sensitive sectors, which tend to pay out higher yields because of the leverage that they can take on (mainly because of mature business models; e.g., Utilities). Such entities are exposed when rates rise. Selection based on dividend growth helps to ensure that firms that can develop their business and increase their payouts are favored in the selection process. Such businesses are often well-managed companies, from both capital structure and operational perspectives.

- Investability.** Differentiating the Dow Jones Dividend 100 Indices from other dividend strategies are their strict size and liquidity screens and their weighting method, which is based on a modified market capitalization approach. These attributes were chosen with the goal of increasing index investability in terms of liquidity, capacity, and turnover. Size and liquidity screens could help to reduce the influence of smaller and more distressed stocks on the portfolio, leading to a liquid basket of constituents. A weighting method based on modified market capitalization could not only help maximize the index capacity, but it also has potential to lead to a lower turnover than alternatively weighted income indices, that weight constituents primarily by yield or total dividends.

*The Dow Jones Dividend 100 Indices not only seek to track stocks with consistent dividend payouts, but they also apply a quality screen for the sustainability of yields.*

Exhibit 1 summarizes the construction methodology and ideas behind the Dow Jones Dividend 100 Indices, which seek to balance yield, quality, capacity, and diversification.

Exhibit 1: Construction Methodology for the Dow Jones Dividend 100 Indices		
CATEGORY	INDEX METHODOLOGY	INTENDED TARGETS
Eligibility Screening	Screens for dividend payment consistency, size, and liquidity: <ul style="list-style-type: none"> <li>Minimum 10 consecutive years of dividend payments</li> <li>Minimum float-adjusted market capitalization of USD 500 million</li> <li>Minimum three-month average daily trading volume of USD 2 million</li> </ul>	<ul style="list-style-type: none"> <li>A prerequisite of tradability by screening for a stock's capacity and liquidity</li> <li>A requirement of consistent dividends by screening for stocks that have paid dividends for a minimum of 10 consecutive years</li> </ul>
Yield Selection	Stocks that pass the screens are ranked in descending order by indicated annual dividend yield. The top half are eligible for selection.	A focus on absolute yield by owning the highest-yielding stocks that pass the size, liquidity, and dividend payment consistency screens
Fundamental Selection	Stocks are then ranked by a composite score of cash-flow-to-total-debt ratio, ROE, dividend yield, and five-year dividend growth rate. The top 100 are selected as constituents.	An emphasis on the quality factor, which is relevant when considering a company's ability to generate free cash flow so that a dividend can be sustained and potentially increased
Weighting	Stocks are weighted by market capitalization, and they are subject to a 4% individual stock weight cap and a sector weight cap (25% for U.S. and 15% for international markets)	An attention to representativeness by using a modified market cap weighting so that distressed smaller-cap firms don't dominate the strategy
Monthly Dividend Review	Monthly dividend review to remove stocks that have canceled or suspended their dividends	An on-going maintenance to ensure dividend sustainability
Rebalancing	Annual rebalance in March	A key element for reducing turnover

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

## RETURN FROM DIVIDENDS AND CAPITAL GAINS

The two things that market participants tend to care most about when using any income strategy are yield and capital gain. The constituents of the Dow Jones Dividend 100 Indices have delivered both better yields and better capital gains over the long term when compared with the constituents of the benchmarks.

For the period between June 30, 2001, and June 30, 2021, the price return of the Dow Jones U.S. Dividend 100 Index was 8.1% annualized, outperforming its benchmark's 7.1%, as measured by the [Dow Jones U.S. Broad Stock Market Index](#). The total return of the index, which assumes theoretical reinvestment of dividends, was 11.8% annualized, outperforming the 9.1% total return of the benchmark (see Exhibit 2).<sup>1</sup> Likewise, the international version, the Dow Jones International Dividend 100 Index, outperformed its benchmark, the S&P Global Ex-U.S. LargeMidCap, in terms of price return and total return over the past 15 years.<sup>2</sup>

*The Dow Jones Dividend 100 Indices delivered better yields and capital gains over the long term when compared with their benchmarks.*

The difference between the total return and the price return represents the dividends paid out, although the effect is a bit magnified due to capital appreciation of the theoretical reinvested dividend portion. For the Dow Jones U.S. Dividend 100 Index and the Dow Jones U.S. Broad Stock Market Index, the difference was 3.7% and 2.0% over the past 20 years, respectively. For the Dow Jones International Dividend 100 Index and the S&P Global Ex-U.S. LargeMidCap, the difference was 4.7% and 3.1% over the past 15 years, respectively. The Dow Jones Dividend 100 Indices had a higher yield spread over time.

<sup>1</sup> The Dow Jones U.S. Dividend 100 Index was launched on Aug. 31, 2011. The foregoing information is based on back-tested data.

<sup>2</sup> The Dow Jones International Dividend 100 Index was launched on March 22, 2021, with its first value dated back to March 31, 2005.

