

# Euro Low Volatility Index

## Comparison: Flexible and Fast Road to Portfolio Protection

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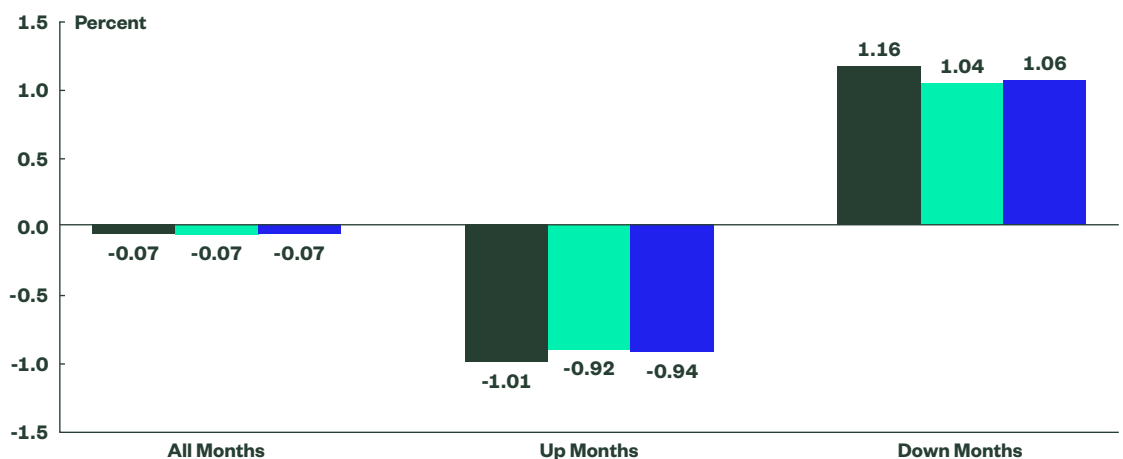
- Contrary to popular belief, low volatility strategies have achieved a higher level of volatility reduction than minimum volatility (or minimum variance) strategies.
- Low volatility's more regular rebalancing frequency can often react faster to prevailing market events.
- SPDR® ETFs offer a suite of low volatility strategies that follow a simple, yet effective methodology.

Low (or minimum) volatility index strategies have regularly attracted investors seeking to take long equity positions with lower historical risk. While many indices seek to target lower risk, less volatile stocks, SPDR® ETFs offer a suite of low volatility strategies that follow a simple and yet effective methodology.

In this note, we take a look at the key distinctions between *Low Volatility* and *Minimum Volatility/Variance* index strategies.

Figure 1  
**Average Excess Returns of Volatility Strategies in Up and Down Markets**  
Last 10 Years

■ EURO STOXX® Low Risk Weighted 100 Index  
■ MSCI EMU Minimum Volatility Index  
■ MSCI EMU Select Dynamic Risk Weighted Index



Source: Bloomberg Finance L.P., as of 30 December 2022. Index performance based on net total return in EUR. Past performance is not a reliable indicator of future performance. It is not possible to invest directly into an index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

## Targeting Less Volatile Stocks Effectively

Research offered by Michael Jensen (1972) posed a considerable challenge to the capital asset pricing model (CAPM), which originally suggested a positive relationship between risk and return. Jensen's work, and subsequent empirical studies, demonstrated how lower volatility stocks have historically generated higher risk-adjusted returns.<sup>1</sup> This well-documented phenomenon, dating back to the 1970s, is referred to as the 'low volatility anomaly'.

As a result, many investment strategies have been constructed to capture this observable market behaviour, through investable indices. When constructing factor-based strategies, it is important that investors understand the index methodology. Construction variation can often produce a wide array of outcomes. The most common strategies, used by ETFs, for harvesting the return opportunity presented by the low volatility anomaly are *Low Volatility* and optimised *Minimum Volatility/Variance*.

Low Volatility follows a process of selecting a portfolio of the least volatile stocks.<sup>2</sup> The EURO STOXX® Low Risk Weighted 100 Index accomplishes this goal by selecting the 100 least volatile stocks in the EURO STOXX® Index. The portfolio then rebalances quarterly so that it can react quickly to prevailing market conditions, thus helping investors to continuously target the lowest volatility stocks.

