

Analyzing High Dividend Yield Strategies in Korea

Contributors

Jason Ye, CFA
Director
Strategy Indices
jason.ye@spglobal.com

Izzy Wang
Senior Analyst
Strategy Indices
izzy.wang@spglobal.com

Introduction

Dividend indices are one of the most widely recognized factor-based strategies. According to Morningstar, as of Dec. 31, 2021, the number of dividend-focused exchange-traded products (ETPs) globally has reached 344, with over USD 385 billion in AUMs. In 2021, dividend ETPs drew close to USD 50 billion of assets inflow. In Korea, the dividend factor is the most popular factor, with over USD 642 million in AUMs, which accounted for 47% of the Korean factor ETP market.¹

In this paper, we will take a deep dive into the Korean dividend market and analyze how the Korean high dividend yield strategy has performed historically.

Korea Dividend Market

Unlike investors in the U.S., Korean investors face higher uncertainties when it comes to dividend payment. This is because, in Korea, the dividend ex-date is fixed to be the penultimate business day of the fiscal year-end and comes before the dividend announcement date.

¹ Morningstar, "[A Global Guide to Strategic-Beta Exchange-Traded Products](#)," June 2022.

Historically, Korean companies have been reluctant to pay out a dividend, preferring to keep the profit and reinvest. However, the Korean government has implemented a series of activities intended to induce companies to pay out more dividends over the past decade, which could encourage broader equity ownership, improve corporate governance and enhance shareholders' rights. Therefore, throughout the past decade, the government has made various attempts to cultivate a dividend payment culture.

To guide institutional investors in effectively exercising their stewardship responsibilities, the Financial Services Commission (FSC) first introduced the Stewardship Code in 2015.² In 2018, the nation's largest institutional investor National Pension Service (NPS) took the lead in adopting the Stewardship Code,³ followed by other institutions. As of Aug. 31, 2022, 193 institutional investors participated in the Stewardship Code.⁴ As major stakeholders of Korean equities, these institutions could effectively influence companies to improve dividend policy and increase profit distribution.

Meanwhile, the government continued to provide a tax incentive to encourage payouts. During 2015-2017, the government lowered dividend tax from 14% to 9% for stockholders of qualified high-dividend companies.⁵ In 2022, the government proposed a 3% corporate tax cut to boost corporate income, which could end up benefiting dividend payouts. After years of efforts, a significant shift in the attitude toward dividends is beginning.

We have observed three major trends in the Korean dividend market over the past decade.

1. Steady growth of dividend pool.
2. Improved dividend sustainability.
3. Increased adoption of interim dividend.

Steady Growth of Dividend Pool

Over the past 10 years, the Korean market has shown improvement in various aspects, indicating a shift toward a dividend payment culture. The size of the total dividend pool for companies in the [S&P Korea BMI](#) reached USD 43 billion in 2021, which is more than three times that in 2011 (see Exhibit 1). Its 10-year compound annual growth rate (CAGR) reached 12.4%—the highest among developed markets in the Asia Pacific region and greater than the global average of 6.9% (see Exhibit 2).

² Mee-Hyon Lee, "[Introduction of the Stewardship Code in Korea](#)," 2017.

³ *Financial Times*, "[South Korea pension fund adopts stewardship code](#)," July 2018.

⁴ The Korea Corporate Governance Service (KCGS), data retrieved as of Aug. 31, 2022, from <http://sc.cgs.or.kr/eng/participation/investors.jsp>.

⁵ J. H. Lee and Y. Lee, "[Dividend taxes and payout policy: Evidence from Korea's 2015–2017 dividend tax cut](#)," *Journal of Economic Research* 24 (2019) 157-196, 2019.

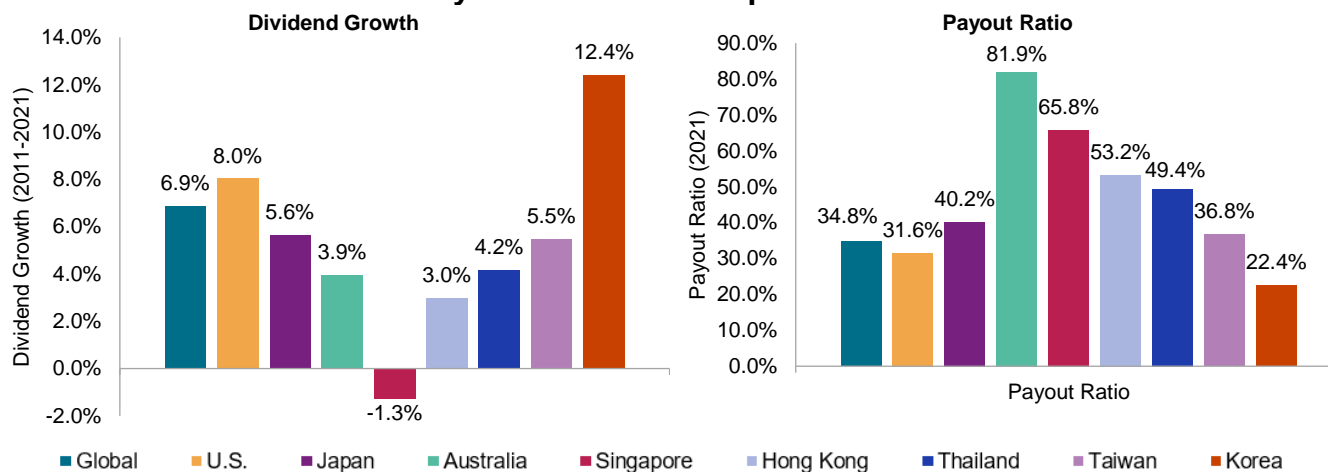
At the same time, companies have been distributing a larger portion of earnings to shareholders, as the payout ratio increased from 14% to 23% over the past decade. In international markets, a payout ratio of 23% is still below the global average of 34.9% (see Exhibit 2), indicating more room for earnings distribution in Korea.

Exhibit 1: Evolution of Dividend Payments in the Korean Market

Year	Size of Dividend Pool (USD Billions)	Earnings (USD Billions)	Payout Ratio (%)	Trailing 12-Month Dividend Yield (%)	Number of Companies Paying Dividends
2011	13.05	89.85	14.5	1.4	358
2012	11.58	93.02	12.5	1.0	295
2013	12.93	83.93	15.4	1.0	338
2014	15.47	89.03	17.4	1.2	396
2015	19.64	94.62	20.8	1.5	480
2016	21.65	100.41	21.6	1.6	512
2017	26.53	140.13	18.9	1.4	498
2018	33.79	136.43	24.8	4.0	512
2019	33.09	78.05	42.4	2.2	470
2020	34.05	91.04	37.4	1.4	496
2021	43.21	187.96	23.0	2.3	663

Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Table is provided for illustrative purposes.