<b>Exhibit 2: Risk/Return Profiles</b>								
PERIOD	U.S.				INTERNATIONAL			
	DOW JONES U.S. DIVIDEND 100 INDEX		DOW JONES U.S. BROAD STOCK MARKET INDEX		DOW JONES INTERNATIONAL DIVIDEND 100 INDEX		S&P GLOBAL EX-U.S. LARGEMIDCAP	
	TOTAL RETURN	PRICE RETURN	TOTAL RETURN	PRICE RETURN	TOTAL RETURN	PRICE RETURN	TOTAL RETURN	PRICE RETURN
<b>ANNUAL RETURN (%)</b>								
3-Year	19.35	15.22	18.71	16.64	14.93	10.00	10.09	7.00
5-Year	16.47	12.61	17.86	15.73	12.97	8.23	11.73	8.56
7-Year	13.76	10.05	13.93	11.82	7.79	3.27	6.00	2.96
10-Year	14.68	11.02	14.68	12.50	9.03	4.43	6.08	3.00
15-Year	12.27	8.58	10.88	8.75	8.44	3.77	5.52	2.44
20-Year	11.77	8.05	9.09	7.07	-	-	-	-
<b>ANNUAL VOLATILITY (%)</b>								
3-Year	18.89	18.80	19.44	19.44	15.28	15.29	17.45	17.54
5-Year	15.43	15.36	15.66	15.66	12.98	13.00	14.46	14.55
7-Year	14.31	14.24	14.75	14.75	12.81	12.81	14.40	14.44
10-Year	13.13	13.09	14.16	14.15	12.73	12.76	14.99	15.07
15-Year	14.59	14.59	15.66	15.67	15.05	15.00	17.67	17.66
20-Year	13.64	13.62	15.20	15.19	-	-	-	-
<b>RISK-ADJUSTED RETURN</b>								
3-Year	1.02	0.81	0.96	0.86	0.98	0.65	0.58	0.40
5-Year	1.07	0.82	1.14	1.00	1.00	0.63	0.81	0.59
7-Year	0.96	0.71	0.94	0.80	0.61	0.26	0.42	0.21
10-Year	1.12	0.84	1.04	0.88	0.71	0.35	0.41	0.20
15-Year	0.84	0.59	0.69	0.56	0.56	0.25	0.31	0.14
20-Year	0.86	0.59	0.60	0.47	-	-	-	-
<b>MAXIMUM DRAWDOWN (%)</b>								
15-Year	-44.47	-47.44	-50.84	-52.34	-49.58	-52.66	-56.84	-58.53

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Past performance is no guarantee of future results. Index performance based on total and price returns in USD. 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.

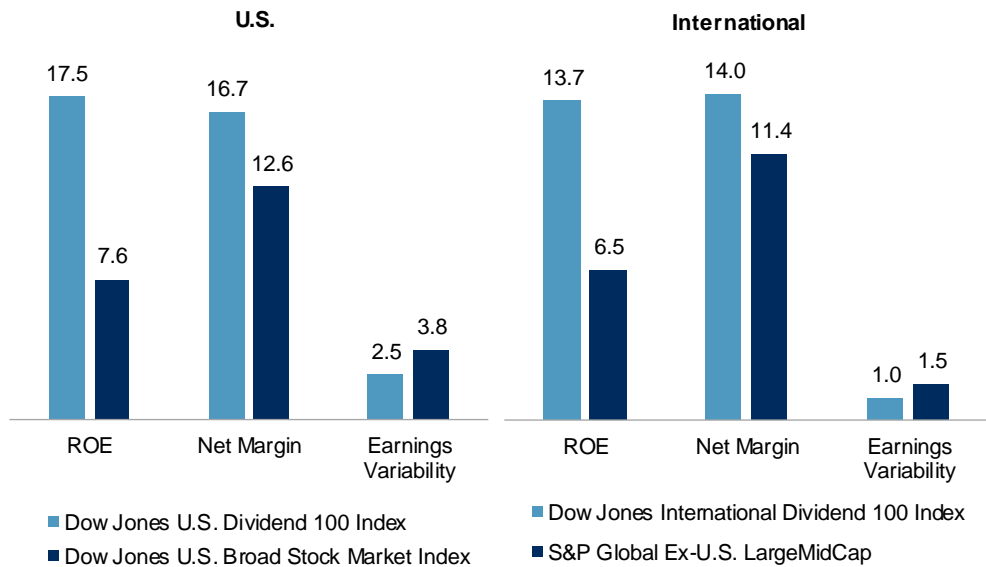
The back-tested data in Exhibit 2 show that the Dow Jones Dividend 100 Indices delivered higher total returns than their respective benchmarks over the short- and long-term horizons. The indices also showed reduced risk, as measured by volatility and drawdown. As a result, the historical outperformance may be considered higher in terms of risk-adjusted returns. Over the past 15 years, the risk-adjusted total returns (the ratio of total annual return to annual volatility) of the U.S. and international versions were 0.84 and 0.56, respectively, which were significantly greater than that of their respective benchmarks. We believe this effect may come from the defensive nature of the income strategy and the quality tilts that are uniquely carried by the Dow Jones Dividend 100 Indices.

