



Edward Croft, CFA

Investing with the StockRanks

How to pick better stocks with the
power of factor investing

 Stockopedia

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Edward Page Croft

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Introduction

What drives stock returns? It's a puzzle many investors never seem to figure out. By selecting stocks on gut feel, or blue-sky promise, many investors play the market like a lottery. But lottery stocks have lottery outcomes. While a few do win big, the majority lose.

This is a real shame, as *what works in stock markets is an open secret*. One hundred years of theory and practice have proven that the stocks most likely to outperform can be predicted.

Just as you'd choose a river bed that glitters if you were panning for gold, selecting stocks with identifiable characteristics, or "factors", is a proven path to success.

It's this approach, known as factor investing, that I'll explain in this short book.

Furthermore, I'll show you how we've devised a unique set of rankings, called the StockRanks, to help quickly identify stocks that exhibit these factors. Panning for gold in the stock market just got that much easier.

I believe every investor can improve their results by applying the principles contained in this short read. Unfortunately, I had to learn these market truths the hard way, through painful personal experience.

A personal perspective

I began investing in stocks as a student in Oxford in the mid-1990s. My father granted me a small portfolio to manage, which kindled my interest in equities. After graduation, the City called, and I eventually wound up co-managing \$2bn in private client assets through the dot-com boom at Goldman Sachs.

It was a heady time, but also an education in how the industry can occasionally put its interests ahead of clients. After some reflection, I decided to focus my efforts on

my personal portfolio. Filled with confidence, I spent years beating the market, up to the 2008 heights. But the global financial crisis and ensuing bear market would expose the gaps in my knowledge.

In my personal account, I'd been holding a concentrated portfolio of five stocks that had quadrupled over four years. I had conviction in every position and kept buying at higher prices. I remember telling my wife that my biggest position – now almost half my portfolio – would quintuple by Christmas. I couldn't see the downside.

When the bottom fell out of the market, my portfolio tanked by more than 50% in a matter of months. It was an extremely humbling experience. How could I have got it so wrong?

I spent the next few years figuring it out. I studied every book and academic journal I could find about what works in stock markets and why people make big money mistakes. I realised that so much of what I'd learnt at the best financial institutions was wrong, and that I wasn't alone in making errors.

Research studies of up to 78,000 private investor brokerage accounts¹ showed a remarkable tendency for the majority to fall into the same behavioural traps: story-driven stock selection, over-concentration and a tendency to hang onto losing positions. This led to a complete re-evaluation.

As I studied, I discovered an emerging science of data-driven, factor-based investing. Not only did factor investing offer consistently higher returns at lower risk, but its disciplined, rules-based process offered a consistent way to control the emotional side of investing. This was what I'd been looking for.

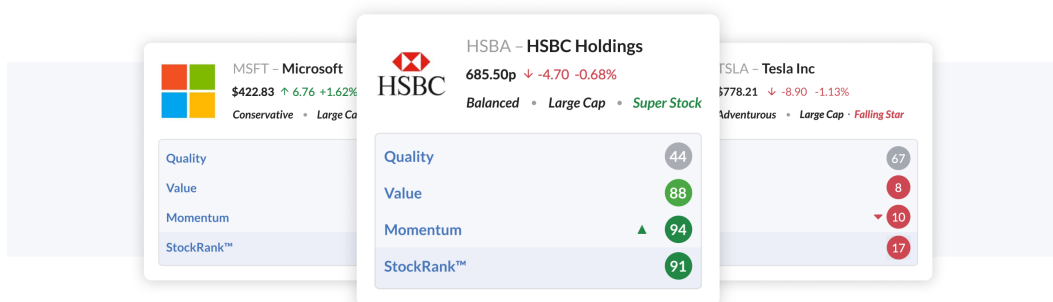
The problem was that to implement it required institutional-quality financial data and serious computational resources. There was no way I could afford to buy this data and process it on my own. But a friend and I had the idea that if enough private investors clubbed together, we could pay for the data and process it to the benefit of all.

This was a founding principle behind Stockopedia.com and its launch as a subscription service in 2012. Since then, we've been helping thousands of individual investors grow and protect millions in equity wealth using the power of data-informed investing.

What are the StockRanks?

Of all the data services we've delivered, it was the creation of the StockRanks that most helped investors. This tool simplified the core principles of factor investing into an easily understood and accessible numeric framework.

Every stock is given a percentage score from zero (worst) to one hundred (best) across three powerful factors: Quality, Value, and Momentum. These scores are also combined into a composite measure known as the "StockRank". They are published for more than 30,000 stocks on the Stockopedia site daily and can be brought up instantly with a search.

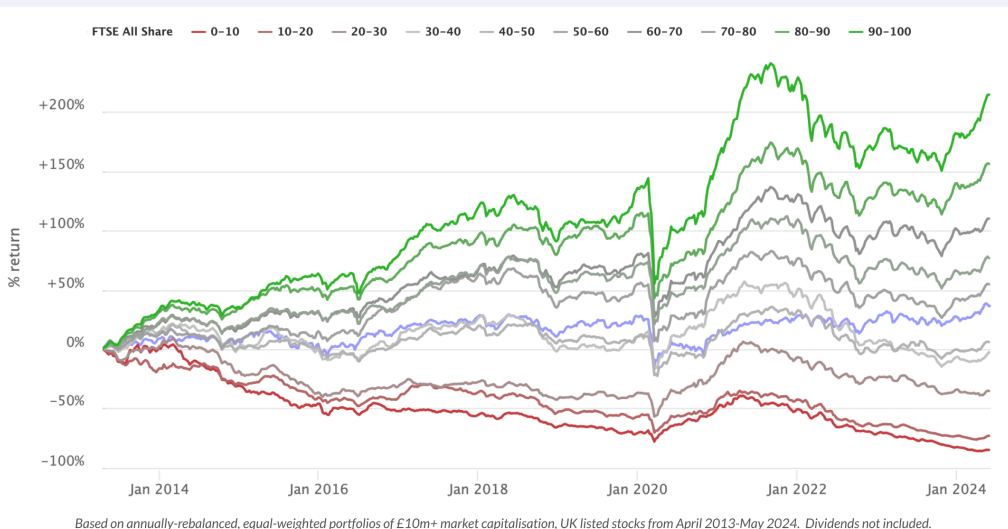


Since their launch in April 2013, the top 10% of UK shares by StockRank have:

- Compounded at a 10.8% annualised return - more than 4x the benchmark.²
- Turned a typical £100,000 portfolio into more than £300,000 over 11 years.
- Beaten equal-weighted indexes in all the global regions that we track.

Furthermore, 67% of our subscribers tell us that the StockRanks are the one feature that has most helped improve their results.³

StockRanks performance history (UK)



What you will gain from reading this book

If you are wondering how to apply a more disciplined process to your portfolio, this e-book will help. It collects many of the most practical insights from more than ten years of results and analysis.

Here is a summary of what you'll learn:

- What factors really pay off in stocks and why.
- How the StockRanks make these factors accessible.
- How you can use them to avoid the common investor traps.
- How to select stocks and develop a strategy to benefit from factor returns.
- How to find and think about high-ranked shares on Stockopedia.

I want you to have confidence in the principles behind the StockRanks, so you can put them to work and achieve your investment goals.

This book is split into four parts. You can read it from cover to cover, or dive into any relevant part or chapter at will. It's completely scannable with many graphics. Refer to the table of contents, or just jump to a section that captures you. Let's get started.



This is an educational publication for experienced, self-directed investors. It is neither a complete investment course, nor investment advice. The value of shares can go down as well as up, and past performance is not a guide to future performance. If in doubt, please talk to a financial advisor. NB. All charts and statistics for UK stocks in these pages are calculated between April 20th 2013 and May 31st 2024.

Notes

- 1 Barber and Odean, '*The Behavior of Individual Investors*'. 2011.
- 2 Based on annually rebalanced portfolios of £10m+ market cap stocks April 2013-May 2024. Dividends and transaction costs excluded.
- 3 Annual Survey results from Stockopedia subscribers 2019-2023.

Part I - Why factors matter

The next chapters provide some foundations to understand what factors pay-off in markets and how the best investors use them. If you are in a hurry, and just want to know how to use the StockRanks you can skip to more practical sections. But when you find yourself wanting a deeper understanding, dive in here.

You will learn:

- The basis of what really drives stock returns.
- How the best investors really beat the market.
- Why you as an individual investor have an edge.

What really drives stock returns?

"In the short run, the market is a voting machine but in the long run, it is a weighing machine." **Benjamin Graham**

As a young man, I borrowed Jim Slater's *"The Zulu Principle"* from my father's bookshelf and was hooked. Slater wrote enthusiastically about the power of a certain financial ratio - the Price Earnings to Growth Ratio (PEG) - to help select future growth stock winners. His theory suggested that buying stocks with an Earnings Growth rate higher than their Price to Earnings Ratio (signified by a PEG Ratio of less than one) would help generate market-beating returns¹. You'd be able to buy *"growth at a reasonable price"*.

Slater's book was like a breadcrumb trail of references to follow into data-driven investing. In my studies, I'd learned to mine experimental data for signals. Could you really apply the same discipline to the stock market?

What are factors?

A factor is essentially *any quantifiable characteristic found across a set of stocks* that can help explain their returns. Such characteristics can include measures of company valuation, profitability and size.

A factor becomes most powerful when you can sort the market based on that characteristic (e.g. the P/E Ratio) and discover that the stocks on one end of the spectrum (the cheapest) consistently outperform those on the other (the most expensive). Such insights encourage the creation of portfolios of stocks with that trait, in the aim of market-beating performance.

While we tend to laud the great fund managers for their stock-picking skill, there's growing evidence that it isn't their "picks" that drive results after all. It's their discipline at owning these characteristics that makes the real difference.

Which factors work?

If you search public research portals such as the Social Science Research Network for keywords like ‘factor investing’, ‘momentum investing’ or ‘value investing’ you’ll find hundreds of research papers. For decades, researchers have demonstrated that various factors are capable of generating market-beating returns. Among those identified are directors dealing in their shares, companies buying back their shares, strong share-price movements in January, and so on.

But often, as soon as a research paper is published about a factor, *its outperformance can disappear*. Smart traders at hedge funds read these publications and put real money to work. This profit-seeking activity regularly captures the available profit potential until it no longer exists.² An investor assembling a strategy based on these indicators can then struggle to outperform.

Despite this, some factors have continued to outperform even when well known. The evidence is compelling over many decades and across almost all sectors and regions.³ It’s among these factors that the opportunity lies for individual investors.

The most powerful factor driving any share price is the “market” itself. When the overall stock market is rising, it creates a rising tide that lifts all boats. As Bill O’Neil once said, “*at least 50% of the whole game is the general market*”⁴. Of course, if you are happy to earn average returns, you can simply buy this factor using passive index-tracker funds. This is adequate for many investors.

But, as you’ve got this far, I’m presuming you are interested in earning *more than the average*. This leads us to a range of more interesting factors that have been shown to earn a premium.

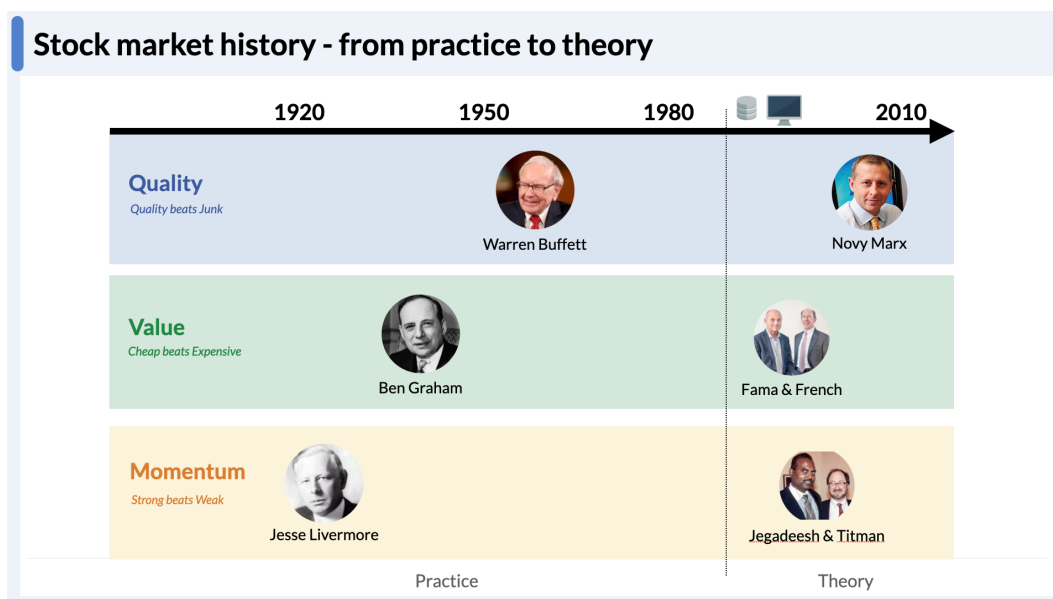
The most enduring “return drivers” for stocks

The following five categories of factors are recognised as being most rewarding in individual stocks.

1. **Quality** - profitable stocks beat unprofitable stocks.
2. **Value** - cheap stocks beat expensive stocks.

- 3. **Momentum** - strong stocks beat weak stocks.
- 4. **Small Size** - small stocks beat large stocks.
- 5. **Low Volatility** - low-risk stocks beat high-risk stocks.

Quality, Value and Momentum map to investment styles that have been used by famous investors for more than a hundred years. From Jesse Livermore tape-reading his way to fortune in the 1920s, to Eugene Fama winning the Nobel Prize for Economics in 2013. There's a long and tenured history.

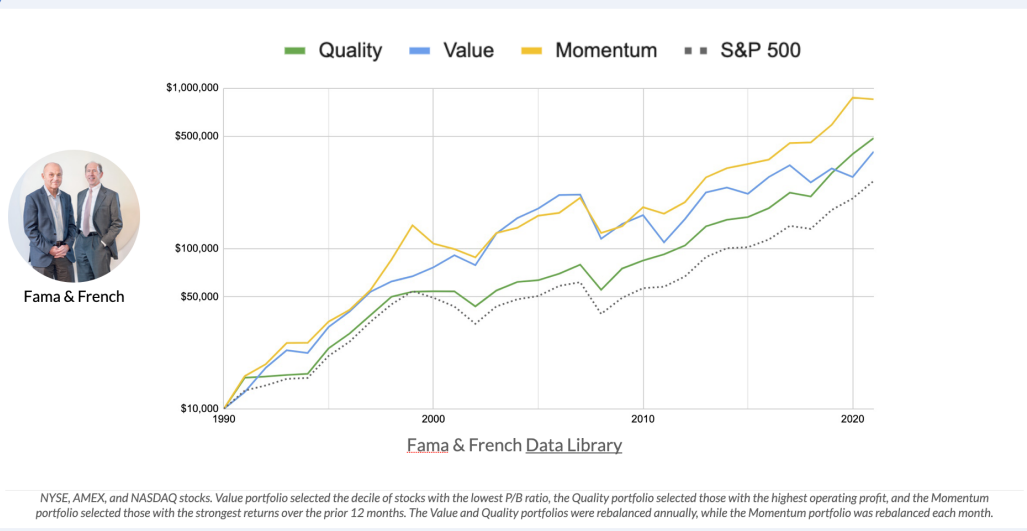


It took a long time for the theory to catch up with the practice. Value Investing has long been one of the most popular investment styles, but it took until 1992 for the academics to really prove its efficacy. Nonetheless, it's remarkable that in spite of being so well known, so well advocated for, and so well researched, that the returns to these factors endure.

We'll learn more about Quality, Value and Momentum in upcoming chapters, but Fama and French have been studying the returns to these factors for decades. The chart below shows the cumulative returns to portfolios created with these traits

across US stocks using Ken French’s publicly available data.⁵

\$10,000 invested in “factor” portfolios (1990-2020)



There’s little doubt that portfolios, exposed to these styles, have persistently beaten the market index for many decades. James O’Shaughnessy has published the accessible statistical analysis “*What Works on Wall Street*” in multiple editions since the 1990s backing up the same ideas, and similar results have been replicated for many markets and regions around the world.

We realised that the Quality, Value and Momentum framework could be particularly useful for analysing stocks, both in the UK and globally. It would allow for easy comparison across different company sizes and risk profiles. As a result, we incorporated these factors into our StockRanks, while designing the latter two (size and risk) factors as independent measures. In this e-book, we dive deep into the power of the first three factors, and discuss the latter two in Appendix 3.

Learning to assess shares across these dimensions, individually and combined, is one of the most powerful ways to accelerate your decision-making as an investor.

To cut a long story short... **good, cheap, strong** stocks tend to beat the market.



The Five Factors at Stockopedia

Stockopedia's framework for stock analysis uses these five key factors.

- The first three, *Quality*, *Value* and *Momentum* are the core of our StockRanks framework.
- The fourth, *Size* and fifth, *Low Volatility*, factors are accessible through our **Classifications** - the Size Groups and RiskRatings.

These metrics, and many other unique financial ratios relating to them, are computed daily and published in StockReports, table views and the screener.

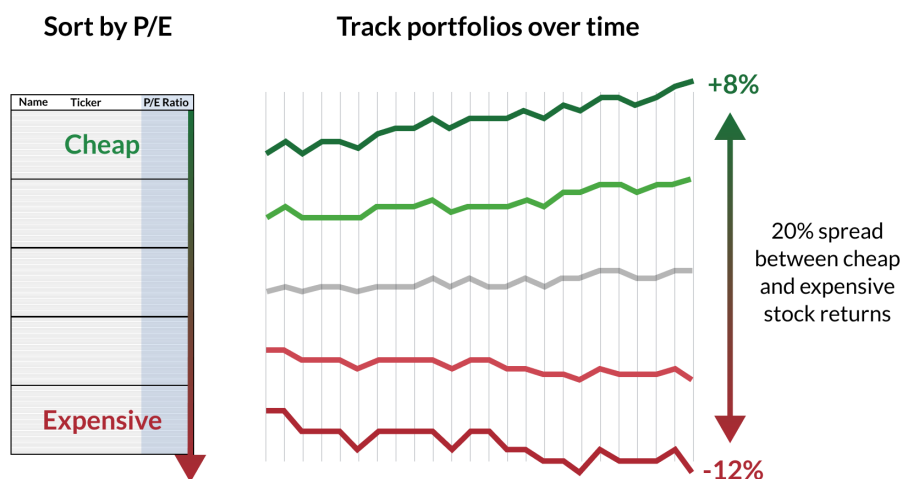
How do you calculate (and capture) factor returns?

There is debate on how to measure the performance of a 'factor', but a simple approach is to:

1. Calculate a characteristic for all stocks in the market (e.g. *the P/E Ratio*)
2. Sort stocks by that metric into an ordered list (e.g. *from cheap to expensive*).
3. Group the ordered list into equal-sized portfolios (e.g. *five portfolios - cheap to expensive*)
4. Calculate each portfolio's performance over a time period (e.g. *a year*).
5. Repeat the above steps again over multiple periods (e.g. *over ten years*)
6. Calculate the average difference in return between the portfolios over the entire period.

To illustrate this simplified approach, here is a visual example over one time period:

Calculating the returns to “value” in a time period



In the above illustration, the portfolio of cheap stocks (with low P/E ratios) has outperformed the portfolio of expensive stocks (with high P/E ratios) by 20% over the time period. The returns to the top and bottom portfolios *significantly diverged*. The P/E ratio (as a value factor) has been an effective driver of returns. **Cheap stocks have beaten expensive stocks.**

If you believe the future will rhyme with the past, you could just go and “**buy the 20 cheapest stocks by their P/E ratio**” and hold on. But, after a year or so, some of those cheap stocks may have been recognised. The market does its work and investors bid them up to higher valuations. The portfolio now no longer holds the cheapest stocks in the market. *There’s a cheaper set available.*

So if you want to capture the returns to a factor, you need to be willing to harvest the rewards earned, and reinvest into new candidates when the characteristics of your original holdings have changed. Buying and holding is a popular strategy, but it’s most effective when investing in the very highest quality companies. The returns to value are earned when cheap valuations return to average, while the returns to momentum are earned by riding the trend. *Both require active management.*

(To be clear, I do not recommend simply buying the 20 lowest P/E stocks in the

market. It may seem attractive to some, but it's a strategy that identifies hard to trade, financially risky stocks. It's an extremely volatile ride.)

We'll discuss in forthcoming chapters how each factor comes with its set of risks and downsides. While strong factor returns can offer the promise of beating the market, there are also the practical realities of costs, risks, and periodic underperformance that are specific to each style.

When factors don't work - bad-time risks

In US markets, value investors recently endured an incredibly long period of underperformance. From 2011 to 2020, value stocks struggled while momentum stocks soared. Some famous fund managers, such as Ted Aronson who was running \$10 billion in a fund, ended up going out of business.

"Our record for the last five years sucks" he said at the time.

It wasn't long after this news that the performance of value investing recovered. In the post-pandemic period, cheap stocks in the energy and mining sectors rallied. It was value investing's best performance in a decade. Aronson started raising capital again.

As a value investor, or indeed an investor in any factor, you have to be psychologically prepared for bad times. There may be a period where the factor you are targeting doesn't pay off. Underperforming the market is challenging, and may lead to you throwing in the towel right at the worst moment. At times like these, it's worth remembering these wise words from Andrew Ang of BlackRock:

It is precisely because factors episodically lose money in bad times that there is a long-run reward.⁶

There are though ways to mitigate the risk of short-term underperformance, such as *combining multiple factors* into a portfolio of good, cheap *and* improving stocks. We'll investigate some approaches to higher returns at lower risk in due course.

Why do factors work?

Many think stock markets should be so efficient at pricing shares that there shouldn't be any reward to buying good, cheap or improving stocks. The reason rewards persist comes down to one of two themes:

1. ***Some factors reward you for taking on risk.*** Just as insurers earn a premium for insuring risks, factor investors earn a premium that pays them for the potential risk of enduring a bad time in the future. For example, value investors who own troubled companies take on the risk that their shares may underperform or go bust if a recession returns. They earn a significant premium in the meantime to make up for that risk.
2. ***Some factors are driven by mispricings.*** The market often makes mistakes. Whether due to behavioural biases or structural industry reasons - mispricings happen. For example, in the 2022-2024 bear market, fund outflows created an environment which forced institutional selling at prices fund managers despaired at. Contrarians can earn their reward taking the other side of the bet.

When we dive deeper into Quality, Value and Momentum, we will investigate these reasons further – but you should be prepared to feel uneasy when reviewing lists of stocks with these traits. There are typically more exciting stories out there that your friends all own. Buying stocks according to some disciplined set of rules may be a bitter pill to swallow. Where's the fun in that?

Well, it turns out that therein lies the big secret of many of the best investors.

Notes

1 Slater, Jim. *The Zulu Principle*.

2 McLean and Pontiff, *Does Academic Research Destroy Stock Return Predictability?*

3 Swedroe and Berkin. *Your complete guide to factor-based investing*.

4 O'Neil, William - *How to Make Money in Stocks*.

5 French, Kenneth R. *Data Library*.

6 Ang, *Factor Investing*.

The big secret of the best investors

In the early 2010s, Neil Woodford was acclaimed as a unique fund management talent. Known as “Britain’s Buffett”, his stock-picking ability had delivered stellar, compounding returns for his clients over more than two decades. Full of confidence and marketed as the greatest investor of his generation, he struck out on his own, raising £10 billion in record time.

With a giant chequebook, he financed a string of early-stage healthcare and biotech companies. Having always been an investor in high-quality, high-yield giants, did he really have the talent and experience to be a venture investor too?

With billions in losses, hundreds of thousands of his investors would likely say no. After so many years of consistency, *his stock picking let him down*.¹

Why good stock picking is not the full story

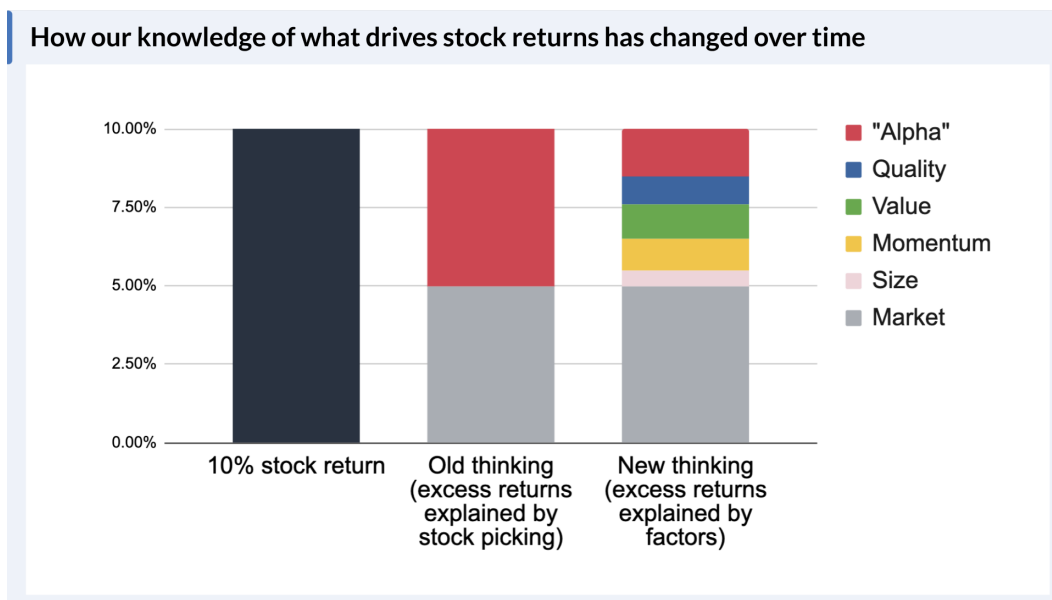
Many investors believe that company results alone drive share prices, so beating the market is all about *hard work and stock picking talent*. But this is not entirely the case.

