

Blending Low Volatility with Dividend Yield in the China A-Share Market

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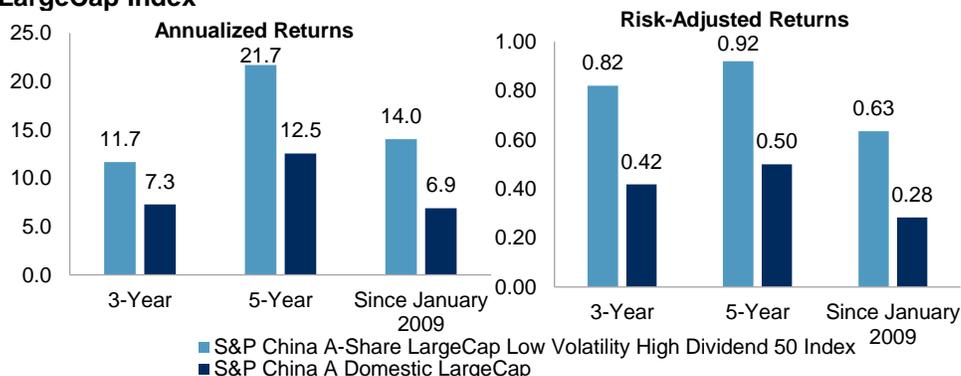
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EXECUTIVE SUMMARY

This paper examines the potential benefits of blending high dividend and low volatility strategies in the China A-share large-cap equity market.

- Excluding high volatility stocks from a high-dividend-yield portfolio may reduce portfolio volatility and improve portfolio returns on a risk-adjusted basis.
- The [S&P China A-Share LargeCap Low Volatility High Dividend 50 Index](#) overlays a low volatility screen on high dividend stocks. For the period from Jan. 31, 2009, to June 28, 2019, the index delivered pronounced excess returns on an absolute and risk-adjusted basis.
- This index delivered a stable source of income from dividends and showed defensive qualities, with reduced drawdown during down markets.
- The active exposure to dividend yield, low volatility, and value factors contributed most to the active returns, while the sector allocation bias accounted for most of the active risk for the index.

Exhibit 1: Annualized and Risk-Adjusted Returns of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index and S&P China A Domestic LargeCap Index



Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Index performance based on total return in RMB. Past performance is no guarantee of future results. 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.

INTRODUCTION

Dividend investment is a popular strategy among income-seeking market participants.

Dividend investment is a popular investment strategy among income-seeking market participants. Since they were first launched in 2003, dividend ETFs with diverse designs have proliferated across regions of varied characteristics.

In September 2012, S&P Dow Jones Indices launched the [S&P 500® Low Volatility High Dividend Index](#). It uses a unique, rule-based dividend strategy that is designed to combine high dividend yield and low return volatility in a single index. Compared with pure dividend-yield-based strategies, this index has been shown to provide enhanced risk-adjusted performance and incremental defensiveness, which can be particularly attractive to conservative investors.¹

Dividend ETFs have proliferated across varied regions.

In the following sections, we examine the effectiveness of a low volatility high dividend yield strategy in the China A-share large-cap equity market, based on companies in the S&P China A Domestic LargeCap Index. We also demonstrate indexing implementation of this strategy using the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index.

THE LOW VOLATILITY SCREEN ON A DIVIDEND YIELD STRATEGY

We first examined the effectiveness of dividend yield strategies in the China A-share large-cap universe; then we constructed a low volatility high dividend portfolio by implementing an additional low volatility screen.

Higher-dividend-yielding stocks performed better in the China A-share large-cap equity market.

Performance of High-Dividend-Yielding Stocks with Different Volatilities

To study dividend yield strategies in the China A-share large-cap equities market, we divided the S&P China A Domestic LargeCap Index universe into quartile portfolios (HDY Q1 to Q4) based on the trailing 12-month dividend yield. Stocks with the lowest or no dividends were grouped into the lowest-yielding portfolio (HDY Q4).² All quartile portfolios were equal weighted and rebalanced semiannually.³

Exhibit 2 shows that higher-dividend-yielding stocks delivered better performance in the China A-share large-cap equity market over the period from Jan. 31, 2009, to June 28, 2019. The highest-dividend-yielding quartile portfolio outperformed the other quartile portfolios, with the highest annualized return and lowest return volatility. However, the volatility

¹ Luk, Priscilla and Qu, Xiaoya. "[The Beauty of Simplicity: The S&P 500 Low Volatility High Dividend Index](#)." S&P Dow Jones Indices LLC. April 2019.

² If the number of stocks in HDY Q4 exceeded 25% of the number of stocks in the universe, the other stocks were divided evenly into HDY Q1 to Q3 portfolios.