Optimised Minimum Volatility (Variance) strategies are more complex than Low Volatility. Minimum Volatility strategies often use more constraints that limit allocation and portfolio turnover, while also considering the variation correlation of constituent securities.

Figure 2  
Main Index Methodologies  
Targeting Less Volatile  
Stocks in Eurozone Equities

	EURO STOXX® Low Risk Weighted 100 Index	MSCI EMU Minimum Volatility Index	MSCI EMU Select Dynamic 50% Risk Weighted Index
<b>Ticker</b>	<b>SXLV1T Index</b>	<b>M4EMVOE Index</b>	<b>M7CXEMRW Index</b>
<b>Selection Universe</b>	EURO STOXX® Index	MSCI EMU Index	MSCI EMU Index
<b>Construction</b>	Rank and select Top 100, based on past volatility measure (standard deviation)	Minimise index volatility subject to constraints	Rank and select Top 50% (aggregate risk), based on past volatility measure (standard deviation)
<b>Weighting Scheme</b>	Price-weighted with a weighting factor based on the inverse of the preceding 12-month volatility	Determined by optimiser, using an estimated security covariance matrix, having taken into account constraints	Relative security price variance using weekly returns of the preceding 3-years
<b>Stock Weight Constraint</b>	Max weight: <b>10%</b>	Max weight: Lower of <b>20x</b> the stock's MSCI EMU weight or <b>1.5%</b> Min weight: <b>0.05%</b>	None
<b>Country Constraint</b>	None	Greater than 2.5% of MSCI EMU: <b>± 5%</b> of the country's MSCI EMU weight Less than 2.5% of MSCI EMU: <b>3x</b> of the country's MSCI EMU weight	None
<b>Sector/Industry Constraint</b>	None	<b>± 5%</b> of the sector's MSCI EMU weight	None
<b>Factor Constraint</b>	None	<b>± 0.25</b> standard deviation of benchmark exposure to all factors (except Beta and Residual Volatility)	None
<b>Turnover Constraint</b>	None	Maximum <b>10%</b> one-way turnover at each rebalance	A buffer of <b>20%</b> of the cumulative targeted risk weight of 50% is used to mitigate index turnover
<b>No. of Securities</b>	Target 100	Floating	Floating
<b>Rebalance Frequency</b>	Quarterly (3rd Friday in March, June, September and December)	Semi-annually (Last business day of May and November)	Semi-annually (Last business day of May and November)

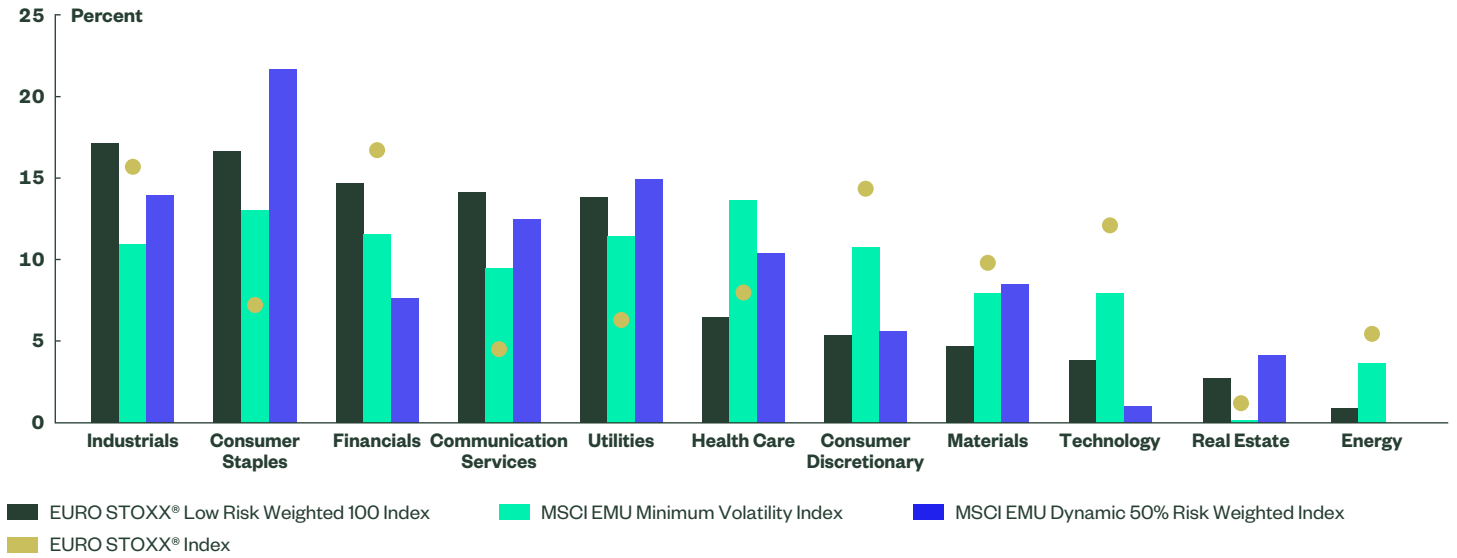
Source: STOXX Ltd. and MSCI, as of 30 December 2022. The information contained above is for illustrative purposes only.

