Empirical Research Partners Alfredo Pinel Yi Liu 212 803-7965 Yi Liu 212 803-7965

Global Portfolio Strategy November 2017 November 21, 2017

Dividend Strategies: Look for Improvements in the Stability of Fundamentals

A Tough Stretch

- In this research we looked into a strategy of picking amongst the highest dividend-yielding stocks throughout the developed world, that includes the U.S. In the 1990s and 2000s betting on them worked out, and they led by +5.5 and +7 percentage points per year in each of those decades. But in the 2010s life hasn't been that easy and that strategy has lagged by about (1.2) percentage points on an annualized basis, leading only in 2016 when negative rates came into the fore in Europe and Japan. We studied the results that came from picking among high dividend-yielding stocks in the post-Crisis years, seeking to understand whether changes in the makeup and character of that group had undermined alpha generation.
- We used our fundamental stability score, that weighs a company's level and variability of ROE, volatility of earnings growth, earnings estimate dispersion, financial leverage and beta, to see if there had been a notable personality change among the global dividend elite. We found that over the last decade their stability advantage had waned and that they're now more volatile than the average stock. Part of what's happened has to do with headwinds in the utility, telecom, energy and financial sectors, that account for the bulk of those issues. In the case of the global utilities their relative stability is now the lowest in 25 years.

Post-Crisis: A Different Dynamic at Play

- The cohort of the highest dividend yielders has always comprised a mixed bag of stable and volatile companies, and in the 1990s and 2000s most of their alpha came from playing in both tails, to the tune of more than +7 percentage points per year. Thereafter, as fearful investors have sought out safety, the companies in the volatile tail have lagged their opposite numbers by about (5) percentage points per annum.
- While in prior decades the cash flow supporting the dividends proved decisive to performance, that's not been the case in the 2010s. In the 1990s and 2000s stocks priced at the highest free cash flow yields led by +9 percentage points per year, while in the 2010s they've lagged, by about (1.5) points per annum.

Looking for Improvements in Fundamental Stability

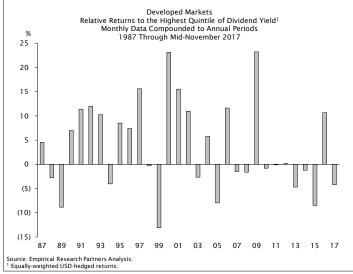
- In the 2010s the relative returns of the stable dividend-yielders have been 60% correlated with the performance of the U.S. Ten-Year Treasury Bond, about twice the average level of the past 30 years. Today the dividend yield the stable group offers is (120) basis points below that of their volatile counterparts, while their free cash flow yield premium has dwindled to zero. Both are bottom-decile outcomes.
- With many of the highest dividend yielders being more volatile companies we think it's worthwhile to look for situations where fundamentals are becoming more stable by tracking *changes* in their stability scores. Since 1990 the highest dividend-yielding stocks with the biggest improvements in stability have led by +5 percentage points per year, about +1.2 percentage points more than those based on dividend yield alone. Since interest rates bottomed in the middle of last year those issues have outperformed, even as the average high dividend yielding stock has lagged.
- Appendix 1 on page 9 lists the developed world large-cap issues priced to the highest dividend yields with the fastest rates of improving stability, of which two-thirds are drawn from Continental Europe and the U.K. Financials screen prominently.

Sungsoo Yang (212) 803-7925 Nicole Price (212) 803-7935 Yu Bai (212) 803-7919 Yuntao Ji (212) 803-7920 Iwona Scanzillo (212) 803-7915

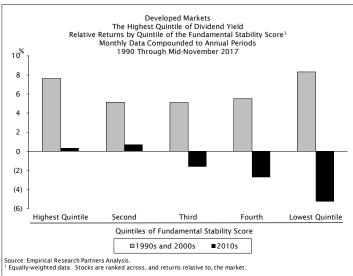
^{© 2017,} Empirical Research Partners LLC, 565 Fifth Avenue, New York, NY 10017. All rights reserved. The information contained in this report has been obtained from sources believed to be reliable, and its accuracy and completeness is not guaranteed. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information and opinions contained herein. The views and other information provided are subject to change without notice. This report is issued without regard to the specific investment objectives, financial situation or particular needs of any specific recipient and is not to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments. Past performance is not necessarily a guide to future results.