## QUALITY

With their focus on the quality factor during stock selection, the Dow Jones Dividend 100 Indices demonstrated improved financial strength in terms of profitability and earnings quality compared with their benchmarks (see Exhibit 3).

*The Dow Jones Dividend 100 Indices demonstrated improved financial strength in terms of profitability compared with their benchmarks.*

**Exhibit 3: Improved Financial Strength**



Source: S&P Dow Jones Indices LLC and FactSet. Data as of June 30, 2021. Past performance is no guarantee of future results. Earnings variability is calculated as the standard deviation of EPS over the past five years. Charts are provided for illustrative purposes and reflect 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 Dow Jones Dividend 100 Indices showed reduced risk, as measured by volatility and drawdown.*

As companies with financial stability are more likely to endure difficult economic environments, quality tilts may provide some downside protection during depressed times. Since 2000, the Dow Jones U.S. Dividend 100 Index outperformed the benchmark in each of the major equity market drawdowns (see Exhibit 4). While lacking data during the Tech Bubble, the international version significantly outperformed its benchmark during the Global Financial Crisis, Q4 2018, and the recent 2020 COVID-19 sell-off.

Since 2000, the Dow Jones U.S. Dividend 100 Index outperformed the benchmark in each of the major equity market drawdowns.

**Exhibit 4: Performance during Major Historical Drawdown**

PERIOD	U.S.		INTERNATIONAL	
	DOW JONES U.S. DIVIDEND 100 INDEX	DOW JONES U.S. BROAD STOCK MARKET INDEX	DOW JONES INTERNATIONAL DIVIDEND 100 INDEX	S&P GLOBAL EX-U.S. LARGEMIDCAP
Tech Bubble (August 2000-September 2002)	17.12	-44.33	-	-
Global Financial Crisis (October 2007-February 2009)	-44.47	-50.84	-49.58	-56.84
Europe/Greece Debt Crisis (March-June 2010)	-8.67	-11.15	-12.22	-12.16
Q4 2018 (September-December 2018)	-10.59	-14.31	-8.84	-11.22
2020 COVID-19 Sell-Off (January-March 2020)	-20.09	-20.84	-17.17	-21.02

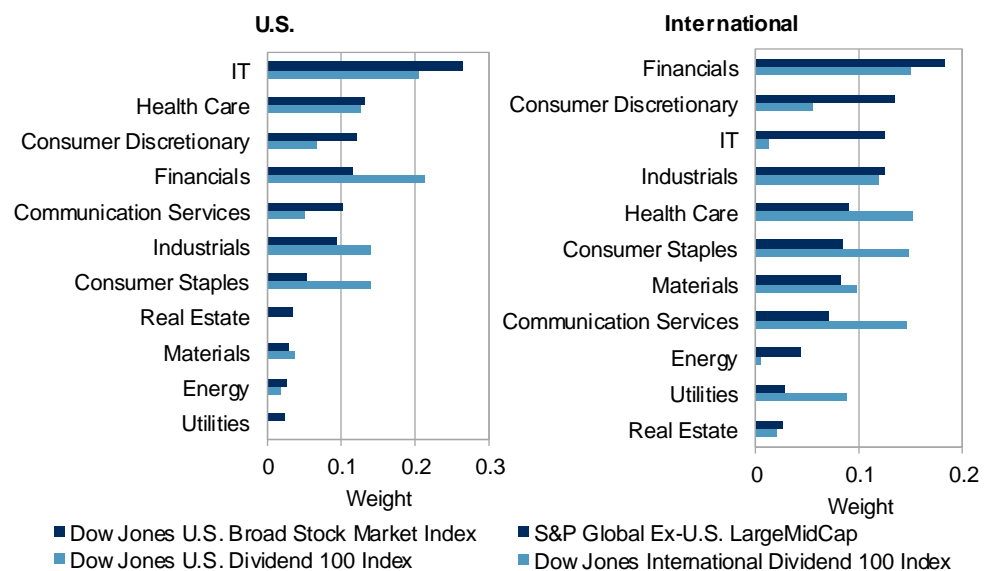
Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Performance based on monthly total returns in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

### BALANCED SECTOR WEIGHTS

The Dow Jones Dividend 100 Indices' focus on the quality of dividend payers and dividend growth has resulted in a fairly diversified distribution of names across sectors.

The Dow Jones Dividend 100 Indices' focus on the quality of dividend payers and dividend growth has resulted in a diversified distribution of names across sectors (see Exhibit 5). Unlike high-yielding strategies that often significantly underweight sectors like Information Technology and Health Care, the U.S. and international versions of Dow Jones Dividend 100 Indices have fair weights in these growth sectors. Meanwhile, the U.S. version is less biased toward rate-sensitive sectors such as Utilities.

**Exhibit 5: Balanced Sector Weights**



Unlike high-yielding strategies that underweight IT and Health Care, the Dow Jones Dividend 100 Indices have fair allocation weights in these growth sectors.