## A Flexible Approach to Lower Volatility

The matrix in Figure 2 explains the key distinctions between the construction methodologies of Low Volatility and Minimum Volatility indices. The critical feature is the relatively *'unconstrained'* nature of a low volatility approach. By limiting the allocation constraints, the low volatility strategy has the flexibility to go *'wherever it needs to'* in targeting lower volatility. This will often lead to dislocations in sector and country exposure (see Figure 3) across the various strategies. It is important to remember that these allocations are an *outcome* of investing in the least volatile stocks. This flexibility also helps promote the more dynamic approach enjoyed by low volatility strategies discussed in the next section (and displayed in Figure 5).

Figure 3a

### Sector Exposure of Volatility Strategies

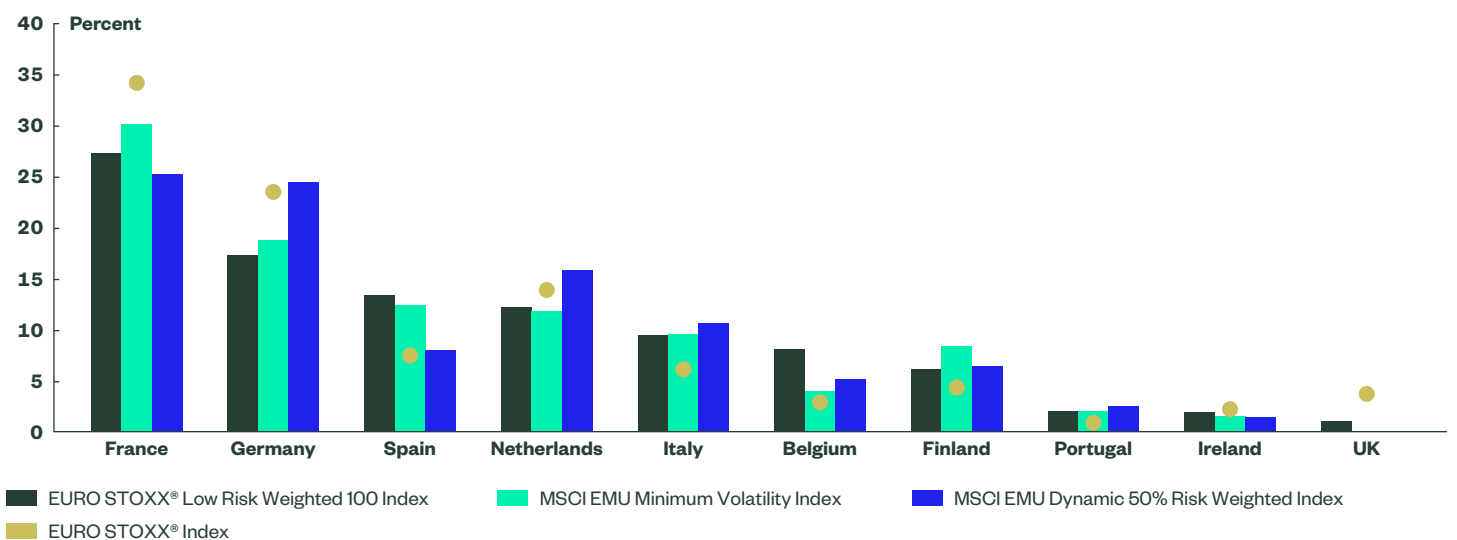


Source: Bloomberg Finance L.P., as of 30 December 2022. This information should not be considered a recommendation to invest in a particular sector, country or to buy or sell any security shown. It is not known whether the sectors, countries or securities shown will be profitable in the future. Holdings and Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. Diversification does not ensure a profit or guarantee against loss. Comparison benchmark is the EURO STOXX® Index.