Conclusions in Brief

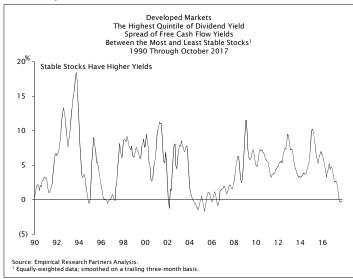
• The 2010s have proved challenging for a global strategy that picks from among high dividend-yielding stocks...



• In the post-Crisis era investors have shunned high yielders with volatile fundamentals...



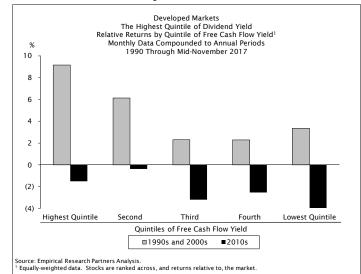
• We're not getting paid to embrace high-*levels* of fundamental stability...



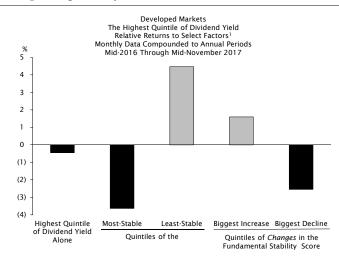
• ...And as the mix has changed their stability advantage has waned over the years:



• ...And surprisingly the cash flow supporting the dividend hasn't been decisive to performance:



• ...But there's opportunity among high-yielders with improving stability in their fundamentals:



Source: Empirical Research Partners Analysis. ¹ Equally-weighted data. Stocks are ranked across, and returns relative to, the market

Dividend Strategies: Look for Improvement in the Stability of Fundamentals

A Tough Stretch

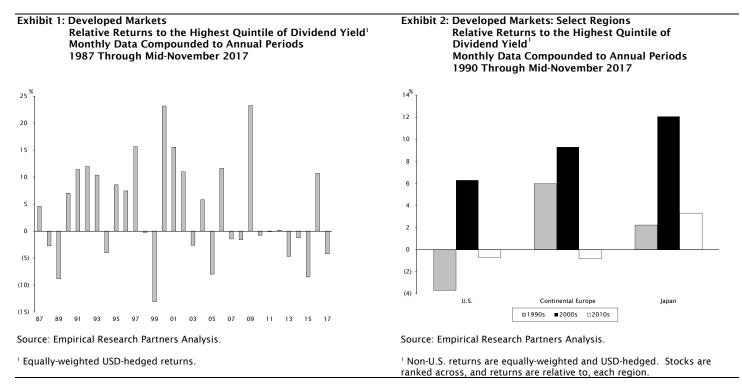
In this research we looked into a strategy of buying the highest dividend-yielding stocks in the developed world that includes the U.S. About 50% of that constituency has traditionally been drawn from pan-Europe and about third from the U.S. In the 1990s and 2000s stocks drawn from around the developed world that offered the highest dividend yields had good runs, leading the market by +5.5 and +7 percentage points per annum, respectively, and trailing it in only seven of the 20 years (see Exhibit 1).

The decade that has followed has proved a lot more challenging for the high yielders and they've underperformed by (1.2) percentage points per year, besting the market only in 2016 after interest rates in Japan and Europe moved into negative territory. Exhibit 2 presents the results in the U.S., Continental Europe and Japan across the three decades. On the other hand developed world stocks priced at the highest free cash flow yields have led by almost +3 points per annum in the 2010s. That's about par for the course and over the last 30 years they've bested the high dividend yielders by about +2 points per annum.

We examined the behavior assessed the behavior of the high dividend yielders during the post-Crisis years, seeking to understand whether changes in their fundamentals have undermined the positive dynamic seen in previous decades. We looked at where the stocks stand today and suggest some attributes that we believe will help us choose winners from that part of the developed world market.

Sector Headwinds

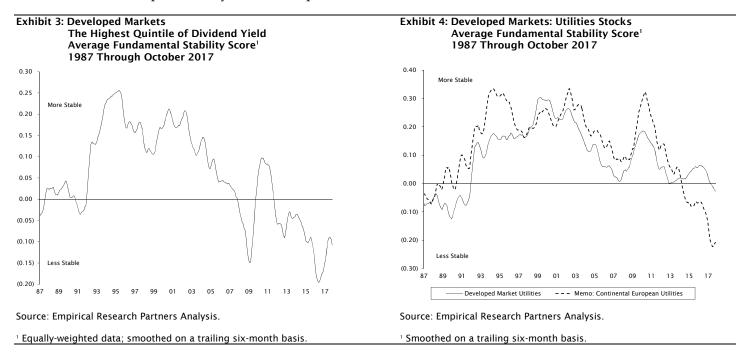
During most of the 1990s and 2000s developed world stocks priced to the highest dividend yields offered an enticing combination of income and enough fundamental stability to allow investors to believe it would persist. Exhibit 3 depicts the average fundamental stability score of that group that weighs the level and variability of ROEs, the volatility of earnings growth, the dispersion of analyst earnings estimates, financial leverage and beta. The way to read the chart is that when the line is above zero that means that the fundamentals of the highest dividend-yielding group are more stable than those of the average stock. That was often the case until right before the onset of the Financial Crisis.