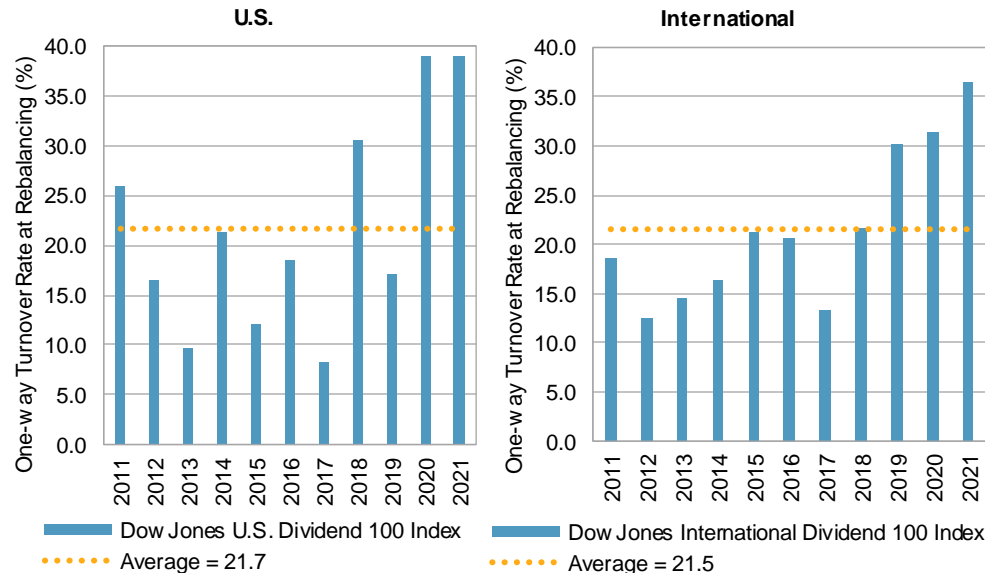
Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Charts are provided for illustrative purposes.

## MODERATE TURNOVER

Over the 10-year period, the average one-way turnover at annual rebalancing for the Dow Jones Dividend 100 Indices was 21.7% and 21.5% for the U.S. and international versions, respectively, which is a moderate rate (see Exhibit 6).

*The annual average turnover for the Dow Jones Dividend 100 Indices over the 10-year period was moderate.*

**Exhibit 6: Moderate Turnover**



Source: S&P Dow Jones Indices LLC. Data from Jan. 1, 2011, to Dec. 31, 2021. Charts are provided for illustrative purposes.

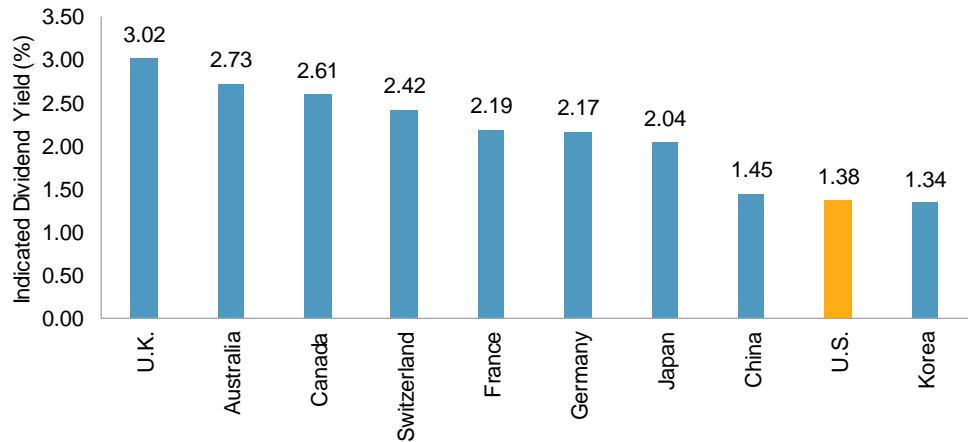
## YIELD OPPORTUNITY AND INCOME DIVERSIFICATION IN INTERNATIONAL MARKETS

In 2021, S&P DJI launched the Dow Jones International Dividend 100 Index to complement the existing U.S. version in terms of yield opportunity and income diversification.

*One strong rationale for owning international dividend stocks is the potential higher yield opportunity.*

One strong rationale for owning international dividend stocks is the potential higher yield opportunity. While the U.S. broad market (as measured by the [S&P 500®](#)) yielded 1.38% as of June 30, 2021, many other countries such as the U.K., Australia, and Canada could provide dividend yields above 2.5% (see Exhibit 7). Benefited from the wider opportunity set, the Dow Jones International Dividend 100 Index delivered a trailing dividend yield of 4.2% on average over the past five years, higher than the 3.2% of the U.S. version (see Exhibit 8).