Figure 3b

### Country Exposure of Volatility Strategies

(Top 10)



Source: Bloomberg Finance L.P., as of 30 December 2022. This information should not be considered a recommendation to invest in a particular sector, country or to buy or sell any security shown. It is not known whether the sectors, countries or securities shown will be profitable in the future. Holdings and Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. Diversification does not ensure a profit or guarantee against loss. Comparison benchmark is the EURO STOXX® Index.

The flexibility provided by the low volatility approach is often the feature most cited for driving the excess return in down markets (Figure 1), since low volatility is able to hold more of the lowest volatility stocks. Figure 4 explains the detailed performance of our low volatility approach in each of the major market pullbacks, experienced by the broader market (EURO STOXX® Index), in recent years.

Figure 4  
**Low Volatility Performance  
 in Major Market Selloffs**

Period	Date	EURO STOXX® Index (%)	EURO STOXX® Low Risk Weighted 100 Index (%)*	Allocation Effect	Selection Effect	Low Vol Outperformance (%)	MSCI EMU Minimum Volatility Index (%)**	Min Vol Outperformance (%)
2022 Q2	29-MAR-2022 to 5-JUL-2022	-14.64	-10.31	1.97	2.48	4.33	-10.47	4.17
2022 Q1	4-JAN-2022 to 8-MAR-2022	-19.88	-16.01	2.11	1.75	3.87	-18.76	1.12
2020 Q1	20-FEB-2020 to 23-MAR-2020	-34.94	-33.91	-0.15	1.17	1.02	-31.15	3.79
2018 Q4	3-OCT-2018 to 27-DEC-2018	-14.77	-11.82	1.56	1.38	2.94	-10.23	4.54
2015 Q3	14-AUG-2015 to 29-SEP-2015	-12.17	-8.56	0.41	3.20	3.61	-9.36	2.81
2012 Q2	2-APR-2012 to 4-JUN-2012	-13.81	-6.83	3.03	3.96	6.98	-11.73	2.08
2011 Q3	2-MAY-2011 to 4-OCT-2011	-28.27	-17.81	4.52	5.94	10.46	-18.87	9.40
GFC	19-SEP-2008 to 9-MAR-2009	-44.42	-32.29	4.58	7.55	12.13	-36.79	7.63

Source: Bloomberg Finance L.P., and STOXX Ltd., as of the date indicated. \*The EURO STOXX® Low Risk Weighted 100 Index was inceptioned on 4 October 2012, returns prior to this date are based hypothetical index positions using the index methodology. \*\*Index ticker M4EMVOE Index was used as a proxy for Min Vol. The intensity of the colour indicates the relative size of the data points in a given column(s) from lowest to highest.

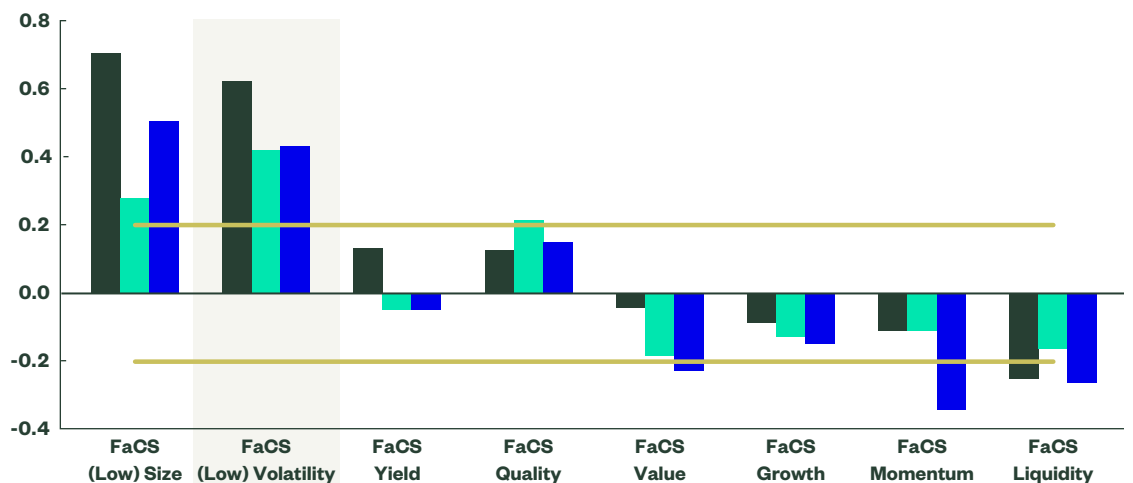
## A Dynamic Approach to Volatility Investing