Exhibit 2: Korean Dividend Payment Growth Compared with International Markets

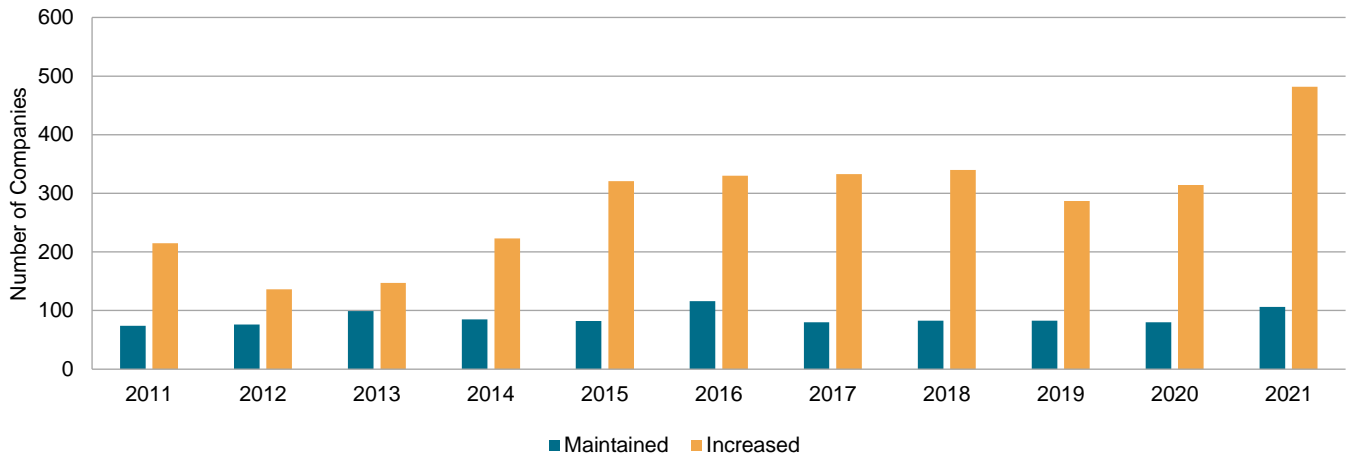


Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Charts are provided for illustrative purposes.

Improved Dividend Sustainability

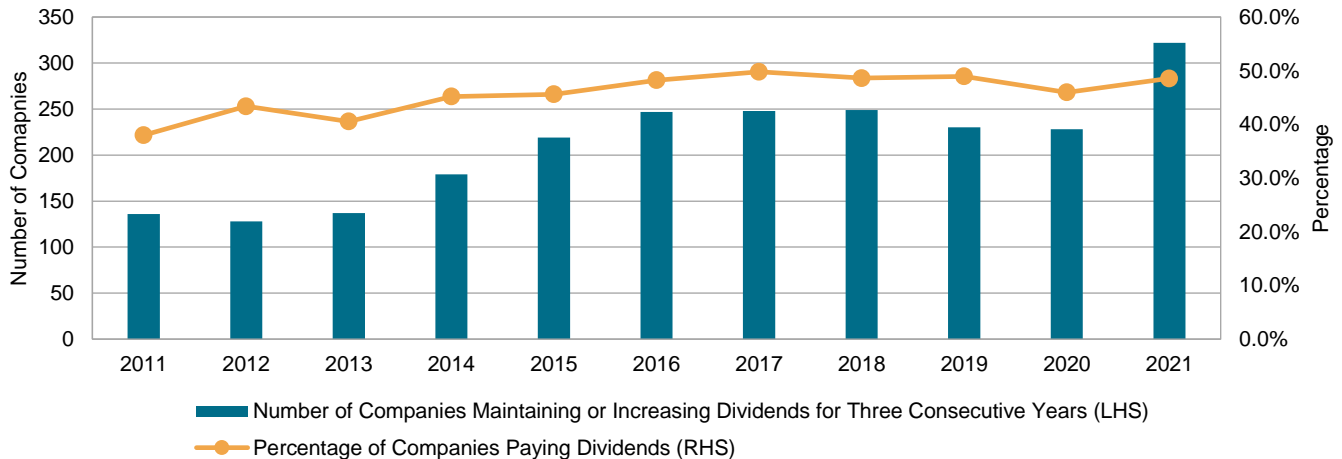
Exhibit 3 shows the number of companies that increased or maintained dividend payouts over the past three years. In 2021, 482 companies had a three-year dividend increase, up from 215 in 2011. To be stricter with dividend sustainability, instead of just studying an increase from three years ago to today, we can also measure whether a company can maintain or increase the dividend for three consecutive years. Even with this condition, Exhibit 4 shows that 322 companies, or almost one-half of the Korean dividend-paying companies in 2021, have increased or maintained dividends for three consecutive years, compared with 136 companies back in 2011. Exhibits 3 and 4 both show strong evidence of improving dividend sustainability in the Korean market.

Exhibit 3: Number of Companies that Increased or Maintained Dividends on a Three-Year Basis



Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Chart is provided for illustrative purposes.

Exhibit 4: Number of Companies that Increased or Maintained Dividends on a Three-Year Consecutive Basis



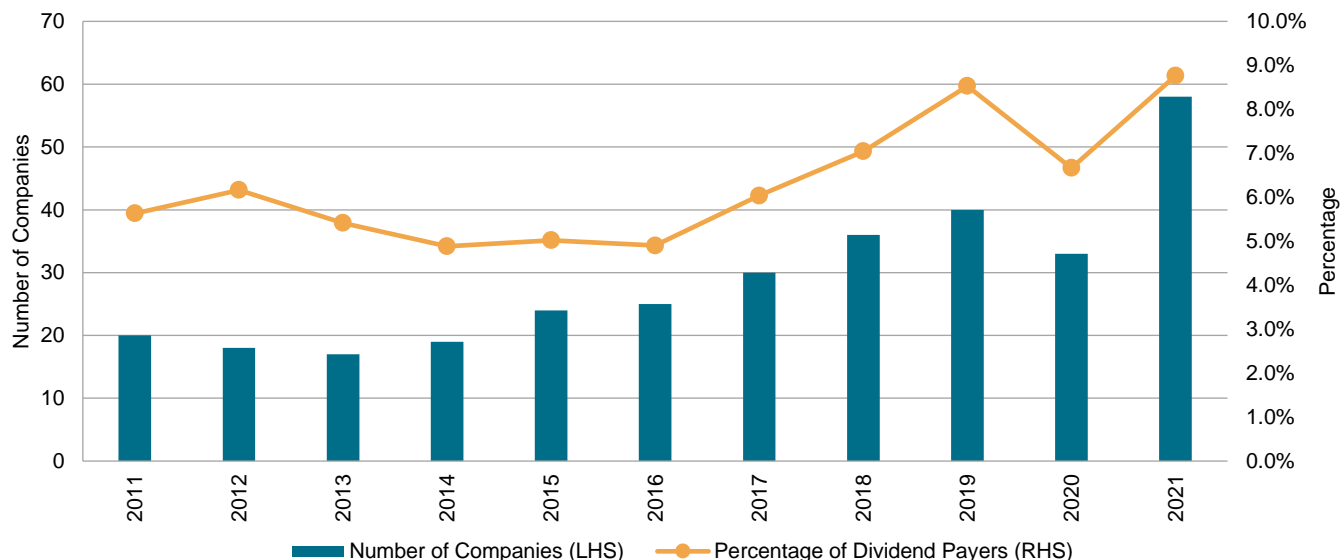
Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Chart is provided for illustrative purposes.