What stands out is that for about a decade now, the stability advantage offered by the highest dividend-yielding stocks has been waning, and in fact, during most of this decade their fundamentals have been less stable than those of the average stock. Today's scores are amongst the lowest witnessed in 30 years. Part of the story can be ex-

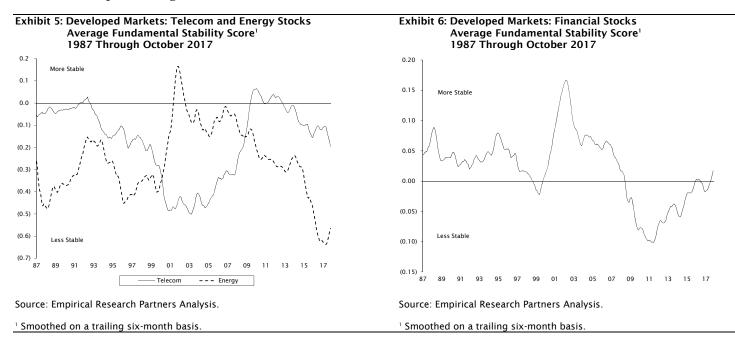
plained by developments in the sectors that have long accounted for the bulk of the high dividend-yielding group: the utilities, telecommunications, energy and financials.

During the better part of the last 30 years the utilities enjoyed the status of bulwarks, but in the post-Crisis period their stability advantage has eroded as in Europe the sector was disrupted by the rise of renewables (see Exhibit 4). In the years following the bust of the New Economy Era the fundamentals of the telecom issues improved, but in the post-Crisis era they've reverted to their natural habitat (see Exhibit 5). During the Bretton Woods II era that began in 2001 energy companies have become less stable, as they embarked on a capex-driven binge that led to capital destruction when the productivity in the shale patch boomed.



Bucking the trend somewhat have been the financials, that have become more stable as credit quality and capital ratios have improved following the Crisis (see Exhibit 6).

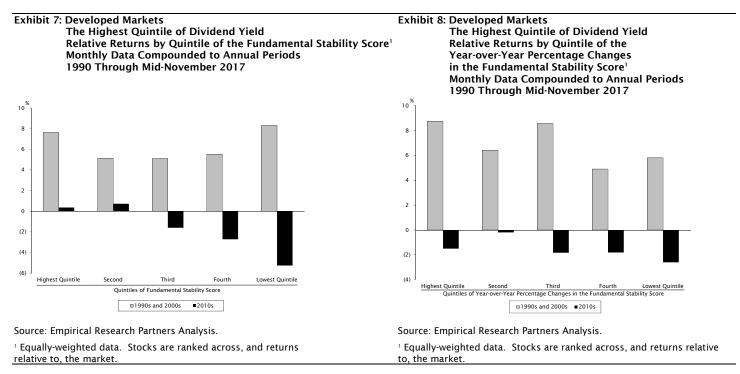
For the most part these headwinds have been hard to miss and the four aforementioned sectors have been among the worst-five-performing ones in the 2010s.



A Different Dynamic at Play

Stocks priced at the highest dividend yields comprise a mixed bag of fundamentally-stable and volatile companies. In the 1990s and 2000s most of the alpha that accrued to them came from playing in both tails, with top and bottomquintiles both leading the market by more than +7 percentage points per year (see Exhibit 7). In those decades, betting on the opportunity ended up being just as good as betting on the sure(r) thing. The Financial Crisis was an event of colossal magnitude, striking fear in the heart of many investors. In the years that followed they worried that another event loomed just around the corner and they flocked to stocks offering the most-stable fundamentals. That group generated de minimis alpha but did outperform their opposite numbers by +5 percentage points per year, as captured by the black bars on the far-left and far-right of the chart.