In addition to the flexibility offered by the 'unconstrained' nature of the low volatility approach, the more frequent rebalance schedule of the Low Volatility Index means that they are more 'dynamic' than the minimum volatility/variance strategies available. While this may lead to higher turnover, this is a feature of the strategy. As the standard performance can demonstrate, the ETF has historically been capable of absorbing the potentially higher transaction costs associated with tracking the index.<sup>3</sup>

The dynamic quarterly rebalance, coupled with the flexibility of the diversification approach, help the Low Volatility Index to often display significantly low volatility (Figure 5).

Figure 5a  
**FaCS Active Exposure Comparison**  
 (vs. EURO STOXX® Index)

- EURO STOXX® Low Risk Weighted 100 Index
- MSCI EMU Minimum Volatility Index
- MSCI EMU Dynamic 50% Risk Weighted Index
- Significance Level (±0.2)



Source: Bloomberg Finance L.P. and BarraOne, as of 19 December 2022. (FaCS) stands for MSCI's Factor Classification Standards. Comparison benchmark is the EURO STOXX® Index.

Figure 5b  
**Active Risk Comparison**  
 (vs. Min Volatility)

Factor	Scale	Active Risk*
(Low) Volatility		1.34
(Low) Size		0.70
Energy Sector		0.57
Health Care Sector		0.53
Value		0.41
Cons. Discretionary Sector		0.29
Dividend Yield		0.27
Industrials Sector		0.27
Materials Sector		0.24
Comm. Services Sector		0.23
Technology Sector		0.22
Liquidity		0.21
Cons. Staples Sector		0.19
Real Estate Sector		0.19
Quality		0.15
Utilities Sector		0.10
Financials Sector		0.09
Dev. EMEA Region		0.07
Growth		0.04
Dev. Americas Region		0.04
Momentum		0.00

Source: Bloomberg Finance L.P., and BarraOne, as of 19 December 2022. (FaCS) stands for MSCI's Factor Classification Standards. \*Active Risk represents the normalized exposure of each factor in the EURO STOXX Low Risk Weighted 100 Index relative to the MSCI EMU Minimum Volatility Index.

## Conclusion

One strategy that has often attracted investors seeking to take long equity positions with lower historical risk is low (or minimum) volatility. While many indices seek to target lower risk, less volatile stocks, SPDR® ETFs offer a suite of low volatility strategies that follow a simple and yet effective methodology.

The Low Volatility strategies tracked by SPDR® ETFs offer two important features that set them apart from minimum volatility/variance indices. Our low volatility indices are largely unconstrained, which allows them more flexibility in targeting lower volatility, and they are more dynamic as a result of rebalancing more frequently. In one simple trade, investors can seek to lower the risk exposure in their portfolio, while remaining invested in eurozone equities.

## Endnotes

- 1 Michael C. Jensen, ed., *Studies in the Theory of Capital Markets*. Praeger Publishers Inc, 1972.
- 2 In the methodology, volatility of the constituents, within each eligible universe, is calculated using available price return data for the trailing one year of trading days leading up to each index rebalancing reference date.
- 3 Visit [ssga.com](https://www.ssga.com) for the most recent month-end performance.

## Appendix

Figure 6  
**Brinson Attribution by Sector**  
 (Q2 2022)