**Exhibit 7: Yield Opportunity in International Market**

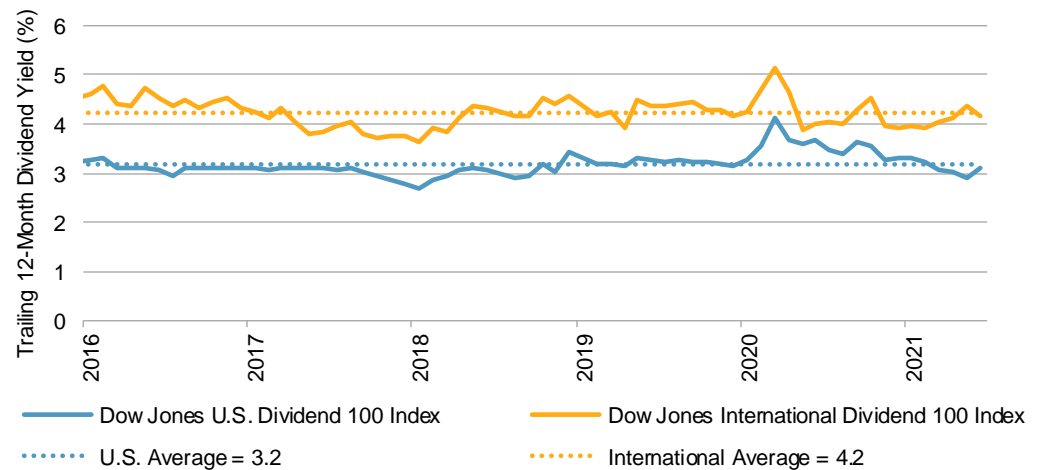


**Top 10 Countries from S&P Global BMI by Float Market Cap**

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. The U.K., Australia, Canada, Switzerland, France, Germany, Japan, China, U.S., and Korea markets are represented by the S&P United Kingdom BMI, S&P Australia BMI, S&P/TSX Composite, S&P Switzerland BMI, S&P France BMI, S&P Germany BMI, S&P Japan BMI, S&P China BMI, S&P 500, and S&P Korea BMI, respectively. 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.

*Investing in international markets could introduce country diversification and help to reduce sector concentration, thus improving the diversification of the income source.*

**Exhibit 8: Higher Dividend Yield Offered by the Dow Jones International Dividend 100 Index than the Dow Jones U.S. Dividend 100 Index**

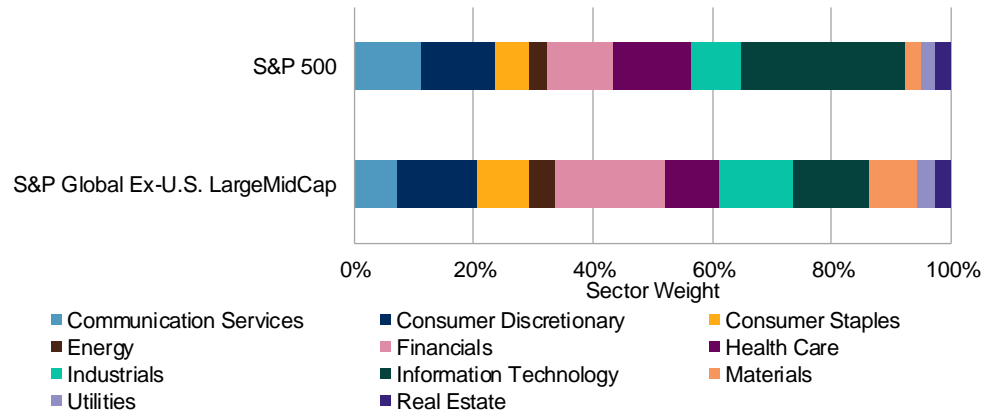


Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Secondly, the U.S. market is dominated by the Information Technology and Health Care sectors. The two sectors made up 40% of the U.S. market as of June 30, 2021 (see Exhibit 9). Investing in international markets could introduce country diversification and help to reduce sector concentration, thus improving the diversification of the income source.



**Exhibit 9: Sector Weights in U.S. and International Broad Equity Markets**

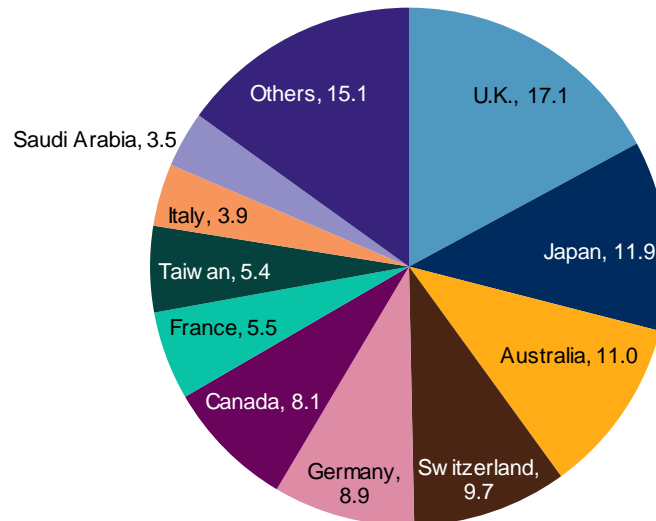


Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Chart is provided for illustrative purposes.

*Country diversification can be helpful in offsetting risks associated with political and economic events in the U.S.*

The Dow Jones International Dividend 100 Index is designed to include a diverse range of countries across global markets (see Exhibit 10). To avoid concentration at stock and regional level, single stock weight is capped at 4% and emerging markets weight is capped at 15%. As of June 30, 2021, EMEA and APAC made up about 60% and 31% of the index weight, respectively. Country diversification can be helpful in offsetting risks associated with political and economic events in the U.S.

