WisdomTree
RESEARCH

DIVIDEND GROWTH'S DRIVERS: PICKING APART QUALITY

Authored by: Jeff Weniger (CFA®, Asset Allocation Strategist)

WISDOMTREE®

"Compound interest is the eighth wonder of the world. He who understands it, earns it. He who doesn't, pays it."

- Albert Einstein

THE INTERNALS OF DIVIDEND GROWTH

Consider a simple and unlikely scenario: three indexes, with three very different dividend growth rates, experiencing the same underlying stock price appreciation over five years. Figure 1 shows the return experience, with each index initially priced at 100, sporting 3% dividend yields, each witnessing capital appreciation of 3% per year.

Look at what happens at the end of the horizon: Index A, the slowest dividend growth index of the three, ends with a yield of 2.86%, considerably lower than the yield of the rapidly growing Index C, which would seemingly have a premium valuation at the end of such a run (gauged by the dividend yield), not a discount. That is why this is an unlikely scenario.

Figure 1: Investment Profile, 3% Equity Price Appreciation

		Div. Growth Rate	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Total Return on Investment	Year 5 Div. Yield
	Dividend	2%	$3.00	$3.06	$3.12	$3.18	$3.25	$3.31		2.86%
Index A	Price		$100.00	$103.00	$106.09	$109.27	$112.55	$115.93		
	Total Capital		$100.00	$106.06	$112.46	$119.20	$126.32	$133.83	6.00%	
	Dividend	5%	$3.00	$3.15	$3.31	$3.47	$3.65	$3.83		3.30%
Index B	Price		$100.00	$103.00	$106.09	$109.27	$112.55	$115.93		
	Total Capital		$100.00	$106.15	$112.74	$119.82	$127.41	$135.57	6.27%	
	Dividend	8%	$3.00	$3.24	$3.50	$3.78	$4.08	$4.41		3.80%
Index C	Price		$100.00	$103.00	$106.09	$109.27	$112.55	$115.93		
	Total Capital		$100.00	$106.24	$113.04	$120.45	$128.57	$137.46	6.57%	

Source: WisdomTree. Hypothetical example assumes starting "price" of an investment tracking the index of $100, an initial dividend of $3 and dividends reinvested. You cannot invest directly in an index.

Now witness what happens when we tease this scenario so that all three indexes end each year with a 3% dividend yield, the same as they started. A $100 investment tracking Index A grows to $127.99 due to index appreciation to $110.41 plus several years of reinvested dividends of $3+. Indexes B and C grow considerably more, resulting in an 8.15% total return for B and 11.24% for C, both several hundred basis points more than the lackluster return for Index A. Such is the eighth wonder of the world—compound interest—that Einstein was talking about.

Figure 2: Investment Profile, End Yield of 3%

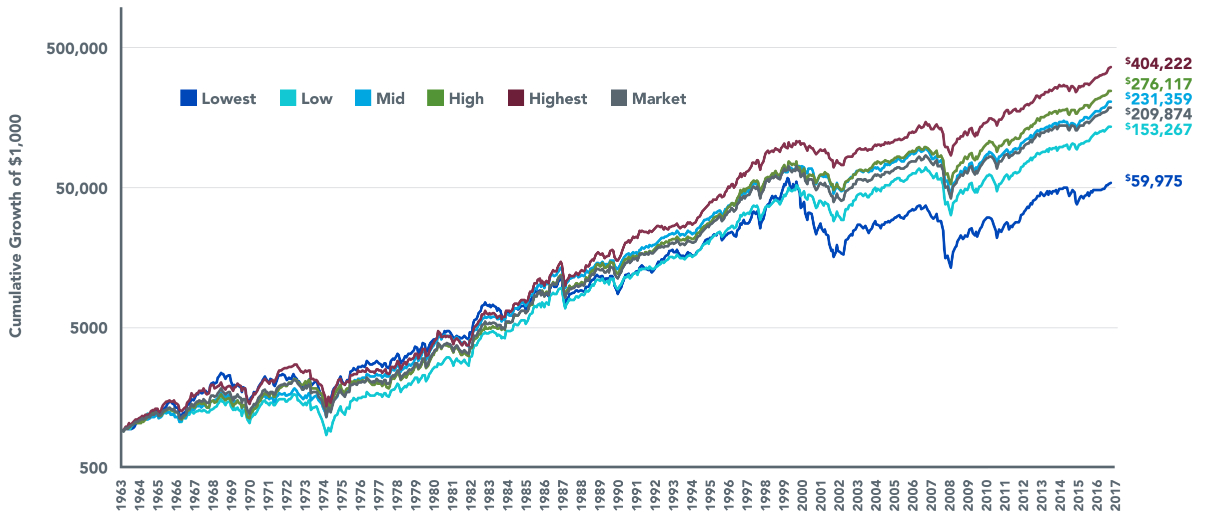
		Div. Growth Rate	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Total Return on Investment	Year 5 Div. Yield
	Dividend	2%	$3.00	$3.06	$3.12	$3.18	$3.25	$3.31		3.00%
Index A	Price		$100.00	$102.00	$104.04	$106.12	$108.24	$110.41		
	Total Capital		$100.00	$105.06	$110.38	$115.96	$121.83	$127.99	5.06%	
	Dividend	5%	$3.00	$3.15	$3.31	$3.47	$3.65	$3.83		3.00%
Index B	Price		$100.00	$105.00	$110.25	$115.76	$121.55	$127.63		
	Total Capital		$100.00	$108.15	$116.96	$126.50	$136.81	$147.96	8.15%	
	Dividend	8%	$3.00	$3.24	$3.50	$3.78	$4.08	$4.41		3.00%
Index C	Price		$100.00	$108.00	$116.64	$125.97	$136.05	$146.93		
	Total Capital		$100.00	$111.24	$123.74	$137.65	$153.12	$170.34	11.24%	