More Adoption of Interim Dividends

Historically, most Korean companies that pay cash dividends will have only done so once a year at the end of the fiscal year. However, in the past decade, a growing number of companies have shifted from annual to more frequent dividend distributions, such as semiannual or quarterly. Combined with improved sustainability, this may help to further increase the predictability of Korean dividends.

According to the Korea Times, the amount of interim dividends reached KRW 4.39 trillion (USD 3.75 billion) in June 2021, up 66.9% year-over-year.⁶ The number of companies paying dividends quarterly and semiannually increased to 58 in 2021, from 33 in the previous year (see Exhibit 5). Major financial institutions such as KB, Shinhan and Woori started to pay interim dividends in 2021.

Exhibit 5: Number of Companies Paying Interim Dividends

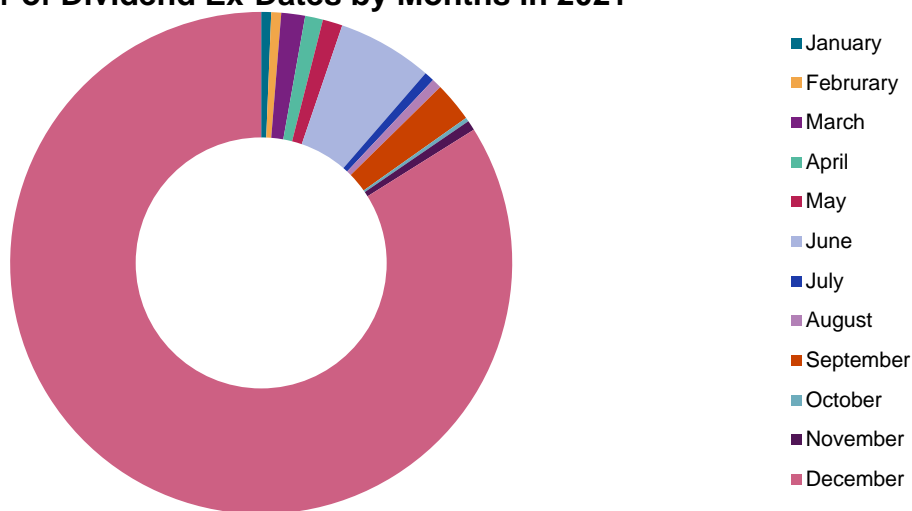


Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Chart is provided for illustrative purposes.

Exhibit 6 shows the number of ex-dividend dates that occurred in 2021. Most dividends went ex-date in December. A growing number of companies that adopted interim dividends mainly contributed to the dividend events in June and other months.

⁶ Korea Times.. ["Korean firms' interim dividends surge to record high."](#) September 2021.

Exhibit 6: Number of Dividend Ex-Dates by Months in 2021



Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Chart is provided for illustrative purposes.

High Dividend Yield Strategy Performance

There is a rich library of literature that documents how strategies focused on high dividend yield stocks have generated higher historical returns relative to the market and strategies that focus on low dividend yield stocks. Fama and French found an increasing predictive power of dividend yield to long-term stock returns as the forecast horizon extended from months to years.⁷ “The Dogs of the Dow” is a simple investment strategy that buys the 10 stocks in the Dow Jones Industrial Average® (DJIA) with the highest dividend yield and rebalances on an annual basis. Michael O’Higgins found that over 26 years, this high dividend yield portfolio generated a 17.9% annualized return, outperforming the 13% annualized return of the DJIA.⁸ Jeremy Siegel conducted a study to rank stocks in the S&P 500® by dividend yield, assigned into five quintile portfolios and rebalanced annually. He found that during the period from 1957 to 2002, the highest yield quintile generated a 14.27% annualized return versus an annualized return of 11.18% for the S&P 500.⁹ Robert Arnott split the 200 years of U.S. equity total returns between 1802 and 2002 into four components: dividend, real dividend growth, inflation and valuation expansion. He found that the total annualized return of 7.9% in this period consisted of a 5.0% return from dividends, a 1.4% return from inflation, a 0.6% return from rising valuation levels and a 0.8% return from real growth in dividends. He concluded that “dividends are the main source of the real return we expect from stocks.”¹⁰

⁷ Fama, Eugene F. and K. R. French. “Dividend Yields and Expected Stock Returns.” *Journal of Financial Economics*, Vol. 22, Issue 1 (October 1988), pp. 3-25.

⁸ Michael O’Higgins and John Downes. “Beating the Dow.” HarperCollins, 1991.

⁹ Jeremy J. Siegel. “The Future for Investors, Why the Tried and the True Triumph over the Bold and the New.” Crown Business, 2005.

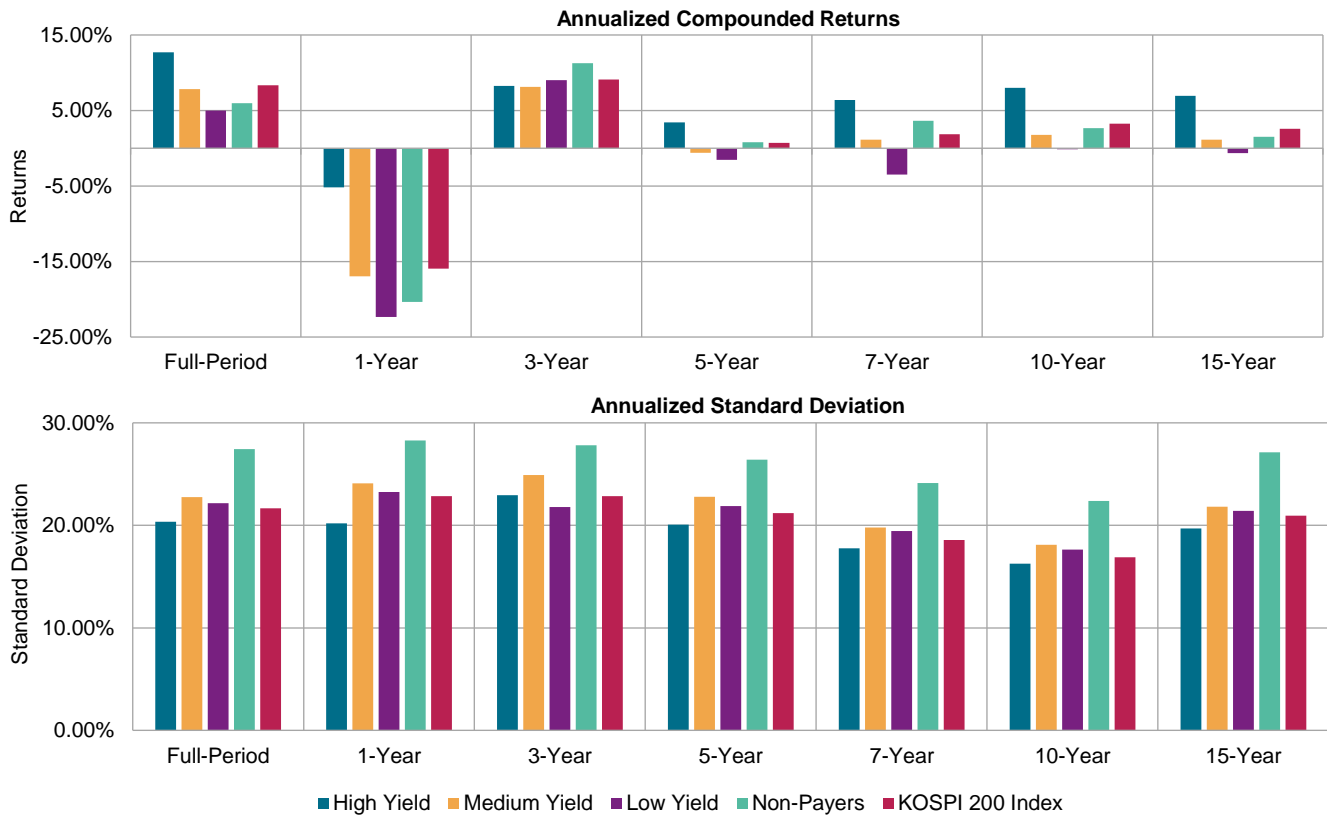
¹⁰ Arnott, Robert D. “Dividends and the Three Dwarfs.” *Financial Analysts Journal*, Vol. 59, Issue 2, pp. 4-6, 2003..

