# Lower for Longer: The Case for Factor Investing

UBS ETF Market Matters

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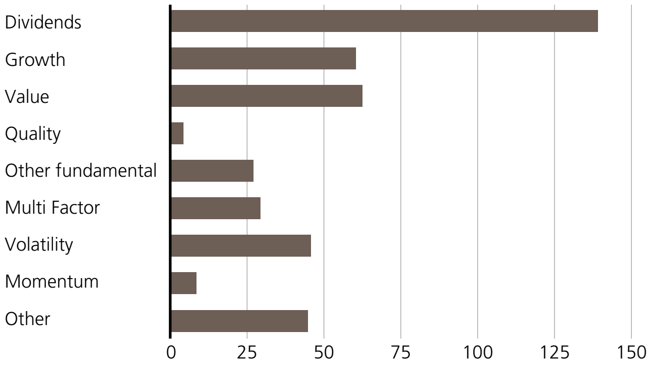
- Factor investing has emerged as an important investment approach with assets in factor ETFs now reaching USD 430 billion globally.
- Factors have historically had higher returns than broad benchmarks. For example, since the year 2000, the eurozone Low Volatility factor has outperformed the standard market cap index by 5% per annum, whilst exhibiting significantly lower volatility.
- Relative performance of different factors vis-à-vis the market has a time-varying correlation structure which can lead to diversification benefits. Multi-factor portfolios typically offer more attractive risk-return properties compared to individual factors.
- From a valuation perspective, factor indices currently have price-to-earnings ratios close to that of the broad market and are in fact lower than their historical highs.

**Growing popularity**

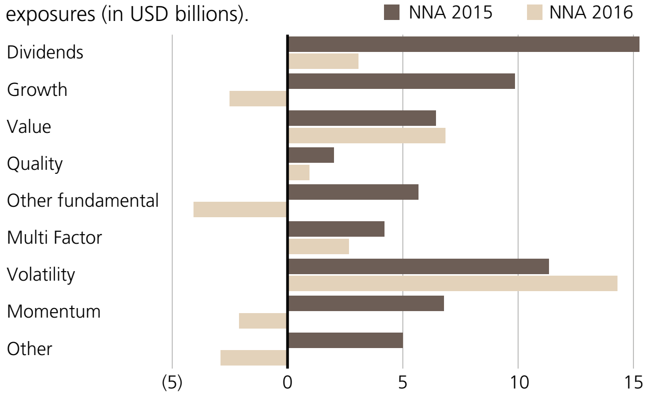
The premise of factor investing, also known as smart beta or alternative beta ETFs, is that stocks with certain characteristics known as 'factors' outperform the market in the long term. The most common factors include Value, Size, Momentum, Dividend Yield, Quality and Low Volatility. Factor ETFs have lately experienced a growth in investors' interest with the five-year cumulative annual growth rate in invested assets of more than 30%. Figure 1 presents current AuMs in the global ETF market for different factor types. Dividend-orientated ETFs have gathered nearly USD140 billion, followed by Value (USD63.5 billion), Growth (USD61.5 billion) and Volatility (USD46.5 billion). Figure 2 shows that net new money inflows vary from year to year. The Low Volatility factor has had the largest inflows in the last two years totalling USD25.5 billion.