Source: WisdomTree. Hypothetical Example assumes starting "price" of an investment tracking the index of $100, an initial dividend of $3 and dividends reinvested. You cannot invest directly in an index.

We see that the driver of long-term compound returns is dividend growth, but what drives the driver? Corporate profitability. In fact, using more than 50 years of data,[1] a strategy that identified the top 20% of stocks by profitability outperformed the bottom quintile of stocks by 384 bps per year (11.63% vs. 7.79%). And that's because profitability breeds dividend growth, as we see in the next section.

[1] Source: Kenneth French Data Library 6/30/1963 – 12/29/2017

Figure 3: Equity Performance, Grouped by Profitability



	Avg. Annual Return	Sharpe Ratio
Highest	11.63%	0.45
High	10.86%	0.40
Mid	10.50%	0.39
Low	9.67%	0.32
Lowest	7.79%	0.16
Market	10.30%	0.37

Source: Kenneth French Data Library, with data as of 12/31/2017. Period based on availability of Operating Profitability returns sorted into quintiles, beginning 6/30/1963. Universe is U.S. listed equities grouped on the basis of operating profitability. Past performance is not indicative of future results. You cannot invest directly in an index.

SPARKING THE DIVIDEND FLAME

A key to getting the firepower under dividend growth—future dividend growth, not past growth—is a high return on equity (ROE). But thinking about ROE involves so much more than just looking at a number.

How do companies generate high or low ROE? We can pick up those dynamics with the DuPont model.

Donaldson Brown at the DuPont Corporation developed the concept a century ago,[2] and it says that ROE can be broken into the interaction among profit margins, asset turnover[3] and the equity multiplier, all of which are explained further below. It's an interesting story, and the DuPont website explains that Brown's formula led to the company taking a major stake in General Motors in the early days of the auto industry. In later decades, the DuPont method became a business staple, referenced in finance textbooks and CFA Program curriculum.

[2] Source: DuPont.
[3] Asset Turnover: Sales divided by total assets. A higher ratio indicates that a company can generate greater sales per dollar of assets than a company with a lower ratio.

THE LOGIC OF THE DUPONT FORMULA

The DuPont method breaks return on equity into three pieces:

Return on Equity = **Profit Margin** X **Asset Turnover** X **Equity Multiplier**

And each of those is defined as:

$$\frac{\text{Net Income}}{\text{Total Equity}} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Total Equity}}$$

Notice too that some components show up as numerators and denominators. Cross them out in both, and we are left with net income to equity, or ROE. Each input is critical if a firm wants to be truly profitable: Margins need to be high, the amount of sales compared to the asset base should also be high and of course leverage plays a factor in the total assets-to-total equity ratio.

And this is where it gets really interesting. Implied dividend growth is equal to the retention ratio times ROE, with the former being the percentage of earnings that are retained, with the rest going out as dividends (the payout ratio).

Visually:

Retention Ratio X **ROE** = **Implied Dividend Growth**

PUTTING IT TO WORK

The blue and teal in Figure 4 lays out the logic of these dividend-growth forces using the WisdomTree Canada Quality Dividend Growth Index against a well-known market capitalization-weighted index.