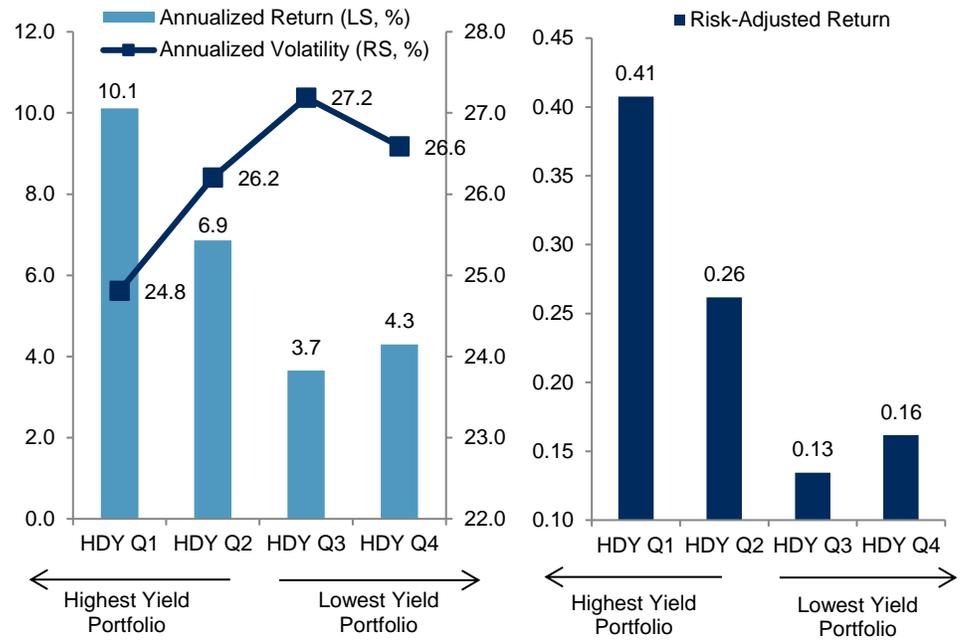
³ Effective on the last trading day of January and July each year.

reduction of the high-dividend-yielding portfolios was not pronounced compared to the lower-yielding portfolios, indicating the potential benefit of low volatility screening on high-dividend-yielding stocks for further volatility reduction and risk-adjusted return enhancement.

There is a potential benefit of low volatility screening on high-dividend-yielding stocks...

...including further volatility reduction and risk-adjusted return enhancement.

Exhibit 2: Performance of Quartile Portfolios Sorted by Dividend Yield



All quartile portfolios are hypothetical portfolios.

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Portfolio performance based on total return in RMB. Past performance is no guarantee of future results. 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.

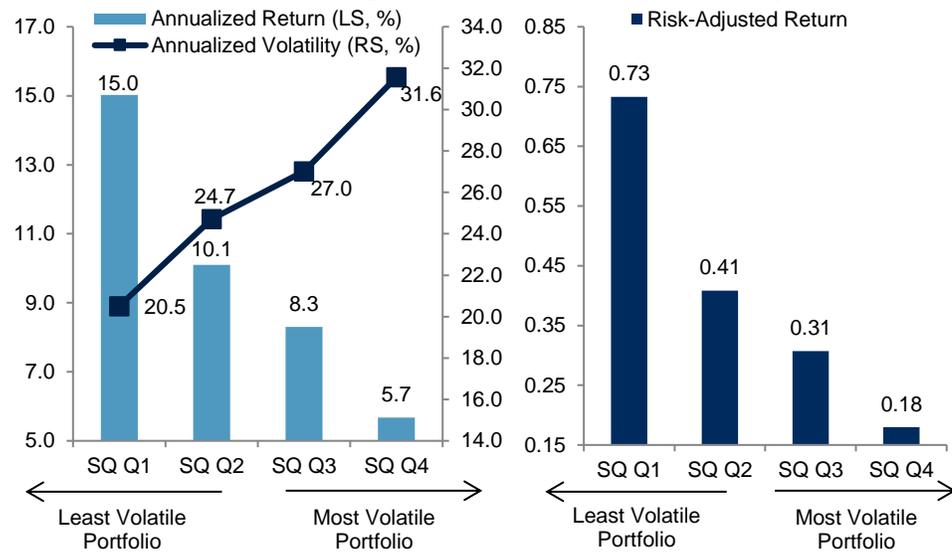
To examine how the volatility screen affected the performance of high-dividend-yielding stocks, we divided the highest-yielding quartile portfolio (HDY Q1) into four hypothetical, volatility-sorted quartile sub-portfolios (SQ1 to SQ4)⁴ and measured their performance over the same period. All volatility sub-portfolios were rebalanced based on the trailing 252-day price return volatility with the same rebalancing schedule adopted by the high-dividend-yield portfolios. Constituents of all volatility sub-portfolios were equally weighted.

The low volatility sub-portfolios consistently outperformed high volatility sub-portfolios.