**Figure 1:** Assets under management globally across different smart beta strategies (in USD billions).




Source: ETFGI, UBS Asset Management, data as of end June, 2016

**Figure 2:** Net new assets globally across different smart beta exposures (in USD billions).

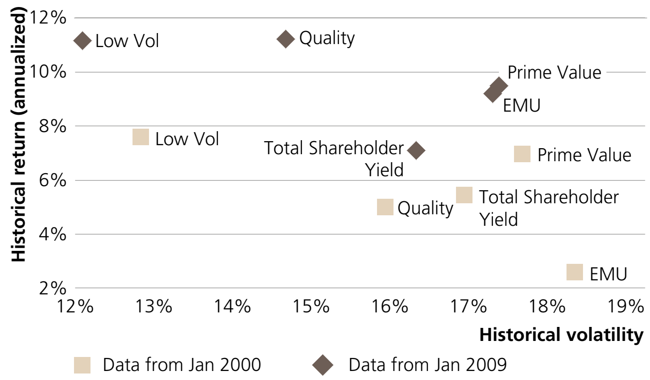



Source: ETFGI, UBS Asset Management, data as of end June, 2016

## Does factor investing work?

Figure 3 shows the performance of several factors covering Eurozone equities. In the long term (since January 2000), all factors have considerably outperformed the standard market cap index by at least 3% per annum (Quality) and up to 6% (Low Volatility). At the same time, factors have had lower volatility levels. In other words, factor investments have delivered better performance on a risk-adjusted basis, making a compelling argument in favor of employing such strategies.[1] This strong performance of factors also holds in the more recent period of low interest rates (since January 2009). Low Volatility and Quality factors have returned 2% per annum above the market, while Total Shareholder Yield underperformed by the same amount. Yet, considering additional reduction in risk (volatility), factor investing has paid off in this period as well.

**Figure 3:** Historical returns and volatilities of selected smart beta based on the MSCI EMU universe.




Annualized performance of selected MSCI indices from Jan '00 to Aug '16. Low Volatility refers to the EMU Select Dynamic 50% Risk Weighted index, while the rest are referred to by their index name. This naming convention applies throughout this note.
Source: MSCI, UBS Asset Management, data as of September 15, 2016
Past performance is not an indicator of future results.

## Theoretical underpinnings

Modern ETF-based factor investing has originated from decades of academic research on systematic drivers of stock returns beyond their exposure to the market factor (CAPM). A well-rounded factor needs to satisfy several principles. A factor should have clear characteristics and strong economic underpinnings. It should be persistent across time and prevalent across markets. A factor also needs to be robust across multiple specifications (e.g. for the value factor these would be different proxies such as price-to-earnings, price-to-book etc.). These three criteria ensure that a factor is much more than merely a statistical outcome resulting from data mining. A factor should be a dimension in the risk-return space which is associated with a factor premia that can benefit investors. Numerous concepts have emerged arguing why they work.

**A well-founded factor shall satisfy several principles:**

1. Have clear characteristics and strong economic foundations.

2. Be persistent across time and prevalent across markets.

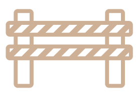
3. Be robust to varying specifications.

## Why do factors work?

The sources of empirically observed factor premia have implications on the likelihood of these premia persisting in the future. These can be divided into three categories:

**1. Risk reward explanation:** Factor premia compensate investors for undiversifiable risks which justifies incremental expected return. For example, some researchers find that Value, Size and Momentum factors exhibit greater sensitivity to macroeconomic factors such as economic growth or inflation (Winkelmann et al., 2013).

**2. Systematic biases:** According to studies of behavioural finance, investors make systematic errors that can lead to distinct patterns in investment returns. For example, Lakonishok et al. (1994) argues that investors "incorrectly extrapolate past into the future, chasing high-flier glamour stocks, or over-reacting to news".[2]



**3. Investor constraints:** Certain groups of investors (e.g. pension funds or sovereign funds) are constrained in making investment decisions. For example, some shocks such as downgrades force these investors to liquidate their positons over time.

1 The outperformance of factors also holds within the MSCI USA universe (results unreported for brevity).
2 For a detailed discussion on the topic, see MSCI (2013).

## Single and multi-factor strategies

Investors have the option to pick and choose factors which suit their preferences and assumptions. Investment choice can be based on a rationale behind factor premia persistence, historical performance, or reflect an attempt at factor timing. It is also noteworthy that excess returns on factors exhibit dynamic correlation patterns and thus combining factors can bring important diversification benefits. In Figure 4 we show excess annual returns on different factors since 2000. Nearly 70% of the time, factors outperformed the market. Moreover, having a multi-factor portfolio could in most cases provide positive returns by outweighing losses on some factors with gains on the others.