For instance, if a stock has increased in price by 10% over a year, but the overall market has risen by 5%, then half the stock’s rise may be due to general market movement². The additional 5% gain, known as “alpha”, is often credited to skilled stock-picking.

But recent findings show that much of this alpha can be explained by demand for the stock’s broader characteristics - like being a quality business, an undervalued share, or a smaller company.

For example, during times when “value investing” is popular, cheap shares on low Price to Earnings ratios are bought indiscriminately. Similarly, when interest in small-caps increases, the rising tide lifts all small boats. These forces can drive a great proportion of the return, regardless of a company’s own news flow.

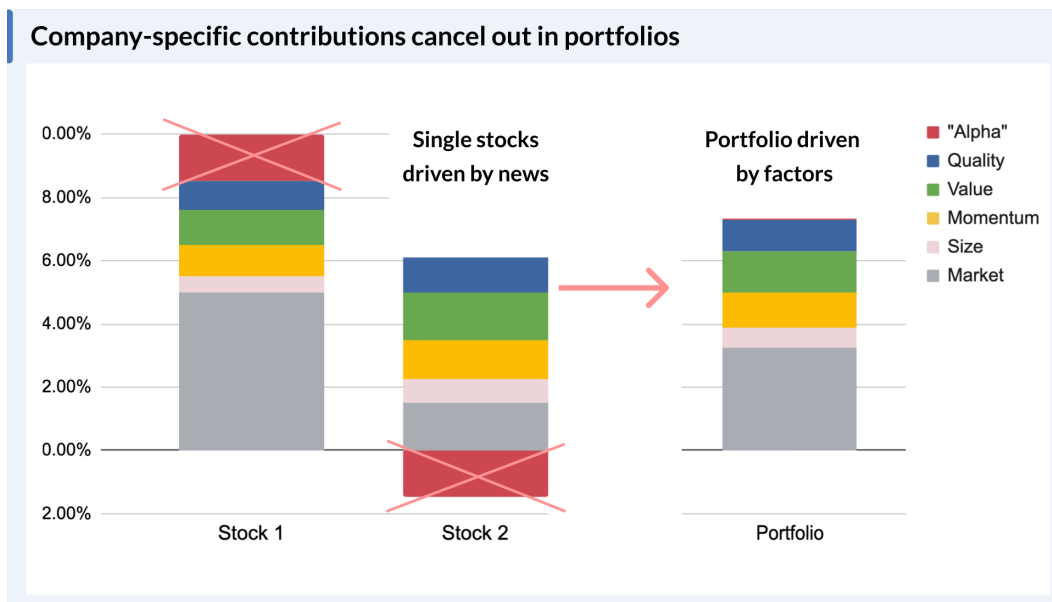
The idea is illustrated in the following diagram. The old way of thinking attributes all the company-specific outperformance (in red) to stock picking. The new way of thinking attributes a significant proportion of these returns to identifiable factors.



Stocks are affected by their own unique news flow to different extents, so company-specific returns differ. Some surprise to the upside, but others to the downside. Even the best stock pickers may only pick 6 out of 10 winners in a typical year.

So as you add more stocks to your portfolio, the unique returns of each stock tend to cancel each other out. **In a diversified portfolio, all you are often left with is the factor returns.** In the jargon, the *unsystematic risks* of each company are diversified away, and we are left with the *systematic risks* of factors.

An idealised two-stock portfolio is illustrated below. What ends up mattering most is whether the portfolio is *generally* composed of high quality, good value, strong momentum shares, when those factors are in demand.



This is a hard truth that challenges the investment community. While great stock pickers do exist, stock picking matters less the more stocks you own.

Big funds can struggle to add value through stock picking

Fund managers with large, diversified portfolios frequently struggle to add value with their stock picking, even though their operational strategies are built around it.

Many travel extensively to meet company management and build relationships to gather unique insights. They hire teams of MBAs, CFAs and PhDs to pore over company accounts, build financial models and gather intelligence to forecast the future. They spend heavily on industry research. But much of this effort can go in vain due to the brutal arithmetic highlighted above.

In large funds, the value generated from company-specific insights is mostly diversified away.

I am not criticising the stock-selection ability of fund managers. Indeed, research by Anton et al. shows that the **best conviction ideas** of fund managers outperform

by up to 4.5% per year – so they do indeed pick great stocks. It's just that they are often forced, by investment mandates and regulatory oversight, to own too many stocks, in too small size, to benefit from their best ideas.

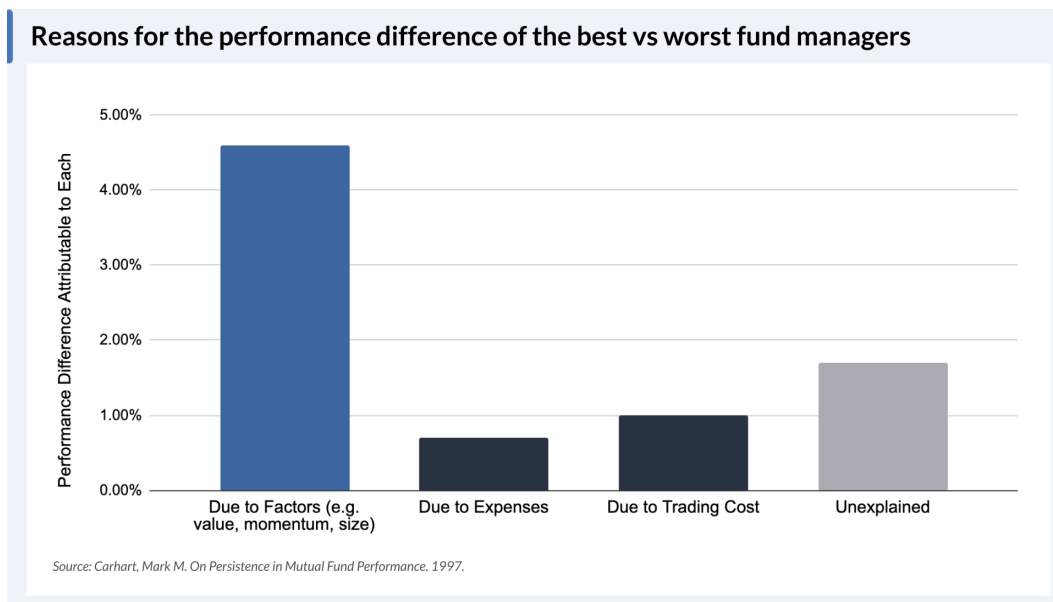
The organisation of the money management industry appears to make it optimal for managers to introduce stocks into their portfolio that are not outperformers.³

Are the best fund managers just factor investors?

An eye-opening analysis was run by Mark Carhart in a controversial 1997 research paper titled “*On Persistence in Mutual Funds*”.⁴ He studied 31 years of fund returns to see if he could find proof of fund manager skill, or whether their relative performance could be explained by simple exposure to factors and trading costs. The next chart illustrates his breakdown of the 8% performance difference between the best and worst 10% of funds in the typical year.

He found that the best fund managers had a disciplined process for owning cheap and strong stocks, avoiding those that don't fit the criteria, and keeping costs under control. He showed that the best fund managers didn't outperform through any magic. Whether they realised it or not, *they mostly did it through a low cost, systematic 'factor-investing' process.*

“While the popular press will continue to glamorize the best-performing fund managers, the mundane explanation of strategy and costs account for almost all the important predictability in fund returns.” **Mark Carhart**



Was Warren Buffett the world's greatest factor investor?

This idea was taken further in an astonishing assessment of Warren Buffett's skill in the 2012 paper "Buffett's Alpha".⁵ For those who don't already know, Warren Buffett is the most successful investor of all time, with a fortune north of \$130bn. The researchers found that mimicking Buffett's market-beating returns would have been possible by any investor with a few simple rules and some additional borrowed money (leverage).

"In essence, we find that the secret to Buffett's success is his preference for cheap, safe, high-quality stocks combined with his consistent use of leverage to magnify returns while surviving the inevitable drawdowns this entails."

The following chart from the paper illustrates the point:

Berkshire Hathaway's public stocks vs a Buffett style portfolio



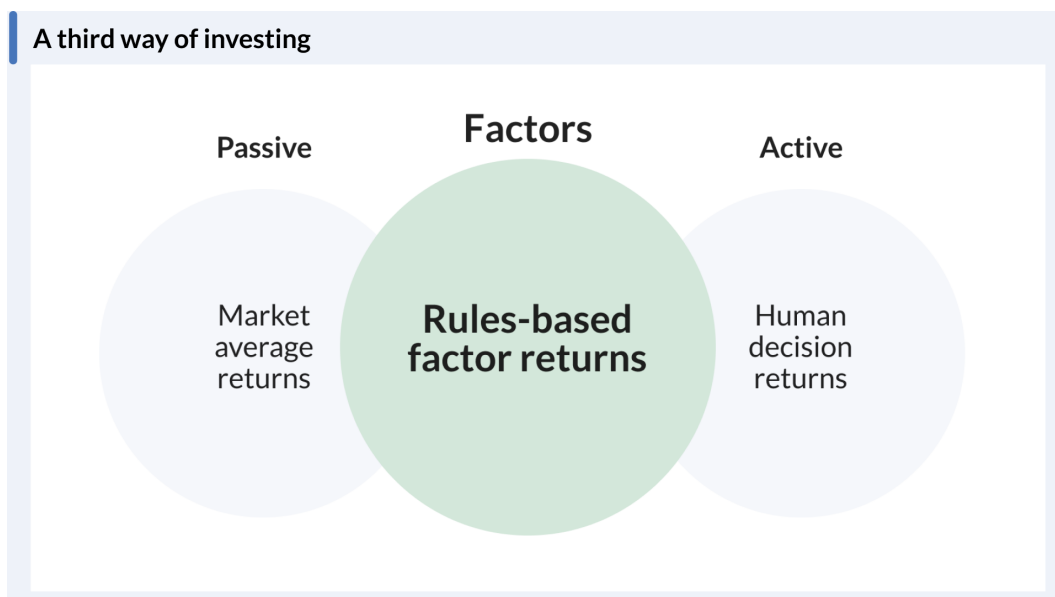
Source: Buffett's Alpha. Frazzini et al. 2013.

It seems incredible, but their rigorous research suggests that any investor who had *consistently* bought portfolios of high-quality, cheap, low-risk stocks with 60% borrowed money would have matched or bettered the great man win for win, decade by decade.

Perhaps Warren Buffett's real genius was realising these simple rules outperformed the market decades before anyone else... so let's take nothing away from him!

Why funds can struggle to harvest factor profits

The academic community's work to understand factors as the true drivers of investment returns has not gone unnoticed. Many of the PhDs who wrote research papers proving these ideas were hired by big-money managers. This led to the launch of a range of rules-based investment products designed to capture the returns to Quality, Value, Momentum and so on. These are often positioned as a third way of investing - in between active and passive funds.



This is an attractive proposition to those who are neither satisfied with the average returns of index investing, nor the time-varying returns of active fund managers. Known as “Smart Beta” products, they are regularly easy to trade as Exchange-Traded Funds. While these developments should be encouraged, these products typically have to be structured for scale to keep the fees low. Scale comes with challenges.

If you do wish to offer a low-cost, open-ended investment fund to thousands of investors, you have to weight your positions towards *larger companies*. But the research shows that factor returns are loaded towards *smaller companies*. Scaled investment products may struggle to access these returns effectively unless they are very adeptly managed.

Ludovic Phalippou showed in his paper “Where is the Value Premium?”: ⁶

“More than half of the value premium results from stocks with low institutional ownership, which comprise only 7% of the stock market capitalization. These are stocks most held by individual investors.”

So here’s the reality. If building your own share portfolio seems too time-consuming,

then choose a fund manager or investment product that adheres to these principles. But if you do want to maximise your return potential through factor investing, you should back yourself and DIY.

Notes

- 1 Stockopedia. *What Went Wrong at Woodford?* 2019.
- 2 For this illustration, we assume the stock has a beta of 1.
- 3 Anton, Miguel, et al. *Best Ideas*. 2021.
- 4 Carhart, Mark M. *On Persistence in Mutual Fund Performance*. 1997.
- 5 Frazzini, Andrea, et al. *Buffett's Alpha*. 2019.
- 6 Phalippou, Ludovic. *Where Is the Value Premium?* 2008.

Why you, as a small investor, have an advantage

The good news is that the increasing availability of quality insights, tools and execution services has given everyone the ability to put factor investing strategies to work. There's no need to hand over your capital to third parties in the hope of market-beating returns. You can do better yourself for less cost.

Here are some of your significant advantages if you dedicate the time needed to run a portfolio:

1. **You can concentrate your portfolio.** Don't believe the trap that most small investors fall into and only own a few stocks, and don't own a hundred, like one of my old clients did (much against my advice). Depending on portfolio size, an intelligently constructed portfolio of 10–30 stocks is in the Goldilocks range for private investors. That's diverse enough to capture factor returns from a range of stocks, but concentrated enough that your best performers make a difference.
2. **You can invest in smaller companies.** A recent study indicated that the average fund held more than £200m under management. Even a 1% position size requires a £2m investment, which can take days to months to acquire in the open market for most listed equities. As an individual investor, you have no such constraint. You can buy small lots of shares swiftly in quality, small-cap value shares - the segment of the market that's been shown to most consistently outperform.¹
3. **You can effectively size your positions.** Fund-manager performance is often benchmarked to an index, which is weighted so that the largest companies have the largest position size (called market-cap weighting). Many funds end up owning their largest positions in the very same stocks, partly to reduce the risk of underperformance, but also to ensure there's enough liquidity in case

investors seek redemptions. You have no such constraints. You can optimally weight your positions to reap better returns and lower your risk at the same time. Even simple equally weighted position sizes has been shown to beat market-cap weighted position sizes over the long term.

4. **You can take advantage of institutional over-reaction.** Because institutional investors take time to build or exit positions, they are like whales moving through the water. When they sell large positions they create value opportunities, and when they buy they create uptrends. As a smaller fish in a massive sea, you can systematically take advantage of the opportunities created in their wake. The momentum effect is difficult for fund managers to capture² - it's one of the most valuable edges an individual investor can have in the market.
5. **You can benefit from time.** Fund managers may have to report their performance consistently, even daily, to their clients. This creates incentives that can result in suboptimal behaviours such as window dressing, and over-trading of portfolios before reporting periods. A recent study indicated that the average fund turnover was between 70% to 91% annually in the 29 years to 2020³ - meaning extremely short holding periods. As a DIY investor, the only person judging your performance is you. Patience and discipline are the key to stronger investment returns.

As Peter Parker's Uncle would say, "*with great power comes great responsibility*". The advantage private investors have in buying good, cheap, strong, small-cap shares creates great potential for outperformance, but it also can be our undoing. Let's explore why.

How and why we make big money mistakes

An entire science called Behavioural Economics has now gone mainstream with the publication of books like Daniel Kahneman's "Thinking Fast and Slow". But some of the best insights come from studies that accessed the transaction records of tens of thousands of individual investors at the biggest brokerages in the world.⁴

We are all birds of a feather, susceptible to the same mistakes and biases. It's human

nature to believe in stories, to seek confirmation that what you believe is true, to behave like everyone around you, and to avoid the pain of losses.

But while these rules of thumb evolved to aid our survival - and they do have value in certain environments - they are *costly when applied to your investments*. They lead to what Barber and Odean call “perverse security selection”, a lack of diversification, and a tendency to cut winners and hang onto losers. These are among the biggest reasons why individual investors underperform. Smart money earns from suckers, and suckers pay the smarts.

So what's the solution? *The great investors invest more like Spock*, without passion and in a contrarian fashion. They treat the stock market more actuarially than emotionally, and harvest market rewards through disciplined processes. The use of *rules, checklists and systems* can bring rigour to investment decision-making and give you an edge in stock markets dominated by more emotional investors.

Using an equity rating system, like the StockRanks, can seriously help in this regard. Let's dive in and find out how they've been constructed, and build our understanding and confidence in them.

Notes

- 1 Asness, Clifford S., et al. *Size Matters, If You Control Your Junk*. 2015.
- 2 Carhart, Mark M. *On Persistence in Mutual Fund Performance*. 1997.
- 3 Hochachka, Gene. *US Mutual Fund Turnover and Returns, 1991-2020*. 2021.
- 4 Barber, Brad M., and Terrance Odean. *The Behavior of Individual Investors*. 2011.

Part II - The three StockRank factors

In this section, we'll break down the three components of the StockRank and illustrate why they can often be far more powerful in combination than alone. You will learn all about:

- **Quality.** The extent to which a company's financials show *strong and improving financial health. The best companies to own are profitable business, funded by their cashflow.*
- **Value.** Whether a share's valuation trades at a discount or premium relative to peers. *The best upside potential comes from shares trading below fair value.*
- **Momentum.** The degree to which a share's price strength and analyst expectations are improving. *The strongest returns come from investing with the trend.*
- **QVM.** How the three core factors combine to be more powerful together than they are individually.

We start the story with the oldest of the factors - **Value**.

1: Cheap beats Expensive - *the Value Rank*

"We just try to buy cheap stocks. That's really all." **Walter Schloss.**

In any market, online or off, eBay or car boot sale, humans are wired to look for bargains. We know when we've got a deal. There's a payoff to buying things cheaply.

It's no different in the stock market. *Cheap stocks tend to outperform expensive stocks.* While it's not true every single year nor for every single stock, it seems to hold true, on average, in the majority of 3 to 5-year periods. This is known as "*the Value Effect*" - which has been the driving force behind many stock market fortunes, and the great cult of Value Investing.

Background on Value Investing

Benjamin Graham usually gets the credit for being the "Father of Value Investing". He wrote the influential tomes "Security Analysis"¹ and "The Intelligent Investor"², and was one of the first to lecture about the market-beating potential of unpopular, cheap stocks. He believed in buying shares with such a large "*margin of safety*" on the purchase price that, in a worst-case bankruptcy, you could earn all your money back even if the company's assets were liquidated. He proved the strategy's worth by rebuilding his fortune after big losses in the 1929 crash and ensuing Great Depression.

Later in his career he took a more measured and systematic approach:

"Try to buy groups of stocks that meet some simple criterion for being undervalued - regardless of the industry and with very little attention to the individual company. It seems too good to be true, but all I can tell you after 60

years of experience, it seems to stand up under any of the tests I would make up.” Ben Graham.³

While Graham succeeded in rebuilding his wealth, it was his students who really capitalised on the deep-value effect. Known as the “Super Investors of Graham and Doddsville”, many went on to return more than 20% per year for their investors over long periods. Among this cohort was a certain Warren Buffett, who perfected Graham’s methods, improving them to become the wealthiest investor in the world.

It took a long time for academics to catch up with the practitioners, but in 1992 Eugene Fama and Kenneth French published “*The Cross-Section of Expected Stock Returns*”⁴ - the nexus of an academic career that would see them win the Nobel Prize for Economics. They illustrated that portfolios of cheap stocks ranked by the humble Price to Book Ratio (P/B) consistently outperformed expensive stocks. They proposed that the high returns were compensation for taking on fundamental distress risks.

This reasoning was challenged in 1994 by Lakonishok, Shleifer, and Vishny⁵ who analysed the returns to ‘cheapness’ across many more valuation ratios (P/E ratio, P/B ratio, P/CF ratio included). They assessed how cheap stocks performed in many environments, including recessions and market declines. *They found little evidence that value strategies were riskier than growth strategies.* In fact, they concluded that the active avoidance of cheap stocks by both individual and institutional investors meant they were systematically oversold. *Cheap stocks were priced too cheap.*

While these results were promising, value stocks did go through two periods of difficult underperformance: the dot-com bubble in the late 1990s and after the global financial crisis from 2011 to 2020. These periods were defined by central bank interventions that kept interest rates low and encouraged speculation. Many observers claim “*the death of value*”, but value has always bounced back.

How can you measure Value?

You can measure the cheapness of a stock by comparing its share price against either how much it earns, how much it sells or how much it owns. By dividing the price

of the share (P) by each measure of value, you can make relative value assessments against comparable stocks.

The Price to Earnings Ratio (P/E for short) is by far the most popular financial ratio for individual investors. Studies indicate that buying groups of relatively cheap stocks according to their P/E Ratio can lead to market-beating, albeit volatile, returns. There have been similar results for almost all the other valuations ratios (Price to Sales, Price to Book, Price to Cashflow and so on).

Portfolios constructed with a single valuation ratios may enjoy different times in the sun. The Price to Sales ratio was deeply fashionable in the dot-com bubble of the 1990s. After the crash, it fell out of vogue as investors realised companies needed to generate real cashflow. There have been entire decades when one or more of these measures have underperformed. Nobody enjoys underperformance, and most investors who do invest using strategy based on a single valuation measure often throw in the towel (or are forced to) at exactly the wrong time.

Is there a solution?

Yes. Composite value scoring systems have been used successfully since Benjamin Graham originally designed his 'Graham Multiplier' in 1949. This simply multiplied the P/E ratio and P/B ratio to create a combined value score. The idea has been extended by quantitative investors for decades, with various value scores being published by giant indexing firms like S&P, MSCI and iShares.

One of the classic studies on this idea is by James O'Shaughnessy's in the 4th edition of his excellent "*What Works on Wall Street*". Between 1964 and 2009 O'Shaughnessy showed that using Price/Sales alone, the cheapest 10% of stocks returned 14% with an annual volatility of 21%. But by designing a "Value Composite" from six value ratios combined, the return was increased to 17% and the volatility reduced to 17%.⁶

*"No single measure of value is demonstrably better than another. But, an average of multiple measures is usually best."*⁷

Why does the Value Effect work?

If stock markets were perfectly efficient, cheap stocks wouldn't be able to outperform expensive stocks. There are two reasons why they do:

- **Cheap stocks outperform because they are riskier.** Cheap stocks tend to be less profitable, have more debt and are more prone to bankruptcy than expensive stocks. In bad economic times, these companies can become distressed, so investors require an additional premium to take on that risk.
- **Cheap stocks outperform because investors are biased against them.** Investors become *overly pessimistic* about the prospects for unfashionable, out of favour, distressed stocks. They struggle to believe that their low prices will recover. This leads to over-reaction, excessive selling pressure, delayed buying and persistent underpricing.

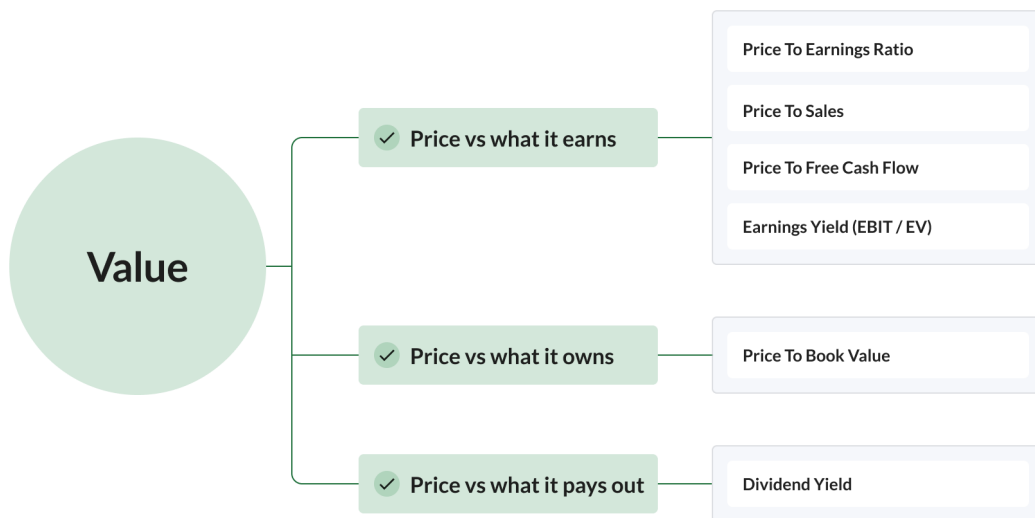
Regardless of the explanation, investors who are willing to go against the grain can often earn a market-beating reward.

Stockopedia's Value Rank

The above methods inspired Stockopedia's Value Rank. We've defined the Value Rank as an equally weighted composite of six valuation ratios:

- **Price to Earnings** - comparing the share price versus its earnings.
- **Price to Sales** - comparing the share price versus sales generated.
- **Price to Free Cash Flow** - comparing the share price versus its cashflow.
- **Earnings Yield** - comparing the earnings versus the sum of all equity and debt.
- **Price to Book Value** - comparing the share price versus what the company owns.
- **Dividend Yield** - comparing dividend paid out versus the share price.

The framework is mapped out in the following diagram.

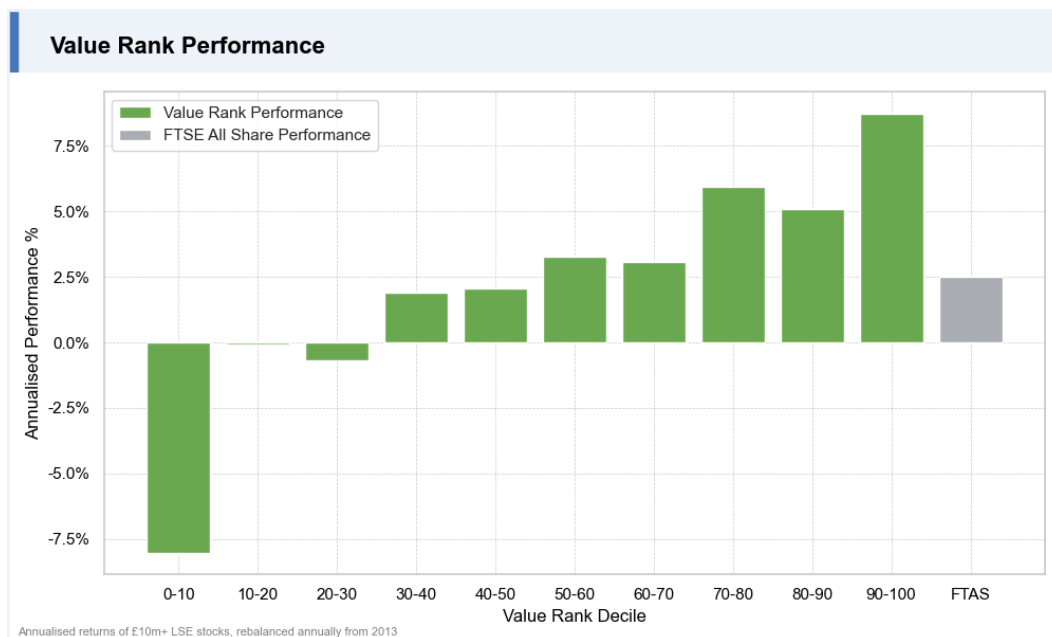


Each stock is ranked from 1 to 100 for each of these value ratios, and a composite score is calculated as the weighted average of all valid values. The Value Rank is then calculated as a percentile rank between zero and 100 for this composite score, where 100 is cheapest and zero is most expensive.