In the Korean market, researchers also found a similar relationship between high dividend yield and stock returns. Samuel Xin Liang used the Fama-MacBeth regression to analyze the cross-sectional stock return predictability and concluded that dividend yield was a significant predictor of stock returns after controlling for market, value, size, momentum and GDP growth factors in the Korean market. In the next section, we will conduct an extensive empirical study to analyze the high dividend yield strategy's performance in the Korean market.

Empirical Study

Following the spirit of previous dividend research, we analyzed the performance of hypothetical portfolios formed on trailing 12-month dividend yield. Our starting universe is the KOSPI 200 Index. At each December month-end, we sort dividend-paying stocks based on the trailing 12-month dividend yield and assign them to three hypothetical portfolios: high dividend yield, medium dividend yield and low dividend yield, with companies that did not pay dividends assigned to a fourth separate portfolio. Exhibit 7 shows the equal-weighted returns of each hypothetical portfolio. We can see that in most of the back-tested time horizons, the high dividend yield portfolio outperformed the other portfolios. Other than in the three-year back-tested window, the relationship between yield and historical performance was monotonic, meaning that as we move from the low dividend yield portfolio to the high dividend yield portfolio, the historical performance increases. The risk, as measured by annualized standard deviation of daily returns, was lowest for the hypothetical high dividend yield portfolio. The non-dividend payers' long-term performance in history was slightly below the market, generating the highest risk among all the hypothetical portfolios. We calculated the performance of the hypothetical market-cap-weighted portfolio, and the conclusion was similar (see Exhibit 12 in Appendix).

Exhibit 7: Historical Equal-Weighted Performance of KOSPI 200 Index Stocks Sorted into Hypothetical Dividend Portfolios



All portfolios are hypothetical.
 Source: S&P Dow Jones Indices LLC, FactSet. Data as of July 31, 2022. Index performance based on total returns in KRW. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

We have seen from empirical data that the hypothetical high dividend yield portfolio historically generated better performance than the broad market index and the hypothetical low dividend yield portfolio. From a theoretical perspective, what are the reasons that could explain the outperformance of the high dividend yield strategy? We summarized three potential explanations from the literature: value premium, low volatility premium and a reduction in agency cost.

Value Premium

Dividend investing tends to overlap with value investing, because companies that have high dividend yields tend to have low valuation ratios. Companies that pay dividends may reinvest less and therefore expect to grow at a lower rate in the future. High dividend yield could mean tilting away from growth style. Some researchers attribute the outperformance of the high dividend yield strategy to the value premium. Value is a well-documented factor in academic literature (e.g., Fama French [1992] and Lakonishok, Schleifer and Vishny [1994]). Fama and

French claimed the value premium exists because value stocks are riskier.¹¹ However, as we can see in Exhibit 7, the hypothetical portfolio with the highest dividend yield had the lowest risk, so the higher risk argument for value premium might not be applicable here. Instead, Lakonishok, Schleifer and Vishny explained the value premium from a behavior bias angle; they argued that market participants tend to consistently overestimate the future growth rate of growth stocks, which leads to underperformance relative to value stocks.¹² This behavioral description may still hold to explain part of the dividend outperformance.

Low Volatility Premium

Given that the hypothetical portfolio with the highest dividend yield had lower volatility than the broad market, some researchers argue that part of the dividend outperformance could be attributed to the low volatility premium. From the behavioral side, the “preference of lottery” theory argues that some investors value lottery stocks (higher volatility) that may generate extreme gains more highly than lower volatility stocks. This demand creates systematic overpricing of high volatility stocks, which leads to lower expected returns.¹³ On the market structure side, the limited usage of leverage forces investors who demand higher market beta to buy higher risk stocks instead of using leverage, which creates excess demand for high volatility stocks, again elevating their prices and lower expected returns.¹⁴

Reduction in Agency Cost

Dividend-paying firms tend to be large and mature with sufficient cash flow generation capabilities. For firms with free cash flows, the principal-agent conflict is important to consider. The common usages of free cash flows are reinvestments in projects, searching for M&A activities, paying out dividends and buying back stocks. Instead of managers engaging in empire-building activities to reinvest in negative net present value projects or pursue M&A targets that may affect shareholder value, companies might be better off if managers paid out dividends to shareholders, which may also reduce the agency cost (e.g., Easterbrook [1984]¹⁵ and Jensen [1986]¹⁶).

¹¹ Fama, Eugene F and French, Kenneth R. "[The Cross-Section of Expected Stock Returns.](#)" *Journal of Finance*, American Finance Association, Vol. 47(2), pp. 427-465, June 1992.

¹² Lakonishok, Josef, et al. "[Contrarian Investment, Extrapolation, and Risk.](#)" *The Journal of Finance*, Vol. 49, No. 5, pp. 1541–78, 1994. JSTOR. Accessed Sept. 22, 2022

¹³ Bali, Turan G., Stephen Brown, Scott Murray and Yi Tang, "[A Lottery-Demand-Based Explanation of the Beta Anomaly.](#)" *Journal of Financial and Quantitative Analysis*, Vol. 52, No. 6, pp. 2369-2397, Dec. 1, 2016.

¹⁴ Baker, Malcom, Brendan Bradley and Jeffrey Wurgler, "Benchmarks as Limits to Arbitrage: Understanding the Low-Volatility Anomaly," *Financial Analysts Journal*, Vol. 67, No. 1, pp. 40-54, Jan. 21, 2011.