In Figure 5, we investigate the performance of quarterly-rebalanced multi-factor portfolios: equally-weighted (four factors), defensive (Low Volatility and Quality), and Cyclical (Value and Total Shareholder Yield). All three multi-factor portfolios had robustly outperformed the markets in both periods considered. For example, since January 2000, the portfolios all had annual returns at around 6.5% per annum compared to 2.5% for the market. Clearly, through a multi-factor approach, investors can indeed benefit from diversifying risks across systematic sources of return.

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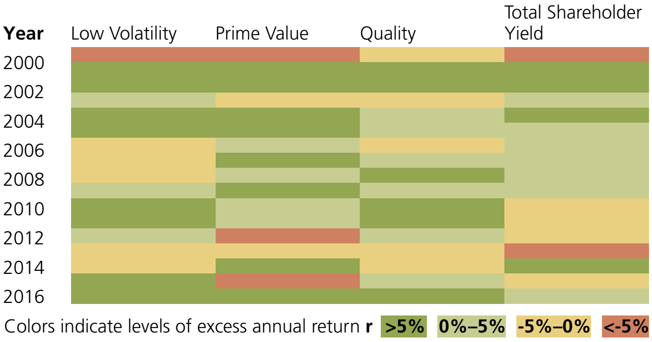
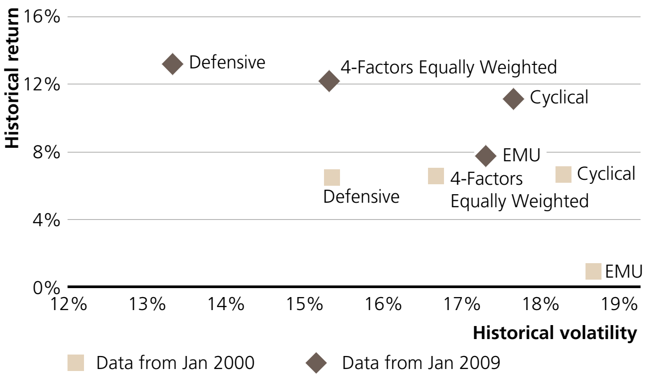
**Figure 4:** Performance of selected MSCI factor indices (excess annual returns over benchmark) based on the EMU universe. Annual return data from Jan 00 to Aug 2016 on selected MSCI indices.



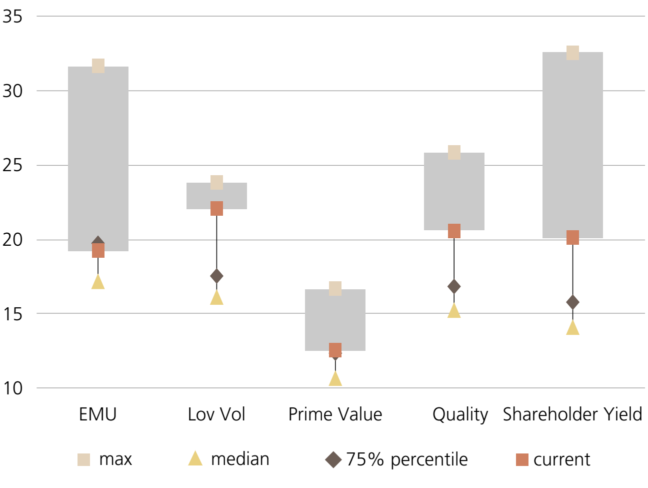

Source: MSCI, UBS Asset Management, data as of September 15, 2016
Past performance is not an indicator of future results.

**Figure 5:** Historical returns and volatilities of several portfolios of smart beta indices based on the EMU universe.




Portfolios based on quarterly rebalancing. Defensive portfolio has equal weights in Low Volatility and Quality, whereas Cyclical portfolio has equal weights in Prime Value and Total Shareholder Yield. The equally weighted 4-factor portfolio includes all above mentioned factors.
Source: MSCI, UBS Asset Management, data as of September 15, 2016
Past performance is not an indicator of future results.

**Figure 6:** Price-to-earnings on selected MSCI factor indices. Based on monthly data from Jan 00 to Aug 2016.




Source: MSCI, UBS Asset Management, data as of September 15, 2016
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## What about valuations?