Consistent with value investing conventions, we use historic data for these ratios rather than forecast data from analysts. Historic valuation ratios have been found to be more reliable predictors of future returns than forecast valuation ratios. If you had wished for forecasts to be incorporated, you'll be reassured that they are used as a component of the Momentum Rank, which we define in a later chapter. This approach allows us to keep a purity to the Value Rank as a measure of backwards looking 'cheapness'.

Performance of the Value Rank

Our approach to ranking value has proven powerful, as illustrated below by the returns to annually rebalanced portfolios, grouped into 10 ascending Value Rank buckets. Results show the annualised capital returns to UK stocks since April 2013 (other regions can be tracked on Stockopedia). There are normally about 150 stocks in each of these buckets each year. The most expensive stocks are in the low-ranked buckets on the left. The cheapest stocks, in the high-ranked buckets, are on the right.



Cheap stocks ranked between 90 and 100 by the Value Rank have returned over 8.7% annualised before dividends during this period, markedly above the benchmark index return of 2.5%. While there is not a perfect sequence in the return series, the higher payoff to 'cheaper' stocks is clear.

Guide to using the Value Rank

While the performance of high Value Rank stocks has been impressive, it's important to remember these measurements are based on averages. Individual high Value Rank stocks can have a wide dispersion of outcomes, with many expensive to trade and a few falling into financial distress. A question was once posed when we launched the Value Rank:

“As a value investor, I place heavy emphasis on the balance sheet, as do all value investors I’ve met. Why do the Value Ranks specifically score companies with very weak balance sheets so highly?”

The answer is simply because Quality is not factored into the Value Rank. We model it separately as the Quality Rank, which we'll define in the next section. The Value Rank is a pure measure of *cheapness*. And cheap, bargain or deep-value stocks have a far higher likelihood of being financially strained. Many never recover.

So how do you avoid the impact of owning these stocks if you invest using the Value Rank as part of your strategy?

There are **two solutions**.

1. The first is to **diversify**. Benjamin Graham advised diversification across a basket of value shares to minimise the downside contribution of the losers. *“Even with a margin of safety in the investor’s favor, an individual security may work out badly. But as the number of such commitments is increased, the more certain does it become that the aggregate of the profits will exceed the aggregate of the losses.”*
2. The second is to use it in **combination** with other factors. By additionally filtering a list of cheap stocks for profitability, cashflow or balance-sheet strength, an investor can minimise the selection of dreaded Value Traps.

Let's learn about one of the simplest ways to do this, with the **Quality Rank**. As Warren Buffett once said, “Whether we're talking about socks or stocks, I like buying quality merchandise when it's been marked down”*.

Notes

- 1 Graham, Benjamin, and David Dodd. *Security Analysis*. 1934.
- 2 Graham, Benjamin. *Intelligent Investor: The Definitive Book on Value Investing*. 1949.
- 3 Hartman L. Butler. "An hour with Mr. Graham" 1976.
- 4 Fama, Eugene F., and Kenneth R. French. 'The Cross-Section of Expected Stock Returns'. 1992.
- 5 Lakonishok, Josef, et al. *Contrarian Investment, Extrapolation, and Risk*. 1993.
- 6 What Works on Wall Street 4th Edition - James O'Shaughnessy.
- 7 Asness, Clifford S., et al. *Fact, Fiction, and Value Investing*. 2015.

2: Quality beats Junk – *the Quality Rank*

“You don’t want to buy things that are cheap. You want to buy things that are good. It’s much better to buy something that’s good at a fair price, than something that is cheap at a bargain price.” **Warren Buffett.**

There are more than 190,000 Chartered Financial Analysts in the world today, trained in all the methods that Warren Buffett used to build his \$139bn fortune. With 30 CFAs for every listed stock in the USA, you’d think that high-quality stocks would be fully recognised. Yet they aren’t. *Quality stocks appear to be systematically underpriced by the market.* This provides investors an opportunity to profit from their compounding growth and higher shareholder returns.

Background on Quality Investing

Many of Ben Graham’s students became highly successful investors, but one stands head and shoulders above the rest. Warren Buffett. In the early days of his investment practice, Buffett invested predominantly in deep value stocks. But gradually he learned that bargain stocks often remain bargains – they can be cheap for a reason.

Ironically, his biggest lesson came from his purchase of a struggling textiles firm. He failed to turn it around, losing money hand over fist on the textiles operation while diversifying into more profitable insurance and investment practices. If he hadn’t bought this firm, he believes he’d be \$200bn wealthier. That firm’s name was Berkshire Hathaway.

It was the writing of Philip Fisher¹ that most influenced Buffett and his business partner Charlie Munger to abandon pure value investing. Fisher recommended buy-

ing businesses with growth opportunities, high margins, profitability and cashflow, proprietary products and a leading industry position.

These ideas would be transformational. Buffett gradually acquired **great businesses at reasonable prices**, rather than bargain stocks. He wished to identify great quality ‘franchises’, companies with pricing power and an economic moat, rather than commodity businesses. Berkshire Hathaway wouldn’t be worth more than \$900bn if it wasn’t for these ideas.

The ideas around what is a “Quality” stock have evolved. Analysts initially created frameworks to understand the more *qualitative* aspects of good businesses - assessing management skill, industry position, business models and competitive advantage. But more recently, the academic community have published papers showing that groups of stocks with certain *quantitative* characteristics of quality can outperform.

One controversial paper mentioned earlier titled “Buffett’s Alpha” suggested that *all* Berkshire Hathaway’s returns could be replicated by buying low-risk, high-quality stocks using purely quantitative factors. The authors propose that Buffett’s genius wasn’t actually as a stock picker – it was recognising these factors worked before anyone else.

How to measure Quality?

The last few decades are peppered by a trail of powerful ideas from academic research that can be used in stock selection. Here are just a few, many of which are published on Stockopedia’s StockReports:

- **1968** - Edward Altman showed how to avoid stocks at **risk of bankruptcy** (the Z-Score).²
- **1996** - Richard Sloan showed how cash generative companies with **conservative accounting practices** tend to outperform (low Accruals).³
- **1999** - Messod Beneish showed that **companies that cook their books underperform** (the M-Score).⁴

- **2000** - Josef Piotroski showed that buying stocks with **improving profitability, liquidity and efficiency** and **decreasing leverage** increased value investing returns by 7.5% annually (the F-Score).⁵
- **2004** - Partha Mohanram showed that stocks with more **stable earnings and sales growth** tend to outperform (the G-Score).⁶
- **2013** - Robert Novy Marx showed that stocks with **high gross profitability** tend to outperform.⁷

Some began combining these ideas into composite measures that could be used for portfolio construction. We were watching closely, and in 2013 we launched the **Quality Rank** as a way to instantly assess a company's Quality across a range of these factors.

A few months later, a study called “*Quality Minus Junk*” by Asness, Frazzini and Pedersen⁸ of AQR Capital, raised the profile of the Quality Anomaly. Their framework used a combination of factors across profitability, growth, safety and dividend payout to illustrate how Quality beats Junk across 24 countries globally by more than 5% per year. This was further affirmation that our approach had merit.

Why does Quality work?

We're continually told that to achieve higher returns, we must take on higher risk. But high-quality stocks are *less* volatile than the market, outperform in recessions and benefit from a flight to quality when markets crash. Quality stocks are low risk *and* outperform. So, attempts to find a risk-based explanation to this 'anomaly' have failed.

It is more likely that there is a behavioural explanation to the outperformance of quality stocks - that investors systematically underestimate the real value of these firms. Studies by Bouchaud et al. in 2016^{9,10} explore this point by focusing on the behaviour of professional stock analysts. He explains that stock market analysts may overestimate the quality of their private information while reacting slowly to public cashflow measures. Analysts appear to create over-optimistic forecasts that they reluctantly change on new information.

Whatever the truth behind the anomaly, it's one that individual investors can capitalise on with a simple rule of thumb: **Buy Quality, avoid Junk.**

As the great Terry Smith has said:

*“When it comes to generating good returns, the most important thing is **quality.**”*

Stockopedia's Quality Rank

Individual investors are at the mercy of social media gurus, hype in the press and sponsored research reports paid for by the companies themselves. One of the best antidotes to this is a clear, objective measure of quality that helps you cut through the noise.



The Quality Rank, which scores all the stocks in the market between zero (worst) to 100 (best), is inspired by the best of the research above and analyses a company across a range of factors across three main categories.

1 - Is it a good business?

Warren Buffett is renowned for his ability to measure the quality of a company's franchise. While we can't replicate the qualitative aspects of his genius, it is possible to assess a company for its short and long-term sustained profitability, cashflow, margins and growth. We focus on the following measures to calculate a "Franchise Rank":

- **Profitability** - Long-Term Average Return on Capital Employed.
- **Profitability** - Gross Profits to Asset Ratio.
- **Cashflow** - Long-Term Average Free Cashflow to Assets Ratio.
- **Stability** - Long Term Operating Margin Stability.
- **Growth** - Long-Term Sales Growth Consistency.

2 - Is it an improving company?

As research analysts are so focused on attention-grabbing headline figures like high profits, they often miss subtle turning points in company fundamentals. Josef Piotroski wrote a highly influential paper in 2000 devising a clever 9 point checklist to identify stocks improving across these measures - it's proven particularly effective at predicting future returns.

- **Financial Trend** - using the Piotroski F-Score to identify stocks with improving fundamentals.

3 - Is it a safe company?

Ultimately, no sane investor should wish to own an overly leveraged stock with a high risk of bankruptcy, or a company that might be cooking the books. We therefore integrate three key safety factors and use them to lower the overall Quality Rank as the severity of the risks increase.

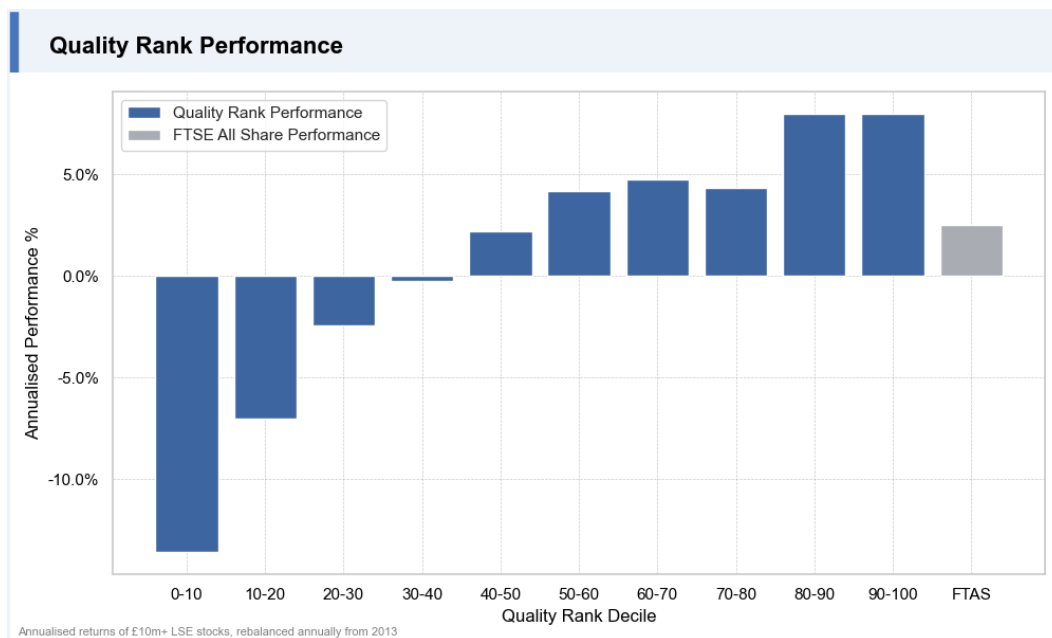
- **Bankruptcy Risk** - we use a sector dependent Altman Z-Score to avoid stocks in financial distress.
- **Earnings Manipulation Risk** - we use the Beneish M-Score to avoid stocks with accounting shenanigans.
- **Leverage** - we demote highly indebted businesses using the Net Debt to Assets Ratio.

Each company in the market is ranked from 1 to 100 for all these component factors, and combined using a proprietary weighting formula. The Quality Rank is then calculated as a percentage rank from zero to 100 for this formula, and published daily for instant assessment.

Performance of the Quality Rank

Our approach to ranking quality has proven powerful. This is illustrated by the returns to annually rebalanced UK stocks since April 2013, grouped into 10 ascending Quality Rank buckets below. Low-quality stocks are on the left, while high-quality stocks are on the right.

Stocks scoring between 90 and 100 by the Quality Rank have generated annualised returns of 8.0% over this time period. We have not included dividends in the chart, but quality stocks pay higher dividends than average, so the realisable returns may be higher. Even so, the raw capital returns are more than three times the FTSE All Share benchmark (FTAS).



The key lesson from the above chart is how damaging low-quality stocks can be to your portfolio. If you want to put the odds in your favour, stick to higher profitability shares.

Guide to using the Quality Rank

Always remember that the Quality Rank focuses on a business's **long-term** economics and stability, rather than its **current** economics. It also incorporates an assessment of fundamental improvement (or deterioration). While the highest Quality Rank companies are often among the strongest businesses in the market, there can occasionally be unusual selections in the high-ranking mix.

A business that is having a poor run can score highly if its fundamentals show signs of improvement. While a business with high current profitability may score poorly if its fundamental trend is negative and its operating history is poor. The Quality Rank has not been designed to confirm the preferences of those seeking only high margin businesses. Recovery stocks, with poor current margins, can occasionally rank well.

Salient, descriptive measures of quality can be poor predictors of future returns. For example, a high current ROCE may look impressive, but is also *highly visible to the market*. Research shows that short-term bursts in profitability and growth regularly return to normal. Sometimes jumps like this are due to earnings manipulation. Many of the studies listed illustrate that it's better to use less visible, and less manipulable measures of quality (like Gross Profits and Cashflows rather than Net Profits) if one wishes to target higher returns. This is the approach we've taken in creating the Quality Rank. ***It is designed to be predictive, rather than descriptive.***

The performance of portfolios constructed using the Quality Rank alone have been impressive, but its true value emerges in combination with other factors. While value investors have found that higher quality stocks in the bargain bucket outperform strongly, it's typically a set of high-flying stocks that generate the most impressive returns in any given year.

Quality stocks regularly *trend...* and this brings us to *Momentum*.

Notes

- 1 Fisher, Philip A. *Common Stocks and Uncommon Profits*.
- 2 Altman, Edward I. '*Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy*'. 1968.
- 3 Sloan, Richard G. *Do Stock Prices Fully Reflect Information in Accruals and Cash Flows About Future Earnings?* 1996.
- 4 Beneish, Messod. '*The Detection of Earnings Manipulation*'. 1999.
- 5 Piotroski, Joseph D. *Value Investing: The Use of Historical Financial Statement Information to Separate Winners from Losers*. 2000.
- 6 Mohanram, Partha S. *Separating Winners from Losers Among Low Book-to-Market Stocks Using Financial Statement Analysis*. 2004.
- 7 Novy-Marx, Robert. '*The Other Side of Value: Good Growth and the Gross Profitability Premium*'. 2010.
- 8 Asness, Clifford S., et al. *Quality Minus Junk*. 2017.
- 9 Bouchaud et al., *Sticky Expectations and the Profitability Anomaly* 2016.
- 10 Bouchaud et al. *The Excess Returns of 'Quality' Stocks: A Behavioral Anomaly*. 2016.

3: Winners beat Losers – *the Momentum Rank*

“Prices are never too high to begin buying, nor too low to begin selling”. **Jesse Livermore.**

It seems counter to every bargain hunter’s first instinct, but when a stock’s price rises, the probability of it continuing to rise **increases**. This is a strange phenomenon.

It makes some sense when you consider the human desire for fashionable (or luxury) goods. The more popular (or expensive) an item becomes, the more buyers may crave it.

In financial markets, this creates trends, and is known as the *‘momentum effect’*. Buying into ‘strength’ has been found time and again to be a persistently profitable strategy.

Background on Momentum Investing

While Benjamin Graham was preaching the virtues of deep value investing to his students at Columbia Business School in the 1920s and 30s, there was a group of *‘tape readers’* who took a markedly different approach to gaining profit in the market.

Unschooling in company accounting, they watched market prices like hawks and profited from buying price breakouts and new trends. Jesse Livermore, Gerald Loeb & Richard Wyckoff were just some of the market professionals who used this observational skill to amass fortunes in the early 20th century period.

Livermore was particularly adept at trading breakouts on both the upside *and* the downside. While Ben Graham was losing his shirt in the Great Crash of 1929,

Livermore had sold stocks ‘short’ and netted over \$100m on the day - becoming known as “The Great Bear of Wall Street” in the process.

Unfortunately for Livermore, he wasn’t as adept at hanging onto his profits. The volatility inherent in momentum investing caught him out time and again, and he went bankrupt three times in the process. He eventually committed suicide in a sad end to a remarkable life.

But the “momentum effect” continued, and market participants caught on. In a hundred years riddled with incredible stories, here are just a few more:

- A globe-trotting dancer & small scale private investor, Nicholas Darvas, inspired by Gerald Loeb’s story, developed a simple “box method” of buying stocks breaking out to new highs. He outlined his success in the very enjoyable 1960 book “*How I made \$2m in the Stock Market*”.
- Richard Driehaus, whose firm Driehaus Capital Partners, delivered compound annual returns of 30% during the 12 years from 1980. He bought breakout small & mid-cap stocks beating their forecasts – and stayed with the trend as long as possible.
- Richard Dennis, a commodity trader, turned \$5k into \$100m trend following. He then made a bet with a friend that he could teach anyone to replicate his rules-based success in the 1980s. The two classes of “Turtle Traders” he taught went on to earn more than \$175m in five years.¹

When Jegadeesh & Titman published their seminal academic paper “*Returns to Buying Winners and Selling Losers*”² in 1993 the cat was finally out of the bag. Their replicable research, using widely available data, showed without doubt that portfolios of stocks that had performed best over the last six months continued to outperform the worst performers by 1% monthly over the next six months.

Dozens of academic papers since, have shown that a momentum effect exists not only in stocks, but in almost every other asset class – including bonds, currencies, funds, property and more.³ In fact it is so persistently and pervasively profitable that it has been christened the ‘*premier anomaly*’ by Fama & French – the kings of finance geeks.

The trend really is your friend.

How to measure Momentum

The simplest approach is to measure the price performance over a period (normally 6–12 months) and sort the market accordingly. While the biggest recent winners often have a short-term price pullback in the first month, they tend to outperform the market significantly over the next 3-12 month period. Some evidence shows that over longer term 3-5 year periods these 'momentum' stocks then reverse.

So the key to harvesting momentum profits is to stick to this rule of thumb:

Own momentum stocks for up to 12 months but no longer.

For those who want to delve deeper, there are many effective momentum measures. Each targets the same phenomenon - ***winners beat losers***.

- George and Hwang in 2004⁴ showed that the closer a share price is to its 52-week-high price, the stronger the performance in the subsequent period. It appears a superior measure than the relative strength measures previously discussed - quite astonishing when you consider that lists of new 52-week highs are published on almost every financial website.
- Seung-Chan Park in 2005⁵ found that stocks where the 50-day average price is much higher than the 200-day average tend to outperform stocks whose 50-day is much lower than the 200-day. Buying the top 10% of stocks by this measure generated 1.8% monthly.

Momentum is evident not only in share prices, but also in **company earnings**.

- When companies surprise to the upside in a results announcements, the share price tends to react too slowly to the new information and creates an upward trend. This has become known as "*Post Earnings Announcement Drift*" and been catalogued in many research papers.
- While there is often a price jump on a good announcement, City Research Analysts appear slow to update their earnings forecasts. It takes time for them to digest new information, and they are reluctant to increase their recommendations. These biases reinforce a gradual upward price trend that can last for months.

Why does Momentum work?

The Momentum effect is so compelling it's inspired many explanations.⁶ Most of the research suggests that it's our own biased human nature that generates these effects. There is also evidence that higher momentum shares offer a payoff due to higher risk.

- **Behavioural Reasons** – The obvious point here is that buying stocks at new highs goes against human instincts. We're hard-wired to buy when prices drop and sell when prices rise which creates a collective reluctance to “pay up” for stocks on the move. This leads to price under-reaction in the short term. Markets tend to digest new information slowly and investors stay anchored on previously low prices. Over time, prices start to wake up, and investors join the bandwagon, which leads to an extended price trend and over-reaction in the medium to longer term.
- **Risk Reasons** – There is evidence that stocks that have recently had strong price runs are exposed to greater economic risks. For momentum stocks, prices can advance ahead of the fundamentals (sales and earnings may lag). This leaves the company exposed in the case of bad news – so investors in the stock need to be rewarded with a ‘momentum premium’ to compensate for the risk.

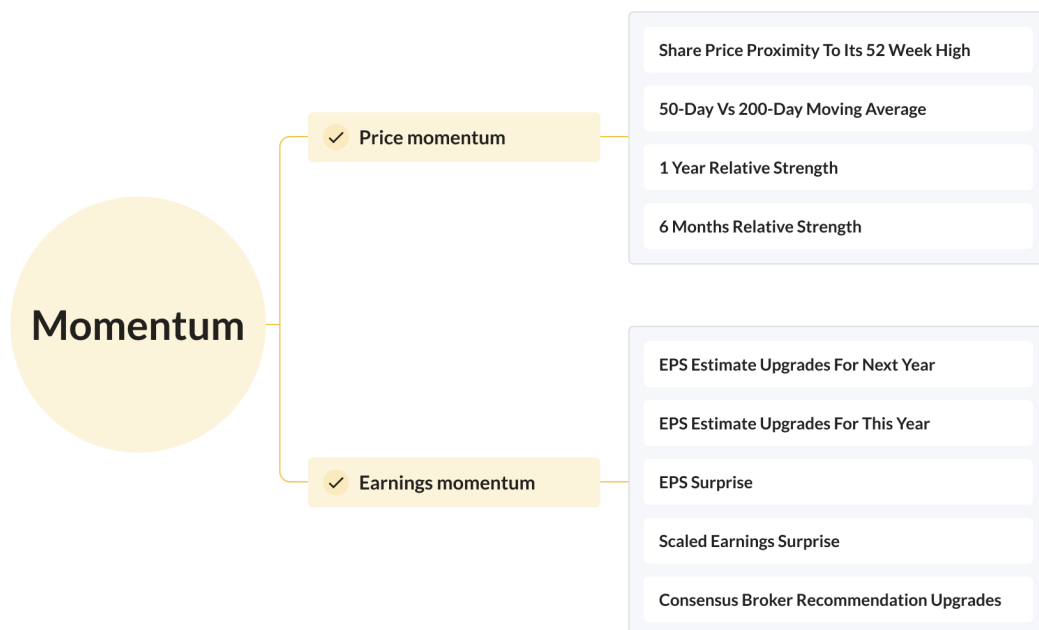
While the academics bicker, individual investors can continue to profit from momentum by the basic rule of thumb:

Buy recent winners and sell recent losers!

Stockopedia's Momentum Rank

Just as we do with Quality and Value, we take a composite approach to measure momentum. We assess both price momentum over the 6–12 month period, and recent momentum in analyst earnings forecasts.

Each company in the market is ranked from 1 to 100 for each of the measures, and a combined score is calculated as a weighted average of all valid ranked values. The Momentum Rank is then calculated between zero and 100 for this composite score, where 100 is best (strong stocks) and zero is worst (weak stocks).



Price Momentum Factors:

The factors we use are inspired by various academic research papers into the Momentum Effect, including Jegadeesh and Titman on 6–12m relative strength, George and Hwang on 52-week highs and Seung-Chan Park on moving averages.

- Share price proximity to the 52-week-high price.
- Difference between the 50 day and 200 day moving average.
- 1 year Relative Strength of the share price vs the market.
- 6 month Relative Strength of the share price vs the market.

Earnings Momentum Factors:

Stocks have a tendency to trend upwards when analysts forecasts are increased, when their recommendations increase to “buy” and when companies report actual results ahead of forecasts. We bring the following factors into a powerful earnings momentum score.