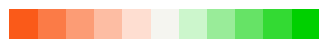
Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-9.74</b>	—	—	<b>-14.20</b>	—	<b>1.97</b>	<b>2.48</b>	<b>4.45</b>
Industrials	13.98	-5.70	-0.85	16.90	-19.41	-3.37	0.17	1.92	2.08
Technology	2.53	-20.21	-0.52	11.70	-24.73	-3.07	1.07	0.14	1.21
Telecommunications	10.06	2.33	0.20	4.18	3.09	0.12	1.00	-0.09	0.91
Utilities	11.40	-4.07	-0.48	5.80	-7.06	-0.41	0.38	0.33	0.71
Consumer Staples	10.69	-6.85	-0.63	5.76	-6.25	-0.34	0.53	-0.08	0.45
Consumer Discretionary	4.32	-9.82	-0.38	15.87	-15.07	-2.41	0.14	0.25	0.39
Financials	17.39	-14.10	-2.44	15.56	-15.06	-2.30	0.15	-0.04	0.12
Basic Materials	10.44	-15.38	-1.63	8.63	-15.68	-1.40	0.08	-0.05	0.03
Health Care	6.72	-8.12	-0.51	8.62	-6.21	-0.50	-0.13	-0.11	-0.25
Energy	3.54	-0.55	-0.07	5.29	2.08	-0.01	-0.25	-0.08	-0.34
Real Estate	8.92	-25.93	-2.44	1.69	-28.63	-0.51	-1.15	0.29	-0.86

Source: FactSet, from 29 March 2022 to 5 July 2022.

Figure 7  
**Brinson Attribution by Sector**  
 (Q1 2022)

Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-15.98</b>	—	—	<b>-19.84</b>	—	<b>2.11</b>	<b>1.75</b>	<b>3.86</b>
Consumer Discretionary	6.90	-19.14	-1.34	16.99	-26.70	-4.68	0.72	0.56	1.27
Industrials	11.57	-13.93	-1.57	17.28	-21.42	-3.72	0.10	0.88	0.98
Telecommunications	7.71	-4.90	-0.41	3.53	-8.97	-0.32	0.44	0.27	0.71
Technology	3.48	-22.25	-0.79	12.46	-25.28	-3.22	0.52	0.11	0.63
Financials	19.30	-17.92	-3.48	16.27	-20.45	-3.32	—	0.47	0.47
Real Estate	8.07	-14.30	-1.13	1.81	-12.61	-0.23	0.44	-0.10	0.33
Utilities	11.68	-16.31	-1.81	5.48	-14.56	-0.77	0.34	-0.18	0.16
Consumer Staples	11.13	-18.45	-2.11	5.58	-18.64	-1.06	0.07	0.03	0.10
Health Care	5.82	-10.16	-0.58	7.87	-13.42	-1.01	-0.13	0.18	0.05
Basic Materials	12.14	-21.75	-2.72	8.04	-18.61	-1.51	0.06	-0.39	-0.34
Energy	2.20	-3.81	-0.06	4.68	0.21	0.01	-0.45	-0.07	-0.52

Source: FactSet, from 4 January 2022 to 8 March 2022.



The intensity of the colour indicates the relative size of the data points in a given column from lowest to highest.

## Appendix

Figure 8  
**Brinson Attribution by Sector**  
 (Q1 2020)

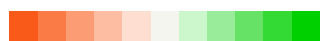
Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-33.91</b>	—	—	<b>-34.94</b>	—	<b>-0.24</b>	<b>1.25</b>	<b>1.02</b>
Financials	16.48	-40.82	-7.10	15.53	-44.74	-7.51	-0.09	0.75	0.65
Industrials	11.20	-37.69	-4.40	14.44	-41.51	-6.32	0.19	0.44	0.63
Communication Services	7.99	-24.06	-1.69	5.03	-28.04	-1.31	0.20	0.30	0.50
Utilities	19.94	-31.70	-6.09	7.38	-31.49	-2.26	0.45	-0.03	0.42
Energy	3.88	-35.87	-1.39	4.27	-42.39	-1.93	0.06	0.25	0.31
Consumer Staples	11.25	-24.23	-2.51	9.40	-24.42	-2.07	0.18	0.01	0.19
Materials	3.95	-26.89	-1.01	8.95	-32.48	-2.85	-0.12	0.20	0.08
Consumer Discretionary	3.97	-30.83	-1.22	13.01	-32.71	-4.18	-0.21	0.05	-0.16
Technology	0.05	-5.58	-0.05	10.70	-31.48	-3.30	-0.36	-0.03	-0.39
Health Care	3.16	-28.60	-0.88	8.40	-27.14	-2.13	-0.38	-0.05	-0.43
Real Estate	18.12	-39.66	-7.58	2.89	-36.07	-1.08	-0.16	-0.62	-0.78

Source: STOXX Ltd. from 20 February 2020 to 23 March 2020.