In this case, we see that WisdomTree's core Canadian equity Index, WTCDG, has a 9.6% profit margin, which is slightly below the 11.2% margin posted by MSCI Canada.[4] But as we move to the right in the exhibit, WTCDG has a sharply higher asset turnover ratio, which means that its companies make more efficient use of their resources in generating sales. Next, WTCDG has a lower equity multiplier, so its components are not using as much debt as MSCI Canada's corporations.

[4] Source: WisdomTree, Bloomberg, as of 12/29/2017.

The combination of competitive margins, highly efficient use of assets and, importantly, the ability to generate a14.9% ROE, despite a more conservative use of debt, really puts WTCDG in proper context relative to MSCI Canada. In short, MSCI Canada musters a 9.6% ROE because of debt, not efficiency, and its profitability is left wanting even with the use of leverage. Leverage works fine during good times, but maybe not so much during hard times.

Figure 4: WisdomTree Canada Quality Divided Growth Index vs. MSCI Canada

	DuPont Model								Dividend Discount Model			
	Net Income / Sales (Profit Margin)		x Sales / Total Assets (Asset Turnover)		x Total Assets / Total Equity (Equity Multiplier)		= Net Income / Total Equity (Return on Equity)		Dividend Yield / Earnings Yield (Payout Ratio)		(1- Payout) x ROE (Implied Div Growth)	
	Profit Margin	WTCDG Higher Margins Than MSCI CANADA?	Asset Turnover	WTCDG Higher Sales per Assets Than MSCI CANADA?	Equity Multiplier	WTCDG Lower Debt Financing Than MSCI CANADA?	Return on Equity	WTCDG Higher ROE Than MSCI CANADA?	Payout Ratio	WTCDG Lower Payout Ratio (More Reinvested in the Business) Than MSCI CANADA?	Implied Div. Growth	WTCDG Higher Implied Div. Growth?
WisdomTree Canada Quality Dividend Growth Index	**9.6%**		**42%**		**3.7**		**14.9%**		**39%**		**9.1%**	
MSCI CANADA	**11.2%**	✗	**11%**	✓	**7.5**	✓	**9.6%**	✓	**51%**	✓	**4.7%**	✓
MSCI CANADA GROWTH	**9.9%**		**17%**		**5.7**		**9.6%**		**46%**		**5.2%**	
MSCI CANADA VALUE	**12.2%**		**9%**		**8.8**		**9.6%**		**54%**		**4.5%**	
WisdomTree Financials	23.2%	✓	9%	✓	3.1	✓	6.6%	✗	61%	✗	2.5%	✗
MSCI CANADA Financials	14.8%		5%		12.6		10.2%		49%		5.3%	
WisdomTree Energy	6.2%	✗	63%	✓	1.8	✓	7.0%	✓	53%	✓	3.3%	✓
MSCI CANADA Energy	10.0%		30%		2.2		6.6%		88%		0.8%	
WisdomTree Materials	12.8%	✓	36%	✓	2.1	✗	9.8%	✓	31%	✗	6.8%	✓
MSCI CANADA Materials	12.0%		34%		1.9		7.6%		29%		5.4%	
WisdomTree Industrials	10.8%	✓	40%	✗	2.5	✓	10.9%	✗	32%	✗	7.4%	✗
MSCI CANADA Industrials	10.3%		52%		4.1		22.0%		31%		15.1%	
WisdomTree Telecommunications Services	12.8%	✓	47%	✓	3.9	✗	23.6%	✓	67%	✗	7.8%	✓
MSCI CANADA Telecommunications Services	10.0%		46%		3.7		17.2%		66%		5.8%	
WisdomTree Consumer Discretionary	7.4%	✓	89%	✓	2.9	✗	19.1%	✓	34%	✗	12.6%	✓
MSCI CANADA Consumer Discretionary	7.3%		80%		2.5		14.9%		28%		10.7%	
WisdomTree Consumer Staples	4.6%	✓	201%	✓	1.9	✓	17.5%	✓	30%	✗	12.2%	✓
MSCI CANADA Consumer Staples	3.0%		174%		2.5		13.0%		24%		9.8%	
WisdomTree Information Technology	22.8%	✓	45%	✗	2.5	✗	25.6%	✓	53%	✗	12.0%	✓
MSCI CANADA Information Technology	10.1%		58%		1.9		11.4%		26%		8.5%	
WisdomTree Utilities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI CANADA Utilities	10.9%		20%		2.9		6.2%		65%		2.2%	
WisdomTree Real Estate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI CANADA Real Estate	57.8%		8%		1.9		9.0%		90%		0.9%	
WisdomTree Health Care	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI CANADA Health Care	15.3%		23%		7.4		25.5%		0%		25.5%	

Sources: Bloomberg, WisdomTree, as of 12/29/2017. All references to "WTCDG" indicate the WisdomTree Canada Quality Dividend Growth Index. WTCDG currently has 0% in utilities, real estate and healthcare, thus making those sector comparisons not applicable.

