

Index Research and Design | Equities

Quality still works

Its character has changed

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Overview

Quality remains one of the most intuitive and widely adopted equity factors. Investors naturally prefer companies that generate consistent profits, allocate capital efficiently, maintain strong balance sheets and produce sustainable cash flows. These characteristics have historically been associated with stronger long-term performance and greater resilience through market cycles.

The economic foundations of Quality remain intact. However, the market expression of Quality has evolved. Over the last two decades, the rise of asset-light, highly scalable Technology businesses has reshaped the sectoral and business-model composition of global equities. As a result, unconstrained Quality portfolios increasingly reflect exposure to highly profitable Technology companies and US mega-cap growth stocks.

Our analysis highlights five key findings:

– Quality remains economically relevant and empirically robust.

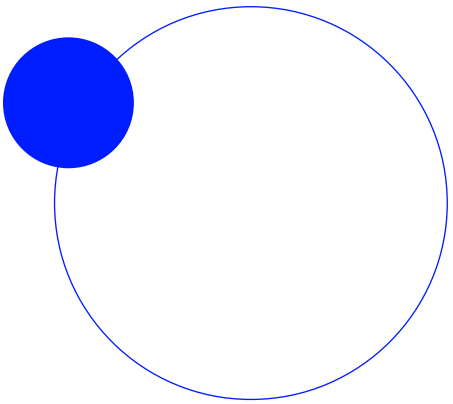
– The realised exposure of Quality has become more Technology-led and less inherently defensive.

– Return on Assets (ROA) is now the dominant driver of broad Quality performance.

– After neutralising sector, country and style exposures, Accruals emerge as the strongest pure stock-selection signal.

– The growing divergence between profitability and earnings quality reinforces the importance of understanding implementation choices.

Quality still works. But implementation increasingly determines the exposure investors actually receive.



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1. Introduction

The Quality factor is one of the most widely adopted investment styles within modern factor investing. At its core, Quality reflects the belief that companies exhibiting strong profitability, efficient capital allocation, robust financial positions and sustainable earnings should outperform weaker businesses over the long term.

Academic research and practical investment experience have identified several characteristics commonly associated with high-quality companies:

– Persistent profitability

– Efficient use of assets

– Strong cash-flow generation

– Conservative leverage

– Earnings supported by cash rather than accounting adjustments

Such businesses often display greater resilience through economic cycles, stronger competitive positions and a greater capacity to reinvest capital at attractive rates.

While the intuition behind Quality remains straightforward, implementation is considerably more complex. There is no universally accepted definition of Quality. Different providers place different emphasis on profitability, balance-sheet strength, earnings stability and cash-flow measures.

Within the FTSE Russell framework, Quality combines profitability and leverage through four complementary measures:

– Return on Assets (ROA)

– Change in Asset Turnover

– Accruals

– Operating Cash Flow to Debt

Together, these measures seek to identify companies that are not only profitable, but whose profitability is sustainable, efficiently generated and supported by strong financial foundations.

The importance of this broader perspective has increased in recent years. Structural changes in global equity markets, particularly the rise of Technology companies and the growing importance of intangible capital, have altered how traditional Quality metrics behave in practice.

2. What do we mean by Quality

Quality investing is built on a simple idea: investors should prefer companies that are profitable, efficient, cash-generative and financially resilient. The intuition has not changed. What has changed is where those characteristics are concentrated within global equity markets.

Within the FTSE Russell framework, Quality combines profitability and leverage characteristics. Profitability is measured using ROA, change in asset turnover and Accruals. Accruals are sign-reversed so that lower accruals represent stronger earnings quality. The leverage component is measured using operating cash flow relative to debt.

Table 1. Components of the Quality framework

Dimension	Descriptor	Adjustment	Economic Role
Profitability	ROA	Region neutral	Profitability relative to asset base
Profitability	Change in Asset Turnover (D_ATO)	Region neutral	Improvement in operating efficiency
Earnings Quality	Accruals (sign reversed)	Region neutral	Cash-backed earnings
Leverage / Cash Flow Strength	Operating Cash Flow to Debt (OPCFD)	Region + Industry neutral	Cash-flow coverage of debt
Composite	Quality_Z	Combined profitability and leverage score	Broad Quality exposure

Source. FTSE Russell.