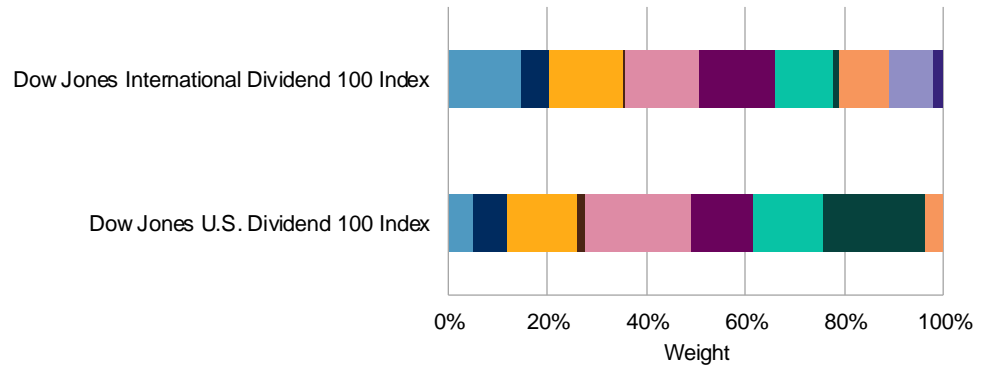
**Exhibit 10: Country Weights in the Dow Jones International Dividend 100 Index**



Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Chart is provided for illustrative purposes.

From a sector perspective, the international version could complement the U.S. version with higher weights in Materials and Utilities, but lower weights in Information Technology and Financials (see Exhibit 11).

**Exhibit 11: Sector Weights in the Dow Jones Dividend 100 Indices**



*From a sector perspective, the international version could complement the U.S. version.*

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Chart is provided for illustrative purposes.

**COMBINING THE DOW JONES DIVIDEND 100 INDICES WITH CORE**

Introducing the Dow Jones Dividend 100 Indices to core equity portfolios may help to improve the efficiency of investment outcome. This is because the core equity and the Dow Jones Dividend 100 Indices tend to have moderate to low correlation with each other. We demonstrate this point by showing two typical portfolios:

1. A hypothetical U.S. portfolio that allocates 100% to the S&P 500, and
2. A hypothetical international portfolio that allocates 100% to the S&P Global Ex-U.S. LargeMidCap.

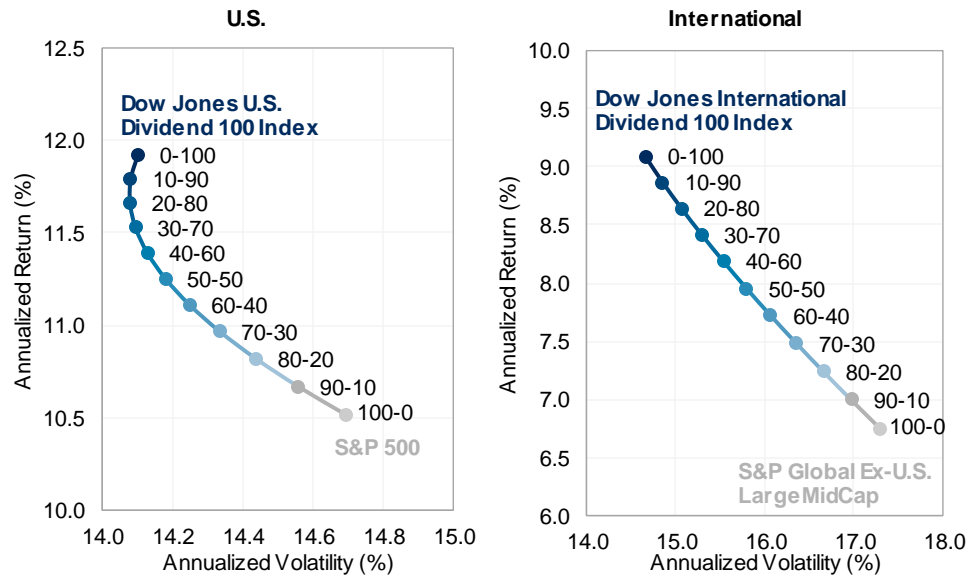
*There was an improvement in the risk/return profile when shifting weight to the Dow Jones U.S. Dividend 100 Index from the S&P 500 in steps of 10%.*

Exhibit 12 shows the risk/return curves of various combinations of the Dow Jones Dividend 100 Indices and core market indices for the period from March 31, 2005, to June 30, 2021.

The U.S. portfolio allocating 100% to the S&P 500 generated 10.5% annualized total return, with 14.7% annualized volatility. When shifting weight to the Dow Jones U.S. Dividend 100 Index from the S&P 500 in increments of 10%, the curve shows an improvement in the risk/return profile. In the studied period, a 30%/70% allocation increased the total return by 100 bps and reduced the volatility by 0.6%.

Similar improvement can be observed for the international portfolio. When introducing Dow Jones International Dividend 100 Index in increments of 10%, the total return was significantly improved with reduced volatility, thus moving the risk/return dot toward the upper left.