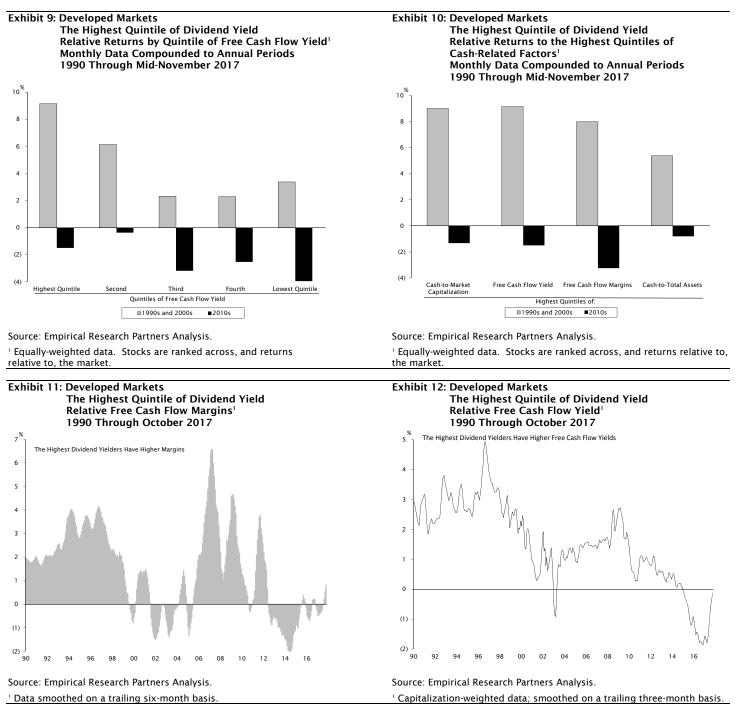
We also looked at whether *changes* in the stability of fundamentals could be exploited. We found that stocks with the biggest improvements in the year-over-year change of our fundamental stability score led by close to +9 percentage points per annum, a slightly better result than betting on the *level* of stability (see Exhibit 8). As the stability of the highest yielders has deteriorated in the 2010s those issues seeing the biggest year-over-year declines in their scores have lagged by about (2.5) percentage points per year.



Historically the cash flow that supported the dividend payment was a critical element in the return equation. The high yielders with the best free cash flow yields have led by almost +9 percentage points per year, about +6 percentage points better than those at the opposite end of the spectrum (see Exhibit 9). In the decade that's followed the Crisis the optionality conveyed by a high free cash flow yield hasn't been big enough to clear the hurdle, and stocks of that ilk have lagged by about (1.5) percentage points per year. That said, a dearth of free cash flow proved even worse and those issues have trailed by (4) percentage points per annum.

We repeated the analysis using other cash-related measures such as cash-to-total assets, cash-to-capitalization and free cash flow margins, and found similar results (see Exhibit 10). What's been noteworthy is that in the 1990s and 2000s the highest dividend-yielding stocks generated free cash flow margins that were +2.5 and +1.4 percentage points over those of the market, while in the 2010s that premium disappeared (see Exhibit 11). That's helped explain the disappearance of the free cash flow yield premium of the highest dividend-yielding stocks that had averaged about +2.2 percentage points in the prior two decades (see Exhibit 12).

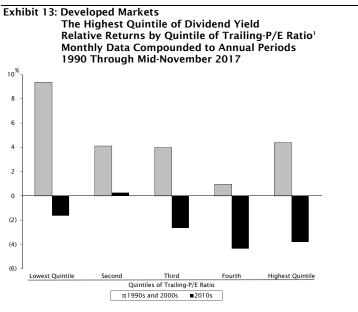
Amongst the highest dividend-yielding issues paying attention to the price of entry proved helpful in prior decades and Exhibit 13 shows the results for those based on earnings multiples, while an assessment based on book multiples would produce a similar result. As evident by the black bars in the exhibit, in the post-Crisis years it's been best to avoid those high dividend-yielding issues with the highest price tags, and those stocks have lagged by about twice as much as their opposite numbers.

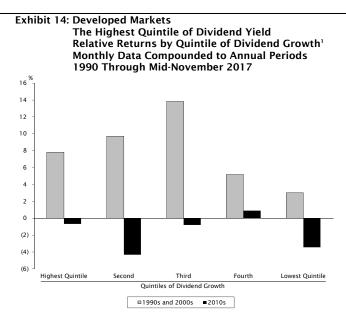


We also looked at whether other dividend-based metrics were of any use, and while higher dividend growth rates were rewarded in earlier decades, that's not been case in the 2010s (see Exhibit 14). Moreover, high payout ratios have usually signaled vulnerability, and they've consistently been a source of underperformance.