The definition remains economically relevant. The more important question is whether the same definition now delivers the same investor experience. The evidence suggests that it does not.

3. Accruals are the link between profits and cash

Quality investing is built on a simple idea: investors should prefer companies that are profitable, efficient and these characteristics are sustainable.

Among all Quality components, Accruals are often the least understood. Yet decades of accounting and investment research suggest they may be among the most valuable indicators of earnings quality and future stock performance. At their core, Accruals measure the difference between accounting earnings and the cash generated by a business.

Accounting standards are designed to measure economic activity rather than simply record cash transactions. Revenue may be recognised before cash is received. Expenses may be recognised before cash is paid. These timing differences create accruals.

Non-cash earnings may be entirely legitimate. They may arise because customers have not yet paid invoices, because inventory has increased, because depreciation patterns differ from investment spending or because expenditures have been capitalised rather than expensed immediately. However, those earnings are inherently less certain than cash already sitting in the bank.

This distinction matters because cash ultimately determines a company’s ability to fund growth, repay debt, return capital to shareholders, finance acquisitions and weather periods of economic stress.

For this reason, investors often distinguish between high profitability and high-quality profitability. A company can generate strong reported earnings while simultaneously producing relatively weak cash flow.

When a large proportion of earnings is derived from accounting accruals rather than cash generation, future earnings may prove less persistent than current earnings suggest. High accruals can arise from: rapid growth in accounts receivable, revenue recognised ahead of cash collection, inventory accumulation, capitalisation of expenditures, aggressive accounting assumptions, or large investments whose future economic benefits remain uncertain.

None of these developments are inherently problematic. In fact, many rapidly growing companies naturally exhibit some of these characteristics. The issue is that accounting assumptions must eventually convert into realised cash flows. If they do not, earnings often disappoint.

Accruals therefore act as a measure of earnings sustainability rather than profitability itself.

The importance of Accruals was first formalised by Sloan (1996), whose research demonstrated that investors often fail to adequately distinguish between the accrual and cash-flow components of earnings. Companies with low accruals subsequently generated superior stock returns, while companies with high accruals tended to underperform. Subsequent research by Richardson et al. (2005) reinforced those findings by demonstrating that the least reliable portions of reported earnings are often associated with accrual-based accounting estimates rather than realised cash flows. This body of evidence became known as the Accrual Anomaly, one of the most robust findings in the Quality-investing literature.

The importance of Accruals may actually be increasing because modern equity markets are increasingly dominated by businesses whose value is driven by intangible assets. Traditional industrial firms generated profits primarily through physical assets and tangible capital. Today's leading Technology companies generate profits through software, intellectual property, data assets, cloud infrastructure, network effects, brand capital.

These business models often produce extremely high ROA, relatively low reported asset bases, rapid investment cycles, significant capital commitments, greater reliance on accounting estimates and assumptions. As a result, profitability and earnings quality can diverge more meaningfully than they did in traditional industrial sectors.

This does not imply that Technology companies are low quality. Many remain among the most profitable and cash-generative businesses ever created. However, it does mean that profitability alone may no longer provide a complete picture. ROA tells investors how much profit a company generates. Accruals help investors assess how much confidence they should place in that profit.

Viewed differently, ROA measures the quantity of profitability, while Accruals provide insight into the quality of profitability.

High Accruals should not be interpreted as a bearish signal. Nor should they be viewed as a market-timing indicator. Instead, they provide context. When ROA is high and Accruals are low, profitability is generally supported by strong cash generation. For this reason, Accruals are best viewed as a risk-monitoring tool rather than a prediction tool. It is about identifying companies whose profits are most likely to endure.

4. Quality has become technology-led

The most important structural change in Quality investing has been the rise of Technology as the dominant Quality sector.

Modern Technology companies often exhibit exactly the characteristics rewarded by Quality metrics:

– High margins
– High ROA
– Strong cash generation
– Limited leverage
– Scalable business models
– Low physical capital intensity

Because global equity markets are market-capitalisation weighted, these characteristics become even more influential when the largest companies possess them.

The mechanism is straightforward:

High benchmark weights multiplied by high Quality scores naturally produce larger Technology exposures in unconstrained Quality portfolios. This does not imply that the Quality signal is flawed.