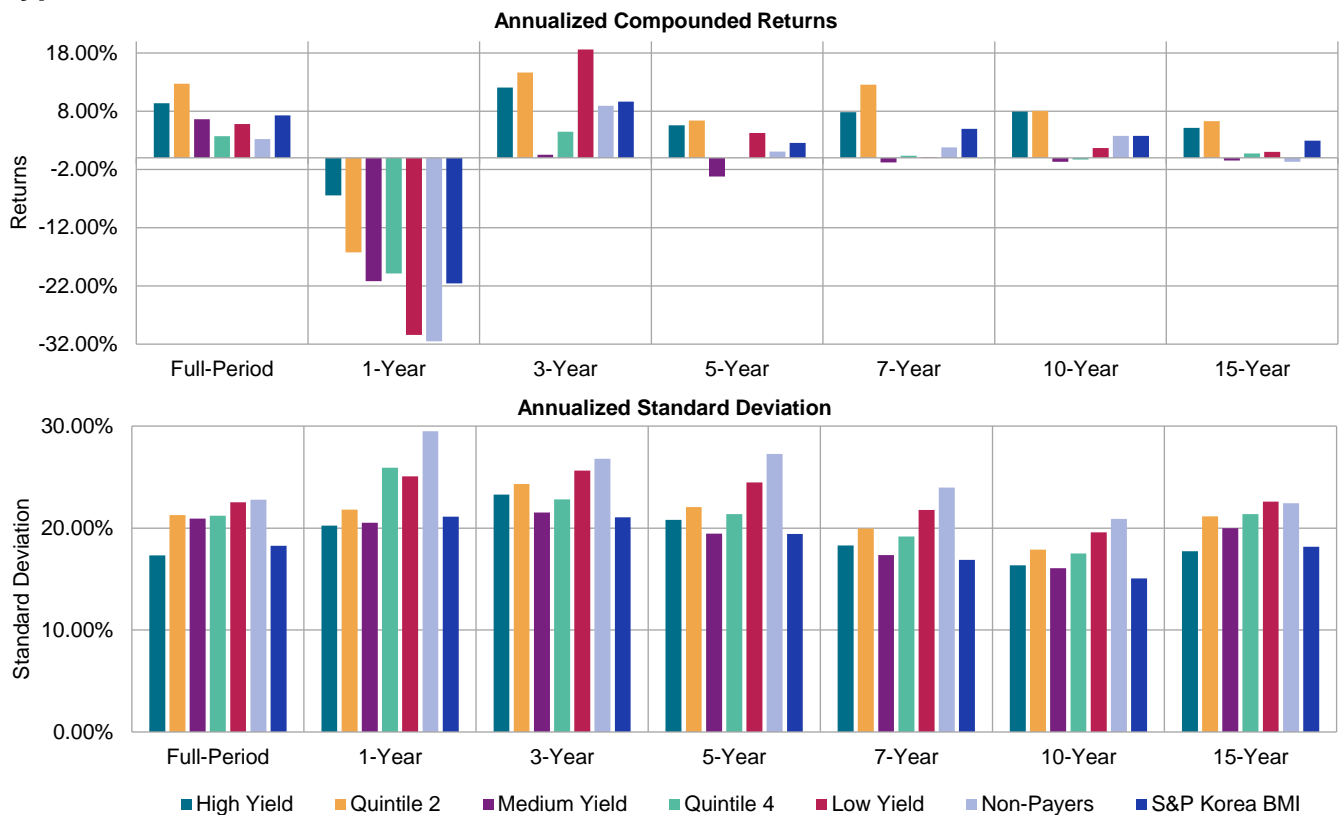
¹⁵ Easterbrook, Frank H. "Two Agency-Cost Explanations of Dividends." *The American Economic Review*, vol. 74, no. 4, 1984, pp. 650–59. JSTOR, <http://www.jstor.org/stable/1805130>. Accessed Sept. 22, 2022.

¹⁶ Jensen, Michael C. "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers." *The American Economic Review*, vol. 76, no. 2, 1986, pp. 323–29. JSTOR, <http://www.jstor.org/stable/1818789>. Accessed Sept. 22, 2022

Empirical Study Continued

To perform a robustness test, we also conducted a similar exercise using the [S&P Korea BMI](#) universe. The S&P Korea BMI tracks the large-, mid- and small-cap stocks in the Korean market and is a broader universe than the KOSPI 200 Index. In this case, since we have more securities in the underlying universe, we can break the constituents into five hypothetical quintile portfolios. The performance patterns of the hypothetical equal-weighted portfolio were similar to what we observed in the KOSPI 200 Index universe (see Exhibit 13 in Appendix). However, we found something new in the performance patterns of the market-cap-weighted portfolio. In particular, the return pattern was no longer monotonic, and the highest return in most of the back-tested time horizons came from the second-highest dividend yield quintiles. The hypothetical highest dividend yield quintile underperformed the second highest yield quintile.

Exhibit 8: Historical Cap-Weighted Performance of S&P Korea BMI Stocks Sorted into Hypothetical Dividend Portfolios



All portfolios are hypothetical.
 Source: S&P Dow Jones Indices LLC, FactSet. Data from Dec. 31, 2004, to Aug. 31, 2022. Index performance based on total return in KRW. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

This finding is consistent with studies from other regions. For example, using portfolios formed on dividend yield data from Professor Ken French's data library, we can see that the best-performing quintile was also the second-highest dividend yield quintile in both the equal-weighted and the cap-weighted versions.¹⁷ Some of the relatively weak performance in the highest dividend yield portfolio could be due to dividend sustainability and earnings in the constituents.