Among the high-dividend-yielding stocks, the low volatility sub-portfolios consistently outperformed high volatility sub-portfolios in a linear and monotonic trend of increasing returns and decreasing volatilities (see Exhibit 3). This implies that excluding high volatility stocks from a high-dividend-yield portfolio may further reduce portfolio volatility and improve portfolio returns on a risk-adjusted basis.

⁴ The quartile portfolio with the lowest volatility formed the SQ1 portfolio.

Exhibit 3: Performance of High-Yield Sub-Portfolios Sorted by Volatility



The S&P China A-Share LargeCap Low Volatility High Dividend 50 Index blends low volatility and high dividend strategies.

All quartile portfolios are hypothetical portfolios.

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Portfolio performance based on total return in RMB of the factor quartile portfolios. Past performance is no guarantee of future results. 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.

Blending a Low Volatility Screen with a Dividend Yield Strategy

The S&P China A-Share LargeCap Low Volatility High Dividend 50 Index blends the low volatility and high dividend strategies in the China A-share large cap equity market through sequential dividend yield and volatility screens.

To determine their impact on a portfolio, we tracked the performance of stocks selected by each screen.

To determine the impact of these measures on a portfolio, we tracked the performance of stocks selected by each screen. One hundred stocks selected by the high dividend screen⁵ formed the hypothetical High Dividend 100 Portfolio (HD100).⁶ The 50 stocks selected by the subsequent low volatility screen⁷ (selected from the HD100) formed the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index.⁸ The remaining 50 high volatility stocks in the HD100 formed the hypothetical High Volatility High Dividend 50 Portfolio (HVHD50). All three portfolios were rebalanced semiannually at the end of January and July, with

⁵ Based on trailing 12-month dividend yield.

⁶ To improve investability of the index portfolios, stocks are selected from the S&P China A Domestic LargeCap Index universe with elimination of ST and *ST stocks, and any stock with a float-adjusted market capitalization of less than RMB 1 billion and a three-month average daily value traded below RMB 20 million. A 50% rebalance buffer is applied at this stage. For sector diversification, not more than 20 stocks are selected from each GICS[®] sector.

⁷ Based on trailing 252-day price return volatility.

⁸ A 20% rebalance buffer is applied at this stage. If the current constituents of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index are ranked with the top 60 by inverse volatility, they are selected first before considering new candidates.

constituents weighted by stock dividend yield, subject to a diversification constraint.⁹

The dividend yield screen alone delivered an annualized excess return of 3.1%, without an impact on portfolio volatility.

We first compared the risk/return profiles of the high dividend portfolios. In the period from Jan. 31, 2009, to June 28, 2019, the dividend yield screen alone delivered an annualized excess return of 3.1%, without an impact on portfolio volatility (see Exhibit 4). Overlaying the low volatility screen resulted in an incremental annualized return of 4.0% and trimmed portfolio volatility down from 24.3% to 22.1%. Consequently, the risk-adjusted return was further improved from 0.41 to 0.63, with reduced return drawdown.

With the two screens overlaid, the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index persistently outperformed the benchmark on an absolute and risk-adjusted basis over the one-year, five-year, and longer-term horizons ending June 28, 2019.

Overlaying the low volatility screen resulted in an incremental annualized return of 4.0% and trimmed volatility.

Exhibit 4: Risk/Return Profile of the Hypothetical High Dividend Portfolios

PERIOD	S&P CHINA A-SHARE LARGECAP LOW VOLATILITY HIGH DIVIDEND 50 INDEX	HVHD 50	HD100	S&P CHINA A DOMESTIC LARGECAP INDEX
ANNUALIZED RETURN (%)				
1-Year	14.5	-2.3	6.0	11.6
5-Year	21.7	10.7	16.6	12.5
Since Jan. 31, 2009	14.0	4.8	10.0	6.9
ANNUALIZED VOLATILITY (%)				
1-Year	19.1	25.3	21.9	24.0
5-Year	23.6	27.6	24.8	25.1
Since Jan. 31, 2009	22.1	28.3	24.3	24.3
RISK-ADJUSTED RETURN				
1-Year	0.8	-0.1	0.3	0.5
5-Year	0.9	0.4	0.7	0.5
Since Jan. 31, 2009	0.6	0.2	0.4	0.3
ROLLING 252-DAY MAXIMUM DRAWDOWN				
Since Jan. 31, 2009	-38.3	-49.4	-42.7	-47.5
ANNUAL TURNOVER (%)				
Since Jan. 31, 2009	74.4	114.4	77.7	-

With both screens, the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index persistently outperformed on absolute and risk-adjusted basis.

The HVHD 50 and HD100 portfolios are hypothetical portfolios. Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Performance based on total return in RMB. 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.

⁹ The maximum weight of each GICS[®] sector is capped at 30%. A cap of 5% and a floor of 0.05% are applied to stock weights.

