QUALITY 101: WHAT IT IS AND WHY IT WORKS

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One of the first lessons taught in Intro to Finance is the [Capital Asset Pricing Model (CAPM)](#):

$$ER_i = R_f + \beta_i (ER_m - R_f)$$

This model offers an expected return for asset i (ER_i) as a function of the risk-free interest rate (R_f) plus the systematic risk ([beta](#)) of asset i (β_i) multiplied by the market risk premium ($ER_m - R_f$).

In short: high beta (riskier) stocks should be expected to have higher returns than low beta (less risky) stocks.

Reality plays out differently.

The highest beta stocks—the 20% of stocks with the highest beta—have lagged the market, and the lowest beta stocks—lowest 20%—by 60 basis points (bps) and 63 bps, respectively, since 1963.

Quintile Portfolios Sorted by Beta

Lowest Risk ←——————————————————→ Highest Risk

	Lowest 20%	Qnt 2	Qnt 3	Qnt 4	Highest 20%	Market
Return	10.72%	11.67%	11.52%	11.33%	10.09%	10.69%
Risk	12.12%	14.53%	16.84%	19.48%	24.75%	15.38%
Sharpe Ratio	0.51	0.49	0.42	0.35	0.22	0.40
Tracking Error	8.02%	4.67%	4.51%	6.45%	12.11%	N/A
Information Ratio	0.00	0.21	0.18	0.10	-0.05	N/A
Up Capture	73.85%	93.40%	105.84%	120.13%	140.22%	100.00%
Down Capture	57.90%	84.07%	104.65%	128.11%	165.91%	100.00%
Downside Deviation	8.80%	10.32%	11.57%	13.59%	16.73%	11.09%

Sources: WisdomTree, Kenneth French Data Library, 6/30/1963–5/31/2021. Past performance is not indicative of future returns.

For informational purposes only. Does not represent any WisdomTree Investments.

For definitions of terms in the chart, please visit the [glossary](#).

Countless papers have been written with the aim of improving this model. But one of the central reasons it is still taught in Finance 101, aside from its ease in calculating, is the importance of its main assumption: *in a world of efficient markets, riskier stocks should outperform less risky stocks.*

This worldview was the launching point for factors like [size](#) (SMB) and [value](#) (HML) that were added as complements to market beta in the seminal three-factor model paper by Eugene Fama and Kenneth French[1].

$$ER_i = R_f + \beta_1 (ER_m - R_f) + \beta_2 (SMB) + \beta_3 (HML) + \alpha + \epsilon$$

Fama-French argued that riskier stocks do indeed outperform less risky stocks, but that market beta is not an all-encompassing variable for riskiness.

Value stocks and [smaller-cap](#) stocks represent risk premiums that improved the

statistical significance of the CAPM model in explaining returns.

The Quality Factor: What Is it and Why Does it Exist?

An additional academic factor that has gained significant following in the investment community is quality. Unlike market beta, size and value, it does not have a straightforward risk-based story.

High-quality companies—companies with high earnings, low debt, low variability in earnings—should be highly valued relative to low-quality companies, resulting in lower expected returns.

From a risk perspective, quality companies have had lower down capture than the market and lower downside deviation. These are characteristics that loss-averse investors should prefer, and thus efficient markets would compensate with below-market returns.

The anomaly of higher-quality stocks, measured here by operating profitability, outperforming lower-quality stocks by 400 bps annualized looks like a case of "a free lunch."

Quintile Portfolios Sorted by Operating Profitability

	Lowest 20%	Qnt 2	Qnt 3	Qnt 4	Highest 20%	Market
Return	8.01%	9.85%	10.99%	11.30%	12.01%	10.69%
Risk	19.39%	16.05%	15.28%	15.20%	15.45%	15.38%
Sharpe Ratio	0.18	0.33	0.42	0.45	0.48	0.40
Tracking Error	7.43%	4.47%	3.94%	3.32%	4.16%	N/A
Information Ratio	-0.36	-0.19	0.08	0.18	0.32	N/A
Up Capture	109.31%	97.87%	96.79%	98.99%	99.97%	100.00%
Down Capture	129.77%	101.37%	93.22%	95.00%	92.61%	100.00%
Downside Deviation	14.46%	11.82%	11.29%	10.60%	10.95%	11.09%

Sources: WisdomTree, Kenneth French Data Library, 6/30/1963–5/31/2021. Past performance is not indicative of future returns.
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One theory explaining the anomaly is that these stocks may be riskier, but the risk is more difficult to observe using measures like standard deviation.

For example, perhaps more of their value comes from distant earnings, making them more sensitive to fluctuations in interest rates and/or exposed to meeting lofty earnings growth expectations.

An alternative, more commonly accepted, theory is that investors have an array of **behavioral biases** that cause them to be under-weight in quality stocks[2]. For example:

- **Conservativism** bias suggests investors are slow to update their opinions/forecasts based on new information, like strong or weak earnings

- **Overconfidence** bias could lead investors to over-weight their forecast of future earnings prospects over current profits

- **Confirmation** bias leads people to ignore new information that contradicts previous beliefs

Defining Quality

The quality factor is subject to greater differentiation in definition than factors like beta, value and size.