Figure 9  
**Brinson Attribution by Sector**  
 (Q4 2018)

Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-11.82</b>	—	—	<b>-14.77</b>	—	<b>1.30</b>	<b>1.64</b>	<b>2.94</b>
Real Estate	12.56	-8.92	-1.12	2.47	-10.71	-0.26	0.40	0.21	0.61
Consumer Staples	12.33	-5.31	-0.59	9.57	-7.66	-0.71	0.22	0.27	0.49
Financials	19.92	-14.22	-2.91	18.35	-16.40	-3.03	-0.01	0.43	0.42
Consumer Discretionary	5.53	-14.40	-0.83	11.50	-17.38	-2.03	0.16	0.16	0.32
Technology	2.44	-21.94	-0.62	8.59	-20.81	-1.86	0.37	-0.06	0.31
Health Care	3.85	-11.53	-0.38	8.42	-16.86	-1.40	0.10	0.21	0.31
Energy	4.62	-15.10	-0.71	6.46	-18.58	-1.24	0.07	0.17	0.24
Communication Services	4.51	6.91	0.28	5.64	-1.67	-0.10	-0.13	0.33	0.19
Utilities	6.17	1.23	-0.00	5.42	-0.05	-0.01	0.07	0.06	0.13
Industrials	20.98	-15.23	-3.24	14.76	-15.53	-2.28	-0.05	0.06	0.01
Materials	7.08	-22.38	-1.71	8.81	-19.76	-1.85	0.10	-0.21	-0.11

Source: STOXX Ltd. from 3 October 2018 to 26 December 2018.



The intensity of the colour indicates the relative size of the data points in a given column from lowest to highest.

Figure 10

**Brinson Attribution by Sector**

(Q3 2015)

Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-8.56</b>	—	—	<b>-12.17</b>	—	<b>-0.21</b>	<b>3.83</b>	<b>3.62</b>
Financials	25.02	-8.01	-2.06	24.30	-12.77	-3.12	-0.04	1.12	1.08
Consumer Discretionary	15.25	-7.50	-1.14	14.21	-13.55	-1.92	-0.03	0.93	0.90
Industrials	19.47	-8.30	-1.62	14.08	-12.00	-1.69	0.01	0.73	0.73
Utilities	7.84	-6.11	-0.47	5.50	-13.25	-0.74	-0.02	0.56	0.53
Consumer Staples	15.18	-9.21	-1.40	9.70	-10.47	-1.02	0.12	0.20	0.32
Health Care	4.13	-5.10	-0.20	8.96	-10.62	-0.94	-0.07	0.22	0.15
Materials	7.31	-15.33	-1.16	7.51	-15.76	-1.20	0.02	0.04	0.05
Telecommunication Services	2.95	-11.41	-0.34	4.97	-11.58	-0.57	-0.02	0.01	-0.01
Energy	—	—	—	4.99	-11.50	-0.58	-0.04	—	-0.04
Technology	2.84	-5.98	-0.17	5.77	-7.23	-0.40	-0.14	0.03	-0.11

Source: STOXX Ltd. from 14 August 2015 to 29 September 2015.

Figure 11

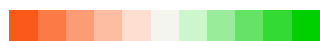
**Brinson Attribution by Sector**

(Q2 2012\*\*)

Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-6.83</b>	—	—	<b>-13.81</b>	—	<b>2.56</b>	<b>4.44</b>	<b>6.99</b>
Financials	7.07	-11.27	-0.81	18.40	-20.78	-4.05	0.89	0.72	1.61
Health Care	11.35	4.79	0.50	7.93	-4.01	-0.30	0.33	0.88	1.21
Industrials	15.09	-6.10	-0.91	14.10	-13.39	-1.88	0.00	1.10	1.10
Consumer Staples	21.06	-5.97	-1.25	10.72	-5.72	-0.59	0.86	-0.06	0.80
Consumer Discretionary	12.32	-9.38	-1.16	11.73	-14.19	-1.66	0.01	0.59	0.60
Technology	5.42	-9.17	-0.50	5.22	-17.64	-0.95	-0.00	0.47	0.47
Materials	4.43	-7.79	-0.35	9.45	-15.88	-1.51	0.11	0.36	0.47
Telecommunication Services	11.96	-7.89	-0.96	6.32	-9.04	-0.55	0.27	0.13	0.40
Energy	2.77	-9.78	-0.28	8.05	-15.73	-1.28	0.11	0.17	0.28
Utilities	7.33	-14.35	-1.11	6.74	-15.33	-1.04	-0.01	0.07	0.06

Source: STOXX Ltd. from 2 April 2012 to 4 June 2012.