In general it's been best to avoid stocks surrounded by controversy and it's not surprising to find that's also been true among the highest dividend-yielding issues (see Exhibit 15). In the post-Crisis period the stocks with the highest levels of arbitrage risk have lagged by close to (6) percentage points per year, while the least controversial ones have led by about a point per annum.

In a similar vein the advantage of predictable earnings behind the dividend payment has been greater in the post-Crisis period, and stocks in the narrowest quintile of analyst earnings estimate dispersion have led by nearly +4 percentage points per year (see Exhibit 16). On the other hand, those with the widest estimates have lagged by about (8) percentage points per annum. When part of the goal is to generate a consistent stream of income, an appearance of certainty has carried great weight.





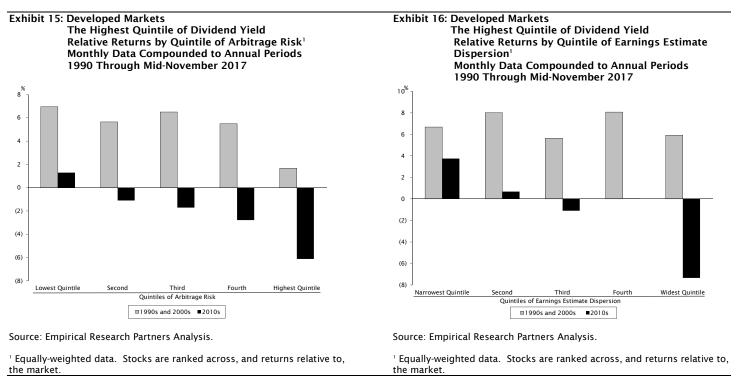
¹ Equally-weighted data. Stocks are ranked across, and returns relative to,

Source: Empirical Research Partners Analysis.

the market

Source: Empirical Research Partners Analysis.

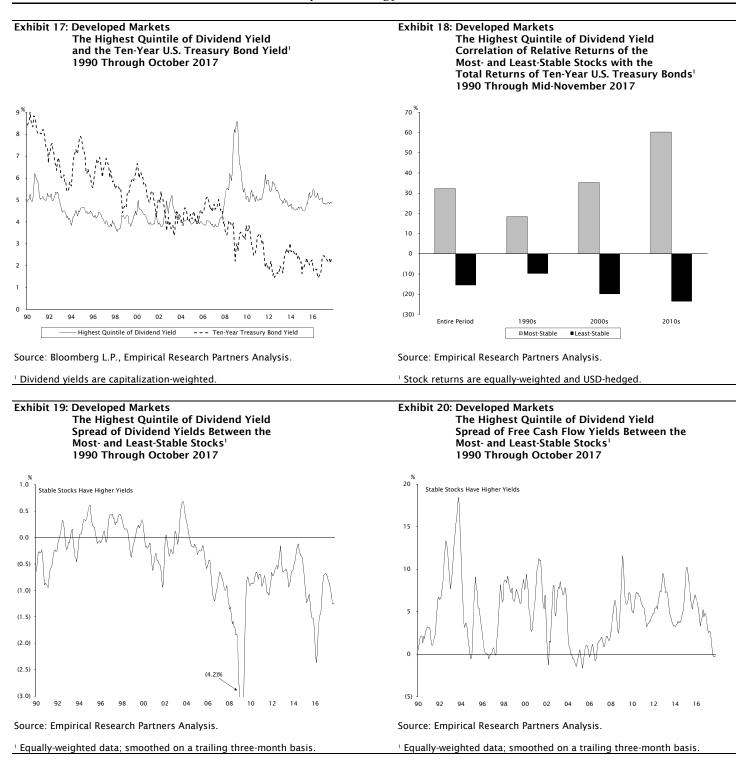
¹ Equally-weighted data. Stocks are ranked across, and returns relative to, the market.



Conclusion: Looking for Improving Fundamentals

During most of the post-Crisis period the dividend yield offered by the highest quintile has exceeded that of the Ten-Year U.S. Treasury Bond by an average of about +270 basis points, while in the preceding 20 years that spread was a deficit of (130) basis points (see Exhibit 17). As a result, in the 2010s the relative returns of the most stable part of the highest dividend-yielding group have resembled those of bonds, and they've been about +60% correlated to the moves in the Ten-Year U.S. Treasury Bond, about twice the level seen since 1990 (see Exhibit 18).