In the 11 annual periods shown in Exhibit 5, the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index outperformed the HD100 portfolio in seven periods and underperformed in four periods, with the average outperformance (7.0%) significantly surpassing the average underperformance (-2.4%).

The index outperformed the benchmark by 7.1% annually...

Exhibit 5: Annual Returns (%) of the Hypothetical High Dividend Portfolios

PERIOD	S&P CHINA A-SHARE LARGECAP LOW VOLATILITY HIGH DIVIDEND 50	HVHD 50	HD100	S&P CHINA A DOMESTIC LARGECAP INDEX
February-December 2009	85.8	90.7	89.2	71.6
2010	-15.9	-9.5	-12.5	-13.5
2011	-12.2	-29.2	-19.6	-24.3
2012	7.7	-2.6	3.1	10.8
2013	1.2	-10.7	-4.0	-5.3
2014	81.0	50.4	65.9	55.1
2015	11.9	16.0	13.5	5.5
2016	3.9	-10.9	-2.7	-10.9
2017	17.7	15.4	17.0	19.9
2018	-7.4	-28.0	-16.8	-24.2
January-June 2019	14.3	19.0	15.5	28.3

The HD100 and HVHD50 portfolios are hypothetical portfolios.

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Performance based on total return in RMB. 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.

...with 5.5% generated from capital gains and 1.6% from dividend income.

PORTFOLIO AND RETURN CHARACTERISTICS

In this section, we further examine the performance of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index through total return decomposition and its behavior during different market conditions. We then analyze the source of the index's active returns.

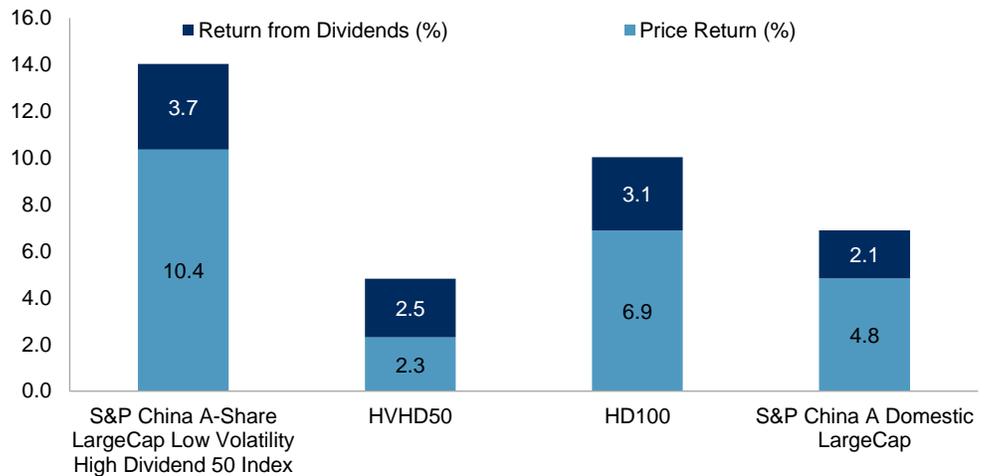
Contribution of Capital Gain and Dividend

Over the back-tested period from Jan. 31, 2009, to June 28, 2019, the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index outperformed the benchmark by 7.1% annually, with 5.5% generated from capital gains and 1.6% from dividend income (see Exhibit 6).

Most of the excess return from dividends and dividend reinvestment came from the dividend yield screen but was further enhanced by the low volatility overlay. Both dividend yield and low volatility screens contributed to the excess price return of the index.

Exhibit 6a: Annualized Return of Dividend Portfolios

Both dividend yield and low volatility screens contributed to the excess price return of the index.



The HD100 and HVHD50 portfolios are hypothetical portfolios.
 Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Performance based on total return in RMB. 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.

The high dividend portfolio exhibited defensive features...

Exhibit 6b: Decomposition of Excess Price Return and Excess Return from Dividend

EXCESS RETURN COMPOSITION	DIVIDEND YIELD SCREEN	LOW VOLATILITY SCREEN	TOTAL
Excess Price Return (%)	2.1	3.5	5.5
Excess Return from Dividend (%)	1.1	0.5	1.6
Excess Total Return (%)	3.1	4.0	7.1

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Portfolio performance based on total return in RMB. The excess return of dividend yield screen is demonstrated by the annualized return spread between the HD100 and S&P China A Domestic LargeCap Index. The excess return from low volatility screen is represented by the annualized return spread between the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index and HD100. 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.

Up and Down Market Performance

To better understand the behavior of the index, we classified the monthly periods between Jan. 31, 2009, and June 28, 2019, into up and down months based on the performance of the S&P China A Domestic LargeCap Index. Then we analyzed the performance of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index and its two attribute portfolios (HD100 and HVHD50) under two different market conditions.

