

# FACTORS IN A NUTSHELL

Why factors matter to every investor

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# What exactly are equity factors and why do they matter?

Equity factors help explain why certain stocks tend to outperform the market and identify which stocks are most likely to do so. They are all about identifying the attributes of companies whose prices rise faster than other companies' prices. Factors are usually based on a company's fundamental data as reported in its financial reports and are applicable to all stocks around the world.

The easiest factor to understand is "size" – it's well known that smaller companies tend to outperform larger companies over the long run. There are many ways one could measure a company's size, for example, by annual sales or the number of employees. But there is only one universally agreed upon way to measure a company's size in practice: market capitalization.

Another well-known factor is "value", which measures the degree to which a company is undervalued by the market based on its balance sheet and financial statements. Over the long run, companies that are high in value have outperformed those which are low in value.

Unlike size, there are many different ways to measure the "valueness" of a company. Historically, the most popular method has been to look at a ratio called book-to-price: the book value (assets minus liabilities) divided by the market price. Sorting all the companies in a particular market by their book-to-price, those with the highest scores are the most undervalued and those with the lowest scores are the most overvalued.

The bottom line is that factors give a set of indications of which stocks are poised to do well based on different characteristics. Not all characteristics listed in financial statements are important for identifying potential outperformance, but those that are get included in factors.

The seven major fundamental factors are: Value, Yield, Growth, Quality, Size, Volatility, and Momentum. (Note: We include ESG alongside the factors, as a fund's ESG score can be similarly analyzed, but it is not considered a factor.)

## Why should I care about factors?

Sometimes managers who don't use factors explicitly dismiss the entire topic with comments like "I pick good companies at a fair price, and factors don't enter the picture at all." Recast in the language of factors, such a sentiment might ultimately mean "I'm a Quality-Value investor and my strategy is to identify well managed, profitable companies whose true value have not yet been recognized by the market." Similarly, we might hear institutional investors dismiss factor analysis because "None of the managers I'm invested with talks about factors."

Factor analysis is widely used to communicate equity characteristics, investment approaches, and performance. Factors cover all stocks and comprise a comprehensive list of sources of market outperformance. For these reasons, whether or not managers use them explicitly, they are extremely useful when speaking with others, many of whom do use factors.

Whether or not a manager explicitly uses factors to identify investment opportunities, factors are used by institutional investors:

- ▶ as a lens by which to view all of their investments,
- ▶ as a means to compare managers to one another,
- ▶ as a way to explain equity performance, and
- ▶ as a way to anticipate which types of stocks will do well in various economic cycles.

## Factors are well proven investment strategies

Each factor is in itself an individual investment strategy that can be used to identify stocks that are likely to outperform over the long run. When combined, they provide a powerful, return-generating and risk-reducing approach to equity investing in every market.

*To be considered a "factor," a group of characteristics has to show persistent market outperformance over the long term.*

By their very construction as demonstrable drivers of outperformance, they directly provide an investment strategy<sup>1</sup>. Note that size and volatility provide outperformance when their values are low: smaller companies outperform as do companies whose prices have lower volatility outperform.

<sup>1</sup> Growth is not formally considered a factor because it has not been shown to persistently beat the market. In fact, it has been shown to underperform in the long haul. But over the past 20 years, it has become a very popular investment strategy and is therefore included.

# A BRIEF DESCRIPTION OF THE MAJOR FACTORS

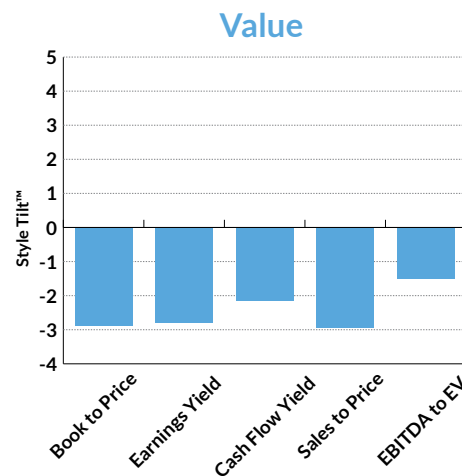


## Value

Value is one of the first recognized factors. It is meant to identify those stocks the market has undervalued: the market price is below what the fundamental data suggests it should be worth.