Today the dividend yield offered by the most-stable part of the highest dividend-yielding issues is about (120) basis points lower than that being offered by the least-stable part of the group, a result in the bottom-decile since 1990 (see Exhibit 19). Moreover, while the stable issues had historically offered a free cash flow yield advantage of about +5 percentage points, no such premium exists today (see Exhibit 20). Much like in the rest of the market, here too we're not being paid to bet on stability.



With the fundamentals of the highest dividend yielders becoming unstable in the post-Crisis era, looking for situations where things are getting better has proved to be a good use of time. Since 1990 those with the best year-overyear improvements in stability scores have led by about +5 percentage points per annum, about +120 basis points better than simply betting on the highest dividend yields alone (see Exhibit 21). That strategy has also been helpful after rates bottomed around the middle of last year, as captured by the bars on the far-right of the exhibit. Since then, a high *level* of stability has been a drag among the highest yielders, with the most-stable of them lagging by an annualized (3.6) percentage points (see Exhibit 22). Avoiding those issues with the biggest declines in stability, as well those with the highest controversy, proved beneficial.

Appendix 1 on page 9 presents the list of developed world large-cap issues in the highest quintiles of dividend yield with the best rates of improvement in fundamental stability, of which two-thirds are drawn from Continental Europe and the U.K. Financials screen prominently.

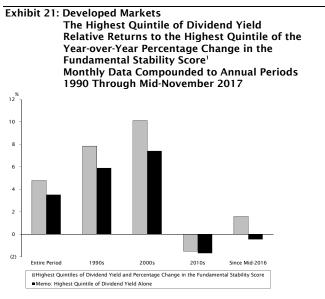
5

3

2

(1)

(2)



Source: Empirical Research Partners Analysis.

 $^{\scriptscriptstyle 1}$ Equally-weighted data. Stocks are ranked across, and returns relative to, the market.

Appendix 1: Developed Markets: Large-Cap Stocks

Stocks in the Highest Quintiles of Dividend Yield and Changes in the Fundamental Stability Score Sorted by Fundamental Stability Score and Market Capitalization Above \$5bn As of Mid-November 2017