\*\*The EURO STOXX® Low Risk Weighted 100 Index was inception on 4 October 2012, returns prior to this date are based hypothetical index positions using the index methodology.



The intensity of the colour indicates the relative size of the data points in a given column from lowest to highest.



Figure 12

**Brinson Attribution by Sector**

(Q3 2011\*\*)

Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-17.81</b>	—	—	<b>-28.27</b>	—	<b>3.62</b>	<b>6.80</b>	<b>10.42</b>
Financials	13.40	-24.21	-3.33	21.22	-38.17	-8.64	1.02	1.95	2.97
Industrials	11.38	-20.44	-2.38	14.57	-32.77	-4.86	0.12	1.49	1.61
Consumer Staples	19.17	-13.54	-2.55	9.15	-12.62	-1.08	1.47	-0.14	1.33
Consumer Discretionary	9.13	-13.27	-1.22	11.32	-27.67	-3.10	-0.09	1.31	1.22
Materials	6.27	-26.37	-1.69	9.29	-35.25	-3.40	0.28	0.57	0.85
Telecommunication Services	9.62	-12.72	-1.20	6.97	-18.48	-1.24	0.26	0.51	0.77
Health Care	10.46	-12.96	-1.32	6.46	-14.75	-0.92	0.53	0.17	0.70
Utilities	12.38	-22.75	-2.90	7.95	-25.33	-1.96	0.18	0.32	0.49
Technology	4.22	-16.19	-0.67	4.65	-26.37	-1.19	0.01	0.41	0.41
Energy	3.02	-18.26	-0.55	7.58	-25.18	-1.89	-0.15	0.21	0.06

Source: STOXX Ltd. from 2 May 2011 to 4 October 2011.

\*\*The EURO STOXX® Low Risk Weighted 100 Index was inceptioned on 4 October 2012, returns prior to this date are based hypothetical index positions using the index methodology.

Figure 13

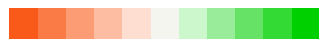
**Brinson Attribution by Sector**

(GFC\*\*)

Sector	EURO STOXX® Low Risk Weighted 100 Index			EURO STOXX® Index			Attribution Analysis		
	Average Weight	Total Return	Contrib. To Return	Average Weight	Total Return	Contrib. To Return	Allocation Effect	Selection Effect	Total Effect
<b>Total</b>	—	<b>-32.29</b>	—	—	<b>-44.44</b>	—	<b>4.28</b>	<b>7.88</b>	<b>12.16</b>
Financials	17.27	-46.12	-8.78	24.28	-65.44	-19.98	2.00	4.64	6.64
Utilities	13.37	-26.73	-3.39	11.65	-35.30	-3.78	0.50	0.81	1.30
Consumer Staples	13.98	-27.30	-3.70	7.40	-29.27	-1.91	1.01	0.24	1.25
Consumer Discretionary	15.39	-33.80	-5.05	10.21	-38.34	-3.35	0.91	0.10	1.02
Industrials	8.22	-32.10	-2.60	11.17	-43.66	-4.89	0.02	0.99	1.01
Health Care	7.73	-22.74	-1.59	6.03	-27.56	-1.50	0.31	0.35	0.66
Technology	3.35	-33.64	-1.11	4.85	-46.47	-2.28	0.06	0.43	0.50
Materials	8.07	-43.87	-3.74	6.61	-46.18	-3.22	0.14	0.27	0.40
Telecommunication Services	8.81	-18.92	-1.43	9.30	-18.53	-1.39	0.04	-0.08	-0.04
Energy	3.60	-27.32	-0.89	8.24	-30.15	-2.15	-0.71	0.13	-0.58

Source: STOXX Ltd. from 19 September 2008 to 9 March 2009.

\*\*The EURO STOXX® Low Risk Weighted 100 Index was inceptioned on 4 October 2012, returns prior to this date are based hypothetical index positions using the index methodology.



The intensity of the colour indicates the relative size of the data points in a given column from lowest to highest.

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