The thing about ROE is that once we know it, we can gauge future dividend growth as we seek our proverbial "Index C," to go back to Figure 1. In this example, WTCDG has a payout ratio of 39%, denoting the percentage of its earnings that is paid to shareholders. The rest is retained and can be multiplied by the 14.9% ROE to get an estimated 9.1% dividend growth rate, considerably greater than the DuPont-implied 4.7% dividend growth rate of general Canadian equities. Cue the Einstein quote about compound interest.

SECOND VERSE, SAME AS THE FIRST

Figure 5 is a repeat of Figure 4, only this time for the U.S., using the WisdomTree U.S. Quality Dividend Growth Index CAD (WTDGIC). In the U.S. equity case, the subcomponents of ROE—profit margins, asset turnover and the equity multiplier—point to WTDGIC scoring more favorably on all three, with the equity multiplier benefiting from the WisdomTree Index's current underweighting in banks. The result is a dynamo 19.4% ROE that considerably exceeds MSCI USA's return on equity (12.5%).

Once again, moving from the DuPont model to the dividend discount model on the right of Figure 5, we see an implied dividend growth rate for the WisdomTree Index of 10.4%. This is higher than the MSCI U.S. Growth Index, and that one achieves its competitive implied growth rate because it has a high earnings retention rate only of 69% (100% minus 31% dividend payout ratio).

Figure 5: WisdomTree U.S. Quality Divided Growth Index CAD vs. MSCI U.S.

DuPont Model

$$\frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Total Equity}} = \frac{\text{Net Income}}{\text{Total Equity}}$$

(Profit Margin) (Asset Turnover) (Equity Multiplier) (Return on Equity)

Dividend Discount Model

$$\frac{\text{Dividend Yield}}{\text{Earnings Yield}} \qquad (1\text{- Payout}) \times \text{ROE}$$

(Payout Ratio) (Implied Div Growth)

	Profit Margin	WTDGIC Higher Margins Than MSCI USA?	Asset Turnover	WTDGIC Higher Sales per AssetsThan MSCI USA?	Equity Multiplier	WTDGIC Lower Debt Financing Than MSCI USA?	Return on Equity	WTDGIC Higher ROE Than MSCI USA?	Payout Ratio	WTDGIC Lower Payout Ratio (More Reinvested in the Business) Than MSCI USA?	Implied Div. Growth	WTDGIC Higher Implied Div. Growth?
WisdomTree U.S. Quality Dividend Growth Index CAD	**9.4%**		**50%**		**4.1**		**19.4%**		**46%**		**10.4%**	
MSCI USA	**9.0%**	✔	**31%**	✔	**4.5**	✔	**12.5%**	✔	**44%**	×	**6.9%**	✔
MSCI USA GROWTH INDEX	**10.1%**		**62%**		**3.1**		**19.2%**		**31%**		**13.2%**	
MSCI USA VALUE INDEX	**8.3%**		**23%**		**5.1**		**9.7%**		**53%**		**4.5%**	
WisdomTree Financials	20.7%	✔	5%	×	5.6	✔	6.2%	×	35%	×	4.0%	×
MSCI USA Financials	14.5%		7%		8.2		8.0%		31%		5.5%	
WisdomTree Energy	4.9%	✔	66%	✔	2.0	×	6.6%	✔	78%	✔	1.4%	✔
MSCI USA Energy	1.3%		56%		2.0		1.4%		143%		-0.6%	
WisdomTree Materials	12.6%	✔	63%	✔	2.8	×	22.6%	✔	41%	✔	13.3%	✔
MSCI USA Materials	8.2%		57%		2.5		11.7%		44%		6.6%	
WisdomTree Industrials	9.8%	✔	84%	✔	3.5	×	29.1%	✔	44%	✔	16.3%	✔
MSCI USA Industrials	8.0%		66%		3.4		18.0%		46%		9.7%	
WisdomTree Telecommunications Services	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI USA Telecommunications Services	8.9%		40%		4.4		15.8%		73%		4.2%	
WisdomTree Consumer Discretionary	7.6%	✔	105%	✔	3.5	✔	28.2%	✔	35%	×	18.3%	✔
MSCI USA Consumer Discretionary	6.3%		77%		3.6		17.6%		34%		11.7%	
WisdomTree Consumer Staples	7.1%	✔	111%	×	3.5	×	27.8%	✔	57%	✔	11.9%	✔
MSCI USA Consumer Staples	6.8%		120%		3.1		25.4%		62%		9.6%	
WisdomTree Information Technology	21.0%	✔	51%	×	2.6	×	27.2%	✔	40%	×	16.3%	✔
MSCI USA Information Technology	16.7%		55%		2.3		21.1%		31%		14.6%	
WisdomTree Utilities	12.2%	✔	22%	×	3.7	×	10.0%	×	60%	×	4.0%	×
MSCI USA Utilities	11.4%		24%		3.7		10.0%		54%		4.6%	
WisdomTree Real Estate	13.4%	×	21%	✔	5.8	×	16.4%	✔	81%	✔	3.2%	✔
MSCI USA Real Estate	19.3%		18%		2.2		7.8%		151%		-4.0%	
WisdomTree Health Care	10.7%	✔	66%	×	2.7	×	19.4%	✔	41%	×	11.4%	✔
MSCI USA Health Care	7.1%		79%		2.6		14.5%		35%		9.4%	