**Exhibit 12: Risk/Return Efficient Frontier**



All portfolios are hypothetical.  
 Source: S&P Dow Jones Indices LLC. Data from March 31, 2005, to June 30, 2021. Performance based on monthly total returns in USD. 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.

**CONCLUSION**

*Dow Jones Dividend 100 Indices are designed to measure quality dividend payers in the U.S. or international markets.*

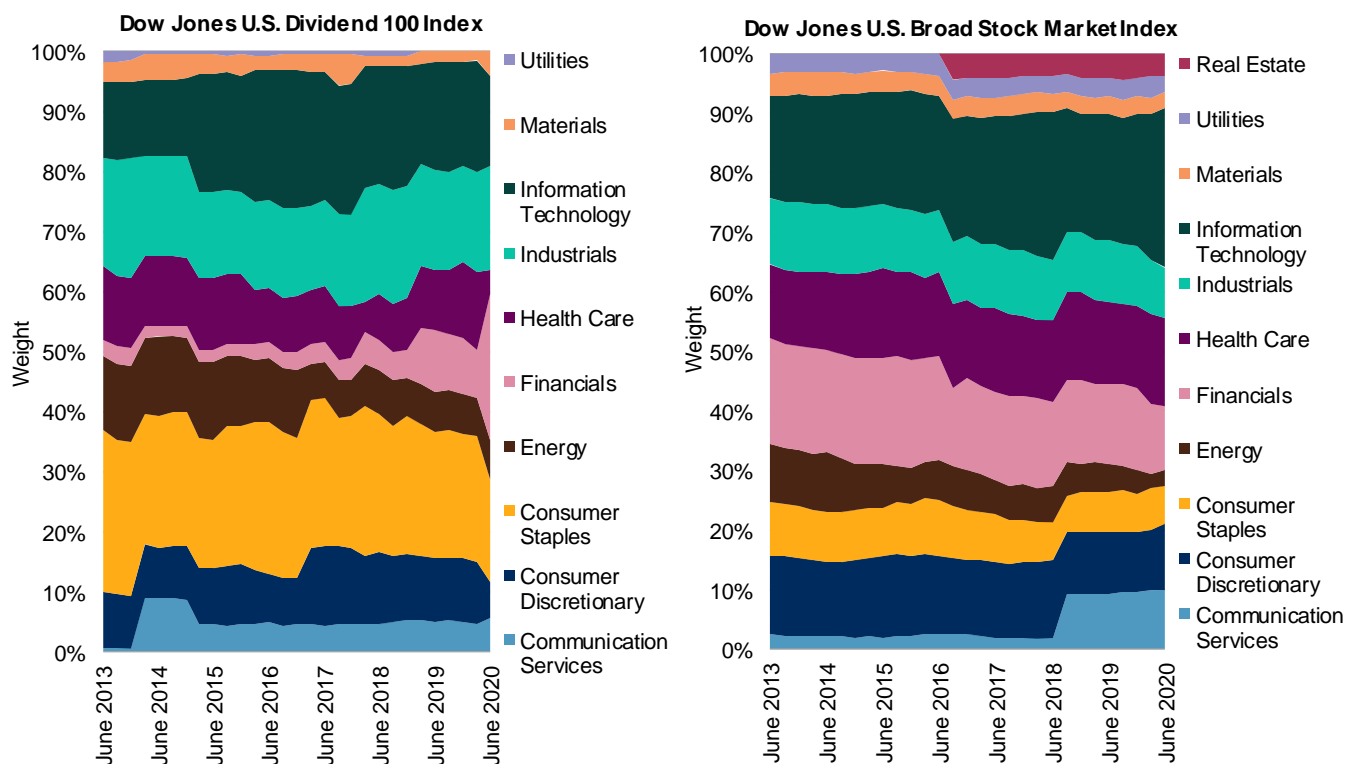
The Dow Jones Dividend 100 Indices are designed to measure quality dividend payers in the U.S. or international markets. These characteristics can be important in an unstable economic environment and when market participants fear rising rates. The modified market capitalization weighting approach used by the index also provides the index with a higher capacity and reduced turnover rate when compared with other alternatively weighted strategies. Available for U.S. and international markets, the Dow Jones Dividend 100 Indices could enable market participants to enjoy yield opportunity in international markets and benefit from diversification.