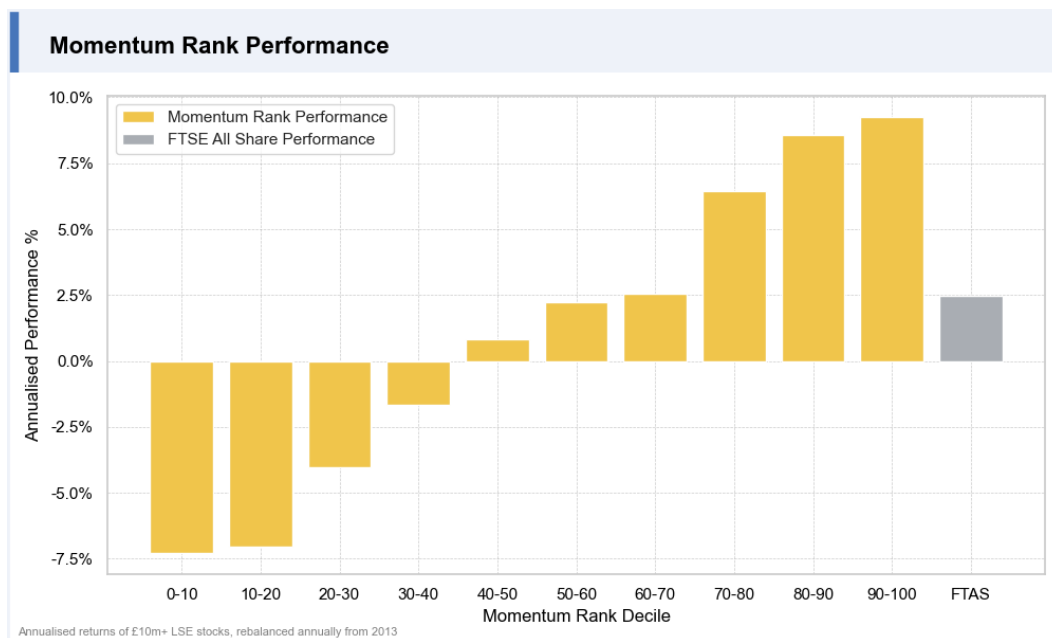
- Earnings estimate upgrades within the last one month for next financial year.
- Earnings estimate upgrades within the last three months for this financial year.
- Consensus broker recommendation upgrades over the last month.
- Earnings surprises compared to the most recent forecasts.
- Earnings surprises compared to the dispersion of forecasts.

Please note, that when a company has no analyst coverage, we cannot calculate earnings momentum. As a result, in these situations, the Momentum Rank is calculated using price momentum factors alone.

Performance of the Momentum Rank

As for the previous Quality and Value Ranks, we have used annually rebalanced portfolios of UK stocks above £10m market capitalisation since April 2013 to create the chart. Low momentum stocks (past losers) are on the left, high momentum stocks (past winners) are on the right. The highest momentum stocks generated

an average annualised return of 9.2%.⁷



The chart shows that past winners continue their winning trend over the coming year. It really is startling to see such a sequential set of results. *Rising stocks keep rising. Losing stocks keep losing.*

Guide to using the Momentum Rank

The Momentum Rank has been the most powerful of all the basic StockRank components to date, outperforming in almost all major regions. It's worth reiterating that while the returns to value can take longer to accrue (often over 2 years), the momentum effect is best captured over shorter time periods (3 to 12 months). Don't hold momentum stocks much longer than 12 months. Some of the best recent books on momentum strategies by authors like Mark Minervini and Bill O'Neill focus on shorter time periods.

There are of course risks to trading momentum. Daniel & Moskowitz in their paper "Momentum Crashes"⁸ detailed the dark side of the momentum upside. The

approach can suffer some ‘bad times’. While momentum is the most powerful of all the factors, it has the worst periods of underperformance.

- **Momentum crashes tend to happen at the bottom of bear markets**, especially in long/short strategies where you buy the winners, but simultaneously short the losers. In these market periods, when there have been big declines, it’s the recent loser stocks that tend to bounce back rapidly. **One way to avoid momentum crashes is to avoid shorting stocks.** Stay on the long side of the trade.
- The highest momentum stocks in bear markets will, by definition, be those that have declined the least in price. They tend to be safe, low risk, higher-quality stocks. Ironically, these shares have the least ability to outperform strongly in a recovery from the lows. This leads to another rule of thumb: **don’t buy the highest momentum stocks after big stock market declines.** It’s typically a better bet to buy beaten down, deep value stocks at those moments.

Notes

- 1 Faith, Curtis. ‘Way of the Turtle - The Secret Methods That Turned Ordinary People into Legendary Traders’. 2007.
- 2 Jegadeesh, Narasimhan, and Sheridan Titman. ‘Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency’. 1993.
- 3 Asness, Clifford S., et al. *Value and Momentum Everywhere*. p. 54.
- 4 George, Thomas J., and Chuan-Yang Hwang. ‘The 52-Week High and Momentum Investing’. 2004.
- 5 Park, Seung-Chan. ‘Two Essays on Momentum’. 2005.
- 6 Moskowitz. *Explanations for the Momentum Premium*. 2010.
- 7 Capital returns only. Dividends and transaction costs excluded.
- 8 Daniel, Kent D., and Tobias J. Moskowitz. *Momentum Crashes*. 2013.

More powerful together - Quality, Value, and Momentum

"You are much better off using several factors to build your portfolios. Returns are higher and risk is lower. You should always make a stock pass several hurdles before investing in it." James O'Shaughnessy¹

It's when Quality, Value and Momentum are combined that the real magic happens. Instead of buying just "*cheap*" shares, it's far better to buy "*good, cheap*" shares, or "*good, cheap, strong*" shares. Owning shares with more than one trait has the impact of increasing returns, while lowering downside risk. It's the secret to more sustainable profits in stock markets.

Background on multifactor investing

Stock pickers have long used multiple criteria for finding outstanding winners. When I started investing, I devoured books like Slater's "*Zulu Principle*" and Lynch's "*One up on Wall Street*". They outlined rules of thumb to make finding profitable, reasonably priced, growing shares that much simpler. The next step to separate the wheat from the chaff was a more artful process of business and industry analysis. These were effective ideas, but anecdotal, rather than statistically rigorous.

It was former hedge fund manager Joel Greenblatt's Magic Formula, published in the 2005 million seller, "*The Little Book that Beats the Market*",² that opened my eyes to the power of a more empirical approach. His formula aimed to profit from "*buying good companies at bargain prices*" using a ranking methodology.

He first ranked stocks for their quality (using return on capital), then for their value (using earnings yield), then combined the two measures. According to Greenblatt,

a portfolio of the top 30 “*good and cheap*” shares by this approach, returned 31% annualised over a 16-year period, versus only 12% for the rest of the market.

This made its mark, but it was years later when diving into the academic research that another dot connected. A profound research paper titled “*Value and Momentum Everywhere*”³ was published by Cliff Asness and colleagues in 2009. It hammered home not only that Value and Momentum were universally powerful, but that value tended to zig when momentum zagged.

“The negative correlation between value and momentum strategies and their high expected returns makes a simple equal-weighted combination of the two a powerful strategy that produces a significantly higher Sharpe ratio than either stand alone.”

What a revelatory insight this was! The forces of Value and Momentum were like the Yin and Yang of return drivers. Opposing forces that complemented each other. When the returns to Value sagged, for example in the dot-com era, the returns to Momentum soared, and vice versa. Combining the approaches improved returns and lowered the risks of underperformance.

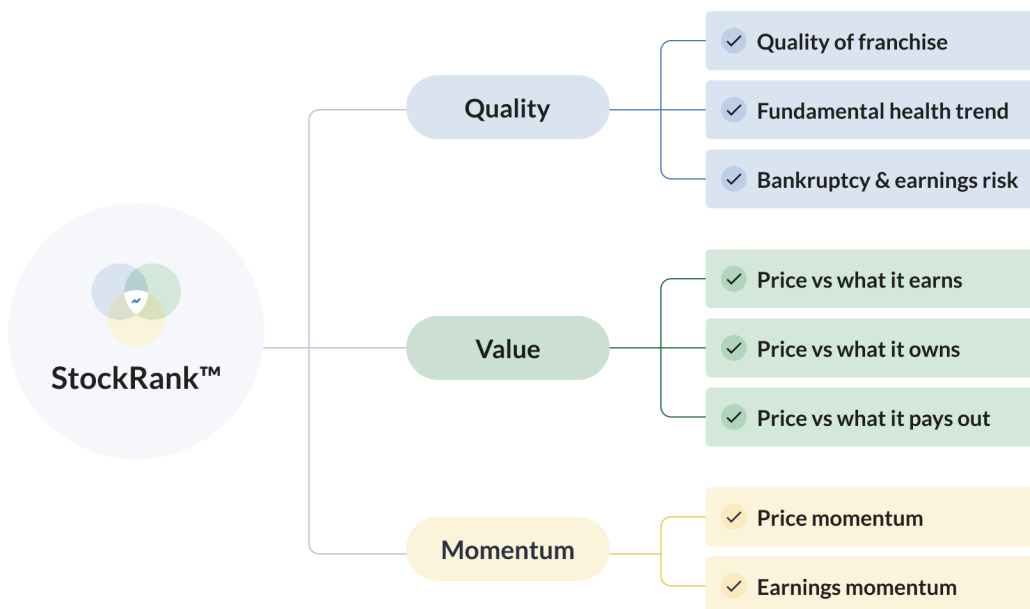
The dots now all joined. O’Shaughnessy’s “composite” method, described in the Value Rank chapter, could create a more effective valuation measure than using a single financial ratio like the P/E. Couldn’t that approach create better measures for Quality and Momentum too? And if Greenblatt’s method could find “*good and cheap*” shares, couldn’t the approach be extended to find “*good, cheap and strong*” shares?

We’d stumbled upon a framework to find truly outstanding investments.

We began publishing the StockRank in early 2013 after extensive development and back testing. In the same month, a paper titled “A New Core Equity Paradigm”, was published by Cliff Asness’ hedge fund AQR.⁴ It outlined “*a new core investment strategy which uses value, momentum and quality themes to identify stocks expected to significantly outperform the market*”. It seemed we were at the cutting edge.

The StockRank - a triple QVM combination

Every day, after the basic Quality, Value and Momentum Ranks are computed for all stocks, we run additional processes. The basic ranks are summed and then re-ranked as a percentile between zero (worst) and 100 (best). This generates the “StockRank”. It can be considered an equal-weighted composite of all three factors.



The StockRank is published every day before the market opens in each global region. It's always based upon the freshest company and market data we have available for every stock.

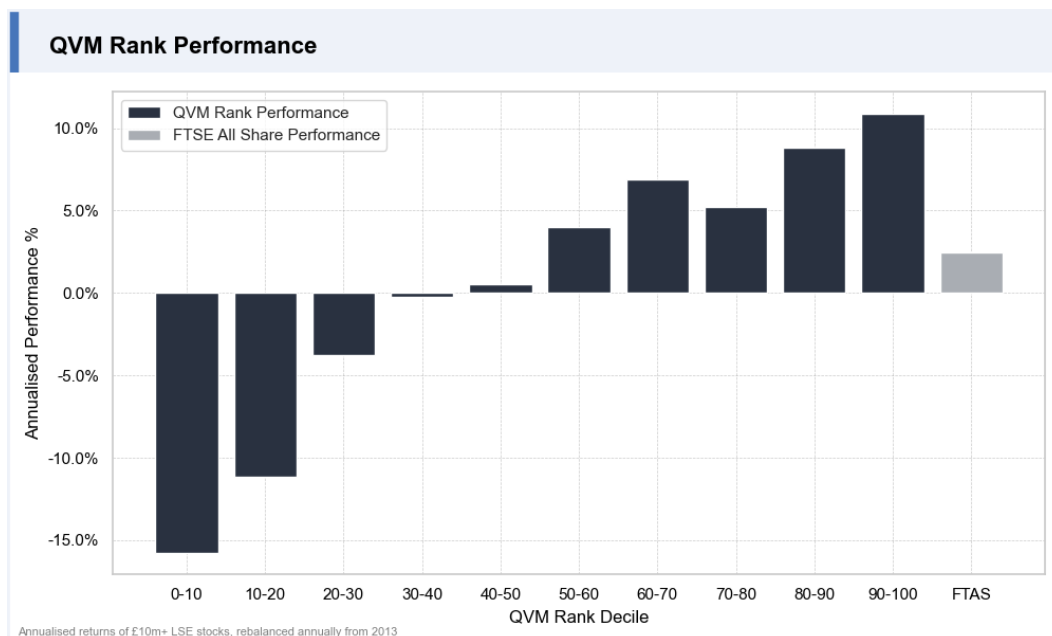
- **High ranked shares** by this measure tend to be *good, cheap, improving*.
- **Low ranked shares** tend to be *expensive, deteriorating, junk*.

The rest of this e-book goes into some depth to deliver insights about the StockRank, and answer common questions. But it's not uncommon for subscribers to ask us how

the StockRank can sometimes be higher than its three underlying components. The reason is that it's not an average of the three basic ranks. It's their sum, re-ranked. So there will always be ten percent of stocks above a 90 rank.

The performance of the StockRank

Since inception, the higher the StockRank, the higher the average return. The chart below tells a powerful and consistent picture. The average stock ranked 90+ has returned 10.8% annualised over the last 11 years, before dividends. By contrast, the average stock ranked less than 10 has dropped at an astonishing -16.1% annualised.⁵

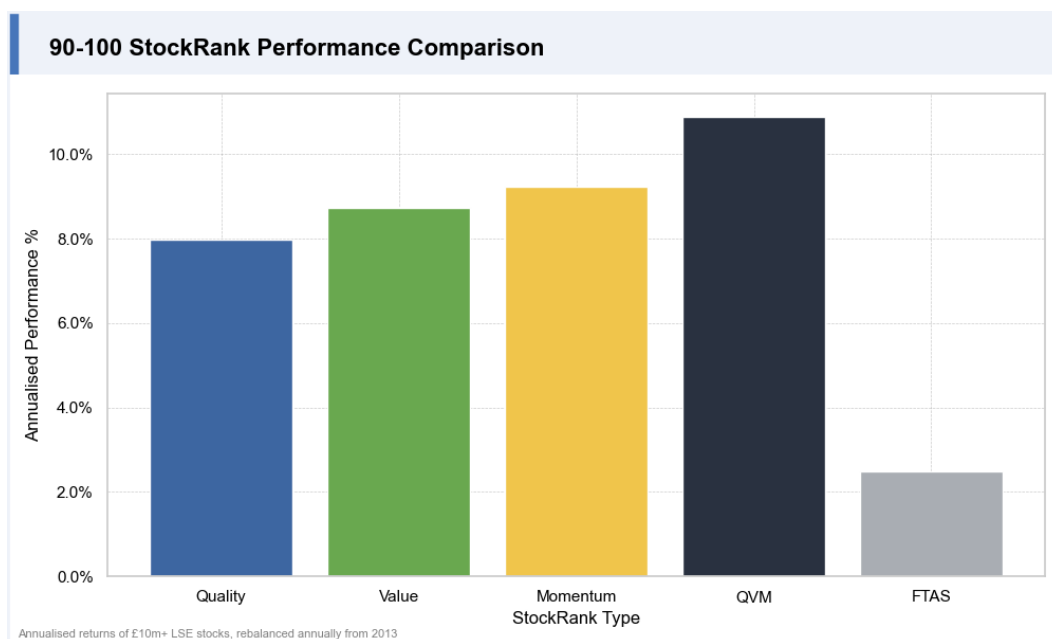


It's worth pointing out that the results above are based upon annually rebalanced portfolios in the UK. The returns are even higher for quarterly rebalanced portfolios, which have compounded at 12.5% annualised. To be clear and for the avoidance of doubt, trading quarterly is not advised due to the impact of transaction costs. It is though indicative that seriously adept traders may be able to time entries and exits to further accelerate returns.

Regardless, the magnitude of the difference between high and low-ranking stocks is eye-opening. What has been particularly satisfying is that individual investors, with their smaller portfolio sizes, have been best placed to capture these returns.

Multifactor Magic

The following graphic illustrates how multifactor approaches can outperform single-factor approaches. On the left are the pure approaches of just buying *quality*, *cheap* **or** *strong* stocks (using the Quality, Value and Momentum Ranks alone), while on the right is the multifactor approach of buying “*good, cheap and strong*” stocks (using the StockRank).⁶ While all approaches beat the FTSE All Share index (FTAS), the multifactor approach has outperformed all three.





There is the risk that future markets may be less favourable for factor investing as a whole. While there is a hundred years of evidence that these factors work in various market environments, past performance is not a guaranteed indicator of future returns.

Other Combinations

We also publish three paired combinations of the basic ranks, which we call the “Crossovers”. These are equally weighted composites of their basic components. There is more information on these and other rankings in Appendix 4.

Ranking	Description	Traits
QV Rank	This blends the Quality and Value Ranks equally to provide a quick way of finding good, cheap stocks. Reams of great Investors - including Joseph Piotroski, Joel Greenblatt and Warren Buffett target this style.	Good, Cheap
VM Rank	This blends the Value and Momentum Ranks equally to provide a quick way of finding cheap, strong stocks. Value and Momentum are the two strongest forces in almost ALL markets and together they make great bedfellows. Versions of this approach have been a core focus of Quants like Cliff Asness.	Cheap, Strong

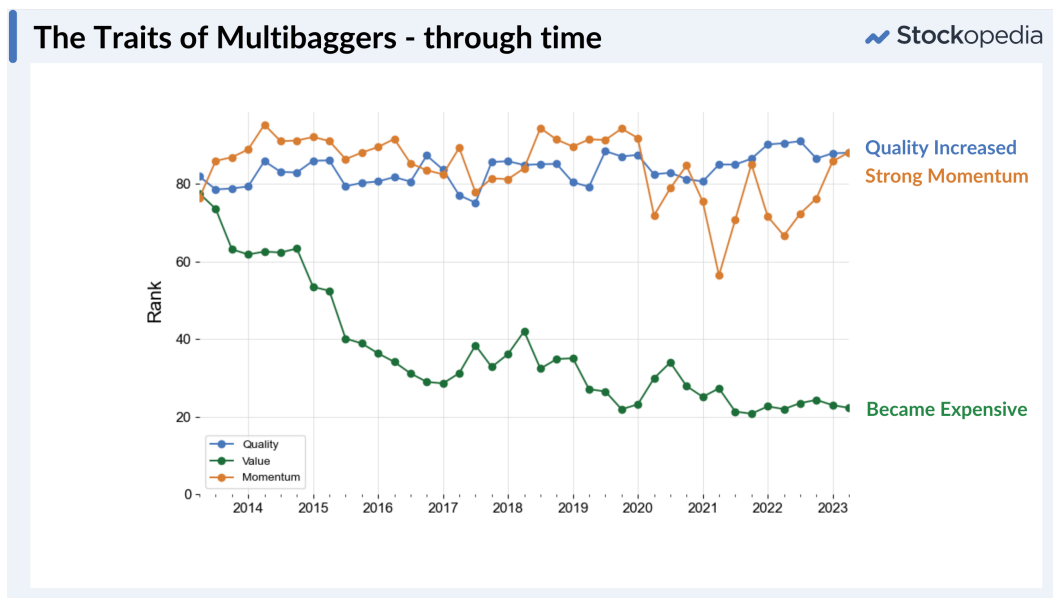
Ranking	Description	Traits
QM Rank	This blends the Quality and Momentum Ranks equally to provide a quick way of finding good, strong stocks. The writings and practices of Traders like O'Neill, Richard Driehaus and Mark Minervini have shown that focusing on Quality & Momentum is the best way to make money in expensive, market leading stocks.	Good, Strong

The performance of each can be tracked on the site. While each market is different, in the UK we've found that VM and QVM have generated the highest returns on an annually rebalanced basis, with QM closely behind and QV lagging. Of course, different market regimes may benefit some strategies more than others.

The best multibaggers started as multifactor stocks

Much of the rest of this e-book is dedicated to analysing and illustrating how to get the most out of the StockRank, so we won't labour too long here. But it's worth reinforcing an insight from our study of the top 10 Multibaggers in the UK between 2013 and 2023.⁷ We found they began their journey with an average StockRank of 86, with very high Quality, Value and Momentum Ranks. They weren't just cheap, or just quality. They had the traits of all three factors. They also began their journey as small-caps.

Over time, they became more valued by investors and consequently more expensive (Value Rank dropped). However, their Quality Rank remained consistently high throughout their journey. As a stock-picker aiming for long-term holdings, you should look for stocks that can sustain high profitability and robust cash generation. But if you do want to really catalyse your returns, our research shows that it does pay to buy your stocks cheap!



Notes

- 1 O'Shaughnessy, James. *What Works on Wall Street*.
- 2 Greenblatt, Joel. *The Little Book that Beats the Market*.
- 3 Asness, Moskowitz et al. *Value and Momentum Everywhere*. 2009.
- 4 Minervini, Mark. *Trade like a Stock Market Wizard*.
- 5 Annually rebalanced ranking sets compound at 10.8% (for 90+) versus -15.7% (for 10-).
- 6 UK stocks since 2013. Other regions and timeframes may differ.
- 7 Stockopedia. *Makings of a Multibagger*. 2023.

Part III - Key StockRank insights

How much more confident would you feel if you could know your odds of success before every investment? The following chapters are filled with such insights from more than a decade of StockRanks statistics. They also provide some mental preparations for the kinds of stocks you'll be considering in the high-ranked set.

Don't miss this section... as you will learn:

- The underlying traits of differently ranked shares.
- The likelihood of gain or loss in high, and low-ranked shares.
- How effective they have been across sectors, size groups and regions.
- Why we are psychologically biased against high-ranked stocks.
- How to think about high-ranking stocks - from the numbers to the businesses.

On the traits of high StockRank stocks

“You certainly usually find something, if you look, but it is not always quite the something you were after.” **J.R.R. Tolkien, The Hobbit**

If stock markets are efficient, then high-quality firms should be more expensive than low-quality firms. In theory, trying to find good **and** cheap companies should be impossible. But that’s precisely what the StockRanks try to do. What if, after the ranking process is run, these traits cancel each other out?

In any factory, you can only be sure that the product matches the design if you test the output.

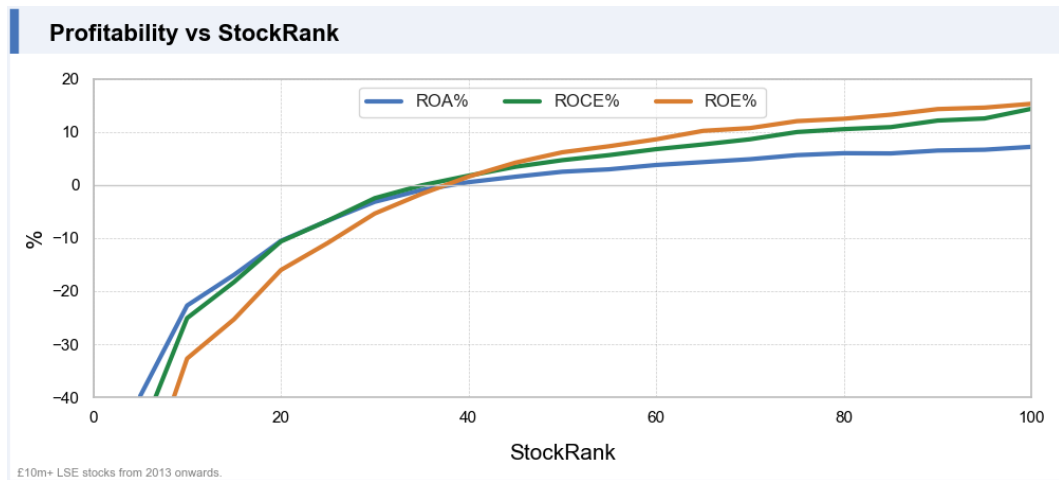
The following charts share the output. A range of financial ratios averaged over every single quarter since 2013, graphed for all StockRanks. They provide considerable insights into the characteristics of shares at each level of ranking.

Are highly ranked stocks profitable?

One of the first measures many experienced investors look at in a stock is the Return on Capital Employed - often pronounced as the ROCE (pronounced “Rocky”). It shows the percent of profit generated for every pound invested into the business. It’s the best measure of the strength a business’s financial engine.

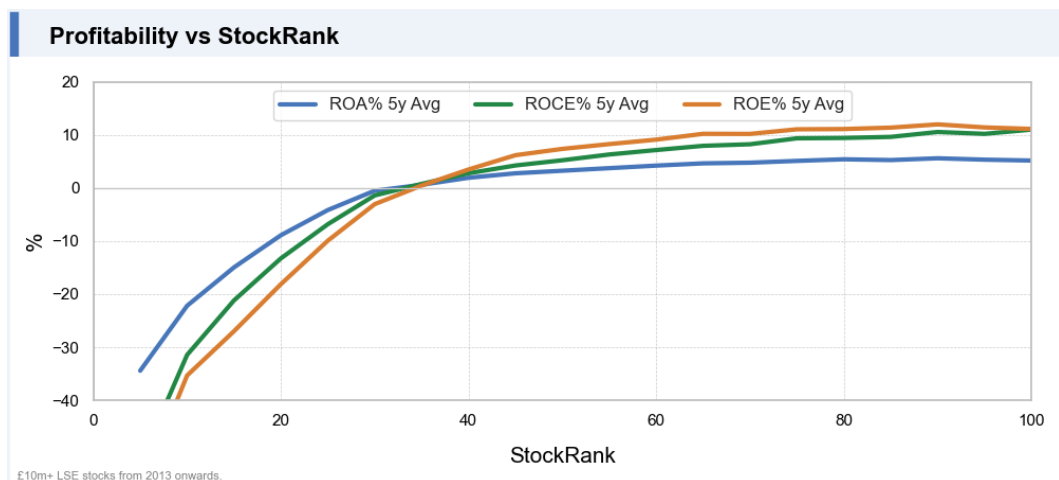
While I can’t go into all the nuances of fundamental analysis in this chapter, the ROCE is regularly assessed in tandem with its brethren the ROE (return on equity) and the ROA (return on assets). The higher these profitability measures the better.

Here’s a chart of each on the vertical-axis, against the StockRank on the horizontal-axis.