Sources: Bloomberg, WisdomTree as of 12/29/2017. WTDGIC currently has 0% in telecom, thus making those sector comparisons not applicable.

NON-NORTH AMERICAN DEVELOPED MARKETS

Finally, Figure 6 shows the exercise for non-North American international developed equities using the WisdomTree International Quality Dividend Growth Index CAD (WTIDGC). In this case, WisdomTree once again runs its screen for high ROE, high return on assets (ROA) and earnings growth, as it does for any of our Indexes that have "quality dividend growth" in the name. Again, the result is a basket of companies that score highly on not only profit margin and business efficiency (as measured by asset turnover), but also in its generalized lack of leverage relative to the market capitalization-weighted indexes. The 22% ROE is a standout that is nearly triple the 8.4% ROE of the MSCI EAFE Index of developed market equities, leading to implied dividend growth rates for our Index that are in the double digits.

Figure 6: WisdomTree International Quality Divided Growth Index CAD vs. MSCI EAFE

	DuPont Model								Dividend Discount Model			
	Net Income / Sales (Profit Margin)	X	Sales / Total Assets (Asset Turnover)	X	Total Assets / Total Equity (Equity Multiplier)	=	Net Income / Total Equity (Return on Equity)		Dividend Yield / Earnings Yield (Payout Ratio)		(1- Payout) x ROE (Implied Div Growth)	
	Profit Margin	WTIDGC Higher Margins Than MSCI EAFE?	Asset Turnover	WTIDGC Higher Sales per Assets Than MSCI EAFE?	Equity Multiplier	WTIDGC Lower Debt Financing Than MSCI EAFE?	Return on Equity	WTIDGC Higher ROE Than MSCI EAFE?	Payout Ratio	WTIDGC Lower Payout Ratio (More Reinvested in the Business) Than MSCI EAFE?	Implied Div. Growth	WTIDGC Higher Implied Div. Growth?
WisdomTree International Quality Dividend Growth Index CAD	**11.5%**		**77%**		**2.5**		**22.0%**		**51%**		**10.7%**	
MSCI EAFE	**6.6%**	✓	**19%**	✓	**6.9**	✓	**8.4%**	✓	**63%**	✓	**3.1%**	✓
MSCI EAFE GROWTH INDEX	**6.8%**		**39%**		**4.2**		**11.1%**		**52%**		**5.3%**	
MSCI EAFE VALUE INDEX	**6.4%**		**14%**		**8.1**		**7.2%**		**70%**		**2.1%**	
WisdomTree Financials	17.1%	✓	71%	✓	1.7	✓	21.3%	✓	51%	✓	10.3%	✓
MSCI EAFE Financials	8.5%		5%		15.4		6.0%		70%		1.8%	
WisdomTree Energy	4.4%	✓	53%	x	2.8	x	6.6%	✓	55%	✓	2.9%	✓
MSCI EAFE Energy	3.2%		71%		2.3		5.2%		139%		-2.0%	
WisdomTree Materials	10.2%	✓	104%	✓	1.8	✓	19.6%	✓	45%	✓	10.7%	✓
MSCI EAFE Materials	6.6%		73%		2.1		10.3%		48%		5.3%	
WisdomTree Industrials	7.9%	✓	62%	x	2.6	✓	12.8%	✓	53%	x	6.0%	✓
MSCI EAFE Industrials	4.7%		69%		2.8		9.2%		47%		4.9%	
WisdomTree Telecommunications Services	13.6%	✓	56%	✓	3.8	x	28.8%	✓	85%	✓	4.4%	✓
MSCI EAFE Telecommunications Services	6.1%		43%		2.8		7.4%		92%		0.6%	
WisdomTree Consumer Discretionary	9.4%	✓	87%	✓	2.0	✓	16.7%	✓	54%	x	7.7%	✓
MSCI EAFE Consumer Discretionary	5.6%		71%		2.8		11.0%		45%		6.0%	
WisdomTree Consumer Staples	12.5%	✓	66%	x	3.1	x	26.0%	✓	65%	x	9.0%	✓