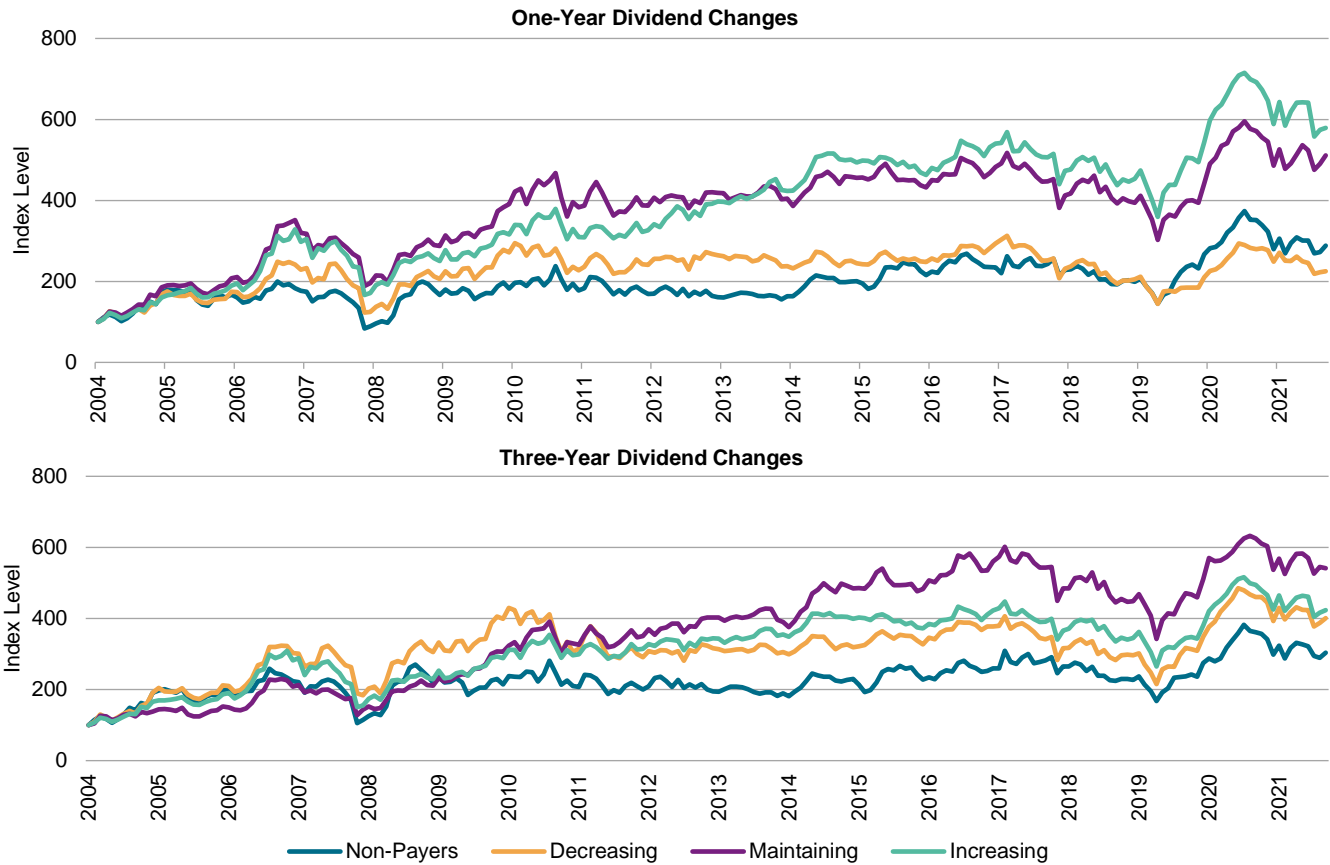
Dividend Sustainability

Companies tend to have consistent dividend policies and are generally reluctant to change them, as revisions in dividend policies can have a signaling effect. Changes in dividend policies conveys important information to market participants. When a company increases its dividend, it is signaling that it could pay a higher dividend in the long term, which indicates management's confidence in the company's profitability and cash flow going forward. Companies that are able to continuously maintain or increase cash dividends for multiple years tend to be disciplined and financially robust. In addition, since cash dividends in Korea are declared after the ex-dividend date, dividend sustainability could help to mitigate potential dividend drop risk and ensure more predictable dividend cash flows. Historically, these companies have been more likely to endure difficult times and provide better long-term returns. On the other hand, decreasing dividends is usually a negative signal that could lead to poor stock performance.

To test the impact of the change in dividend policies on stock performance, we can divide the KOSPI 200 Index companies into four hypothetical portfolios: 1) no payment in both the prior and current period (Non-Payers); 2) maintaining positive dividend payments in prior periods and current period (Maintaining); 3) increasing dividend payments from prior periods to current period (Increasing); and 4) decreasing dividend payments from prior periods to current period (Decreasing). We rebalanced the portfolio annually in December. When measuring the change in dividends from the prior period to the current one, we looked at both the one-year and three-year changes. The three-year change can remove some of the short-term cyclical impacts. Exhibit 9 shows that the best-performing hypothetical portfolio was either the Increasing or Maintaining portfolio; the Decreasing and Non-Payers portfolios underperformed.

¹⁷ See https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Exhibit 9: Hypothetical Portfolio Performance Based on Different Dividend Policy Changes in the KOSPI 200 Index Universe

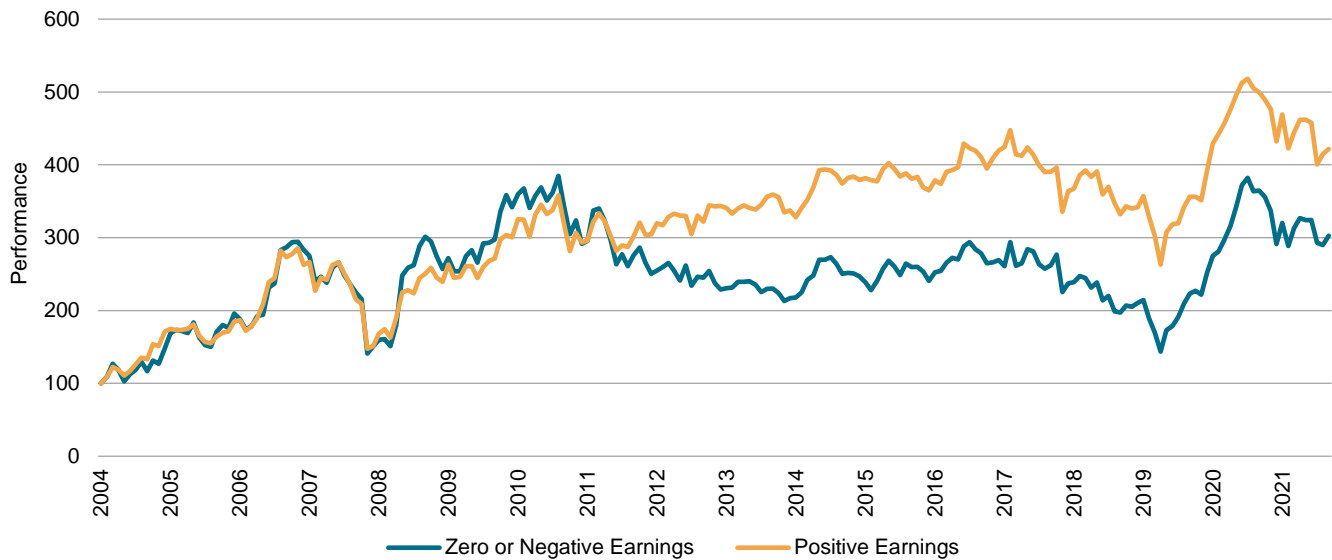


All portfolios are hypothetical.
 Source: S&P Dow Jones Indices LLC, FactSet, KRX. Data from Dec. 31, 2004, to Aug. 31, 2022. Index performance based on total return in KRW. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

Earnings

Due to the stickiness of dividend policies, some companies may have negative earnings while continuing to pay dividends—this is not sustainable either. Companies should have positive earnings to support dividend payments. Positive earnings themselves are a characteristic that shows the profitability of the company, which is a critical element in evaluating a company’s quality. This is particularly important for dividend-paying companies. To test the impact of earnings on stock performance, we can split the KOSPI 200 Index’s companies into two hypothetical portfolios: companies with positive earnings and companies with negative or zero earnings, and rebalance them annually in December. Exhibit 10 shows that the equal-weighted hypothetical positive earnings portfolio outperformed the hypothetical negative or zero earnings portfolio throughout the index’s history. Companies in the hypothetical highest dividend yield portfolio may pay more dividends than their earnings can afford.