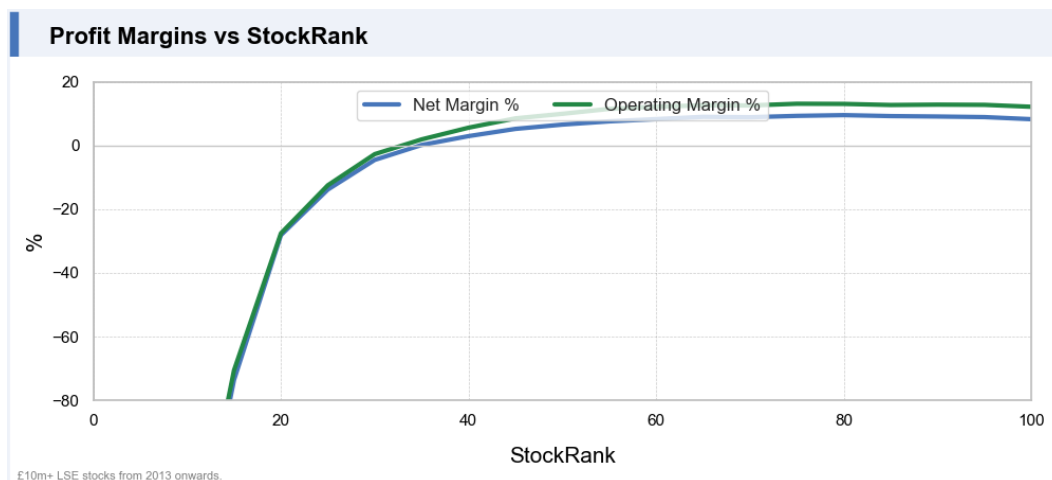


The profitability of the average stock increases as we travel from low StockRank stocks (on the left) to high (on the right). The very top 2% of stocks by StockRank typically have an average ROCE of 15%.

Those are the kind of numbers that would encourage Warren Buffett to stay up late and read the annual reports. He'd also want to see whether these profitability numbers had been sustained over the longer term, so the 5-year averages are below.

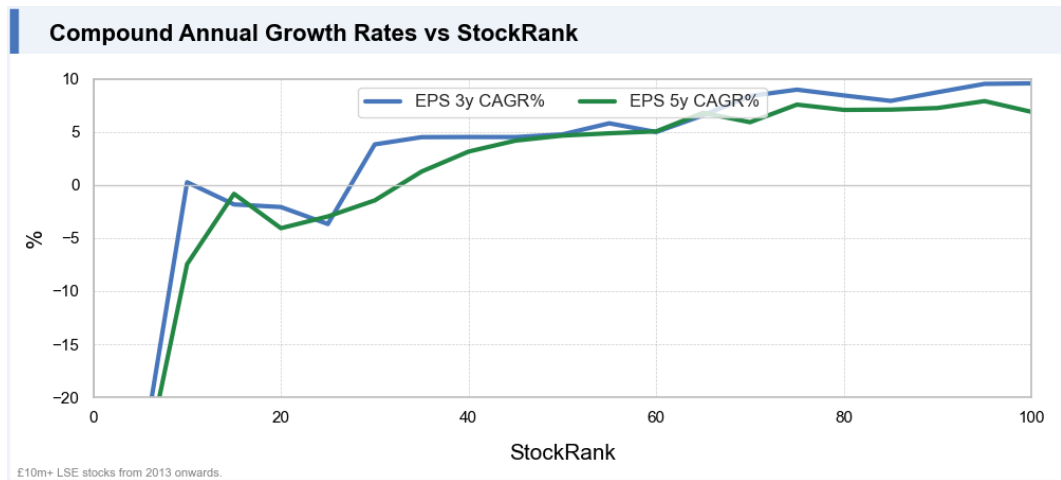


High-ranked stocks have clearly been more efficient at generating profits than low-ranked stocks over the longer term. But they have also been stronger at generating profits from sales. Profit margins also show a clear trend towards higher-ranked stocks.



Are these profitable stocks growing?

What kind of impact should this higher profitability have on profit growth? We ought to expect these high profitability companies to have decent longer-term earnings growth records. Indeed, we do find well above inflation growth for higher-ranked stocks, versus negative growth for lower-ranked stocks.

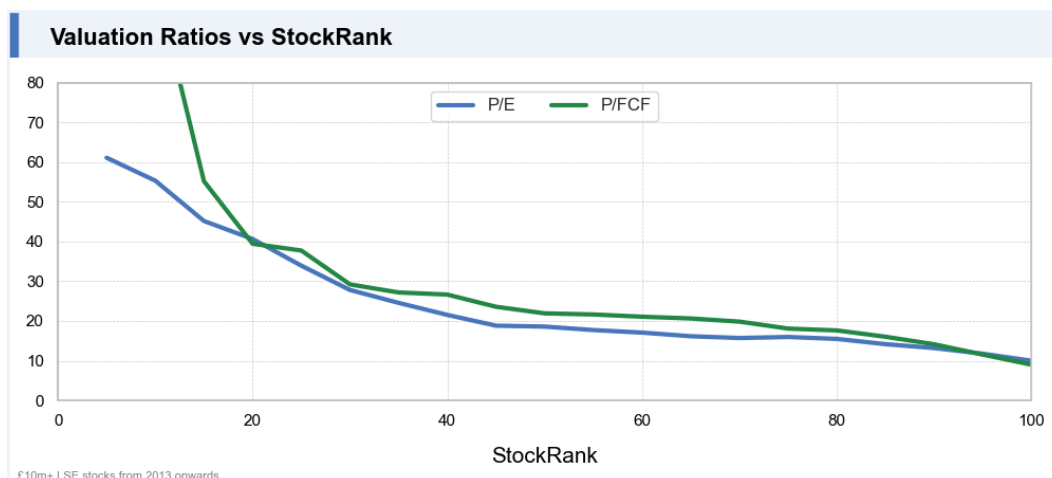


This is particularly interesting as there are barely any growth factors directly contributing to the StockRank. This makes the latest year's growth record all the more surprising. The top-ranked stocks show the *strongest earnings growth* across the board. The top 2% of stocks have grown their earnings on average more than 25% in the previous 12 months.



Surely good, growing stocks don't sell cheap?

In theory, investors should pay up for high quality, growing companies - their valuations should be at a premium to the market. In practice, we find the opposite! The chart below analyses relative valuations using the P / E ratio (Price to Earnings ratio) and the P / FCF (Price to Free Cashflow). Both are great rules of thumb for 'cheapness' - the lower the ratios, the more cashflow or profits you can buy for the same price.



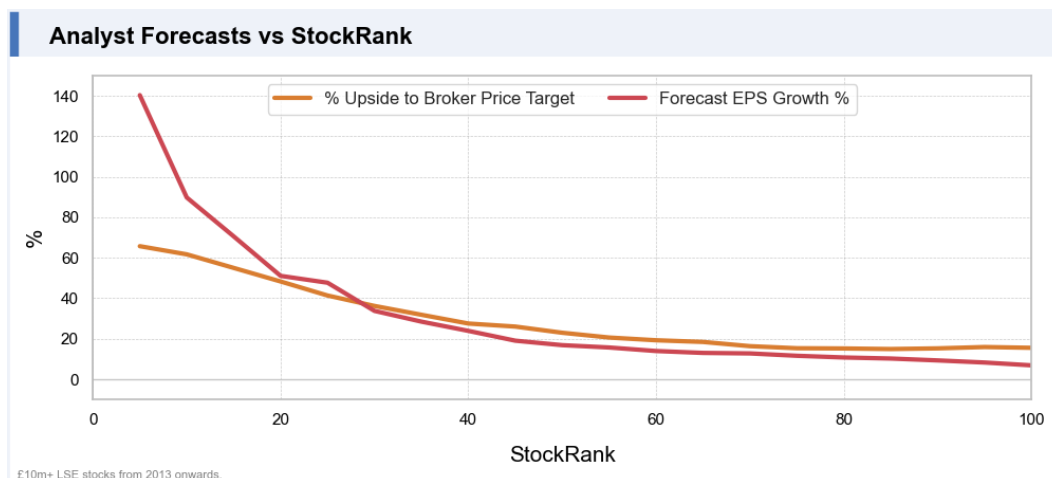
The downward sloping charts above show that higher StockRank stocks - the profitable, growing stars we've just described - *are selling at far lower valuations than their unprofitable, slow-growing opposites*. The highest ranked 2% of stocks in the UK market have an average P / E of 10 - a large discount to the typical stock in the market!

So, equity analysts must be positive on them?

This is where it really gets interesting. If you were a research analyst at an investment bank, and saw a stock selling cheap, with high long-term profitability and strong

growth, wouldn't you stick a high price target on it and recommend your clients buy? It seems not.

The next chart that shows that analysts have the *highest* price targets and growth forecasts for the lowest quality, most expensive stocks, and the *lowest* price targets and growth forecasts for the highest quality, cheapest stocks.



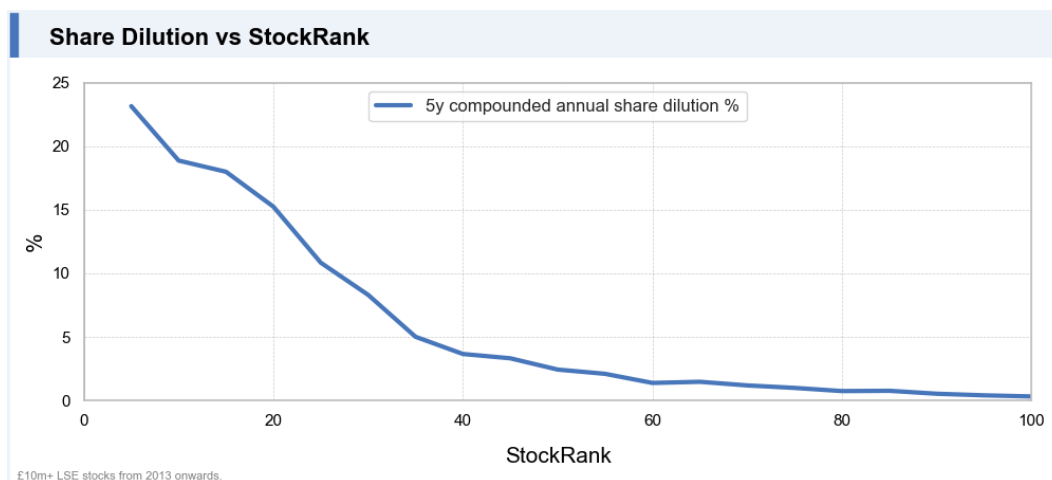
Has the world gone topsy-turvy? It seems so. I found the above chart absolutely jaw dropping.

We shouldn't overly critique this. Early-stage company funding is of course a vital role in capital markets, and company research plays a real role. There are regulations in place that separate sell-side research from investment banking operations, but analysts still appear unlikely to publish low price targets or profit forecasts on companies that may need capital raises.

The next chart, which shows the amount of recent equity shares issued, makes that link clear. Low StockRank stocks (the ones with the highest price targets) have to keep issuing new shares to stay afloat, diluting shareholders by 15% or more annually in the process.

Meanwhile, those boring high StockRank stocks rarely need to raise new cash. They tend to be self-funding as they reinvest their profitable cashflow. No wonder

city analysts ignore them - they don't give corporate finance departments much business!



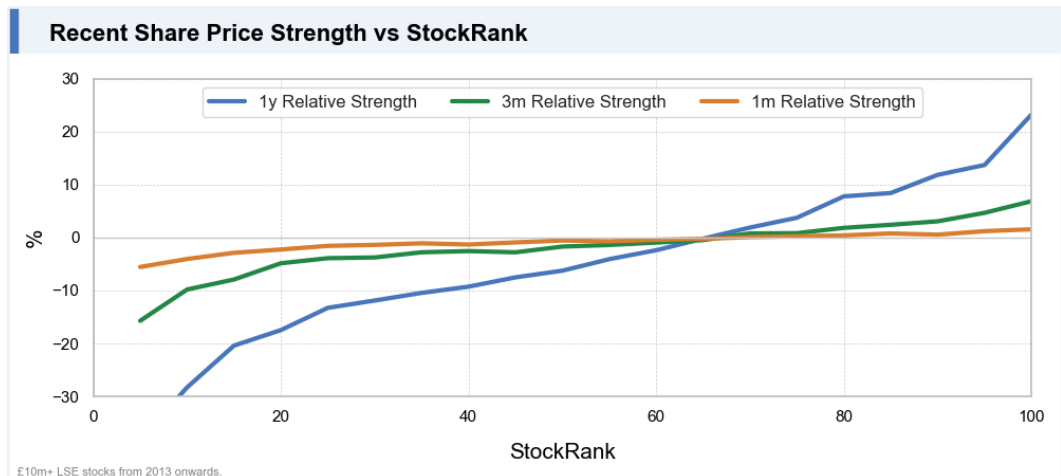
Surprised on the upside?

What happens when there are low expectations (low price targets, low profit forecasts) on good companies? Well, surprise, surprise, those companies often beat them. The following chart shows that in their most recent results the top StockRank companies have typically beaten analyst earnings forecasts by 7.5% whereas the lowest have missed them by a country mile.

When companies surprise on the upside, analysts have to grudgingly and reluctantly admit they are wrong. So, they increase their earnings estimates and their recommendations. This is precisely what we see with the high StockRank stocks - a sequence of estimate upgrades and recommendation upgrades, while the low StockRank stocks keep getting downgraded as expectations have been too high.



If these stocks have been ignored by brokers, and sell at such cheap prices, surely their share prices should be in the doldrums? Surprisingly no - we find that high-ranked stocks just keep beating the market. Whether you look at the last 1 month, 3 months or the last 1 year, the performance has been strong - the shares have been market beaters.



Seeing is believing, or is it?

I have to admit that the above statistics completely surprised me. *How can these stocks be so profitable, grow so quickly, consistently beat analyst expectations, but be so undervalued?*

If you offered any intelligent investor the chance to buy an *individual* stock with these traits - profit growth above 30%, profitability above 18%, improving broker sentiment with a Price to Earnings ratio among the lowest in the market - he'd bite your arm off.

So why don't they? I finally discovered the answer from the late Professor Robert Haugen in his fascinating book "The Inefficient Stock Market".¹

The fact is that there is no high StockRank stock that individually displays *all* these traits. Each displays only some of them, but also has a few nasty individual warts that ward off purchasers. The top-ranked list often includes unappetising issues like pawnbrokers, spinoffs, foreign listings and recovery stocks.

As most investors buy their stocks individually, they find it hard to stomach a wart. Herein lies a great mistake. They forget that it's the averages that pay off in a portfolio. The warts smooth out when frogs are swallowed whole.

So, did we find what we were looking for?

We set out in our mission to find good, cheap, improving stocks, and the charts indeed show that the StockRank process has achieved its aim. We haven't found a set of wishy-washy stocks where each positive factor has cancelled the others out. Quite the contrary, the positive factors have even been accentuated.

While the story above is told through averages, the analysis gives confidence that the portfolios constructed using the StockRanks will be weighted towards factors that pay off over the long term.

Warren Buffett once said, "*it's better to buy a wonderful company at a fair price than a fair company at a wonderful price*", but if one is willing to swallow a few warts, it seems possible to buy a wonderful portfolio at a wonderful price!

Notes

- 1 [“The Inefficient Stock Market” - Robert Haugen.](#)

Know the odds - the “win rates” of the StockRanks

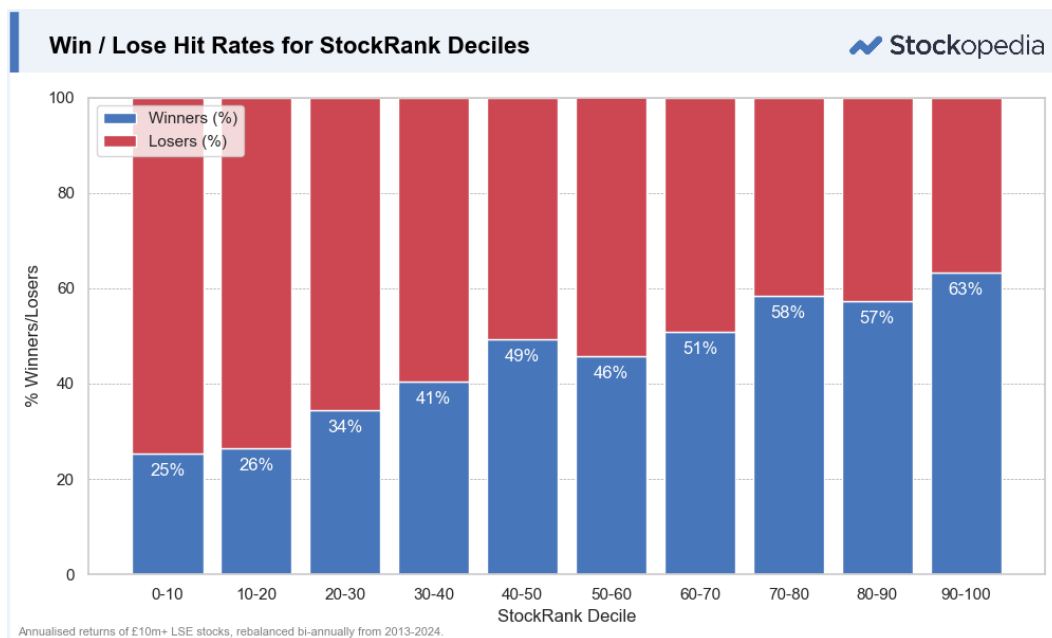
“In this business, if you’re good, you’re right six times out of ten. You’re never going to be right nine times out of ten.” Peter Lynch.

Many investors treat the stock market like a horse race. They find a horse they like the look of and put their money on it. Then they watch the ride, grip the side of their seats, and hope their bets come home. That’s really not the way to play. Owning just one or two stocks is bad enough, but gambling on long shots just compounds the error.

The smart way to play the stock market is to learn the historic win rates behind the styles of stock you intend to invest in - and invest accordingly. If you can learn the odds of different styles of stock, you have a cheat sheet to improve your returns.

The following chart shows the percentage of stocks in each of the ten StockRank deciles that have been winners (blue) or losers (red) on average if held for a two-year period.

It’s clear that the 90+ set of StockRank stocks has provided the best ‘hit rate’ of finding winning shares that beat the market. The proportion of blue “winners” increases from the left (low-ranked shares) to the right (high-ranked shares). More than six out of ten 90+ ranked shares have been winners.

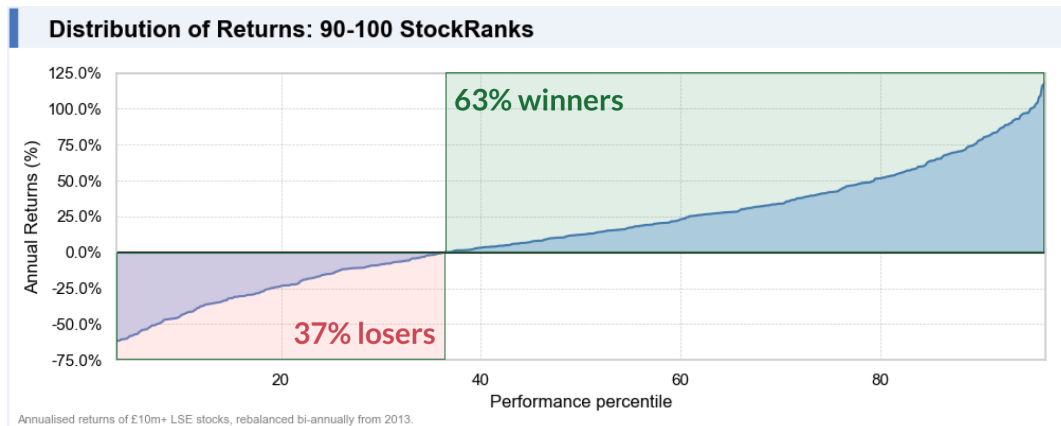


The odds of picking winners with low StockRanks are clearly low at only one in four. It’s not impossible - some say ‘*who dares wins*’ - but it’s not a game for me.

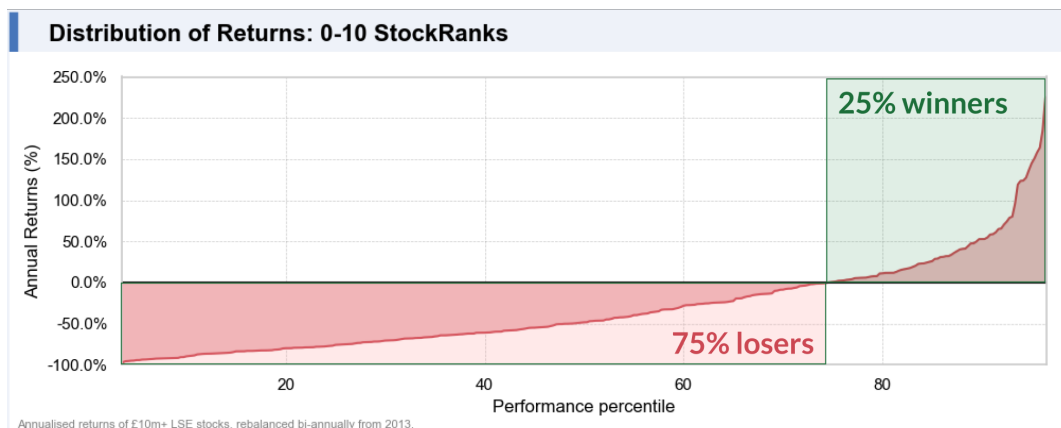
Consistency vs Magnitude

Of course, the above analysis only shows the **consistency** of selecting winners from each ranking set of shares - commonly known as the ‘win rate’. But it’s possible to select a majority of losers if the **magnitude** of the gains for a few of those losers overwhelms the poor win rate.

The following charts compare the distribution of returns for the best (90-100) and worst (0-10) sets of shares by StockRank over all time periods.¹



While the high-ranked set (above) dominates in terms of sheer numbers of winners selected, the worst-ranked set (below) does have a slightly higher probability of finding *bigger* winners.



Sadly, the odds of picking those big winners are very short indeed. The key takeaway is that if you can select a winner from a StockRank 40 or less bucket, **you may well find a higher reward, but your odds of doing so are far worse.** As Dirty Harry would say, “Do you feel lucky punk?”

In which game would you rather play?

When I left the City, I spent several months playing semi-professional poker while devouring twenty books on the subject. I learned everything I could on hand probabilities, pot odds and playing position. The key in poker is to *selectively bet when the odds are in your favour*.

I don't pretend to be the greatest stock picker. I rarely have conviction about which low or high StockRank stock will outperform. But I do know the odds of picking winners have been much higher among higher ranking stocks. So that's where I place my bets.

“Investing in what you know is a gamble, invest in what you can calculate. The odds favour the prepared mind that has quantified the risk.” James O’Shaughnessy.

High-ranked stocks are like being dealt a good poker hand - like a pocket pair, face cards or suited connectors. I know I've got good odds on them, but I also know they can lose and lose heavily - sometimes that's the luck of the draw.

How to avoid picking only losers

One unfortunate subscriber selected 2 losing shares from the 90+ ranked set and wrote in to say:

“What proportion of those stocks have disappeared, gone bust or become disasters lately? Let us say that 20 stocks have a ranking between 95 and 100 and five fall into the category. That makes 25%... which is a high number.”

While the distribution charts make clear that big losers are rare in high-ranked stocks, we do know that 37% of 90+ stocks see their share prices decline over a 2-year holding period. For some investors, this may be an unacceptable risk, but it's a risk that is easily mitigated by diversification. Let's do some basic maths.

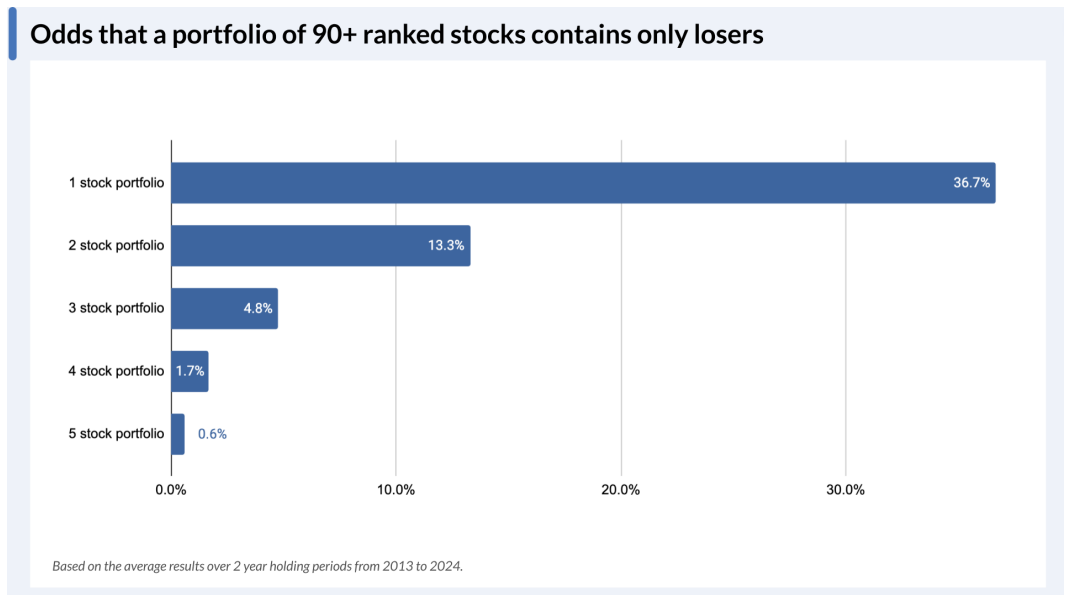
There have been approximately 150 UK stocks in the 90-100 StockRank set each year above a £10m market cap - so there would have been roughly 55 losers and 95 winners. If an investor had picked 2 stocks at random from the 150 shares - *what is the likelihood they would have picked 2 losers in a row?*

Let’s calculate. $55/150 \times 54/149 = 13.3\%$. That’s roughly a one in eight chance.

So only one in eight investors buying 2 stocks from the highest StockRank set would have been unlucky enough to pick a pair of losers (in an average year).

Let’s not sugar coat it. It’s impossible not to pick *some* losers from the high ranked set. But the good news is in the stock market, **you don’t have to hold just 2 cards**. You can deal yourself as many as you want. Hold a more broadly diversified portfolio - from 12 to 25 stocks - and you’ll improve your odds of receiving a similar return to the overall 90+ ranked set.

Even owning 5 stocks reduced the chance of owning a full set of losers down to just 0.6%. Of course, individual years are not typical years, and in a bear market, the majority of stocks tend to go down together... so this is illustrative only!



Play the stock market smart: Know your odds. Diversify broadly.