MSCI EAFE Consumer Staples	6.2%		82%		2.6		13.3%		63%		5.0%	
WisdomTree Information Technology	14.1%	✓	61%	x	1.7	✓	14.8%	✓	40%	✓	8.9%	✓
MSCI EAFE Information Technology	6.7%		71%		1.9		9.1%		46%		4.9%	
WisdomTree Utilities	3.2%	x	179%	✓	4.8	x	27.8%	✓	13%	✓	24.2%	✓
MSCI EAFE Utilities	4.3%		49%		3.5		7.3%		118%		-1.3%	
WisdomTree Real Estate	17.9%	x	29%	✓	2.4	x	12.3%	✓	20%	✓	9.8%	✓
MSCI EAFE Real Estate	31.8%		16%		1.8		9.4%		35%		6.1%	
WisdomTree Health Care	24.3%	✓	75%	✓	2.3	x	41.5%	✓	60%	✓	16.6%	✓
MSCI EAFE Health Care	11.1%		52%		2.2		12.9%		82%		2.3%	

Source: Bloomberg, WisdomTree as of 12/29/2017. WTIDGC currently has 0% in utilities, thus making that sector comparison not applicable.

What kind of premium valuations are thus accorded the WisdomTree Indexes? Actually, not much, and in two cases the WisdomTree Index is at a valuation discount to its comparable MSCI Index. The WisdomTree Canada Quality Dividend Growth Index trades at 15.4 times forward earnings, lower than the 16.7 multiple accorded MSCI Canada. For its U.S. equivalent, the WisdomTree Index's 18.9 multiple is lower than MSCI USA (20.3). Finally, the WisdomTree International Quality Dividend Growth Index CAD trades at 19.5 times forward earnings, a premium to MSCI EAFE's 16.1. The third example is the only one with a material gap between the WisdomTree Index and MSCI. Then again, it's the one with the most striking ROE contrast.

FILLING CORE ALLOCATIONS WITH QUALITY DIVIDEND GROWTH

The ETFs that track the aforementioned Indexes are the:

+ WisdomTree Canada Quality Dividend Growth Index ETF: **DGRC** (non-hedged units)
+ WisdomTree U.S. Quality Dividend Growth Index ETF: **DGR** (hedged units), **DGR.B** (non-hedged units)
+ WisdomTree U.S. Quality Dividend Growth Variably Hedged Index ETF™: **DQD** (Variably Hedged™ units), where currency exposure is determined based on rules-based metrics.
+ WisdomTree International Quality Dividend Growth Index ETF: **IQD** (hedged units), **IQD.B** (non-hedged units)
+ WisdomTree International Quality Dividend Growth Variably Hedged Index ETF™: **DQI** (Variably-Hedged™ units), where currency exposure is determined based on rules-based metrics.

Variably Hedged™ is a trademark of WisdomTree Investments, Inc. and refers to its variably currency-hedged ETFs, units thereof, indexes, its proprietary method of hedging based on technical and economic signals and/or its investment fund services.

WisdomTree Indexes are constructed in such a way as to identify highly profitable companies. For them to achieve that goal and pass our screens, they need to do so by being efficient with their assets and by posting favorable profit margins. This is prudent investment logic. The ETFs that track our quality dividend growth Indexes can thus be used to represent a portfolio's core exposure to Canadian, U.S., and international developed equities.

Publication date: 3/2/2018