The sub-factors that typically go into identifying Value include book-to-price, annual cash flow yield (cash flow per share divided by share price), earnings yield (annual earnings per share, adjusted for intangibles and extraordinary items, divided by share price), cash flow yield (similar to earnings yield but includes depreciation, amortization and a provision for deferred liabilities to better capture available cash per share), sales-to-price (annual sales per share divided by share price), and EBITDA to EV (EBITDA divided by Enterprise Value, which is market cap plus debt less cash on hand).

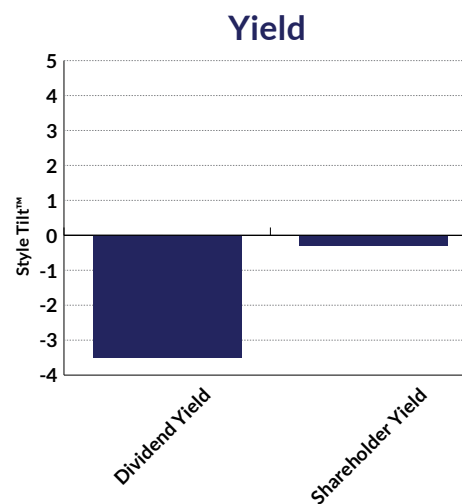
The image above is for a fund that provides less Value exposure than the benchmark, indicated by the negative values of each sub-factor's Style Tilt™. Tilts bigger than 1 (or less than negative 1) are considered significantly different from the benchmark.



## Yield

Yield is sometimes considered part of the Value factor and is closely related to it. It's broken out as a separate factor because issuance of dividends ranges widely and should not be blended into an overall measure of valueness.

The sub-factors that typically go into identifying Yield include dividend yield (dividend per share divided by share price) and shareholder yield, which measures the portion of a company's value paid back to shareholders as dividends, share buyback and debt reduction.



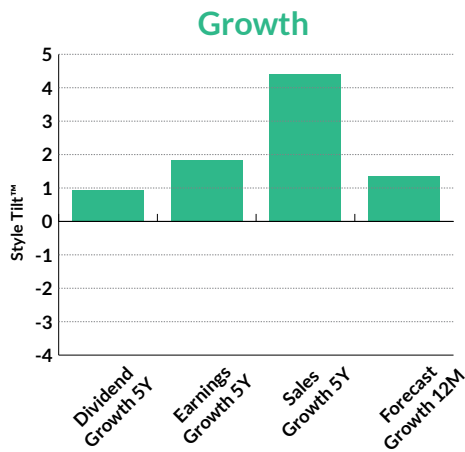




## Growth

Growth measures the extent to which a company is growing in a number of different ways. It is often mistakenly portrayed of as the opposite of Value, but in reality, stocks can have attributes of both Value and Growth. Furthermore, although Growth is a popular measure, it is not technically a factor because high “Growth” stocks do not persistently outperform the market over the long term. Recent markets have seen tremendous Growth outperformance (think FAANG stocks) but it remains to be seen if this will last long enough for it to be formally recognized as a factor. We include it because of its popularity.

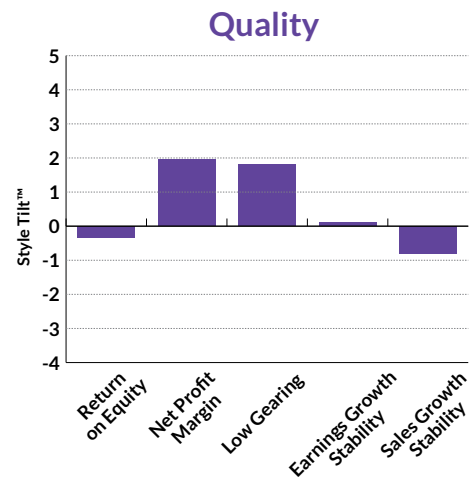
The sub-factors that typically go into identifying Growth include dividend growth, earnings growth (annual rate of earnings growth per share), sales growth (annualized growth rate of net sales per share), and forecast growth.



## Quality

Quality is a broad factor that includes a wide range of loosely related measures. While some choose profit-based measures, others choose to look at debt and leverage while others rely on stability measures. Quality is often regarded as a close relation to “good Governance” which is included in ESG assessments.