Consistent with the investment rationale that stable dividend income could provide a downside cushion during market drawdowns, HD100 exhibited defensive features with higher win ratios, higher average monthly excess returns, and smaller capture ratios in down markets than in up markets.

The overlay of the low volatility screen further increased the defensiveness of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index, but with a small sacrifice on the upside return. As shown in Exhibit 7, in

...with higher win ratios, higher average monthly excess returns and smaller capture ratios in down markets than in up markets

The overlay of the low volatility screen further increased the defensiveness, but with a small sacrifice on the upside return.

The level of underperformance during up markets was much lower than the level of outperformance during down markets.

down markets, the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index outperformed its benchmark 80% of the time, with an average monthly excess return of 1.6% and downside capture ratio of 70%. As the level of underperformance during up markets (0.4%) was much lower than the level of outperformance during down markets (1.6%), the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index outperformed the benchmark and its two attribute portfolios over the long term.

In comparison, the high volatility stocks in the high dividend portfolio were cyclical, with outperformance in up markets and underperformance in down markets. This further supports excluding high volatility stocks from a high dividend portfolio.

Exhibit 7: Up and Down Market Performance of Dividend Portfolios

CHARACTERISTIC	MARKET	HD100	HVHD50	S&P CHINA A-SHARE LARGECAP LOW VOLATILITY HIGH DIVIDEND 50 INDEX
Winning Ratio (%)	Up Market	55.7	58.6	45.7
	Down Market	63.6	41.8	80.0
Average Monthly Excess Return (%)	Up Market	0.0	0.4	-0.4
	Down Market	0.6	-0.7	1.6
Capture Ratio (%)	Up Market	99.5	107.3	92.8
	Down Market	89.5	112.9	69.6

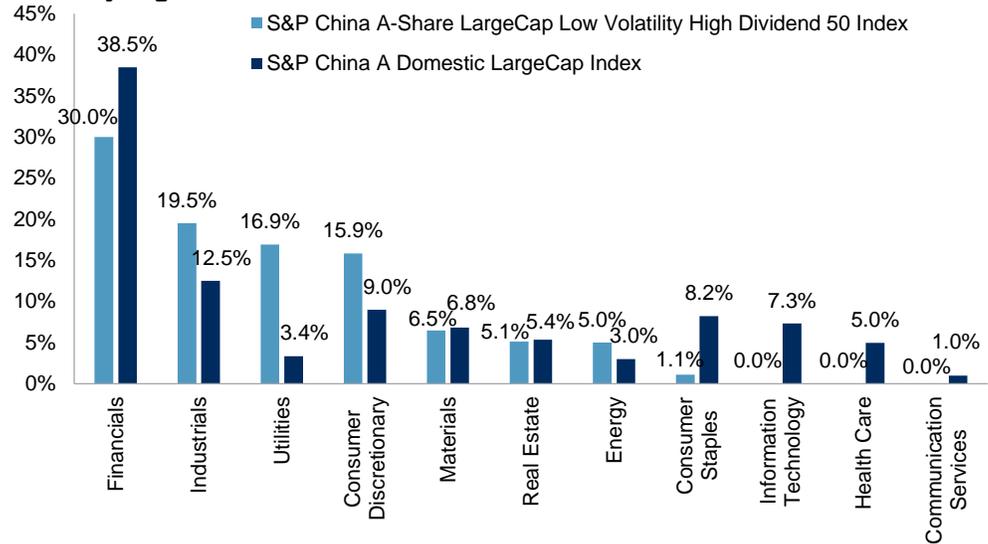
The HD100 and HVHD50 portfolios are hypothetical portfolios.

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Performance based on monthly total return in RMB. The S&P China A Domestic LargeCap Index was the performance benchmark. 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.

Sector Breakdown

As of the end of January 2019, the index allocated most weight to the Financials, Industrials, and Utilities sectors. Compared with the S&P China A Domestic LargeCap Index, the most over-weighted sectors were Utilities (13.6%), Industrials (7.0%), and Consumer Discretionary (6.9%). Financials (-8.5%) was the most under-weighted sector, due to the 30% sector weight constraint to lower sector concentration risk. Information Technology (-7.3%) and Consumer Staples (-7.1%) also had lower weights than the benchmark.

Exhibit 8: Sector Breakdown of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index



The index allocated most weight to the Financials, Industrials, and Utilities sectors.