## APPENDIX

Exhibit 13: Index Characteristics				
INDEX FUNDAMENTALS	DOW JONES U.S. DIVIDEND 100 INDEX	DOW JONES U.S. BROAD STOCK MARKET INDEX	DOW JONES INTERNATIONAL DIVIDEND 100 INDEX	S&P GLOBAL EX-U.S. LARGEMIDCAP
Indicated Annual Dividend Yield (%)	3.13	1.27	4.27	2.16
ROE Trailing	17.53	7.62	13.73	6.48
Number of Constituents	100	2640	100	2910
CONSTITUENT MARKET CAP (USD MILLIONS)				
Mean Total Market Cap	40,299.06	17,995.94	28,348.56	17,228.70
Largest Total Market Cap	339,062.34	2,285,537.80	264,919.49	1,871,800.34
Smallest Total Market Cap	561.74	77.52	1,052.82	25.30
Median Total Market Cap	12,684.72	3,345.81	10,998.57	7,185.26
WEIGHTS				
Largest Constituent (%)	4.26	4.87	4.13	1.58
Top 10 Constituents (%)	41.04	22.59	39.49	11.20

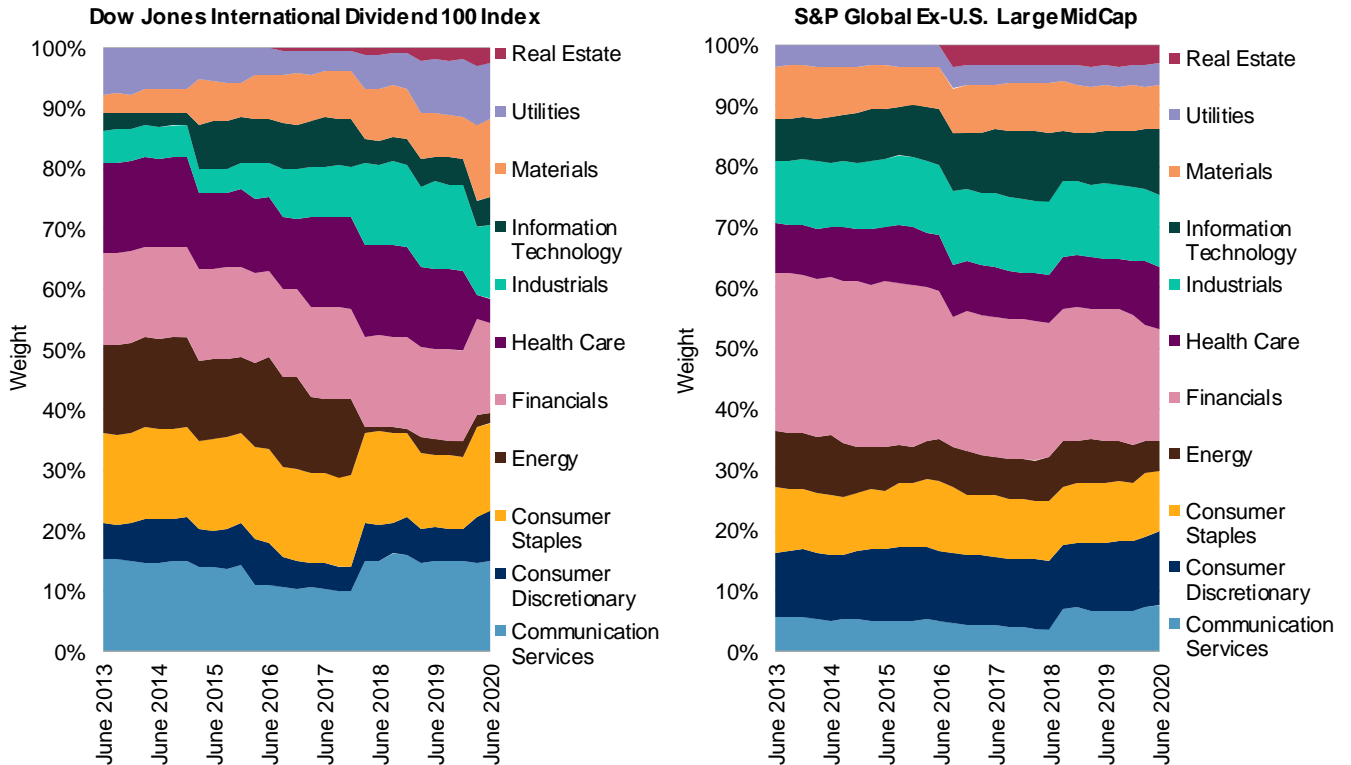
Source: S&P Dow Jones Indices LLC. Data as of June 30, 2021. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**Exhibit 14: Historical Sector Weights of the Dow Jones U.S. Dividend 100 Index and Dow Jones U.S. Broad Stock Market Index**



Source: S&P Dow Jones Indices LLC. Data from March 31, 2013, to June 30, 2021. Charts are provided for illustrative purposes and reflect 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 15: Historical Sector Weights of the Dow Jones International Dividend 100 Index and S&P Global Ex-U.S. LargeMidCap**



Source: S&P Dow Jones Indices LLC. Data from March 31, 2013, to June 30, 2021. Charts are 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 DISCLOSURE/BACK-TESTED DATA

The Dow Jones U.S. Dividend 100 Index was launched on August 31, 2011. The Dow Jones U.S. Broad Stock Market Index was launched Feb. 28, 2005. The Dow Jones International Dividend 100 Index was launched March 22, 2021. 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. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at [www.spglobal.com/spdji](http://www.spglobal.com/spdji). Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index 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. Back-tested performance is for use with institutions only; not for use with retail investors.

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 to a fixed value for calculation purposes. The Launch Date designates the date when 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 data feed 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.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate S&P DJI's ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the [FAQ](#). The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used.

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