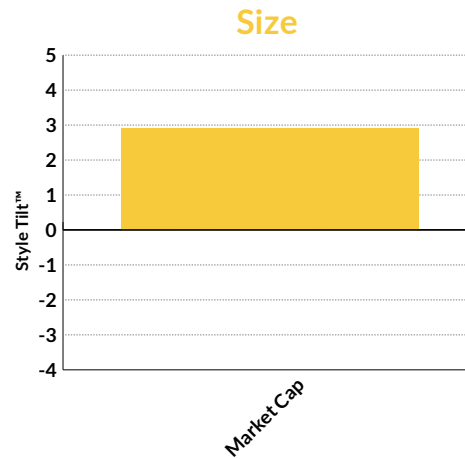
The sub-factors that typically go into identifying Quality include return-on-equity (sometimes regarded as a Growth measure), profit margin (annual net income before preferred dividends divided by annual sales), low gearing (low debt-to-equity), sales growth stability (negative of the standard deviation of sales growth), and (reverse sorted) earnings growth stability.





Size

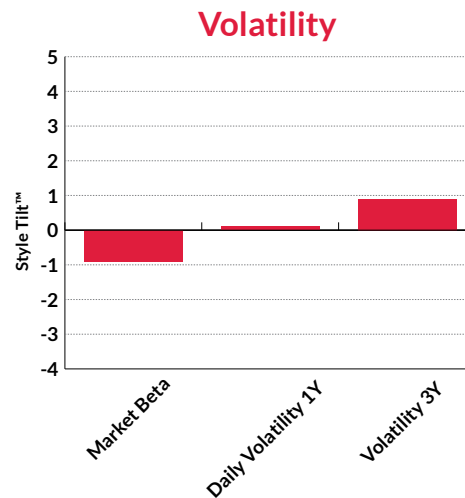
Size is the simplest factor that captures how large a company is. It's really only described by one sub-factor: market capitalization. Some prefer to use the log of the market cap to make the scale more manageable.



Volatility

Volatility measures the degree to which the stock's price moves around and is the opposite of a stability measure. Unlike all of the previous factors, which are all based on fundamental company financial data, you do not need to know anything about the company, its financial performance or even the industry in which it operates to measure its volatility: all you need to know is its historical prices.

The sub-factors that typically go into identifying Volatility are market beta (the slope of the regression line relating its performance to a benchmark's performance), and daily volatility over 1 year or 3 years (the standard deviation of returns).

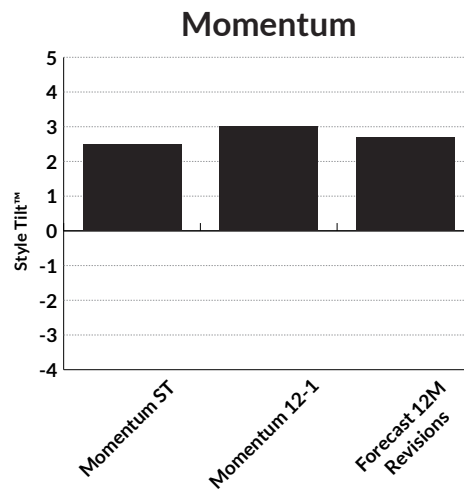




## Momentum

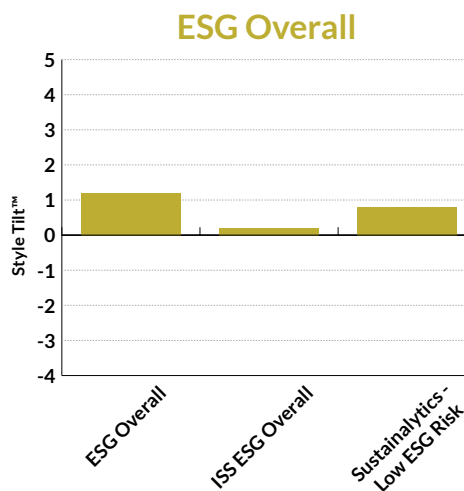
Momentum measures the extent to which the company's returns are trending upwards. It turns out that investors tend to buy companies that have recently done well. Companies with good performance tend to continue performing well.

The sub-factors that typically go into identifying Momentum include short-term momentum (over the past 6 months with diminishing weight of 33% less each month), 12 minus 1 momentum (returns over the past 12 months but not counting the most recent month), and revisions of forecast earnings (number of IBES upward revisions less the number of downward revisions of 12-month forecast earnings).