Quantitative easing has in part resulted in an increase in equity valuations across the world. Figure 6 shows current price-to-earnings ratios for the Eurozone equity universe. The MSCI EMU index is valued at 19.3x price-to-earnings, which is above its historical median, but slightly below the 75th percentile (based on a data sample from 2000 to 2016). The P/E on the Low Volatility is currently at 22.0x, Quality is 20.6x and Total Shareholder Yield is 20.1x, which are only slightly higher compared to the overall EMU market. Factor valuations are however at or above their 75th historical percentile, while they are substantially lower than their maximums. While valuations may be a concern, Asness (2016) finds that P/E levels have little predictive ability for future performances of factors except during periods of extreme valuations, such as during the dotcom bubble. In other words, looking simply at valuations of factors may have little informative power. The current markets are nowhere near their maximum levels, and thus investors should consider whether a multi-factor portfolio approach with its diversification benefits is a better choice than employing single factors.

**Bibliography**


Asness, C. S. (2016). "The Siren Song of Factor Timing". Journal of Portfolio Management 1 (Special Issue).

Lakonishok, J., Shleifer, A., & Vishny, R. W. (1994). Contrarian investment, extrapolation, and risk. The Journal of Finance 49(5).

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Winkelmann, K., Suryanarayanan, R., Hentschel, L., & Varga, K. (2013). "Macro-Sensitive Portfolio Strategies: Macroeconomic Risk and Asset Cash-Flows". MSCI Market Insight. March.



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## Interested in adding factor investing to your ETF portfolio?

Expand your portfolio with UBS ETFs.