Exhibit 10: Historical Performance of Hypothetical Portfolios Formed on Earnings in the KOSPI 200 Index Universe

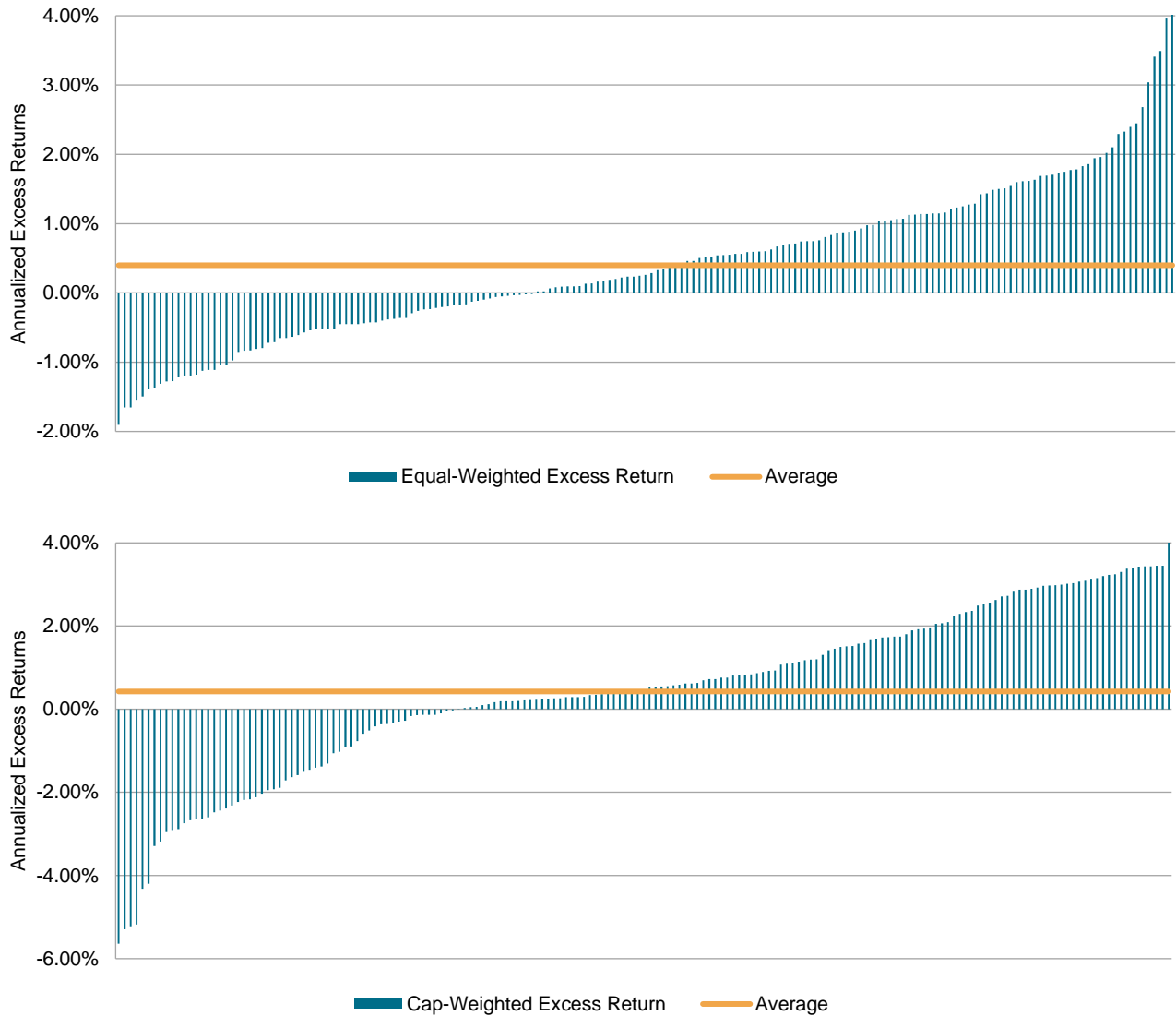


All portfolios are hypothetical.

Source: S&P Dow Jones Indices LLC, FactSet, KRX. Data from Dec. 31, 2004, to Aug. 31, 2022. Index performance based on total return in KRW. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

The importance of dividend sustainability and positive earnings inspired us to do one more experiment to see whether we could improve the high dividend yield portfolio's performance by incorporating screens on dividend growth and earnings. To test the impact, we conducted a similar exercise as that shown in Exhibit 7, but this time we first screened companies with non-negative three-year dividend growth and companies with positive earnings. After the screening, we sorted stocks based on their trailing 12-month dividend yield and assigned them to three portfolios. We can compare the rolling three-year performance difference between the hypothetical high dividend yield portfolio after screens and the hypothetical high dividend yield portfolio before screens from Exhibit 7. Exhibit 11 shows that in both the equal-weighted and cap-weighted versions, the hypothetical high dividend yield portfolio after earnings and dividend growth screens was more likely to outperform the hypothetical high dividend yield portfolio without screens. In the three-year rolling returns, representing 177 three-year return sample observations from December 2004, about 60% of the time in the equal-weighted version, the hypothetical high dividend yield portfolio with screens beat the hypothetical high dividend yield portfolio without screens (67% of the time in the cap-weighted version). The average outperformance was 40 bps per year in the equal-weighted version and 43 bps per year in the cap-weighted version.

Exhibit 11: Three-Year Rolling Performance Difference between Hypothetical High Dividend Yield Portfolios with Screens and without Screens