## ESG

ESG is actually a collection of different measures that we've grouped together here, but in practice are presented as separate factors. This quantifies the company's score on Environmental, Social and Governmental issues. Collected from a number of ESG evaluation vendors, there are individual ESG factors, each of which is measured by their own sub-factors.



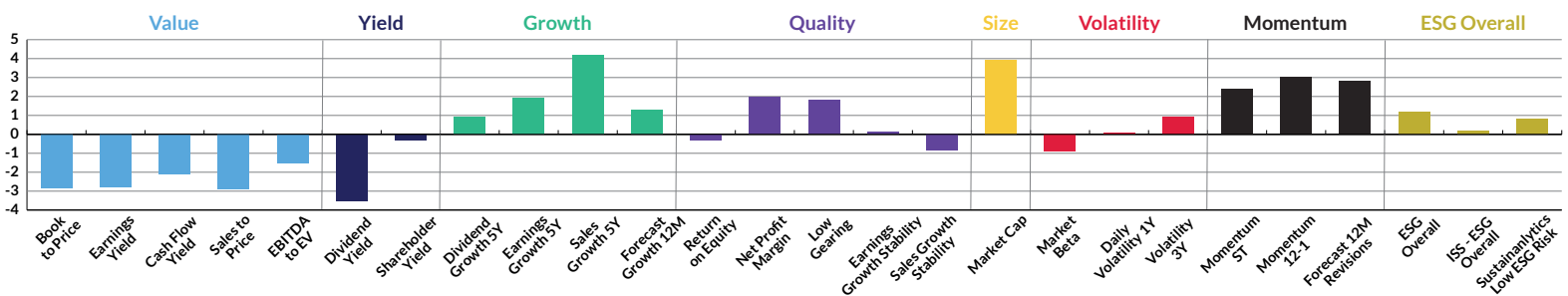
# VISUALIZATION OF A PORTFOLIO'S FACTOR EXPOSURES

Since every stock has a certain exposure to each factor, every portfolio also has an exposure to each factor. The relevant comparison is how much exposure a portfolio gives its investor compared to its benchmark or another portfolio.

Below we show the Style Skyline™ with relative exposure to our 23 default sub-factors, grouped into the seven factors we described above. They are color coded according to the icons we showed in the definition section above. The first thing to notice is that the portfolio provides more exposure than its benchmark, shown as the zero line, to a number of factors including Growth (green), Quality (purple), Size (yellow), Momentum (black), and ESG (gold). Similarly, it provides less exposure than the benchmark to Value sub-factors (light blue) and Yield (dark blue).

The second thing to notice is that while some factor groups have all of their sub-factors pointing in the same direction (up or down), it is certainly possible for different sub-factors within a factor category to disagree on whether the portfolio provides more or less exposure than the benchmark. Examining the sub-factor level is important as each of the sub-factors within a factor group provides a different perspective on that portfolio's exposure to the overall factor.

The final thing to notice is that a portfolio can offer exposure to multiple factors – in fact, almost every exposure gives exposure to multiple factors. The portfolio shown here simultaneously provides exposure to Growth, Quality, Large Caps, Momentum and ESG.





## FACTORS MATTER

It's been historically difficult to identify the drivers of stock valuations and price changes. Unlike fixed income and derivative securities – with pricing equations that directly use input values on which their prices depend – there are no direct formulas to estimate what a stock should be worth. Enter factors, identified precisely to help investors better understand which underlying measures determine a stock's performance.

Whether or not a fund manager directly uses factors to pick stocks, the industry has adopted factor analysis because of its explanatory power in identifying which attributes matter to an equity portfolio's performance. The seven overall factors discussed here, and each of their sub-factors, are significant when it comes to understanding what a fund actually delivers, how it plans to make money for its investors, and how it compares to other funds. In short, factors matter. ■

### About Investment Metrics

Investment Metrics is a leading provider of investment analytics, reporting, data, and benchmarking solutions that empower institutional investment consultants, advisors, asset owners, and managers to make impactful investment decisions. Our solutions drive insights across 20K+ institutional asset pools, encompassing 500K portfolios with \$10T+ in AUA. By leveraging our unparalleled expertise in institutional investment performance analysis, we help our clients gain differentiation and confidence in fulfilling their fiduciary responsibilities. For more information about InvestmentMetrics, please visit [www.invmetrics.com](http://www.invmetrics.com).

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