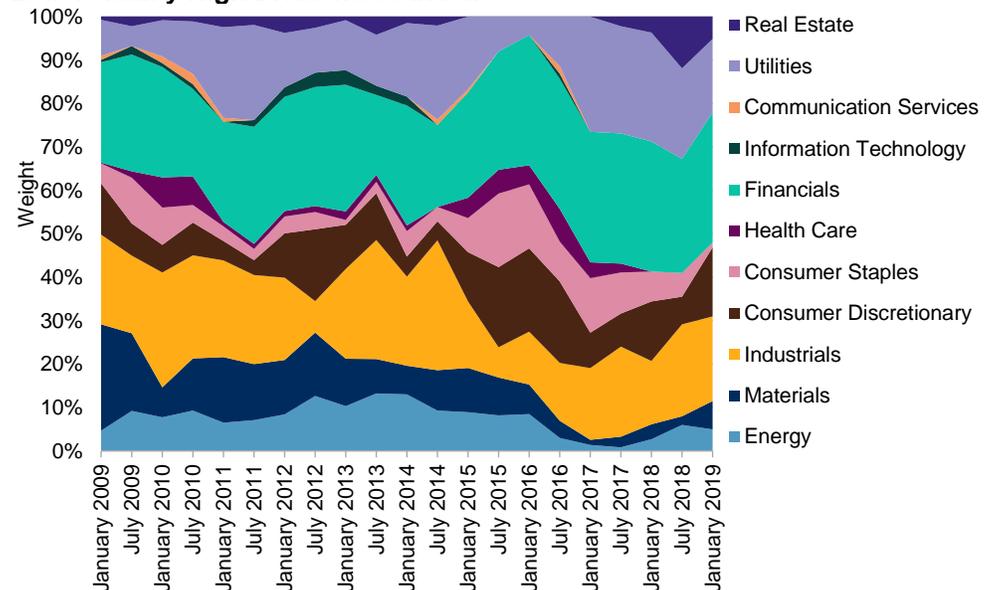
Historically, the index had higher average weights allocated to high-dividend-yielding sectors.

Source: S&P Dow Jones Indices LLC. Data as of January 2019. Chart is provided for illustrative purposes.

Historically, the index had higher average weights allocated to high-dividend-yielding sectors, consistent with its income-seeking feature. However, sector weights may experience sudden shifts over a short period of time, mainly due to the unusual change in stock volatility during stock market turbulence. In July 2015, Industrials and Utilities sector weights shrank by 8.4% and 8.7%, respectively, while the weight of Consumer Discretionary and Consumer Staples surged by 7.1% and 9.1%, respectively, because of the relatively lower volatility (see Exhibit 9).

However, sector weights may experience sudden shifts over a short period of time...

Exhibit 9: Historical Sector Breakdown of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index



...mainly due to the unusual change in stock volatility during stock market turbulence.

Source: S&P Dow Jones Indices LLC. Data as of semiannual rebalances from January 2009 to January 2019. Chart is provided for illustrative purposes.

Factor Attribution to Active Return and Active Risk

To explore the sources of risk and return, we performed a factor attribution analysis to decompose the total active risks and returns into style-, industry-, and stock-specific factors (see Exhibit 10 and Appendix).

The S&P China A-Share Low Volatility High Dividend 50 Index exhibited significant active exposure to the two targeted factors: dividend yield (1.14) and volatility (-0.34). Positive value and negative growth exposures were also captured by the index unintentionally. Most of the active returns were driven by style factors, while most of the active risk stemmed from sector allocation bias. Over the entire studied period, dividend yield, value, and low volatility factors made up the majority of contributions to the active returns of the index.

The index exhibited significant active exposure to the two targeted factors: dividend yield and volatility.

Exhibit 10: Factor Attribution Analysis of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index

FACTORS	COMPOUNDED FACTOR RETURN (%)	AVERAGE ACTIVE EXPOSURE	CONTRIBUTION TO ACTIVE RETURNS (RETURNS %)	CONTRIBUTION TO ACTIVE RETURNS (%)	ACTIVE RISK (%)
Style Factors	-	-	222.6	121.3	28.3
MARKET-BASED FACTORS					
Market Sensitivity	-3.3	-0.61	27.6	15.0	3.7
Size	-62.6	-0.07	4.9	2.7	12.1
Medium-Term Momentum	-13.7	-0.10	-2.5	-1.4	0.6
Volatility	-36.1	-0.34	53.2	29.0	5.6
Liquidity	-19.4	-0.17	12.5	6.8	-0.3
Exchange-Rate Sensitivity	15.3	0.09	4.0	2.2	0.5
FUNDAMENTAL FACTORS					
Growth	3.3	-0.25	3.0	1.6	0.8
Value	59.6	0.56	69.7	38.0	0.4
Dividend Yield	9.9	1.14	41.9	22.8	4.3
Profitability	15.3	0.06	7.0	3.8	0.3
Leverage	-7.2	0.1	1.3	0.7	0.3
Industry Factors	-	-	-100.1	-54.5	50.8
Risk Factors	-	-	122.5	66.7	79.2
Stock-Specific Factors	-	-	61.1	33.3	20.8
Total			183.6	100	100

Positive value and negative growth exposures were also captured by the index unintentionally.