Many Technology companies genuinely are highly profitable and financially strong.

However, it does mean that unconstrained Quality increasingly captures exposure to a particular business model: asset-light, scalable, highly profitable and often US-listed mega-cap growth companies.

For investors, that materially changes the nature of the exposure.

5. ROA is dominating

ROA has become the central engine of broad Quality performance.

In our simulated 20-year analysis of the FTSE Developed universe, the Quality composite and ROA generated remarkably similar results.

Table 2. Standard unconstrained Quality performance

Signal	Active return p.a.	Tracking error	Information ratio	Alpha t-stat
Quality composite	1.11%	2.18%	0.51	2.88
ROA	1.10%	2.14%	0.52	2.58
OPCFD	0.44%	1.22%	0.36	1.52
Accruals	0.21%	1.45%	0.15	1.05
D_ATO	0.05%	1.00%	0.05	0.06

Source. FTSE Russell.

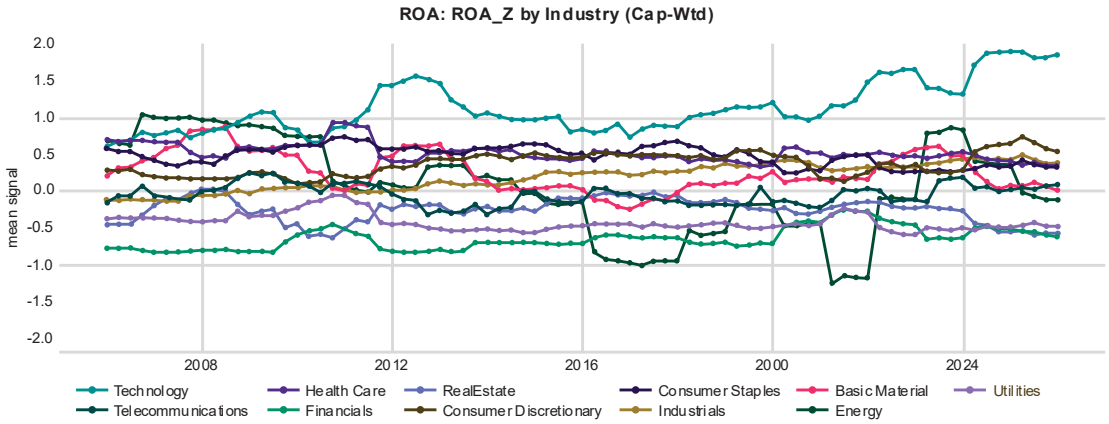
The evidence suggests that ROA now drives much of what investors experience as "Quality."

This is both a strength and a potential risk. ROA is an exceptionally powerful measure of profitability. However, it is also deeply influenced by sector composition and business-model structure. Asset-light firms can appear extraordinarily profitable because their reported asset bases frequently understate internally generated intangible assets such as software, data, intellectual property and brand value. As a result, today's Quality portfolios increasingly reflect the economics of modern business models rather than traditional notions of defensiveness.

6. When profits run ahead of cash

Technology has delivered the highest industry-level ROA in developed markets for nearly two decades (Chart 1).

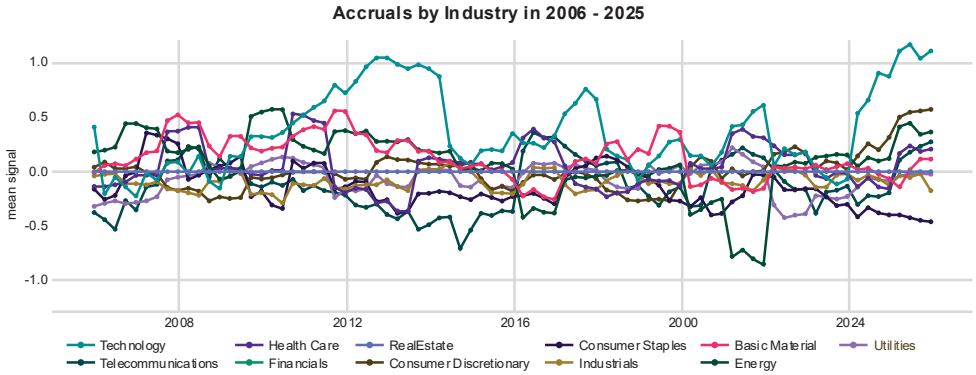
Chart 1. ROA by Industry, 2006-2025



Source: FTSE Russell. FTSE Developed Index data from December 2005 - December 2025. Past performance is no guarantee of future results.