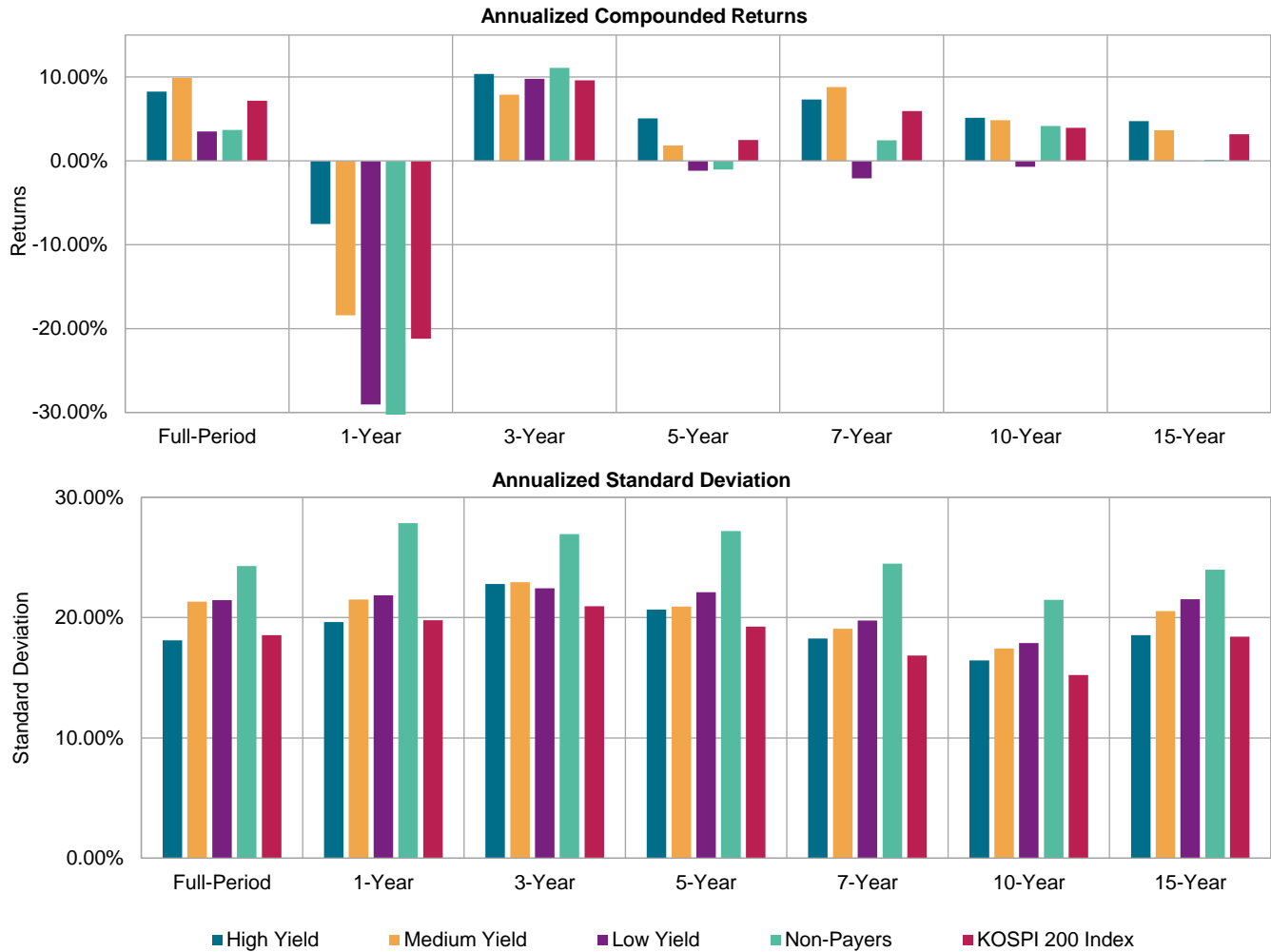
All portfolios are hypothetical.
 Source: S&P Dow Jones Indices LLC, FactSet, KRX. Data from Dec. 31, 2004, to Aug. 31, 2022. Index performance based on total return in KRW. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

Conclusion

Through analyzing the development of the dividend market in Korea over the past decade, we found that the overall dividend pool has been growing steadily, and more companies in Korea are now paying stable dividends and have started adopting interim dividend payments. Consistent with other markets, we found that in Korea, a hypothetical high dividend yield portfolio historically outperformed the market and a hypothetical low yield portfolio. Incorporating dividend sustainability and earnings screens may further improve a hypothetical high dividend yield portfolio’s performance.

Appendix

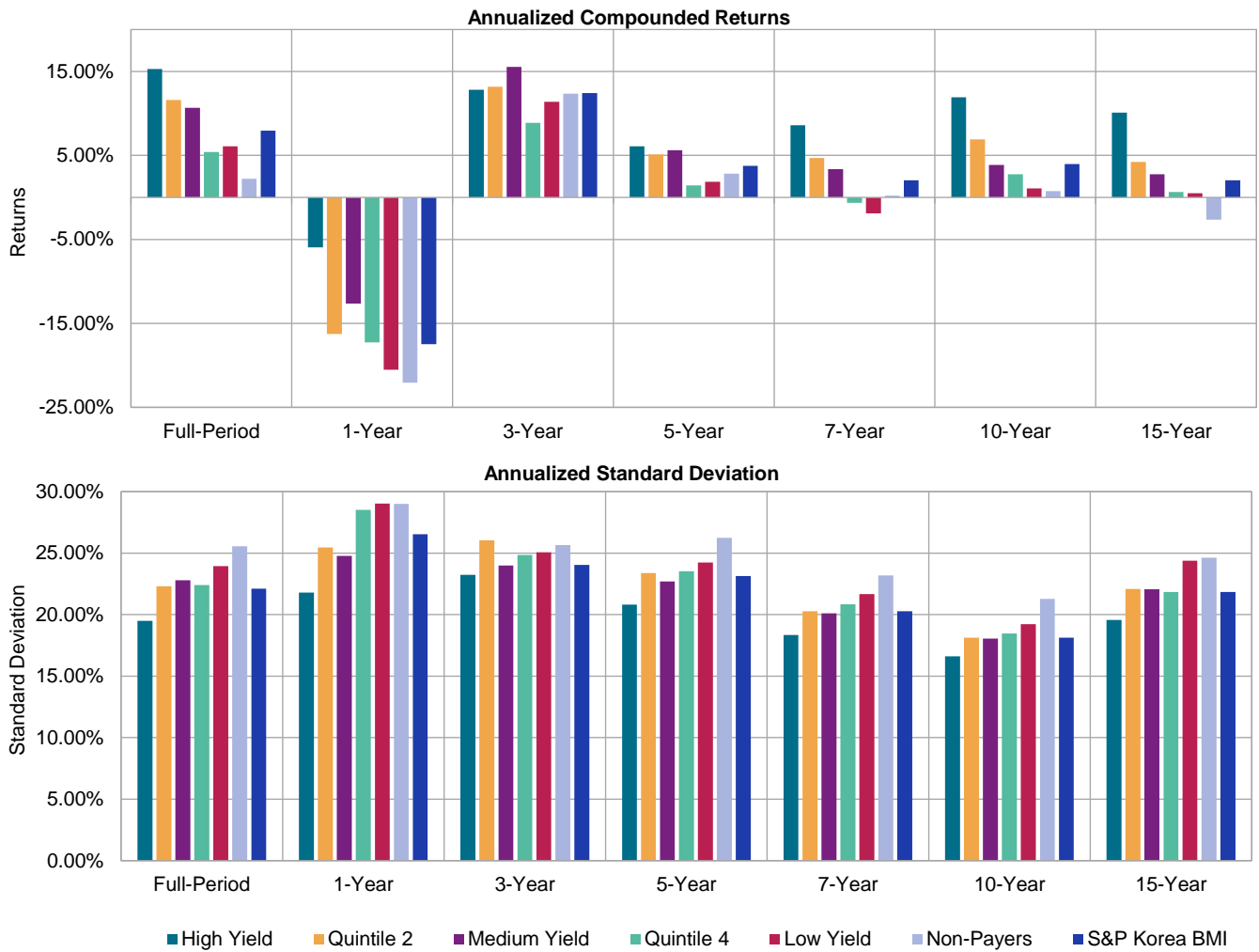
Exhibit 12: Historical Cap-Weighted Performance of KOSPI 200 Index Stocks Sorted into Hypothetical Dividend Portfolios



All portfolios are hypothetical.

Source: S&P Dow Jones Indices LLC, FactSet, KRX. Data from Dec. 31, 2004, to Aug. 31, 2022. Index performance based on total return in KRW. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Exhibit 13: Equal-Weighted Performance of S&P Korea BMI Stocks Sorted into Dividend Portfolios



All portfolios are hypothetical.

Source: S&P Dow Jones Indices LLC, FactSet. Data from Dec. 31, 2004, to Aug. 31, 2022. Index performance based on total return in KRW. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

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