| | | | | | | Quintiles (1=Best; 5=Worst) | | | | | | | |
|-------------------|--|------------------|-------------|----------|------------------|-----------------------------|--------|------------------------|------------|--------|------------|---------------|---------------------------|
| | | | | | Change in | Super Factors | | | | | | | |
| | | | | | Fundamental | Fundamental | | | Earnings | | M emo: | | |
| | | | Local | | Stability | Stability | | | Quality | | Arbitrage | | Market |
| 6 I I | c | Price | Currency | Dividend | Score | Score | | Capital | and | Market | Risk | P/E | Capitalization |
| Symbol DTE GY | Company Deutsche Telekom AG | (Local) 15.08 | Code EUR | Yield | (1=Highest) 1 | (1=Highest)) 5 | | <u>Deployment</u> 3 | Trend 5 | 4 | (1=Lowest) | Ratio 15.8 | (USD Billion) x \$83.1 |
| VOD LN | Vodafone Group Plc | 2.28 | GBP | 1 | 1 | 5 | 2 | 1 | 2 | 4 | 3 | 24.3 | x \$83.1 81.4 |
| STL NO | Statoil ASA | 164.30 | NOK | 1 | 1 | 5 | 3 | i | i | 1 | 3 | 17.1 | 66.2 |
| FUS | Ford Motor Company | 12.00 | USD | i | i | 5 | ĩ | 3 | 5 | 4 | 2 | 7.3 | 48.1 |
| EDF FP | Electricite de France SA | 10.46 | EUR | 1 | 1 | 5 | 1 | 2 | 4 | 5 | 5 | 18.4 | 36.8 |
| BT/A LN | BT Group plc | 2.47 | GBP | 1 | 1 | 5 | 1 | 3 | 4 | 5 | 3 | 8.8 | 32.3 |
| REP SM | Repsol SA | 15.01 | EUR | 1 | 1 | 5 | 1 | 1 | 2 | 1 | 2 | 10.4 | 27.2 |
| OKE US | ONEOK Inc. | 50.83 | USD | 1 | 1 | 5 | 4 | 3 | 3 | 3 | 2 | 25.1 | 19.7 |
| SNH GY | Steinhoff International Holdings NV | 3.07 | EUR | 1 | 1 | 5 | 1 | 5 | 5 | 5 | 5 | 8.6 | 14.8 |
| AM P AT | AM P Limited | 5.08 | AUD | 1 | 1 | 5 | 3 | 2 | 5 | 4 | 2 | 14.3 | 11.3 |
| PSTIM | Poste Italiane SpA | 6.16 | EUR | 1 | 1 | 5 | 1 | 3 | 4 | 3 | 1 | 9.1 | 9.5 |
| SGRE SM CO FP | Siemens Gamesa Renewable Energy S.A. | 10.28 47.68 | EUR EUR | 1 | 1 | 5 5 | 3 | 4 | 3 5 | 5 5 | 5 4 | 14.3 14.9 | 8.2 |
| HPUS | Casino Guichard-Perrachon SA Helmerich & Payne Inc. | 47.68 53.73 | USD | 1 | 1 | 5 | 5 | 4 | 5 | 5 | 4 | 14.9 NM | 6.2 5.9 |
| NAB AT | National Australia Bank Limited | 29.94 | AUD | 1 | 1 | 4 | 1 | 4 | 3 | 4 | 1 | 12.3 | 61.4 |
| 6178 JP | Japan Post Holdings Co. Ltd. | 1,254.00 | IPY | i | i | 4 | 2 | 1 | 3 | 5 | 4 | 12.5 | 49.8 |
| CABK SM | CaixaBank SA | 3.98 | EUR | i | i | 4 | 2 | 5 | 2 | 3 | 5 | 11.4 | 28.6 |
| GAS SM | Gas Natural SDG S.A. | 18.05 | EUR | 1 | 1 | 4 | 2 | 2 | 5 | 5 | 2 | 14.0 | 21.3 |
| TELIA SS | Telia Company AB | 37.87 | SEK | 1 | 1 | 4 | 3 | 4 | 2 | 3 | 1 | 13.2 | 19.4 |
| FORTUM F | H Fortum Oyj | 17.79 | EUR | 1 | 1 | 4 | 5 | 2 | 4 | 1 | 3 | 22.7 | 18.8 |
| SLA LN | Standard Life Aberdeen PLC | 4.10 | GBP | 1 | 1 | 4 | 2 | 2 | 4 | 2 | 3 | 13.1 | 16.2 |
| NN NA | NN Group N.V. | 35.24 | EUR | 1 | 1 | 4 | 1 | 5 | 5 | 2 | 1 | 9.6 | 14.1 |
| SUN AT | Suncorp Group Limited | 13.95 | AUD | 1 | 1 | 4 | 2 | 3 | 4 | 3 | 2 | 13.9 | 13.7 |
| EDP PL | EDP-Energias de Portugal SA | 3.00 | EUR | 1 | 1 | 4 | 1 | 2 | 3 | 5 | 4 | 13.1 | 13.1 |
| 83 HK | Sino Land Co. Ltd. | 14.00 | HKD | 1 | 1 | 4 | 1 | 4 | 3 | 3 | 3 | 18.7 | 11.5 |
| FP FP | Total SA | 46.31 | EUR | 1 | 1 | 3 | 2 | 2 | 2 | 3 | 1 | 12.9 | 139.2 |
| ALV GY AZN LN | Allianz SE AstraZeneca PLC | 197.20 49.92 | EUR GBP | 1 | 1 | 3 | 2 3 | 2 3 | 4 | 1 3 | 2 | 11.7 17.5 | 105.8 85.2 |