However, industry-level Accruals have recently risen meaningfully relative to historical norms (Chart 2). Importantly, these statistics are market-capitalisation weighted. The observation therefore reflects the behaviour of the largest Technology companies rather than the typical Technology company. Analysis of Accrual dispersion within Technology reveals substantial variation across firms. The median company appears considerably less extreme than aggregate industry statistics suggest.

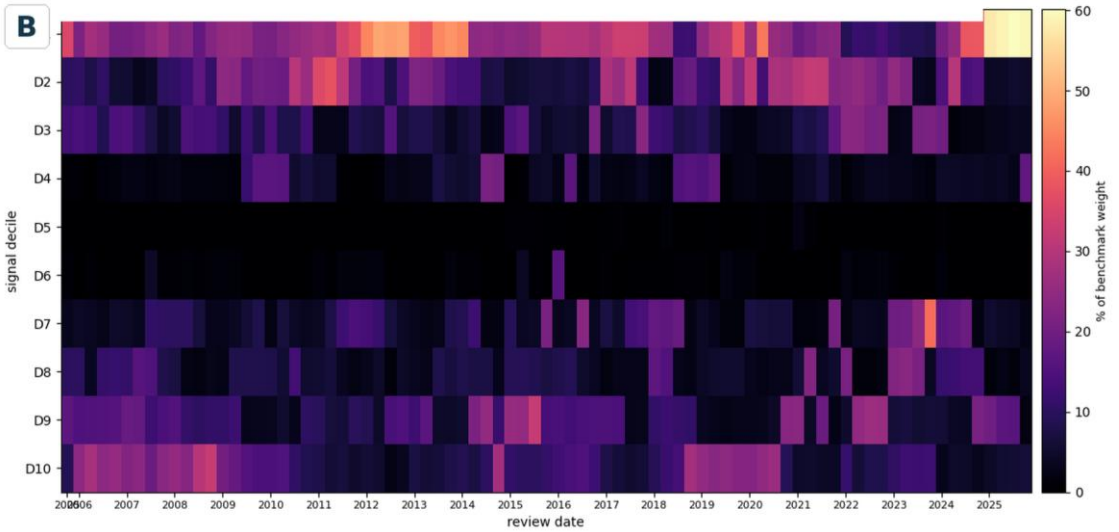
Chart 2. Accruals by Industry in 2006-2025



Source: FTSE Russell. FTSE Developed Index data from December 2005 - December 2025. Past performance is no guarantee of future results.

However, when firms are grouped by accrual deciles, a striking result emerges (Chart 3). Companies in the highest-accrual decile now account for more than 60% of Technology sector market capitalisation.

Chart 3. Share of market weight by accrual decile



Source: FTSE Russell. FTSE Developed Index data from December 2005 - December 2025. Past performance is no guarantee of future results.

This is not a breadth effect. It is a concentration effect. In other words, benchmark investors may inherit elevated accrual exposure without actively choosing to do so. The key question is not whether Technology is low quality. Many of the world's largest Technology firms remain extraordinarily profitable and cash-generative.

The more important question is whether today's exceptional profitability remains fully supported by cash generation, or whether an increasing proportion depends upon accounting accruals. That distinction lies at the heart of earnings quality.