| Fund Name | Fee | AuM (CHFm) | NAV ccy | Replication | Distri-bution | ISIN | Bloomberg |
|---|---|---|---|---|---|---|---|
| UBS ETF (IE) DJ Global Select Dividend UCITS ETF | 0.30% | 20 | USD | Physical | Yes | IE00BMP3HG27 | GLDVDF SW |
| UBS ETF (LU) Factor MSCI EMU Low Volatility UCITS ETF | 0.28% | 84 | EUR | Physical | Yes | LU1215454460 | ELOVDF SW |
| UBS ETF (LU) Factor MSCI EMU Low Volatility hedged CHF UCITS ETF | 0.38% | | CHF | Physical | No | LU1215454973 | ELOVS SW |
| UBS ETF (LU) Factor MSCI EMU Low Volatility hedged GBP UCITS ETF | 0.38% | | GBP | Physical | Yes | LU1215455350 | ELOVH SW |
| UBS ETF (LU) Factor MSCI EMU Low Volatility hedged USD UCITS ETF | 0.38% | | USD | Physical | No | LU1215455277 | ELOVU SW |
| UBS ETF (LU) Factor MSCI EMU Prime Value UCITS ETF | 0.28% | 9 | EUR | Physical | Yes | LU1215452928 | EPVLDF SW |
| UBS ETF (LU) Factor MSCI EMU Prime Value hedged CHF UCITS ETF | 0.38% | | CHF | Physical | No | LU1215453496 | EPVLS SW |
| UBS ETF (LU) Factor MSCI EMU Prime Value hedged GBP UCITS ETF | 0.38% | | GBP | Physical | Yes | LU1215453819 | EPVLH SW |
| UBS ETF (LU) Factor MSCI EMU Prime Value hedged USD UCITS ETF | 0.38% | | USD | Physical | No | LU1215453736 | EPVLU SW |
| UBS ETF (LU) Factor MSCI EMU Quality UCITS ETF | 0.28% | 12 | EUR | Physical | Yes | LU1215451524 | EQLTDF SW |
| UBS ETF (LU) Factor MSCI EMU Quality hedged CHF UCITS ETF | 0.38% | | CHF | Physical | No | LU1215452092 | EQLTS SW |
| UBS ETF (LU) Factor MSCI EMU Quality hedged GBP UCITS ETF | 0.38% | | GBP | Physical | Yes | LU1215452332 | EQLTH SW |
| UBS ETF (LU) Factor MSCI EMU Quality hedged USD UCITS ETF | 0.38% | | USD | Physical | No | LU1215452258 | EQLTU SW |
| UBS ETF (LU) Factor MSCI EMU Total Shareholder Yield UCITS ETF | 0.28% | 9 | EUR | Physical | Yes | LU1215455947 | ETSYDF SW |
| UBS ETF (LU) Factor MSCI EMU Total Shareholder Yield h. CHF UCITS ETF | 0.38% | | CHF | Physical | No | LU1215456325 | ETSYS SW |
| UBS ETF (LU) Factor MSCI EMU Total Shareholder Yield h. GBP UCITS ETF | 0.38% | | GBP | Physical | Yes | LU1215456754 | ETSYH SW |
| UBS ETF (LU) Factor MSCI EMU Total Shareholder Yield h. USD UCITS ETF | 0.38% | | USD | Physical | No | LU1215456671 | ETSYU SW |
| UBS ETF (IE) Factor MSCI USA Low Volatility UCITS ETF | 0.25% | 36 | USD | Physical | Yes | IE00BX7RQY03 | ULOVDF SW |
| UBS ETF (IE) Factor MSCI USA Low Volatility hedged CHF UCITS ETF | 0.35% | | CHF | Physical | No | IE00BX7RR250 | ULOVS SW |
| UBS ETF (IE) Factor MSCI USA Low Volatility hedged EUR UCITS ETF | 0.35% | | EUR | Physical | No | IE00BWT3KJ20 | ULOVE SW |
| UBS ETF (IE) Factor MSCI USA Low Volatility hedged GBP UCITS ETF | 0.35% | | GBP | Physical | Yes | IE00BXDZNF85 | ULOVH SW |
| UBS ETF (IE) Factor MSCI USA Prime Value UCITS ETF | 0.25% | 8 | USD | Physical | Yes | IE00BX7RR706 | UPVLDF SW |
| UBS ETF (IE) Factor MSCI USA Prime Value hedged CHF UCITS ETF | 0.35% | | CHF | Physical | No | IE00BX7RRC57 | UPVLS SW |
| UBS ETF (IE) Factor MSCI USA Prime Value hedged EUR UCITS ETF | 0.35% | | EUR | Physical | No | IE00BWT3KL42 | UPVLE SW |
| UBS ETF (IE) Factor MSCI USA Prime Value hedged GBP UCITS ETF | 0.35% | | GBP | Physical | Yes | IE00BXDZNH00 | UPVLH SW |
| UBS ETF (IE) Factor MSCI USA Quality UCITS ETF | 0.25% | 177 | USD | Physical | Yes | IE00BX7RRJ27 | UQLTDF SW |
| UBS ETF (IE) Factor MSCI USA Quality hedged CHF UCITS ETF | 0.35% | | CHF | Physical | No | IE00BX7RRN62 | UQLTS SW |
| UBS ETF (IE) Factor MSCI USA Quality hedged EUR UCITS ETF | 0.35% | | EUR | Physical | No | IE00BWT3KN65 | UQLTE SW |
| UBS ETF (IE) Factor MSCI USA Quality hedged GBP UCITS ETF | 0.35% | | GBP | Physical | Yes | IE00BXDZNK39 | UQLTH SW |
| UBS ETF (IE) Factor MSCI USA Total Shareholder Yield UCITS ETF | 0.25% | 8 | USD | Physical | Yes | IE00BX7RRT25 | UTSYDF SW |
| UBS ETF (IE) Factor MSCI USA Total Shareholder Yield h. CHF UCITS ETF | 0.35% | | CHF | Physical | No | IE00BX7RRY77 | UTSYS SW |
| UBS ETF (IE) Factor MSCI USA Total Shareholder Yield h. EUR UCITS ETF | 0.35% | | EUR | Physical | No | IE00BWT3KQ96 | UTSYE SW |
| UBS ETF (IE) Factor MSCI USA Total Shareholder Yield h. GBP UCITS ETF | 0.35% | | GBP | Physical | Yes | IE00BXDZNM52 | UTSYH SW |

Source: UBS Asset Management as of 30 September 2016

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