Notes

- 1 Distribution charts winsorised at the 3.5% level.

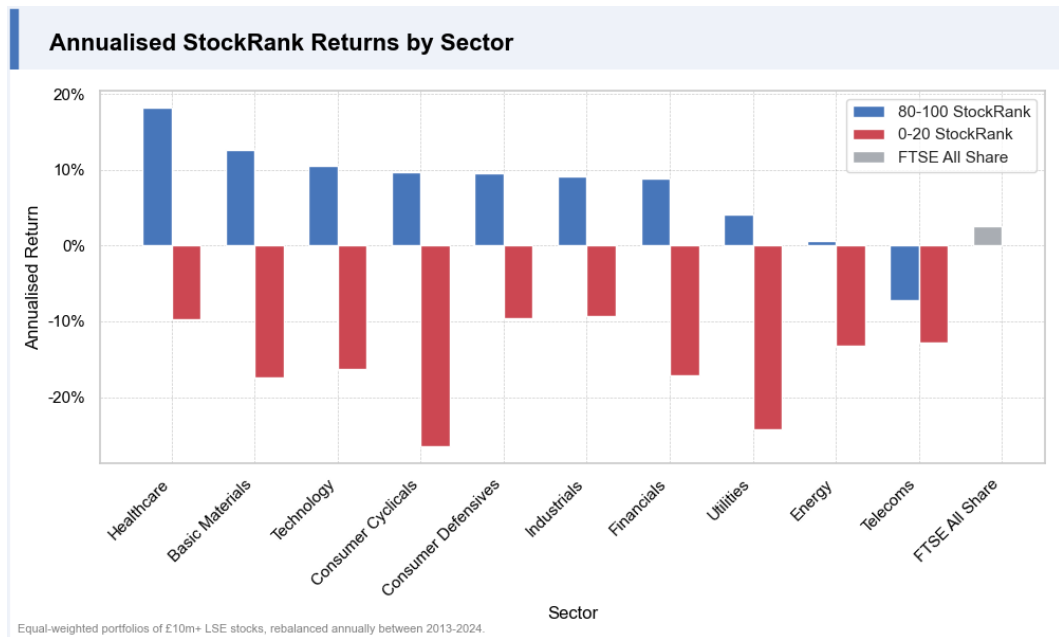
StockRank performance across sectors, sizes and regions

Most of our effort goes into tracking the performance and win rates of the StockRanks *across the market as a whole*. But are they effective in across sectors, company sizes, and regions? Let's investigate. The charts in the following section all relate to the UK stock market unless indicated otherwise.

Performance by Sector

The StockRanks use the same set of factors for every stock in the market, regardless of sector. This isn't entirely optimal. Some measures are more appropriate for analysing certain sectors and irrelevant for others. For example, banks shouldn't really be ranked according to the same metrics as miners. Nonetheless, there are great benefits to having a universal ranking system across sectors. It makes horizontal cross-sector comparison of stocks straightforward, while still allowing vertical comparison within sectors.

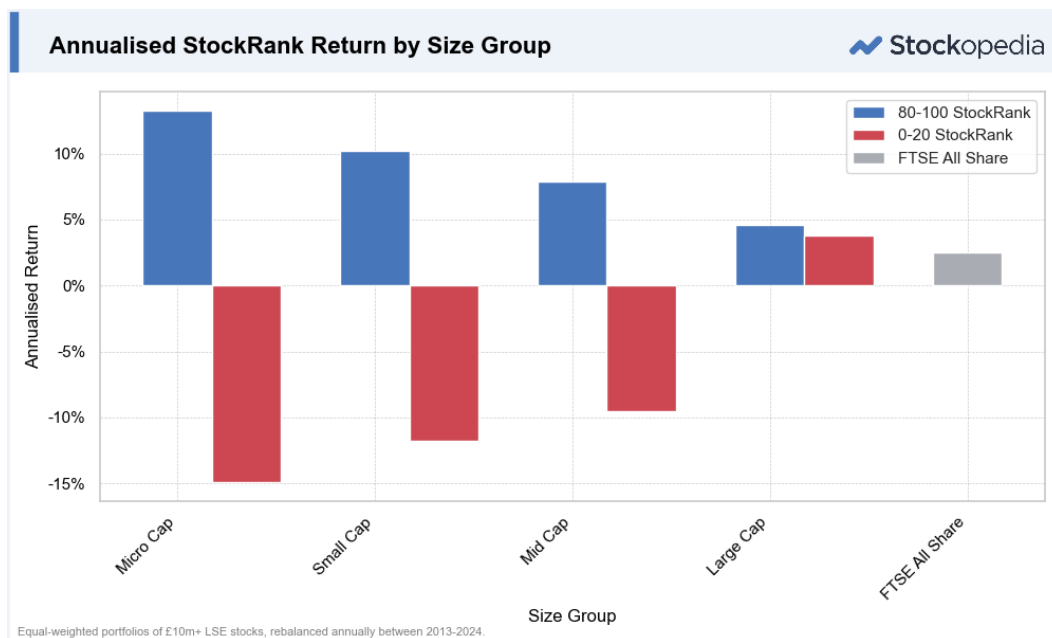
The best answer to whether our universal ranking system is effective is to look at the statistics for each sector. The following chart shows the annualised return for the top ranked 20% of stocks versus the bottom ranked 20% in each of 10 sectors, since inception with one-year holding periods.



The key insight from this chart is that there is a significant ‘spread’ between high and low-ranking shares in every sector. Some sectors, like energy, have performed poorly as a whole over the decade. But the StockRanks have helped to highlight better performing stocks in all sectors.

Performance by Size

The chart below shows that the StockRanks have been effective across large caps, mid-caps and small caps in the UK. It plots the difference between the top 20% and bottom 20% of ranked stocks for one-year holding periods. Jim Slater once said, “Elephants don’t gallop” which certainly appears to be true in the UK, if not recently in the USA. Nonetheless, high-ranked stocks outperform across all size groups.



(Please note that there are rarely many, or any, low-ranked large caps, so the results are dependent on the holding period. At a 6-month holding period, the 0-20 Large Cap set declines at rate of more than 8% annualised!)

80+ ranked micro-caps (below a £50m size) have performed surprisingly well with a 13.4% annualised return. A word of caution is needed here. The micro-cap segment of the market can be difficult to trade. There are wide spreads between the bid price and the offer price, which makes dealing expensive. There can also be a low number of shares available on the open market. So be careful in this segment, as the realised returns are likely to be significantly lower than indicated.

Performance by Region

Stockopedia's international coverage has grown since UK and European coverage began in 2013. We launched US coverage in 2014, then Canada, Australasia, India and Developed Asia in 2016.

Given the shorter, published time frames for these regions, it is harder to draw like-for-like performance comparisons. Nonetheless, we can pull some general observations:

- The StockRanks have especially excelled in the UK, Europe, India, and Developed Asia - creating strong and even spreads between high-ranking and low-ranking stocks.
- High StockRanks have also outperformed in Australasia & Canada - two resource heavy markets. Lower ranking shares have occasionally outperformed with high periodic volatility.
- While high StockRanks have impressively outperformed lower StockRanks in the USA, a common observation is that the S&P 500 has outperformed *all* the ranking sets in the USA. The reason is that the index has been dominated by a select few mega-cap shares - the FANG stocks, or “Magnificent Seven”. The index is market-cap weighted, whereas our StockRanks tracking is equal-weighted. In periods where mega-caps outperform, such as the last decade, the index can beat all equal-weighted indices. It’s notable, though, that since the pandemic crash, the S&P 500 has underperformed high-ranked stocks considerably. Value investing is now outperforming in a higher interest rate environment.

We’ll finish this section with a couple of additional thoughts for consideration.

- **Different factors may work in different regions at different times.** QVM has worked best in UK, Europe, Canada, Australasia and some Asian markets. In the USA, growth stocks have performed best, so higher QM Ranked shares have outperformed there. QV Ranked shares have performed best in Pacific Asia. Some observers have said that momentum has rarely worked in Japan, though this seems to now be changing. Some factors work better in different interest rate and economic environments. It’s wise to be aware of the cyclical & regional nature of factor performance.
- **Favour inefficient markets for maximum returns.** The US market displays a regulatory framework that favours indexing, standardised reporting that favours quants, and a range of dominant, monopolistic technology companies

that squeeze out competition. This has made outperforming the index harder. All markets may tend towards this kind of efficient state over time, reducing the returns for factor investors. Meanwhile, it may pay for factor investors to favour more inefficient markets.

Why we're biased against good, cheap, strong shares

"If you want to have a better performance than the crowd, you must do things differently from the crowd." **Sir John Templeton.**

A week apart in March 2015, two companies made announcements on the London Stock Exchange with very, very different outcomes. What was striking about these announcements was the setup in each case, and the completely divergent reaction from investors.

- **Dart Group Plc**, an aviation and logistics firm, was the highest-ranked stock on Stockopedia the day before the announcement. It was the only stock with a 100/100 StockRank.
- **Synety Plc**, a VOIP telephony software maker, had a StockRank of 1/100. This was the 8th lowest ranked stock in the UK universe before the announcement.

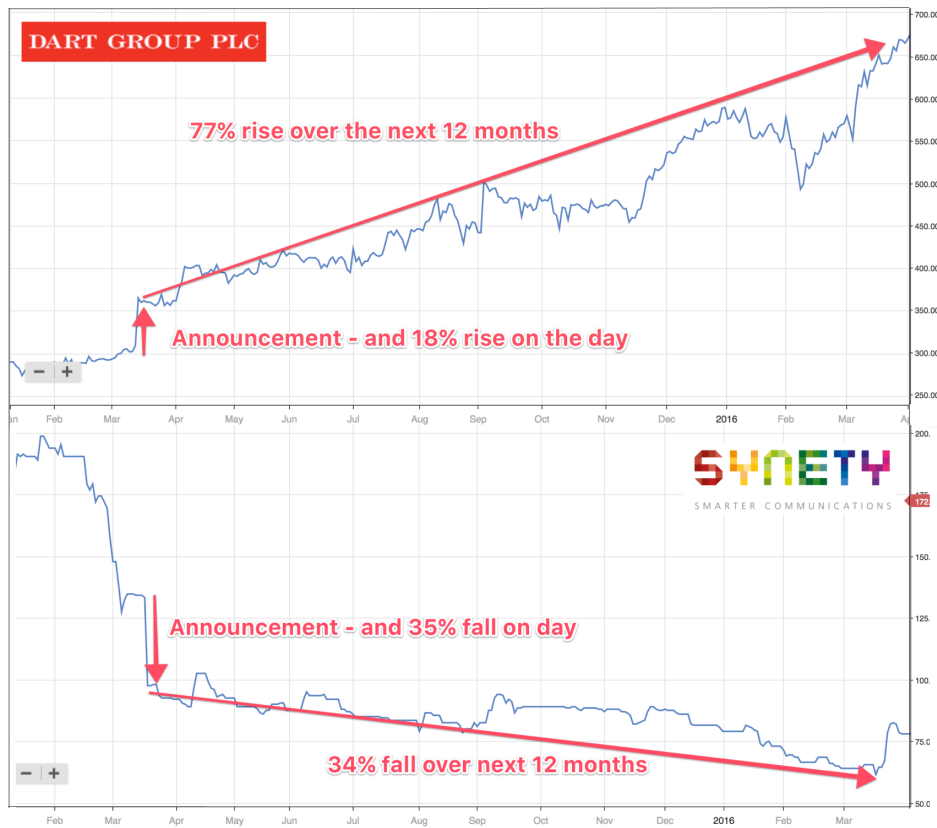
Dart announced that it would meet expectations for the year. It promptly rocketed up 18%. But the announcement and new high price drew few comments. The overriding sentiment was to profit take.

"This seems a rather euphoric reaction. I'd probably be tempted to bank some gains on today's big move up".

Meanwhile, the next week Synety announced that it needed to issue new shares, only a year after it had raised \$4.5m. It promptly plummeted 35%. There was an outpouring of comments on the day. Many investors defended the placing and bottom fished.

12 months later, Dart Group had risen by 77% while Synety had fallen by another 34%.

A tale of two stocks



By 2024, both companies had been renamed (as Jet2 and CloudCall respectively) but the performance differential had continued over the long term. Dart Group (Jet2), despite the pandemic disrupting airlines, was trading at 1328p, more than 400% above its price at the original announcement. Synety (Cloudcall) had delisted at 81.5p, still 40% under its price at the original profit warning.

Why do investors misread the future?

It's important to understand our innate biases against high-ranked shares. For some reason, we often don't fancy them, even when they announce promising news. I believe it comes down to the fact that stocks with high rankings come with a few issues.

- **Quality stocks are boring:** good stocks are often rather predictable. Investors prefer exciting stories with unpredictable outcomes. This regularly leads to quality stocks trading too cheaply versus story stocks that offer a chance at rapid upside volatility.
- **Value stocks have problems:** cheap stocks can suffer from suspect business models or ongoing problems. It's natural for investors to be fearful, or dismissive, of these stocks. This regularly means they trade *too* cheaply.
- **Momentum stocks are scary:** strong stocks are typically breaking out to share price levels they've never reached before. New highs make investors feel they've missed the boat. Ironically, this means they may not be priced *highly enough* due to systematic under-buying.

It's little wonder that so few invest in these kinds of shares, which may be why they offer so much opportunity. Dart Group was a classic fit for this picture. It became one of the top ten multibaggers of the last decade.¹

Notes

¹ Stockopedia. *Makings of a Multibagger*. 2023.

How to think about high StockRank stocks

I've witnessed many investors take the leap into investing with the StockRanks as their sidekick. While many have gone on to have strong, compounding returns, there are some who have made some costly mistakes. To use the StockRanks appropriately, it pays to clearly understand what a high StockRank really means.

Remembering these few rules of thumb will pay dividends.

1. Take care crossing a river on average four feet deep

One of Nicholas Nassim Taleb's maxims is that you should "*never cross a river that is on average 4 feet deep*". Taleb, a former derivatives trader and the author of "Fooled by Randomness"¹, has an understanding of probability that goes deeper than most. This saying implies that averages can be misleading. They provide no insight into how variable results can be.

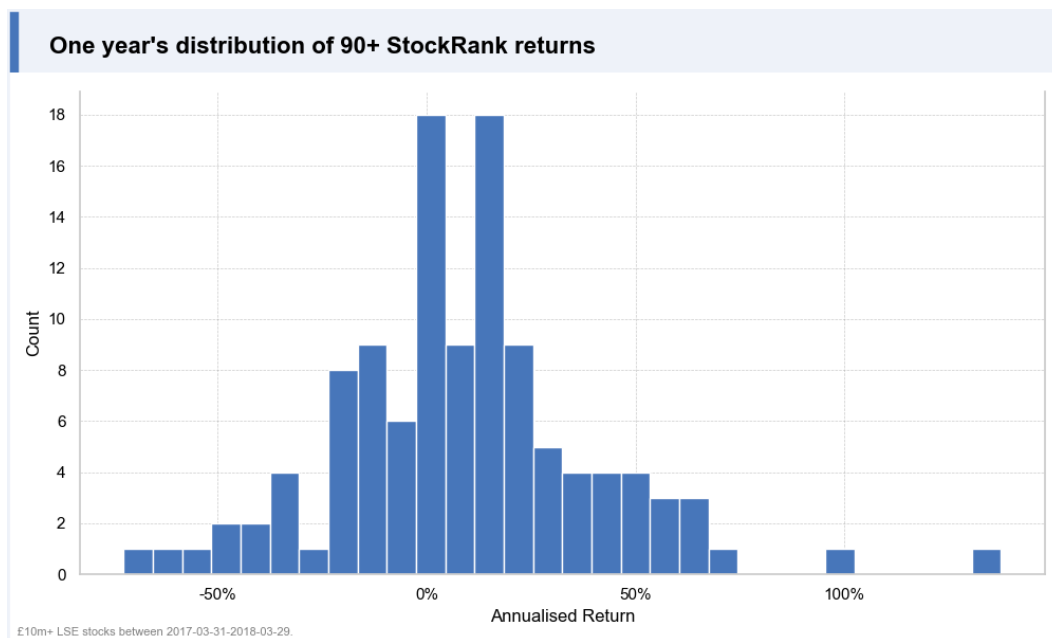
In simple terms, there's a difference between crossing a river that's *consistently* 4 feet deep, to crossing a river that is *mostly* 2 feet deep but has occasional, yawning 20-foot pools.

This analogy really helps when thinking about the StockRanks. A stock that is ranked 99 scores extremely well across three key drivers of stock market returns - quality, value and momentum - **but that's no guarantee of returns.**

Historically, over most multi-year periods, **portfolios** of stocks with these characteristics have tended to outperform the market. But for each **individual** stock, there is *zero guarantee* of outperformance.

The chart below shows the distribution of share price returns of 90+ ranked stocks in the twelve months from April 2017. There's nothing special about this period, it's

just illustrative of normal markets.



As you can see, just because a share has a 90+ StockRank does not mean it's going to appreciate. In any two-year period, 37% of 90+ ranked shares have been losers, but in some bad market years, far higher percentages can be seen.

In early 2017, 99 ranked stock DX Group collapsed by 65% in a single day on a profit warning. This was the worst one day decline I'd ever seen in a high-ranking share.

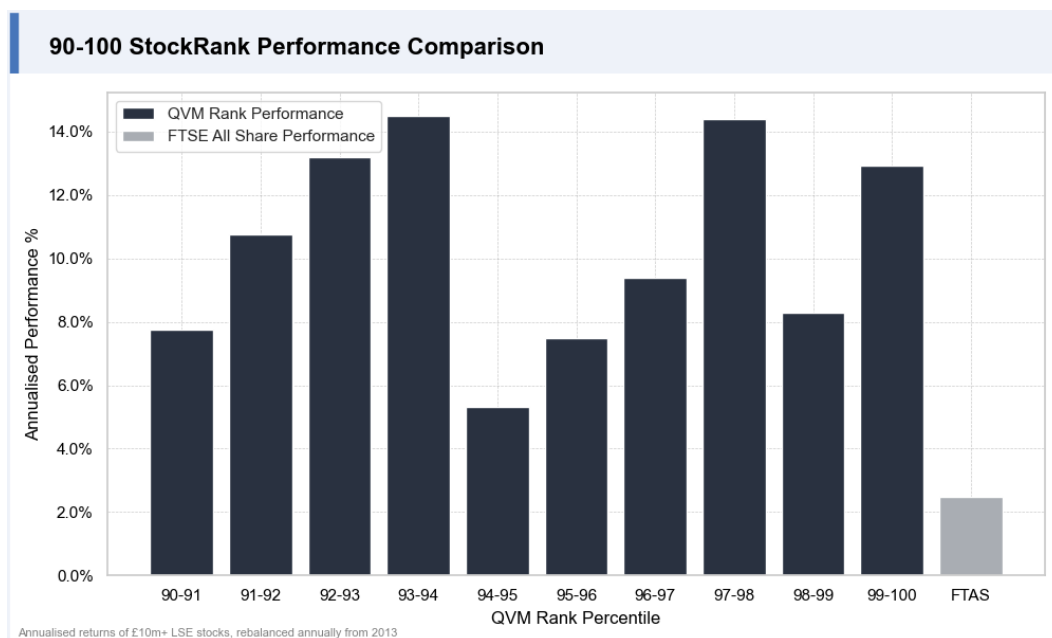
Bad outcomes do happen. Expect them. Don't buy just one stock. Invest broadly and diversify.

2. Don't overweight the precision of a 99 StockRank

Another key point is that a 99 ranked stock is not necessarily any 'better' than other 90+ ranked stocks. A small tweak to the inputs or weights in our StockRank algorithm could easily switch the rankings of these two stocks. So while it's very

exciting to find a stock ranked 99, there is absolutely no reason to consider it a more optimal investment than one ranked 10 (or possibly even 20) grades lower.

Here's the distribution of annualised returns across each percentile of rank between 90 and 100 over the eleven-year period from 2013.



Shares ranked 93-94, and 97-98 performed 'best' over this period, while those ranked 94-95 performed 'worst'. Does this mean you should only buy 93 ranked shares, and exclude 94 ranked ones? Of course not. Those returns are coupled to periods of market history that are now behind us, and the future distribution will be different. Furthermore, any change to the rebalancing period (e.g. quarterly rather than annual rebalancing), or any change to the start date (e.g. 2015 rather than 2013), would significantly change the above distribution.

While some of the market's biggest winners, like Games Workshop, have indeed witnessed a 99 StockRank at takeoff, the key lesson is that there's not much difference within the top decile.

3. Become comfortable with boring, scary, problem stocks

At a UK Investor Conference back in October 2014, I made a keynote speech. On one slide were the fundamentals of a 99 StockRank share with the name of the company blurred out. Across almost every fundamental and technical score, the stock looked first class. Strong growth, low valuation, good return on capital, low debt, high share price strength and ongoing broker estimate upgrades. A compelling investment case I preached... and the audience agreed.

They were extremely eager to know which company it was. I took my time... waiting, waiting... trying to tease the anticipation. Like a magician pulling a tablecloth, I revealed... *an unloved house builder called Barratt Developments*. If only I could have bottled their disappointment! I presume few bought it. It soared 70% over the next 12 months.

As we saw in the last chapter, high StockRank stocks are often extremely unpalatable for investors. But this is precisely why they are often mispriced. If they were more appetising, then the market would devour them, and these stocks would be priced to perfection.

"Better than boring along is a stock that's boring and disgusting at the same time. Something that makes people shrug, retch or turn away in disgust is ideal." Peter Lynch²

Become comfortable with discomfort. Owning high StockRank stocks at times is not easy. It can go against almost every fibre of your instincts. But the great benefit is that if you do invest in them, you may be far less likely to fall in love them. Avoiding attachment is a winning investment trait.

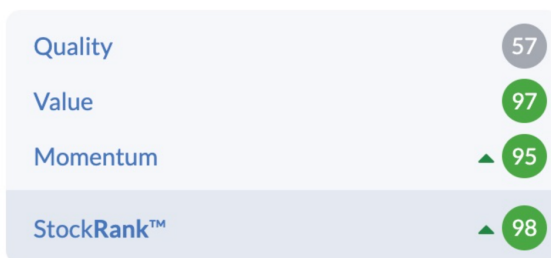
"Nothing is lost with less discomfort than that which, when lost, cannot be missed." Seneca

4. Understand that some distressed stocks may be high-ranked

When we launched the StockRanks back in 2013, there was much discussion that a certain haulage company, Wincanton, did not deserve a StockRank of 98/100. There was criticism.

They capitalise a large chunk of their payroll into the balance sheet. It getting a StockRank of 98 is a serious worry.

They were right. Wincanton was indeed highly levered and clearly labelled with a high risk of bankruptcy on our StockReport. So, why on earth should a stock like this still receive a StockRank of 98/100? Shouldn't we change the algorithm to avoid stocks like this?



The answer is nuanced, controversial, but ultimately no. Here are the reasons:

1. **Firstly**, a stock's bankruptcy risk is factored into the Quality Rank. But Quality is only **one third** of the overall StockRank. If a stock is cheap AND has high momentum, then its Value and Momentum Ranks will outweigh a low Quality Rank - which it did in this case. In fact, according to the academic literature, quality as a factor is *less predictive* than value or momentum. We often wonder whether we should be weighting Quality as highly as we do.
2. **Secondly**, and more specifically, while financially distressed stocks as a whole can underperform, *there is a subset of these stocks which recover*. Turnaround

stocks can be some of the biggest stock market winners. Excluding them can depress returns. There are various techniques for separating the wheat from the chaff among bargains. Josef Piotroski³ showed that stocks with higher financial risk, that have *improving fundamental trends*, can have a tendency to outperform.

3. **Thirdly**, the Quality Rank is designed to score the quality of a company's franchise (stability, profitability and growth), in tandem with its fundamental trend (F-Score) and its riskiness (financial and earnings quality). The bankruptcy risk is one factor in a multifactor approach. The baby is *not* thrown out with the bathwater when just one signal flags red. It's thrown out when it's flagging red on them all. The fact that a stock like Wincanton had a positive fundamental trend balanced the bankruptcy risk in the scoring system.

Wincanton was eventually taken over in April 2024 for 605p, a 12x return on its 50p price in 2013 (25% annualised). It still had a high bankruptcy risk indicator. Disappointingly, I never bought it.

Wincanton - a long haul to a 12 bagger



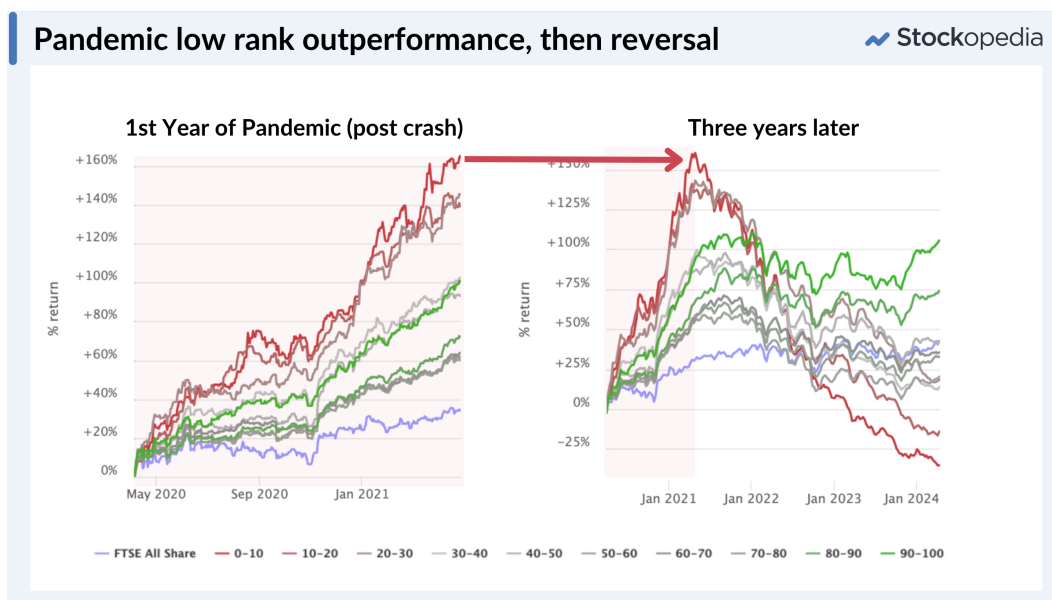
What's the solution? - Well, don't confuse ranking with portfolio construction. If an

investor doesn't want to include highly levered or risky stocks in the set of stocks they purchase, they can of course *deliberately exclude them* from their portfolio construction rules. A simple filter to remove all high bankruptcy risk or highly levered companies from a portfolio would instantly remove an undesired stock like Wincanton from a set of stocks for purchase.