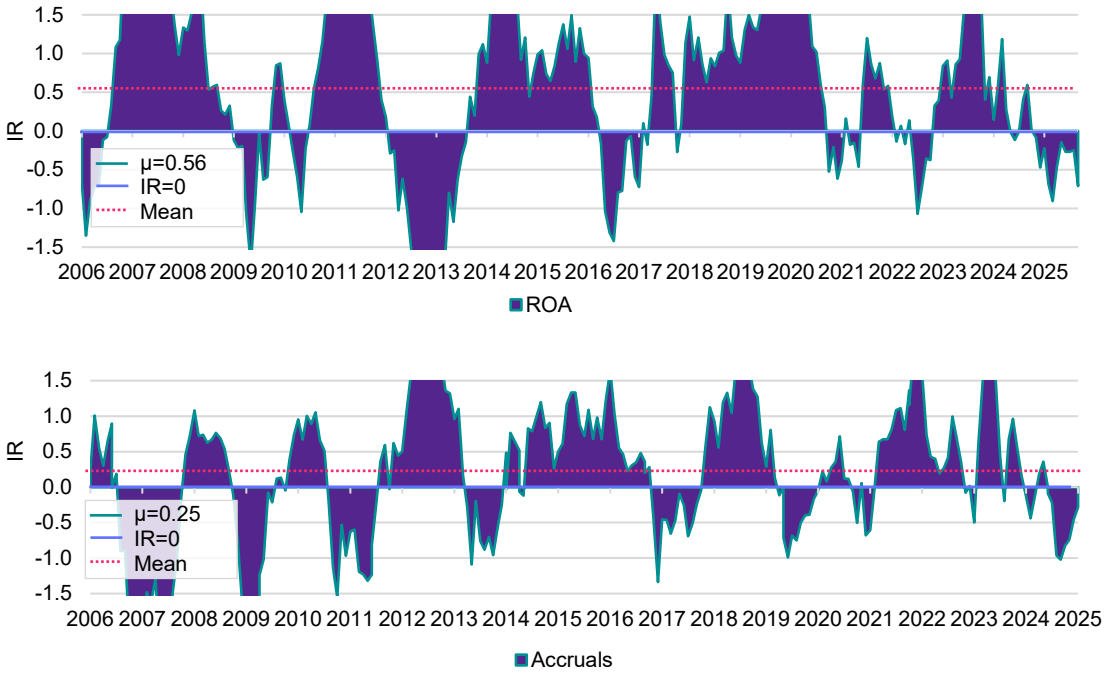
7. The AI investment cycle – a rhyme not a forecast

The current AI investment cycle makes the distinction between profitability and earnings quality particularly relevant.

Leading Technology firms are investing unprecedented amounts into AI infrastructure, semiconductors, data centres, networking capacity and ecosystem development while simultaneously reporting exceptional profitability.

A broadly similar tension emerged during 2012-2014 when Technology profitability remained strong while Accrual characteristics deteriorated (Chart 4).

Chart 4. Rolling one-year information ratios for ROA and Accrual factors



Source: FTSE Russell calculations. Fixed-tilt factor portfolios relative to the capitalisation-weighted FTSE Developed benchmark. Fixed-tilt portfolios retain their associated country, industry and style exposures; the results are not pure factor returns.

The comparison should not be interpreted as a forecast. Today's environment is fundamentally different. Periods of technological transformation frequently create tension between current profitability and future growth investment, cash-flow generation and earnings quality

The question is not whether AI investment is justified. The relevant question is whether exceptional profitability remains fully supported by sustainable cash generation as investment intensity increases. The historical parallel is therefore a question rather than an answer.

8. Pure Quality tells a different story

To isolate stock-selection effects from broader allocation effects, we constructed a Pure Quality index that neutralises sector, country and off target factor exposures. The Quality excess return remains positive. However, the magnitude and ranking of signals change materially.