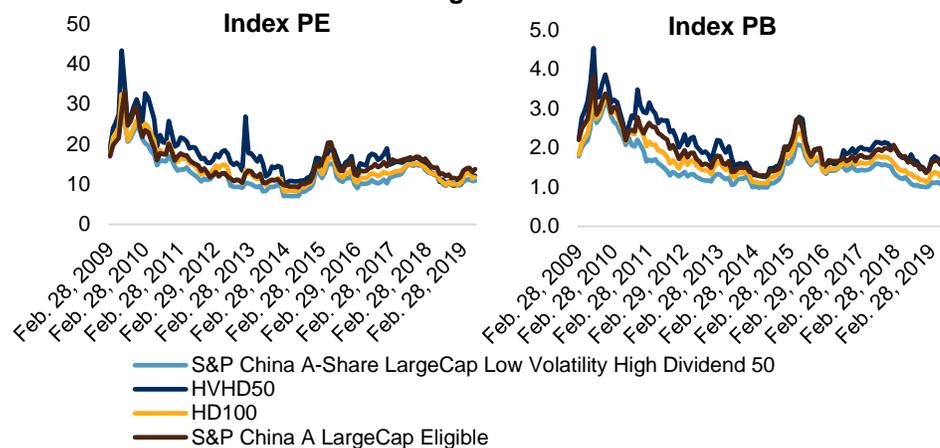
Source: S&P Dow Jones Indices LLC and Axioma AXCN4-MH China equity factor risk model. Data from Jan. 31, 2009, to June 28, 2019. Average active factor exposures, active returns, and active risks were calculated relative to the eligible universe. Past performance is no guarantee of future results. Table 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.

Index Valuation and Dividend Yield

The S&P China A-Share LargeCap Low Volatility High Dividend 50 Index had low price/earnings (P/E) and price-to-book (P/B) valuation compared with other high dividend portfolios and its benchmark for most of the back-tested history (see Exhibit 11). Despite the exclusion of one-half of the high-dividend-yielding stocks with high volatility, the S&P China A-Share Low Volatility High Dividend 50 Index historically offered an average index dividend yield of 3.4%. This surpassed the dividend yield of the HD100 portfolio for most of the examined periods, implying that the sacrifice in portfolio dividend yield due to the overlay of the low volatility screen was minor, if any (see Exhibit 12).

The S&P China A-Share Low Volatility High Dividend 50 Index historically offered an average index dividend yield of 3.4%

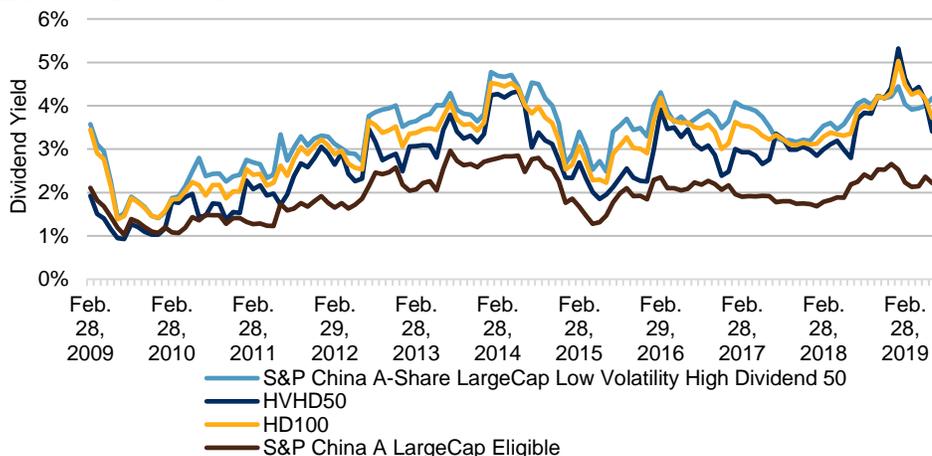
Exhibit 11: Index Valuation of the High Dividend Portfolios



Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2009, to June 28, 2019. Performance based on total return in RMB. Past performance is no guarantee of future results. 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.

This surpassed the dividend yield of the HD100 portfolio for most of the examined periods.

Exhibit 12: Index Dividend Yield



Source: S&P Dow Jones Indices LLC. Data as of semiannual rebalances from January 2009 to January 2019. Chart s 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

Our quartile analysis suggested that excluding high volatility stocks from a high dividend yield portfolio may reduce portfolio volatility and improve returns on a risk-adjusted basis.

Dividend and low volatility are two well-known risk factors that have delivered a factor risk premium in the China A-share large-cap equity market. Our quartile analysis of high dividend portfolios with different volatilities suggested that excluding high volatility stocks from a high dividend yield portfolio may further reduce portfolio volatility and improve portfolio returns on a risk-adjusted basis. The analysis of the dividend portfolios—high dividend, low volatility high dividend, and high volatility high dividend—further confirmed that overlaying a low volatility screen on a high dividend portfolio resulted in improved absolute and risk-adjusted returns.