5. Understand that bad times can occur

The last decade has generally been kind to factor investors and thus the StockRanks. They've 'worked' well overall, as we can see from all the long-term charts. **But they don't work all the time.** It takes time, and patience to earn the rewards.

An example will illustrate the point. During the lockdowns of the Covid-19 crisis, low-ranked stocks dramatically outperformed high-ranked stocks. The performance of the StockRanks *inverted*.



The chart above shows 0-10 ranked shares rocketing 160% in 12 months from the lows of March 2020 to the highs a year later. It turned out that it took a

pandemic, lockdowns and trillions in global stimulus to create the perfect speculative environment for low-ranked stocks to thrive. This was the period of vaccines, “meme-stocks” and other extraordinary phenomena. Once the economy returned to more usual trading, the returns to the ranking sets normalised back to their long-run trend.

This was an exceptional period, but needs remembered. Bad times do occur. It's during these moments that you will most want to throw in the towel. When you hear of friends doubling their money in a week chasing the latest trend, who can blame you? Just remember, that if Mr Market isn't rewarding good, cheap shares, he may have lost his senses. That's only ever been a temporary phenomenon.

6. Be comfortable with the error rate

We, and our data suppliers, have high bars for quality. Our assurance processes catch the vast majority of data issues, but errors can occasionally slip through the net. It may be an automated process issue, an analyst's input error or delayed data entry. These issues may feed into our algorithms and may be published as part of a StockRank.

When subscribers find an occasional error, we and our suppliers act rapidly to rectify it. But if we are investing based on this data, there is a chance that a small error rate can impact our selections and decisions. Does this mean investors would be reckless to rely on the data?

Well, I've learnt that the error rate in data is far lower than the error rate in human judgement. Our research has shown that the forecast accuracy of 90-100 ranked shares is higher than that of professional analysts' “buy” ratings. Human analysts do make their own mistakes and are often spectacularly wrong.

One of my favourite studies by James Montier indicates that the average analyst forecast of stocks' profits one year in advance is incorrect by 45%. Over two years, the average error is 94%.⁴

Indeed, Barry Ritholtz interviewed the legendary James O'Shaughnessy - author of “*What Works on Wall Street*” and a great inspiration for our work at Stockopedia. In

the interview, he discussed the need to become comfortable with the built-in error-rate when investing systematically.

So, what's the only rational thing to do if there is a small error rate? **Diversify**. It doesn't matter if one stock is incorrectly ranked in a portfolio of 20. Find safety in numbers. It's a free lunch.

Notes

- 1 Taleb, Nassim Nicholas. *Foiled by Randomness: The Hidden Role of Chance in Life and in the Markets*.
- 2 Lynch, Peter. *One up on Wall Street*.
- 3 Piotroski, Joseph D. 'Value Investing: The Use of Historical Financial Statement Information to Separate Winners from Losers'. 2000.
- 4 Montier, James. *The Little Book of Behavioural Investing*.

Part IV - Using the StockRanks

The following sections will help you understand how to put the StockRanks to use. In this section, you will learn all about:

- How to classify all your stocks across eight “styles”.
- Approaches for stock-pickers when using the StockRanks.
- A foundational StockRank strategy for systematic investing.
- A product guide to of all the StockRank features at Stockopedia.

These resources should help you on your way to developing your own approach.

Classify your stocks with the eight StockRank Styles

“Putting stocks in categories is the first step in developing the story. Now at least you know what kind of story it’s supposed to be. The next step is filling in the details that will help you guess how the story is going to turn out.” Peter Lynch¹

Peter Lynch knew a thing or two about stock picking. He ran Fidelity’s Magellan fund from 1977 to 1990 returning more than 29% per year for his investors, double the return of the S&P 500 over the period. In his classic book *“One up on Wall Street”* he explained how he grouped stocks into categories like “turnaround” or “fast grower” for easier understanding.

When assessing a share, it’s enormously beneficial to know what you are dealing with. Taking inspiration from Lynch, we’ve created eight different classifications. Each is generated from high and low combinations of quality, value and momentum ranks. This allows you to instantly gauge the relative merits of any share.

- There are four **‘winning styles’** which are strongly exposed to two or three QVM factors. These map to strategies favoured by famous investors - such as contrarian, turnarounds, high-flyers, and super stocks.
- There are four **‘losing styles’** which are exposed to one or fewer factors. These map to common *traps* that investors fall into - value traps, momentum traps, falling stars and sucker stocks.

The following graphic illustrates the principle.



Let's explore each in turn.

Winning Styles

Our research has shown that the following four styles, signified in the green section of the above graphic, have a higher probability of being winners.

Super Stocks

Quality: high, Value: high, Momentum: high (good, cheap, improving).

The term "Super Stock" was first used by the late, great Professor Robert Haugen in "*The Inefficient Stock Market*"². Haugen showed that good, cheap, improving shares have a tendency to beat the market. We have honoured the great man by borrowing his terminology. Buying these kinds of shares can require steel as cheap stocks have problems, good stocks may be unexciting, and few enjoy buying stocks at new highs. This may though be why they so often exceed expectations.

Contrarian

Quality: high, Value: high, Momentum: low (good & cheap, but declining).

This is the classic Value Investing style favoured by legendary investors such as Warren Buffett, Joel Greenblatt and Josef Piotroski. Buffett summed it up best by saying, *"I like buying quality merchandise when it's been marked down"*. Temporary dips in share prices typically provide opportunities for bargain hunters to pick up supply. Joel Greenblatt popularised this strategy of buying good, cheap stocks in his excellent *"The Little Book that Beats the Market"*.³

High Flyers

Quality: high, Value: low, Momentum: high (good & improving, but expensive).

High Flyers are frequently the stock market stars, the ones that all fund managers want to say they own. They tend to be very high quality, growing stocks with a history of beating forecasts. Just don't expect this kind of stock to come cheap. Bill O'Neil's classic *"How to Make Money in Stocks"*⁴ shows that if you wish to own the huge winners in the market, you'd better be willing to pay a premium P / E ratio - which is anathema to value investors. Among this category of stocks may lie some great multi-year compounders - but watch out, when the momentum finally turns, these can turn into falling stars. Many proponents of this style, like Mark Minervini⁵, are medium term traders who use stop losses.

Turnarounds

Quality: low, Value: high, Momentum: high (cheap & improving, but junk).

There's nothing better than picking up a seemingly broken stock in the bargain-basement and watching it multi-bag. Value and Momentum are widely regarded as the two strongest factors driving returns in almost every asset class⁶. Even if a stock is currently poor quality and losing money, the first indicator of recovery is often an improving share price. Buying cheap stocks on the rise can be hugely effective. James O'Shaughnessy in his classic *"What Works on Wall Street"*⁷ found that *"Trending Value is the best performing strategy since 1963"*.

Losing Styles

Our research has shown that the following four styles, signified in the red section of the graphic, regularly have a higher probability of being losers.

Falling Stars

Quality: high, Value: low, Momentum: low (good, but expensive & declining).

You want to avoid being on the wrong side of a High Flyer when sentiment turns. If brokers start aggressively cutting their estimates on a high quality, premium equity, then look out below. This is the classic profile that former stars of the market become when growth or momentum stalls. They either bounce back or further deteriorate. Falling Stars are the best performing of the 'losing style' set and tend to have the best chance of recovery. Keep an eye on that Quality Rank.

Value Traps

Quality: low, Value: high, Momentum: low (cheap, but declining & junk).

The great modern value investor, Seth Klarman, has warned that "*Value Traps are a dagger through the heart of value investing*"⁸. The Value Trap classification is the domain of broken business models, declining sectors and regularly one of the worst places to be in the market. The key lesson to learn is to give loss making, out of favour, cheap shares a wide berth unless they start to show confirming factors like momentum or quality.

Momentum Traps

Quality: low, Value: low, Momentum: high (improving but expensive & junk).

Momentum traps tend to be popular stocks with strong share price sentiment based upon a story of future value. Often speculative, blue-sky stocks can have massive run-ups in price, but without good fundamentals, the high valuations can bring them back to earth. Either the valuation has to fall, or the fundamentals have to improve. Either way, something has to change, and the risks are to the downside.

Sucker Stocks

Quality: low, Value: low, Momentum: low (expensive, declining & junk).

Why anyone would want to own stocks that have no factors in their favour is hard to explain. It's like swimming upstream, you can do it, but it's hard work. Robert Haugen called these "Stupid Stocks". We prefer the term "Sucker Stocks". It vividly illustrates that these companies tend to come with attractive narratives that suck in the naive. These tend to be small cap, loss-making stories that are losing the market's faith. Stocks like these come with a really promising idea and an emergency fund-raising just around the corner. Give them a wide berth if you can, unless you have serious reasons to think otherwise. If you are right, you can make serious money!

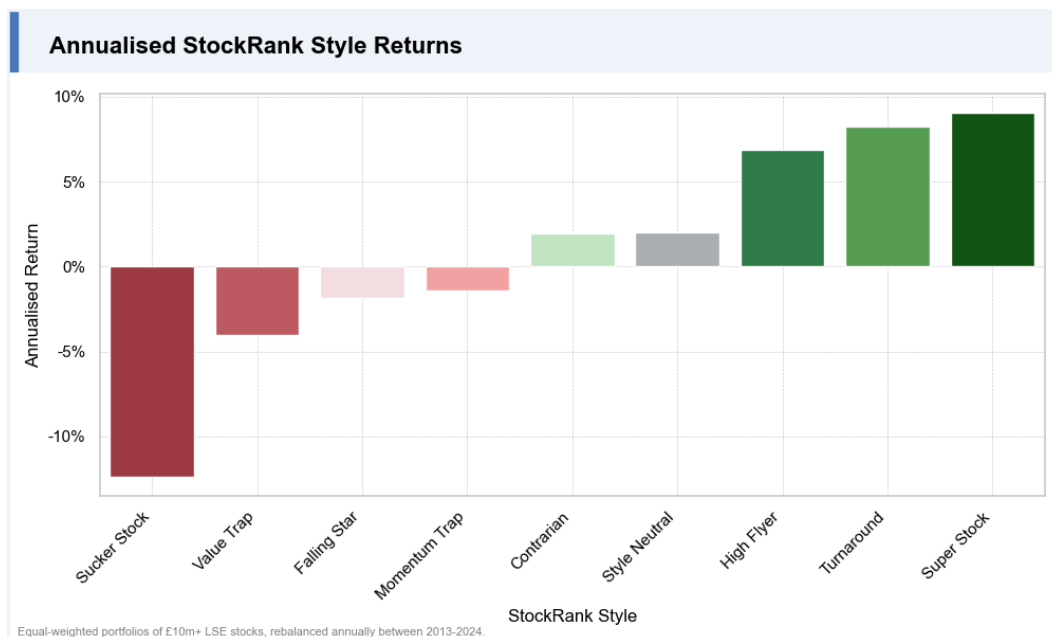


Styles on Stockopedia

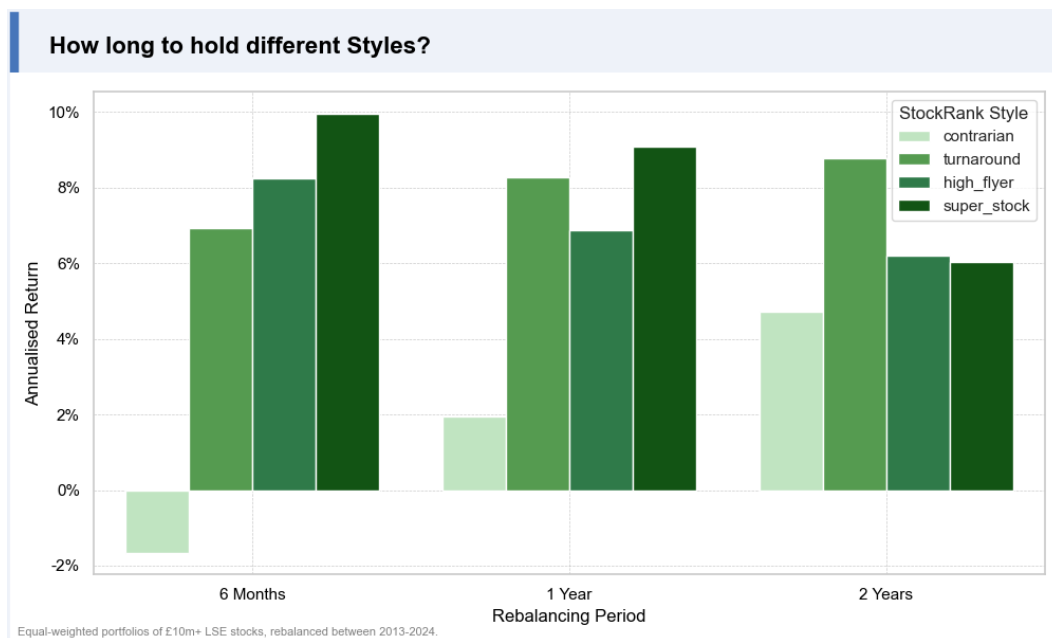
Every stock on the Stockopedia site is classified according to this taxonomy, with the style published on StockReports. It provides a very fast and useful mental model to understand the nature of a stock and what might be worth watching out for. We cannot all be Peter Lynch, but they should guide you in the right direction.

StockRank Style Performance

The chart below analyses the average annualised performance of all the stocks in each style classification since 2013 over typical one-year holding periods. Winning styles have indeed outperformed losing styles, and losing styles have all significantly underperformed. These results lend weight to the system.



It's worth noting that different winning styles have favoured different holding periods. Turnarounds and Contrarians tend to benefit from holding periods of up to two years - possibly as the market takes time to recognise value. Super Stocks and High Flyers appear to payoff more quickly over the first year, as the market may be faster to recognise their trading momentum.



Be cautious before adapting your holding periods too drastically based on the above timeframes. The costs of dealing more frequently can outweigh any perceived performance boost. Over-trading has been found to be one of the biggest causes of individual investor underperformance!⁹

Notes

- 1 Lynch, Peter. *One Up On Wall Street*.
- 2 Haugen, Robert. *The Inefficient Stock Market*.
- 3 Greenblatt, Joel. *The Little Book that Beats the Market*.
- 4 O'Neil, William. *How to Make Money in Stocks*.
- 5 Minervini, Mark. *Trade like a Stock Market Wizard*.
- 6 Asness, Clifford, et al. *Value and Momentum Everywhere*.
- 7 O'Shaughnessy, James. *What Works On Wall Street*.

8 Klarman, Seth. *Margin of Safety*.

9 Odean & Barber. *The Behaviour of Individual Investors*.

StockRank strategies for stock pickers

Great stock ideas can come from anywhere: a story in the news, a company report, or even a trip to the shops. Stock pickers especially rate the daily commentary provided by our own award-winning analyst team. The thrill of picking stock market winners and watching their results compound away is second to none. But if you don't know what you are doing, it's so easy to make mistakes.

"Choosing individual stocks without any idea of what you're looking for is like running through a dynamite factory with a burning match. You may live, but you're still an idiot." **Joel Greenblatt**¹

Having Stockopedia's StockRanks in your armoury help you purchase higher probability investments. It's easier to avoid the traps in the market and separate the wheat from the chaff. They are a powerful, time-saving tool.

Do this before you pick your own stocks

Many investors get started by piling straight into the first exciting stock they hear about. Great thematic trends generate blue sky stories. But themes can get over-popular and overpriced, and it's easy to get sucked in too late. Think dot-coms in 1999, meme-stocks in the pandemic and perhaps Artificial Intelligence stocks today. The other side of these trades can hurt for late entrants, who are invariably individual investors.

A better approach is to craft your stock picking around permanent drivers of stock returns. Even if you do invest in themes or narratives, a factor-based approach can improve your selection criteria. *Long-term investment results are driven by **simple rules repeated with discipline.***

The first step in effective stock picking is to create a set of rules that work.

How to pick your rules?

My advice for stock pickers is to start with a broad understanding of the core factors of Quality, Value and Momentum and figure out what combination of them best suits you. You can then delve deeper into the wonderful literature on stock picking to hone more specific buying and selling criteria. The graphic below illustrates some famous investor strategies at the intersections of these key QVM themes.



We have provided some extensive resources in our Academy that flesh out the ideas on this topic.² Start your overview by reading those introductory articles. If you find yourself drawn to some of these styles, read these investors' books, learn more on YouTube and develop a set of criteria based on their teachings.

- **Quality & Value** - good, cheap stocks. Best for those who can't abide overpaying for a stock. Popular with serious investors with longer-term timeframes. Much literature exists about Warren Buffett's³ approach, while Joel Greenblatt's⁴ book is the best introduction to this style.

- **Quality & Momentum** - good, strong stocks. Best for those who like to own glamorous, fast-growing, breakout stocks. Popular with goal-oriented, traders with active timeframes. Some of the best books on this style are by Bill O'Neill⁵ and Mark Minervini⁶.
- **Value & Momentum** - cheap, strong stocks. Best for those who don't mind owning unpopular shares in recovery. Popular with geeks and those who like to go against the grain. Some of the best literature is in academic papers referenced earlier, but James O'Shaughnessy⁷ and Charles Kirkpatrick⁸ have some accessible writings. While Deep Value enthusiasts will enjoy Ben Graham.
- **Quality, Value and Momentum** - good, cheap, strong stocks. Accessible books by the Naked Trader⁹, Jim Slater¹⁰ cover this range of factors from a stock picking perspective, with the challenging Robert Haugen¹¹ for ambitious readers.

Each of these styles of investing will introduce you to a few key fundamental and technical ratios that can help you hone your own unique style. The StockRanks are of course a great shortcut to implementing these styles while you develop your checklists with further study. The most important thing is to match your personal psychology with a strategy that suits it. *Don't try to be an active momentum trader if you are a wealthy retiree who loves travelling.*

Eyeballing the ranks

Simply checking the rank & style of a new stock idea gives you an instant fix on the kind of stock you may be dealing with - which can be enough to know whether it's an immediate pass or not. Some have said that every time they hear of a new stock tip, they "**sanity check**" it using the data provided. It's a *huge time saver*.

Eyeballing the ranks and classifications

Sectors →

Classification →

Consumer Cyclicals > Leisure Products

Games Workshop
GAW 9,985.00p ↑ 160.00 +1.63%

Adventurous · Large Cap · Falling Star

Games Workshop Group PLC designs and manufactures miniature figures and games and distributes these through its own network of retail stores, independent... [Read more](#)

Mkt Cap	£3.29b	Quality	97
Sales	£491.90m	Value	20
PE (ttm)	22.49	Momentum	43
Yield (ttm)	2.35	StockRank	52

← **Rankings**

The key information provided is the ‘fingerprint’ of the stock. The classifications provide an eyeball of the Risk, Size Group and Style of the share, with detail across relative ranks of Quality, Value and Momentum.

When comparing some of this data against your rules/checklist, you can immediately assess whether it's worthy of further time. At this stage, all a stock picker should be asking themselves is this, “*should I research this share further?*”

I do recommend you research promising shares further. It's important to emphasise that we use standardised financial statements data from our suppliers. There can be differences from the company's own results due to the standardisation process. Check the source materials by finding the annual reports and results statements from company websites. Nothing beats doing your own research (DYOR!).

Reacting to the Ranks

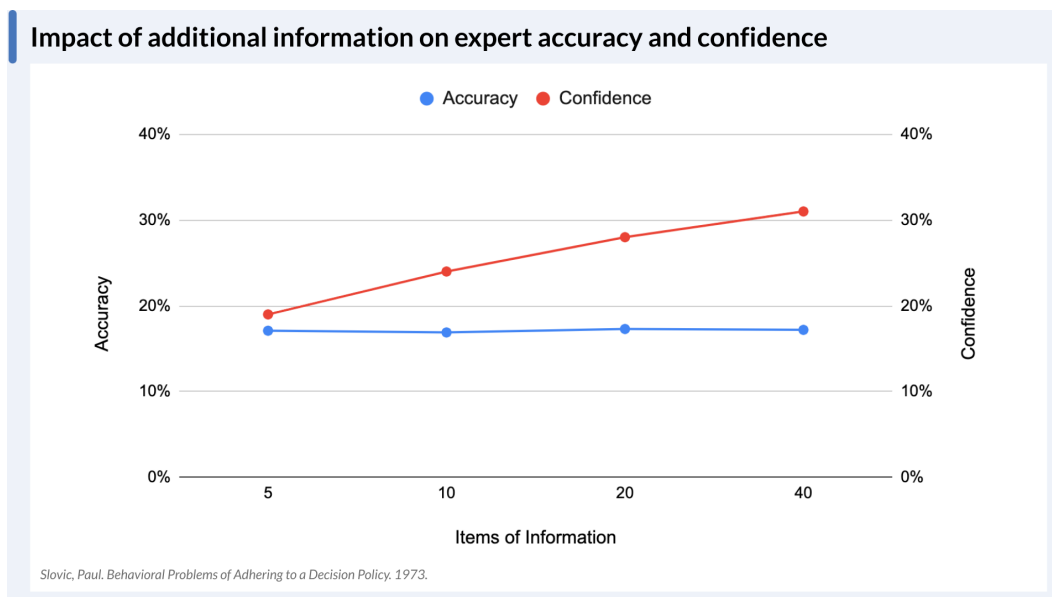
On reviewing the ranks, the thinking process should be as follows:

- If a share has a **higher rank**, then there may be a **tailwind** behind its future

returns as it is being driven by the QVM factors. But there is no guarantee of a positive outcome. Every stock displays unique behaviour and the odds, while more favourable, are still uncertain. Additional research may pay dividends.

- **If a share has a lower rank**, it doesn't mean that it can't have a good investment case. It simply means that it's facing more of a *headwind*, as there are lower odds when the factor drivers are *lacking*. It likely requires a *lot* of extra research. This is where unique research can create the most edge.

How much research is enough? Studies reveal that there are diminishing returns to gathering increasing amounts of information. One famous paper showed that beyond a certain point, the more information you have, the more confident in your decision you will be - but without any more accuracy.¹²

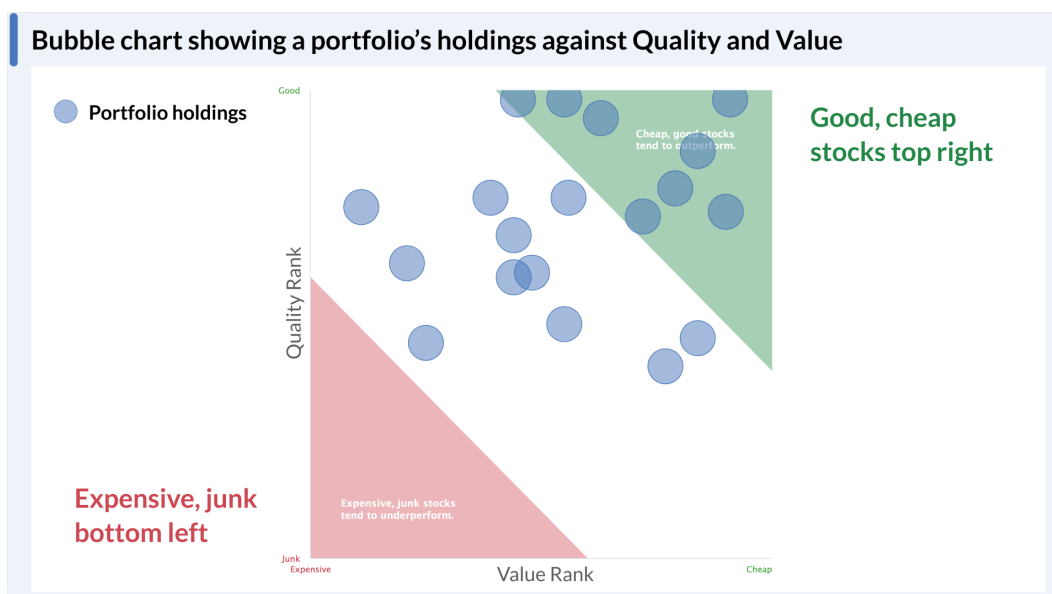


Ultimately, you have to do the research required to make you comfortable with your decision. Whether you focus your research on the quantitative factors covered in this publication, or the qualitative factors encouraged by thoughtful investors, including those in our community, create a disciplined checklist and stick to it.

Consider the Ranks of your other holdings

Remember that the more stocks you own, the more your portfolio outcome will tend towards the average factor exposure of the portfolio. Given the returns to higher-ranked shares have dominated historically, it makes sense to skew your portfolio towards them. A simple rule of thumb is to weight it towards higher ranked “winning style” shares, and less towards lower ranked “losing style” shares.

A clear visualisation is provided in the graphic below, which is a portfolio ‘bubble chart’ that compares the Quality Rank of each holding (in blue) versus the Value Rank. This can be accessed for all portfolios tracked on the site.