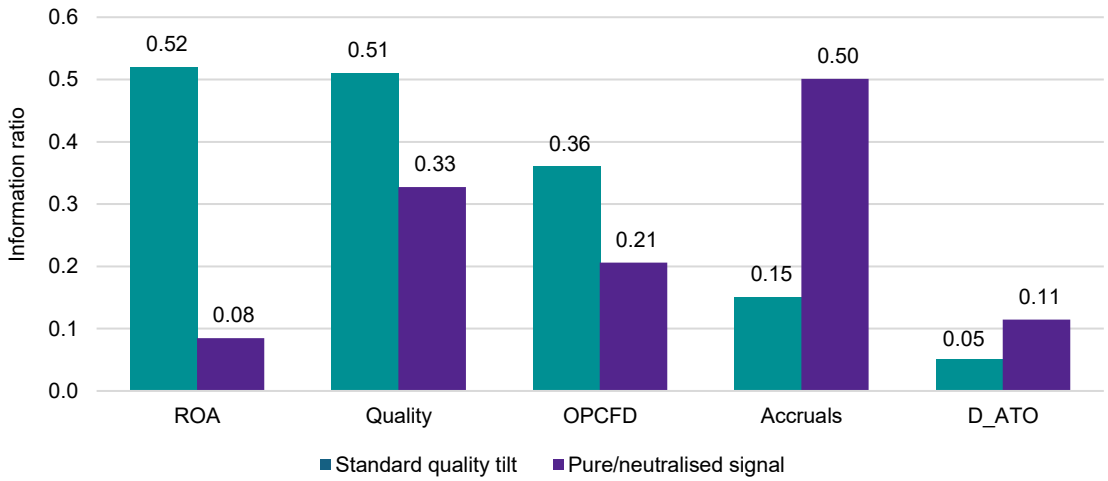
Table 3. Pure Quality results

Pure signal	Active return p.a.	Tracking error	Information ratio	Alpha t-stat
Accruals	0.35%	0.70%	0.50	2.32
Quality Composite	0.23%	0.70%	0.33	1.69
OPCFD	0.12%	0.58%	0.21	1.12
D_ATO	0.08%	0.70%	0.11	0.52
ROA	0.07%	0.79%	0.08	0.50

Source. FTSE Russell.

The implications are significant. ROA is the strongest broad allocation signal within Quality. Accruals are the strongest pure stock-selection signal. Once sector and business-model effects are neutralised, Accruals become the most informative indicator of company-level Quality.

Chart 5. Comparison of IR of pure Quality and standard Quality factors



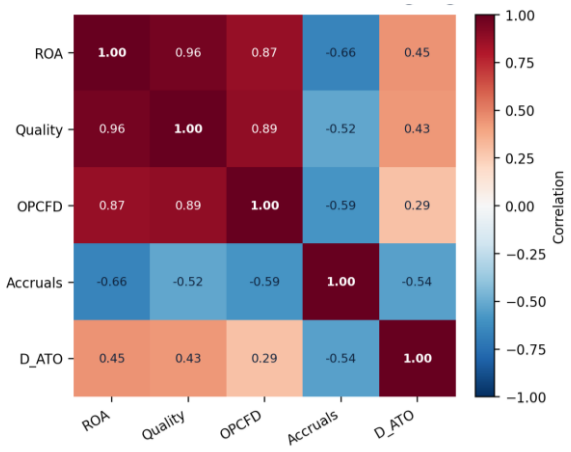
Source: FTSE Russell. FTSE Developed Index data from December 2005 - December 2025. Past performance is no guarantee of future results.

Profitability explains much of broad Quality performance, while earnings quality explains much of pure Quality performance. The definition remains economically relevant. The more important question is whether the same definition now delivers the same investor experience. The evidence suggests that it does not.

9. Signal overlap is rising

The component analysis also highlights increasing overlap within the Quality framework. ROA and the broader Quality composite exhibit extremely high realised correlation. Operating Cash Flow to Debt has increasingly moved in line with ROA and Quality, although its standalone contribution has been weaker (Chart 6).

Chart 6. Latest realised correlations between Quality indicators



Source: FTSE Russell. FTSE Developed Index data from December 2005 - December 2025. Past performance is no guarantee of future results.

Accruals remain more differentiated. This differentiation helps explain why Accruals provide meaningful incremental information after other exposures are removed. The practical lesson is that factor design should focus not only on economic intuition but also on incremental information content. A component should justify its inclusion not simply because it sounds sensible, but because it contributes unique insight.