| IBE SM | Iberdrola SA | 6.54 | EUR | 1 | 1 | 3 | 3 | 4 | 5 | 5 | 2 | 14.7 | 48.6 |
| 8411 IP | Mizuho Financial Group Inc. | 196.50 | IPY | i | 1 | 3 | 1 | 4 | 5 | 5 | 1 | 9.1 | 44.5 |
| IMBLN | Imperial Brands PLC | 30.81 | GBP | 1 | i | 3 | i | 2 | 1 | 5 | 4 | 10.8 | 38.8 |
| DNB NO | DNB ASA | 152.20 | NOK | 1 | 1 | 3 | 2 | 1 | 4 | 2 | 3 | 11.7 | 30.4 |
| SWEDA SS | Swedbank AB Class A | 201.60 | SEK | 1 | 1 | 3 | 2 | 2 | 2 | 4 | 2 | NM | 26.7 |
| SEBA SS | Skandinaviska Enskilda Banken AB Class A | 101.00 | SEK | 1 | 1 | 3 | 2 | 2 | 2 | 3 | 1 | 12.2 | 26.2 |
| WPP LN | WPP Plc | 12.53 | GBP | 1 | 1 | 3 | 1 | 1 | 3 | 5 | 5 | 10.1 | 20.7 |
| SRG IM | Snam S.p.A. | 4.28 | EUR | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 2 | 15.4 | 17.8 |
| POW CT | Power Corporation of Canada | 32.66 | CAD | 1 | 1 | 3 | 1 | 3 | 3 | 2 | 2 | 10.6 | 11.9 |
| RAND NA | Randstad Holding NV | 49.88 | EUR | 1 | 1 | 3 | 1 | 1 | 5 | 4 | 3 | 11.6 | 10.8 |
| IPL CT | Inter Pipeline Ltd. | 26.23 | CAD | 1 | 1 | 3 | 3 | 3 | 1 | 3 | 3 | 18.3 | 7.8 |
| ENG SM ETL FP | Enagas SA Eutelsat Communications SA | 23.84 20.32 | EUR EUR | 1 | 1 | 3 | 2 | 3 2 | 2 1 | 3 2 | 2 | 13.0 14.4 | 6.6 5.5 |
| XOM US | Exxon Mobil Corporation | 81.21 | USD | i | i | 2 | 3 | 2 | i | 3 | 1 | 21.2 | 346.0 |
| MOUS | Altria Group Inc. | 65.26 | USD | i | i | 2 | 4 | 2 | i | 4 | 2 | 18.7 | 125.6 |
| NDA SS | Nordea Bank AB | 99.45 | SEK | i | i | 2 | 1 | 3 | 2 | 4 | 4 | 11.7 | 47.6 |
| | Danske Bank A/S | 235.20 | DKK | i | i | 2 | 2 | ĩ | 2 | 3 | 2 | 10.7 | 34.8 |
| SAM PO FH | | 44.99 | EUR | 1 | 1 | 2 | 3 | 5 | 1 | 2 | 1 | 15.6 | 29.9 |
| TGT US | Target Corporation | 54.16 | USD | 1 | 1 | 2 | 1 | 1 | 1 | 5 | 5 | 12.6 | 29.6 |
| GWO CT | Great-West Lifeco Inc. | 34.80 | CAD | 1 | 1 | 2 | 2 | 3 | 5 | 4 | 1 | 12.0 | 27.0 |
| PWF CT | Power Financial Corporation | 35.65 | CAD | 1 | 1 | 2 | 1 | 3 | 4 | 3 | 1 | 10.7 | 19.9 |
| SSE LN | SSE plc | 13.55 | GBP | 1 | 1 | 2 | 1 | 2 | 1 | 5 | 2 | 11.0 | 18.0 |
| LB US | L Brands Inc. | 49.26 | USD | 1 | 1 | 2 | 2 | 4 | 2 | 5 | 5 | 14.2 | 14.2 |
| TRN IM | Terna S.p.A. | 5.19 | EUR | 1 | 1 | 2 | 3 | 3 | 1 | 2 | 1 | 15.3 | 12.3 |
| H CT | Hydro One Ltd. | 22.49 | CAD | 1 | 1 | 2 | 4 | 3 | 5 | 4 | 1 | 18.3 | 10.4 |
| SKAB SS IPG US | Skanska AB Class B | 182.50 18.45 | SEK USD | 1 | 1 | 2 | 4 | 5 2 | 5 1 | - | 4 5 | 14.9 | 9.0 7.3 |
| ELISA FH | Interpublic Group of Companies Inc. Elisa Oyj Class A | 18.45 34.04 | EUR | 1 | 1 | 2 | 1 5 | 2 | 1 | 5 2 | 2 | 12.1 18.0 | 7.3 6.8 |
| PSN LN | Persimmon Plc | 26.69 | GBP | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 4 | 10.6 | 11.1 |
| | | 20.00 | | ·· | | | 2 | 5 | • | • | • | | |
| ~ | | | | | | | | | | | | | |

Source: Empirical Research Partners Analysis.

(3) -(4) Highest Quintile Most-Stable Least-Stable Biggest Increase Biggest Decline Orbividend Yield Alone Fundamental Stability Fundamental Stability

Exhibit 22: Developed Markets

Source: Empirical Research Partners Analysis.

¹ Equally-weighted data. Stocks are ranked across, and returns relative to, the market.

The Highest Quintile of Dividend Yield

Mid-2016 Through Mid-November 2017

Monthly Data Compounded to Annual Periods

Relative Returns to Select Factors¹