The majority of the active returns of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index were driven by style factors...

The S&P China A-Share LargeCap Low Volatility High Dividend 50 Index blends the high dividend and low volatility factors. Over the back-tested period from Jan. 31, 2009, to June 28, 2019, the index persistently outperformed the benchmark with lower volatility, as well as delivering a stable source of income from dividends. The index showed a defensive nature and tended to perform better in down markets.

The S&P China A-Share LargeCap Low Volatility High Dividend 50 Index had positive exposure to dividend yield and value factors and negative exposure to volatility and growth factors. Compared with the S&P China A Domestic LargeCap Index, the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index most overweighted the Utilities, Industrials, and Consumer Discretionary sectors, while underweighting the Financials sector due to the 30% sector weight constraint.

...while most of the active risk stemmed from sector allocation biases.

The majority of the active returns of the S&P China A-Share LargeCap Low Volatility High Dividend 50 Index were driven by style factors, while most of the active risk stemmed from sector allocation biases. Over the entire period studied, dividend yield, value, and low volatility factors made the most positive contributions to the active returns of the index.

APPENDIX

Exhibit 13: Factor Attribution Analysis of HD100					
FACTORS	COMPOUNDED FACTOR RETURN (%)	AVERAGE ACTIVE EXPOSURE	CONTRIBUTION TO ACTIVE RETURNS (RETURNS, %)	CONTRIBUTION TO ACTIVE RETURNS (%)	ACTIVE RISK (%)
Style Factors	-	-	145.3	218.5	27.2
MARKET-BASED FACTORS					
Market Sensitivity	-3.3	-0.17	11.5	17.3	1.2
Size	-62.6	-0.23	47.9	72.1	18.1
Medium-Term Momentum	-13.7	-0.15	-2.4	-3.7	2.9
Volatility	-36.1	-0.08	14.9	22.5	-1.8
Liquidity	-19.4	-0.02	2.6	3.9	0.2
Exchange Rate Sensitivity	15.3	0.02	1.2	1.9	-0.1
FUNDAMENTAL FACTORS					
Growth	3.3	-0.13	-3.1	-4.7	0.0
Value	59.6	0.31	38.1	57.3	2.3
Dividend Yield	9.9	1.04	26.9	40.5	4.3
Profitability	15.3	0.12	5.2	7.9	-0.3
Leverage	-7.2	0.0	2.4	3.6	0.4
Industry Factors	-	-	-51.5	-77.4	57.1
Risk Factors	-	-	93.8	141.1	84.3
Stock-Specific Factors	-	-	-27.3	-41.1	15.7
Total			66.50	100	100

The HD100 portfolio is a hypothetical portfolio.

Source: S&P Dow Jones Indices LLC and Axioma AXCN4-MH China equity factor risk model. Data from Jan. 31, 2009, to June 28, 2019. Average active factor exposures, active returns, and active risks were calculated relative to the eligible universe. 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: Factor Attribution Analysis of HVHD50					
FACTOR	COMPOUNDED FACTOR RETURN (%)	AVERAGE ACTIVE EXPOSURE	CONTRIBUTION TO ACTIVE RETURNS (RETURNS %)	CONTRIBUTION TO ACTIVE RETURNS (%)	ACTIVE RISK (%)
Style Factors	-	-	65.7	-160.2	52.6
MARKET-BASED FACTORS					
Market Sensitivity	-3.3	0.38	-7.5	18.4	20.2
Size	-62.6	-0.44	89.8	-218.9	14.9
Medium-Term Momentum	-13.7	-0.19	-4.5	10.9	3.1
Volatility	-36.1	0.23	-16.4	40.0	9.1
Liquidity	-19.4	0.15	-8.7	21.3	4.0
Exchange Rate Sensitivity	15.3	-0.10	0.0	0.1	1.2
FUNDAMENTAL FACTORS					
Growth	3.3	0.03	-6.0	14.6	0.2
Value	59.6	-0.04	0.5	-1.2	0.4
Dividend Yield	9.9	0.84	12.0	-29.2	0.0
Profitability	15.3	0.19	4.7	-11.5	-0.5
Leverage	-7.2	0.0	2.0	-4.8	-0.1
Industry Factors	-	-	-14.9	36.4	28.6
Risk Factors	-	-	50.8	-123.8	81.3
Stock-Specific Factors	-	-	-91.8	223.8	18.7
Total	-	-	-41.03	100	100

The HVHD50 portfolio is a hypothetical portfolio.

Source: S&P Dow Jones Indices LLC and Axioma AXCN4-MH China equity factor risk model. Data from Jan. 31, 2009, to June 28, 2019. Average active factor exposures, active returns, and active risks were calculated relative to the eligible universe. 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.

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