At WisdomTree, our dividend- and earnings-weighted indexes were constructed with value-focused tilts to higher dividend yields and lower P/E ratios, respectively. As a by-product of their cash-flow based methodologies, both have had statistically significant exposure to quality (red numbers in the table below indicate statistically insignificant

factor loadings).

This contrasts with the negative exposure to quality often found in value indexes that focus on price-to-book, like the Russell Value indexes.

Fama-French Factor Loadings (Chart 1 of 2)

Index	Factor Loadings				
	Market	Size	Value	Quality	Investment
WisdomTree U.S. LargeCap Dividend	0.92	-0.22	0.21	0.11	0.13
WisdomTree U.S. LargeCap	0.97	-0.14	0.14	0.09	-0.05
Russell 1000 Value Index	0.96	-0.08	0.29	-0.01	0.06

Sources: WisdomTree, Russell, Kenneth French Data Library, 1/31/07–5/31/21. Past performance is not indicative of future returns. You cannot invest directly in an index. The WisdomTree U.S. LargeCap Index was launched on 1/31/07.

For definitions of indexes in the chart, please visit our glossary.

In 2013, building on our original set of dividend Indexes, we launched a family of quality-focused dividend Indexes. By contrast, the WisdomTree U.S. Quality Dividend Growth Index (WTDGI) has a premium loading to the quality factor relative to the WisdomTree U.S. LargeCap Dividend Index and the earnings-weighted WisdomTree U.S. LargeCap Index—both of which have distinct loadings to the value factor.

Fama-French Factor Loadings (Chart 2 of 2)

Index	Factor Loadings				
	Market	Size	Value	Quality	Investment
WisdomTree U.S. Quality Dividend Growth	0.94	-0.09	-0.04	0.25	0.21
WisdomTree U.S. LargeCap Dividend	0.91	-0.12	0.10	0.18	0.22
WisdomTree U.S. LargeCap	0.98	-0.10	0.15	0.09	0.01
Russell 1000 Value Index	0.94	-0.05	0.30	-0.02	0.06

Sources: WisdomTree, Russell, Kenneth French Data Library, 4/30/13–5/31/21. Past performance is not indicative of future returns. You cannot invest directly in an index. The WisdomTree U.S. Quality Dividend Growth Index was launched on 4/11/13.

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Conclusion

In a market environment where certain "meme stocks" are clearly trading without regard to fundamentals like earnings, perhaps we are seeing a real-time example of how behavioral biases can cause some investors to be under-exposed to quality in their portfolios.

[1]Fama, Eugene F., and Kenneth R. French. "The Cross-Section of Expected Stock Returns." The Journal of Finance, vol. 47, no. 2, 1992, pp. 427–465.

[2]Thesmar, David & Bouchaud, Jean-Philippe & Stefano, Ciliberti & Landier, Augustin & Simon, Guillaume, 2016. "The Excess Returns of 'Quality' Stocks: A Behavioral Anomaly," HEC Research Papers Series 1134, HEC Paris.

For standardized performance and the most recent month-end performance click here NOTE, this material is intended for electronic use only. Individuals who intend to print and physically deliver to an investor must print the monthly performance report to accompany this blog.

Related Funds

+ WisdomTree U.S. Quality Dividend Growth Fund

+ WisdomTree U.S. LargeCap Fund

+ WisdomTree U.S. LargeCap Dividend Fund

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DEFINITIONS

Capital asset pricing model (CAPM) : a model that describes the relationship between systematic risk and expected return for assets, particularly stocks. CAPM is widely used throughout finance for the pricing of risky securities, generating expected returns for assets given the risk of those assets and calculating costs of capital.

Beta : A measure of the volatility of a security or a portfolio in comparison to a benchmark. In general, a beta less than 1 indicates that the investment is less volatile than the benchmark, while a beta more than 1 indicates that the investment is more volatile than the benchmark.

Size : Characterized by smaller companies rather than larger companies by market capitalization. This term is also related to the Size Factor, which associates smaller market-cap stocks with excess returns vs the market over time.

Value : Characterized by lower price levels relative to fundamentals, such as earnings or dividends. Prices are lower because investors are less certain of the performance of these fundamentals in the future. This term is also related to the Value Factor, which associates these stock characteristics with excess returns vs the market over tim.

Small caps : new or relatively young companies that typically have a market capitalization between $200 million to $2 billion.

Quality : Characterized by higher efficiency and profitability. Typical measures include earnings, return on equity, return on assets, operating profitability as well as others. This term is also related to the Quality Factor, which associates these stock characteristics with excess returns vs the market over tim.

Down Capture : Measure of the performance of an investment relative to a benchmark index during a down market.

Standard deviation : measure of how widely an investment or investment strategy's returns move relative to its average returns for an observed period. A higher value implies more "risk", in that there is more of a chance the actual return observed is farther away from the average return.

Price-to-earnings (P/E) ratio : Share price divided by earnings per share. Lower numbers indicate an ability to access greater amounts of earnings per dollar invested.

Price-to-book ratio : Share price divided by book value per share. Lower numbers indicate an ability to access greater amounts of earnings per dollar invested.

Factor loadings : For the purposes of this piece, factor loadings are synonymous with coefficients determined by a regression analysis. They provide estimates of the sensitivity of a series of returns to different external variables.

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