10. Quality is not automatically defensive

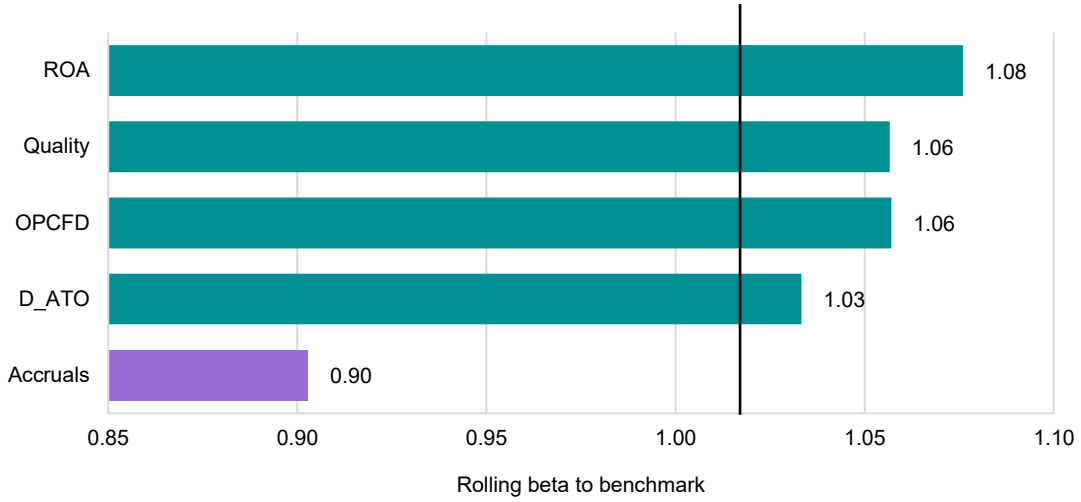
Historically, Quality has often been viewed as a defensive equity factor.
That perception is only partly correct today. As Quality has become increasingly linked to profitable Technology companies and mega-cap growth leadership, factor beta has risen. Recent diagnostics indicate rolling betas above one for broad Quality and ROA-based portfolios.
Investors seeking defensive Quality exposure increasingly require explicit controls around:

- Beta
- Volatility
- Downside risk
- Drawdown sensitivity

Quality alone is no longer automatically defensive.

Investors should therefore distinguish carefully between Quality as a profitability factor and Quality as a defensive equity strategy.

Chart 7. Beta of Quality components



Source: FTSE Russell. FTSE Developed Index data from December 2022-December 2025. Past performance is no guarantee of future results.

Those objectives are related but no longer synonymous.

11. Index construction matters

Quality is not a single parameter exposure. Different implementations serve different objectives.

Table 4. Quality implementation choices

Exposure type	What it captures	Investor use case
Standard Quality	Broad Quality tilt with natural sector, country and style exposures	Capturing where Quality is concentrated within markets
Pure Quality	Quality after neutralising sector, country and style effects	Cleaner stock-selection attribution
Defensive Quality	Quality with explicit risk controls	Quality exposure with a defensive objective

Source. FTSE Russell.

These approaches are related but not interchangeable. A Standard Quality strategy may outperform because it identifies sectors and business models where profitability is concentrated. A Pure Quality strategy provides cleaner attribution but a smaller return premium. A Defensive Quality strategy requires explicit portfolio controls because Quality alone no longer guarantees a defensive exposure.

Understanding implementation has therefore become increasingly important for understanding expected performance.

12. Conclusion

Quality remains one of the most intuitive and economically grounded equity factors. Investors continue to prefer profitable companies, efficient capital allocators, strong balance sheets and sustainable earnings. What has changed is the market expression of those characteristics.

The rise of highly profitable, asset-light and scalable Technology businesses has increasingly shaped realised Quality exposure. Consequently, broad Quality has become more closely tied to Technology leadership, profitability and mega-cap growth dynamics than many investors realise. ROA remains the dominant driver of broad Quality performance.

However, once sector, country and style exposures are removed, Accruals emerge as the strongest pure stock-selection signal. This distinction is particularly relevant today, as some of the market's most profitable companies simultaneously exhibit elevated accrual characteristics during an unprecedented AI investment cycle.

The lesson is not that Technology is low quality. Nor is it that profitability has lost relevance. High profitability and high-quality profitability are not always the same thing. ROA tells investors how much profit a company generates. Accruals help investors assess how sustainable that profit may be.

Quality remains fit for purpose but implementation defines the exposure. Standard Quality, Pure Quality and Defensive Quality should be viewed as distinct investment objectives with different sources of risk, return and portfolio behaviour.

Understanding the difference between them is increasingly important. Above all, investors should understand what they own.

References

FTSE Russell (2014), Factor Exposure Indexes: Quality Factor.
Sloan, R. G. (1996), Do Stock Prices Fully Reflect Information in Accruals and Cash Flows About Future Earnings?, The Accounting Review.
Richardson, S., Sloan, R., Soliman, M., & Tuna, I. (2005), Accrual Reliability, Earnings Persistence and Stock Prices, Journal of Accounting and Economics.

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