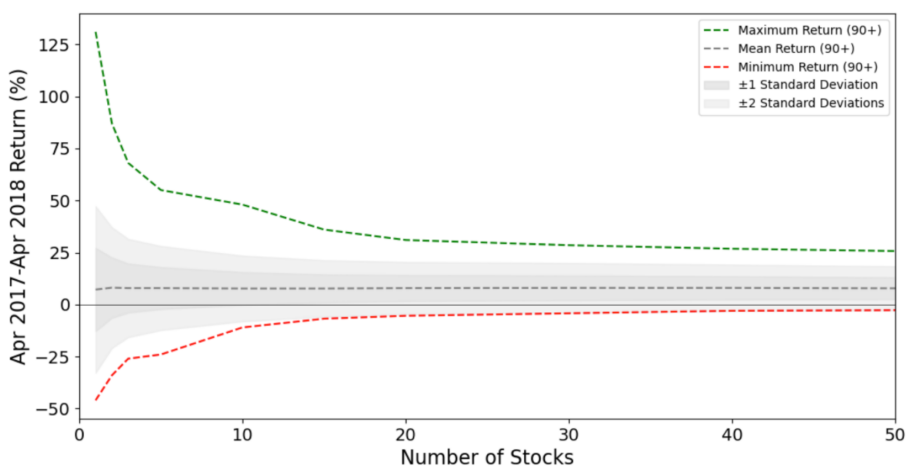
If my strategy is to skew toward good, cheap stocks, I'd want to see most of my portfolio in the top right segment of this chart. Buying shares at the other extreme is clearly counter to my strategy. At the very least consider lowering the proportion of investments in the lower-left corner. I may have some good reasons to own those shares, but they shouldn't dominate - *the headwind would be too strong*.

How many stocks should you own?

While the returns to 90+ the StockRanks have been compelling, it's vital to understand that they are based on *averages*. Any stock picker worth their salt is going to select a much smaller portfolio from the set of 150 highest-ranked stocks. So how many stocks should you own to ensure a good probability of realising the average return?

A good way to answer this is to run some simulations. I've chosen a period between April 2017 and April 2018, as a year in which the 90+ StockRanks returned about 8%. You'd imagine that a 2 stock portfolio, selected randomly from high ranked shares, would generate much more variable results than a 50 stock portfolio. That's indeed what we see.

Distribution of portfolio returns at different portfolio sizes



Study between April 2017 and April 2018. 100 simulations run at every portfolio size across random portfolios of 90+ ranked UK stocks.

The chart above is based on sets of 100 randomly selected portfolios, of increasing numbers of 90+ ranked stocks, held for one year. Some portfolios do very well (green), some do terribly (red)... but most fall in a grey-banded range around the average (grey dotted).

Figure 1. Returns to portfolios of different sizes (2017-2018)

Number of Stocks	2	5	10	15	20	30	50	100
Average Portfolio	8%	8%	8%	8%	8%	8%	8%	8%
Best Portfolio	68%	55%	48%	36%	31%	28%	26%	21%
Worst Portfolio	-26%	-24%	-11%	-7%	-5%	-4%	-3%	0%
St. Deviation	12%	10%	8%	7%	6%	6%	5%	5%

From the chart (and table) above, it appears that there's a sweet spot where the risk of severe underperformance is diminished at around a portfolio size of 15–20 stocks. If you are an excellent stock picker, then you may be comfortable owning smaller portfolio sizes of 10–15 stocks, or perhaps even less. Just be wary that the volatility of highly concentrated portfolios can be galling. Also remember that this chart is just a single year, other years may have much wider ranges, especially in concentrated portfolios. So Caveat Emptor!

When should you sell? The 90/70 rule

It's out of the scope of this publication to go too deep into this question, but from a StockRanks perspective, there are some useful rules of thumb that could be incorporated into your timing toolbox.

Research by Christoph Reschenhofer¹³ identified precise buy and sell rules to maximise returns in a ranking framework with similarities to the StockRanks - based on Value, Momentum, and a couple of Quality factors.

His key rules of thumb were:

- **For smaller cap shares:** Buy at a rank of **92**, Sell at a rank of **72**.

- **For larger cap shares:** Buy at a rank of **94**, Sell at a rank of **74**.

His “rules” were optimal points among a wide range of good choices, as shown in the graphic below. Purchasing above ~90 and selling at any cut-off down to ~50 (the green squares) does work fine... but returns are optimised at sell ranks above 70.



Case Studies - Reach and Renold

One classic example of the 90/70 rule is Reach Plc, formerly Trinity Mirror, in the UK. The pandemic hit many share prices hard, and Reach was not immune. As the economy recovered, the fundamentals started to improve and Reach became a great turnaround story. When the StockRank burst up past 90 on new results, the shares had already recovered by almost 50% to 72p. With new leadership and a focus on more targeted advertising to registered users, there was talk of a £10 price target. I started buying these shares as they moved up through £1, and watched the shares nearly quadruple over a 12-month period. When the StockRank fell back below 70,

I sold at £3.95. This proved to be fortunate timing.

90/70 Case Study. Reach plc 2021.



Since that date, the share price has reverted to 70p in an astonishing 2-year round trip. While this is an extreme case study, it illustrates the value of using disciplined, research-backed approaches to stock selection and not falling in love with a story.

A more recent example is Renold Plc, an industrial chains company that's been in business for decades. The ranks rose above 90 in November 2020 and our small-cap analysts began flagging it as interesting in 2023. I bought at the end of a long consolidation phase when the StockRank rose to 99 and the shares broke out on strong volume that year. An 85% gain for my ISA. Here's a subscriber comment:

"When Renold popped up on my search screen with a 100 Stock Rank, over a year ago, I was intrigued. I started buying and the more I researched it, the better it got. I then found that no less than Paul Scott was also enthusiastic. It is the classic value stock. The price goes up, but so do earnings. I am still buying. Here is a UK company in a niche field with an impressive, growing, worldwide market share. It is making accretive acquisitions and cutting back

its pension deficit. I would never have found it without the StockRanks.” **Hugo C**

Final thoughts for stock pickers

I must reiterate that the StockRanks are statistical measures which work best across broad portfolios of stocks. As illustrated in the previous chapter on win-rates, there are only a few 90+ ranked stocks that go onto double in a 12-month period.

90+ ranked stocks are not buy recommendations. They are not a short-cut for discretionary stock-pickers to bypass their research process. So never, ever skip the hard parts. Develop your rules. Do the research. Stick with your process.

Notes

- 1 Greenblatt, Joel. *The Little Book that Beats the Market*.
- 2 The Strategy Map. Stockopedia Academy. 2023.
- 3 Hagstrom, Robert. *The Warren Buffett Way*.
- 4 Greenblatt, Joel. *The Little Book that Beats the Market*.
- 5 O'Neil, William. *How to Make Money in Stocks*.
- 6 Minervini, Mark. *Trade like a Stock Market Wizard*.
- 7 O'Shaughnessy, James. *What Works on Wall Street*.
- 8 Kirkpatrick, Charles. *Invest by Knowing What Stocks to Buy and What Stocks to Sell*
- 9 Burns, Robbie. *The Naked Trader*.
- 10 Slater, Jim. *The Zulu Principle*.
- 11 Haugen, Robert. *The Inefficient Stock Market*.
- 12 Slovic, Paul. *Behavioral Problems of Adhering to a Decision Policy*. 1973.
- 13 Reschenhofer, Christoph. *Combining Factors*. 2022.

StockRank strategies for systematic investors

Not everyone can become a great stock picker. Arguably the majority of investors shouldn't start this way. A better approach for most investors is systematic investing. This approach can be ideal for investors who:

- **Don't have the time** to dedicate to company analysis and research.
- Get **emotionally attached** to their shares to the detriment of results.
- Prefer to work with **data & screening** rather than **research & news**.

Systematic, or mechanical, investing has become my own preferred approach for all of the above reasons. It provides an effective, emotionally detached approach to the stock market, and can generate excellent returns as long as you focus on the kinds of factors we've shown work.

Theory

Let's outline a simple systematic strategy I've developed called the "*No Admin Portfolio System*" (NAPS).¹ I've been publishing this as a model portfolio on Stockopedia ever since January 2015. At the start of January every year, I publish the latest portfolio of qualifying stocks. You can find all the historical articles on the site.

It's based upon the principle that in a well diversified portfolio, stock selection doesn't matter. The more stocks you own, the more the individual picks cancel each other out.... *What remains is the overall portfolio exposure to factors.*

The system directly builds a high-ranked, diversified portfolio and leaves the rest to the gods. Poor performers can, of course, be selected by this system, but they

have been dominated by the good performers. Exceptional outcomes accrue to the method due to the consistently good, cheap, strong stocks it owns.

To be clear, this is a strategy aiming for long-term market outperformance. It is not designed to save the world. It's not unusual to find a few sin stocks in the list. Of course, if you do spot something you really don't like, it's easy to remove it and replace with something else.

Practice

The basics of the systematic NAPS approach are as follows:

1. Sort the market by descending StockRank.

- Use the stock screener or directory pages.
- Exclude tiny stocks (e.g. less than £20m market capitalisation).
- Exclude low liquidity stocks (e.g. those having more than a 5% bid/ask spread).

2. Select the two highest-ranked shares in each of the 10 Sectors.

- We categorise stocks into 10 sectors at Stockopedia including *Basic Materials, Consumer Defensives, Consumer Cyclicals, Energy, Financials, Healthcare, Industrials, Technology, Telecoms, Utilities*. It's important to maintain a broad sector diversification.

3. Buy an equal weighted pound or dollar amount of each stock.

- As there are twenty positions, if you are looking to invest £100,000 you would buy a £5,000 position size in each.

4. Hold each position for one year.

5. Rebalance after one year.

- Repeat steps 1 and 2 to develop a new target portfolio.

- Calculate the new position size based on the current portfolio valuation.
- Sell all positions in the current portfolio that no longer qualify.
- Cut still qualifying positions back to the new position size.
- Buy the remaining new positions at the new position size.

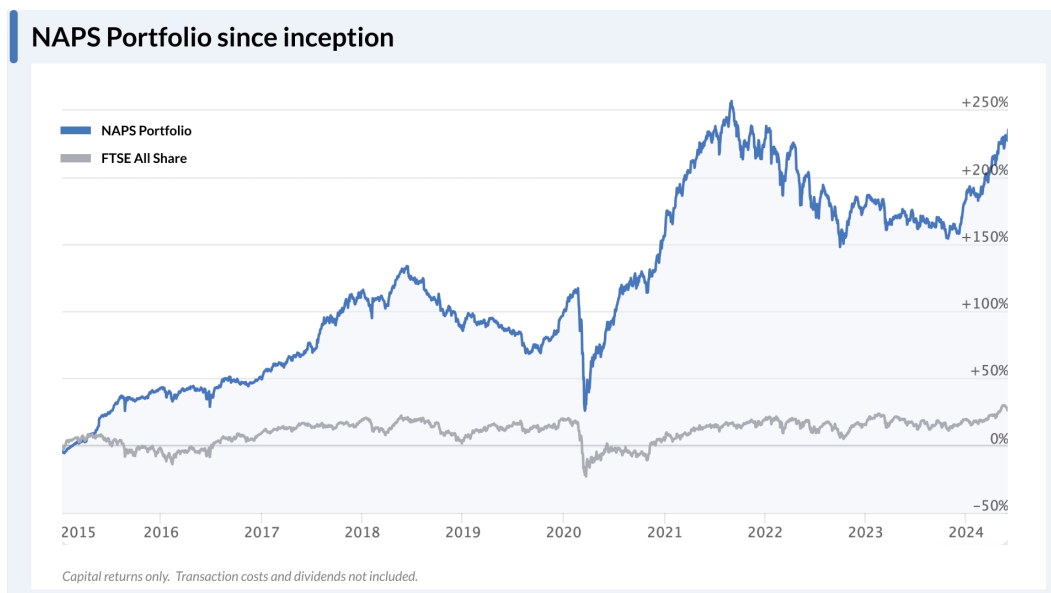
The graphic below shows how the StockRanks drifted for the 20 selections in the first six months of one year. By the end of a year, some stocks can slip even further. By rebalancing the portfolio back into high-ranking stocks, you can maintain a strong factor exposure and maximise the chances of outperformance.



Results

The NAPS portfolio has been published in a twice yearly column online and the results have been public since inception. The strategy began as outlined above, but has been adapted a few times over the years. Despite the 2022 correction, it has averaged a 13.6% annualised return, more than tripling the original capital. Over 9.5

years it grew 233%, on a capital return basis, versus the benchmark FTSE All Share at only 27%. Dividends for the portfolio have on average covered transaction costs, though both have been excluded in the chart below.



We have back tested this systematic strategy in all the markets we follow, including the USA, Europe (including sub-regions like Germany, France & Scandinavia), India, Japan and Australia. While periods of underperformance do occur, we discovered that a 20 stock portfolio based on the original rules beat the benchmark in almost every region over the long term. The only submarket with significant underperformance was the Nasdaq market in the USA.

It's important to recognise that equity gains come hand-in-hand with equity draw-downs. The NAPS Portfolio had a peak to trough drawdown of 45% between mid 2018 and the bottom of the pandemic crash. Nobody should allocate capital to the stock market that they aren't willing to risk. There are ways and means to minimise these drawdowns, such as using stop-losses, hedging and market timing. It's out of scope to cover them here, but we cover them regularly on the site.

Taking it Further

This systematic “NAPS” is an archetype. It’s not prescriptive. It describes a way of thinking about investing: it is not sheet music to blindly follow; it’s more a jazz arrangement that you, as a musician, can improvise around. My process has evolved in many ways and I recommend you craft your own.

If you want to create your own systematic strategy, here are some further ideas to explore and add to your palette:

1. Style and Factors

- **Additional filters:** Use additional criteria when you prefer a certain style, or are looking for specific exposures (e.g. high yield for income investors, high return on capital and low bankruptcy risk for quality investors)
- **Different sorts:** Sort according to your own preferred ranking method (e.g. VM Rank, QM Rank, PE Ratio, Relative Strength etc).
- **Split the Strategy:** One option is to split your portfolio half-and-half across styles (e.g. half VM Rank, half QM Rank). This is an approach I’ve used successfully lately.

2. Diversification

- **Different Breadth:** Increase or decrease the number of holdings according to your portfolio size. Large portfolios may benefit from more holdings (e.g. 50) to ensure tradability, while small portfolios may benefit from fewer holdings (e.g. 10) to minimise per trade transaction costs. Be wary of the additional volatility that will come from smaller portfolio sizes. It may be emotionally challenging to handle at times.
- **Diversify Regions:** For example, split your strategy across regions for more diversity (e.g. 10 UK and 10 ex-UK).
- **Vary Sector Weights:** Increasingly I lower my weighting to sectors with less dynamic businesses (e.g. utilities and telecoms) in favour of more growth oriented sectors (like healthcare and industrials).

- **Vary Position Weights:** e.g. Instead of equal weights – more experienced investors often try risk weighting or rank weighting.

3. Rebalancing Periods and Sell Rules

- **Adapt Rebalancing Periods:** It can be painfully difficult to do nothing for some people. If that is you, then rebalance a quarter of the portfolio quarterly, rather than the full portfolio annually. Match your rebalancing period to your overarching style preference - some styles benefit from longer holding periods (e.g. Value up to 2 years), and some shorter (e.g. Momentum between 6 months and a year).
- **Use Sell Thresholds:** e.g. Introduce a dynamic “stop loss” - based on a rank level (e.g. sell on StockRank < 70) or price level (e.g. 20% stop loss and / or trailing stops).

4. Advanced Investors Only

- **Long/short:** It's possible to pair long positions with short positions to create a market neutral strategy. Depending on your broker, this may only be possible using derivative products like spread betting and contracts for differences. Not recommended for novices.

Notes

¹ The NAPS Portfolio. Stockopedia.

A guide to the StockRanks on Stockopedia

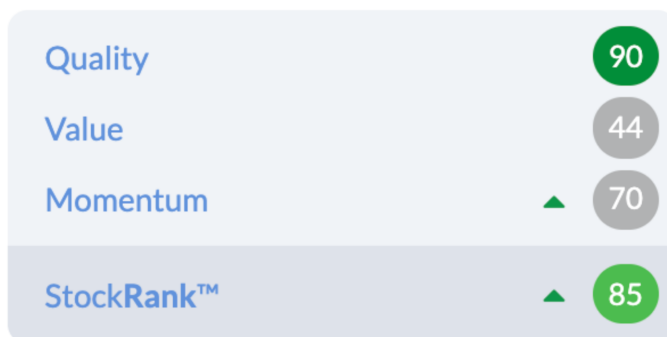
As a final note, we thought we'd provide a guide to the StockRanks across some of the site's popular features. The StockRanks are deeply embedded in the Stockopedia service. You'll already be familiar with some of these features, but there may be some details you are unaware of. Let's dive in.

Analyse your Stocks

We publish one page summary StockReports on more than 30,000 global shares daily. You can find these StockReports on the site by using the search bar or by clicking through from articles, screens & portfolios. They are packed with key features to help implement factor investing principles successfully.

Assess the Ranks

For many subscribers, the first thing they look at on a company's StockReport is the StockRank section at the top right of the page. It gives an instant fix on the most important dimensions of any stock.



- **Ranks & Colours** - Every stock is ranked from zero (worst) to 100 (best) across the Quality, Value and Momentum axes. These are then combined into an overall StockRank. We use an intuitive traffic light system, with green colours for high rankings and red for low rankings. We colour code each rank so that you can easily eyeball better ranking shares. 80 and above rankings are coloured green, 20 and below are coloured red, and everything in between is coloured grey.
- **Deltas** - It's always useful to know in which direction each of the StockRanks is moving. In the StockRank widget, next to each of the ranks, you will occasionally see green or red caret arrows up or down. These indicate that the company's rank has moved by at least plus or minus 5 over the last 30 days. We call these arrows the StockRank Deltas. They provide a useful indication of recent StockRank movement without being too noisy. You can hover over the arrow and see by how much the StockRank has changed over that time frame.

Classify your Holdings

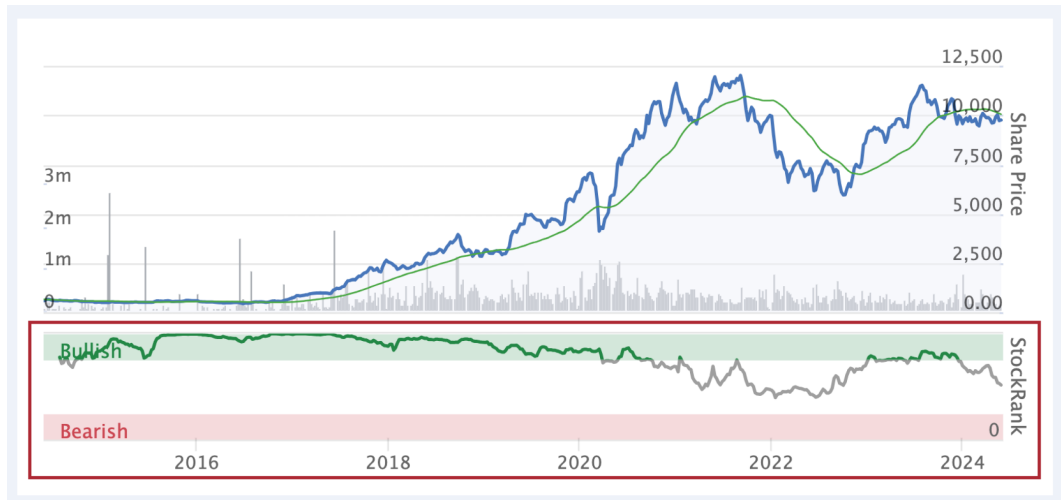
At the top of every StockReport you'll also find a key phrase identifying the Sector, RiskRating, Size Group and StockRank Style of the stock. This is a brief way to understand the classification of stock you are dealing with. The StockRank Style provides a 9 tiered classification based on the StockRanks, and the colour coding instantly shows you whether you are dealing with a winning style (green) or losing

style (red) stock.

Basic Materials	Highly Speculative	Micro Cap	Sucker Stock
Sector	RiskRating	Size Group	Style

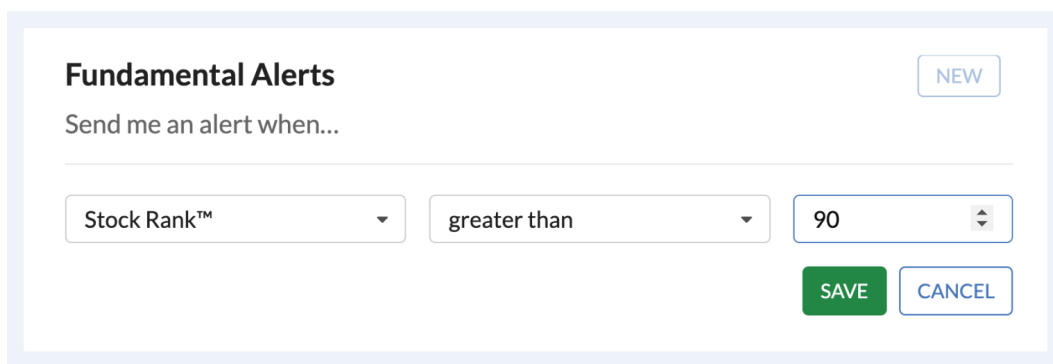
Review the Rank History

You can also track the history of the StockRank via the plot in the chart below the Share Price chart. This is a great way to see when good buying or selling opportunities might have occurred in the past. The StockRank is partially correlated with price momentum, so you can expect it to rise as the share price rises until the stock gets overvalued. Clear 'bullish' and 'bearish' areas are plotted in green and pink on the chart.



Stay alert to changes

Setting alerts helps keep you informed of StockRank changes. If you click the '**Alerts**' button at the top of StockReports and add a new 'Fundamental Alert', you will be given the option to receive a notification (in app and by email) whenever a company falls below or rises above a certain StockRank level.



The screenshot shows a 'Fundamental Alerts' configuration panel. At the top left is the title 'Fundamental Alerts' and a 'NEW' button. Below the title is the instruction 'Send me an alert when...'. The main configuration area consists of three dropdown menus: the first is set to 'Stock Rank™', the second to 'greater than', and the third to '90'. At the bottom right are two buttons: a green 'SAVE' button and a blue 'CANCEL' button.

You can also access the same alert panel by clicking the cog icon next to the relevant stock in one of your Folio holdings tables. All your alerts can be reviewed either from the Today page or via the bell icon in the top toolbar.

Improve your Portfolio

If you have a portfolio or a watchlist, you can access the StockRanks on all your interests by creating a Folio.

Track your Holdings

Once you've added stocks to the list, you'll see the StockRank column pre-configured in the Quotes & Holdings views, but you'll find far more StockRanks data in the **Ranks** view. To switch views, use the dropdown list (the red arrow below).

Name	Last Price	Mkt Cap £m	Quality Rank	Value Rank	Momentum Rank	Stock Rank™	StockRank Style	Risk Rating	Sector
AAF Airtel Africa	121.90	4,561.1	79	79	46	77	Neutral	Adventurous	Telecoms
BGEO Bank of Georgia	3,710.00	1,675.4	43	94	78	86	Turnaround	Adventurous	Financials
CARD Card Factory	97.70	337.7	98	91	45	99	Contrarian	Speculative	Consumer Cyclical
CCC Computacenter	2,814.00	3,211.9	96	58	77	91	Super Stock	Balanced	Technology
COST Costain	87.00	242.3	78	83	79	95	Super Stock	Speculative	Industrials
GOOD Good Energy	264.00	48.1	95	79	98	84	Contrarian	Speculative	Utilities

You can also edit the columns in any of your table views by clicking the 'CUSTOMISE' button at the top right of the table. Here you can add and remove any of our Basic, Crossover or Composite StockRanks as well as the StockRank Styles, RiskRatings or any of hundreds of other financial data fields.

Customise table view

Search for, or select a column below...

Search metrics...

- Profile >
- Quotes >
- Size >
- StockRanks >**
 - COMPOSITES
 - Stock Rank™
 - QVGM Rank
 - CROSSOVERS
 - QV Rank
 - VM Rank
 - QM Rank
 - GM Rank
 - SOLOS
 - Quality Rank
 - Value Rank
- Quality >
- Value >
- Momentum >
- Growth >
- Dividends >
- Analysts >
- Miscellaneous >

Table view

Holdings EDIT NAME

- Stock Rank™ Latest
- 1 Year Volatility
- Sector

StockRank™

Previous Day

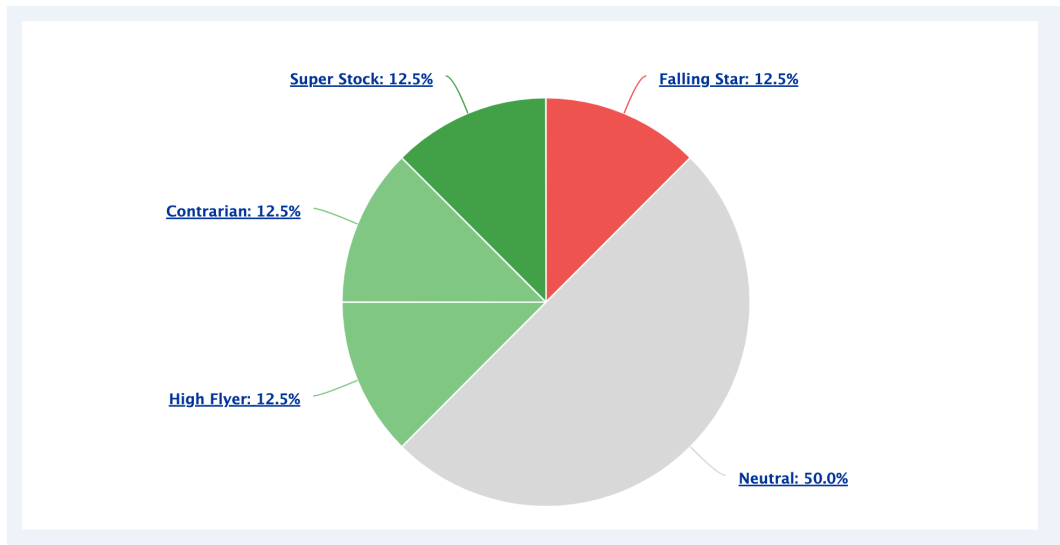
This is the StockRank™ for the previous trading day. The StockRank™ provides a simple but effective system to discover higher expected return shares. It is an equally weighted combination of the ValueRank, QualityRank and MomentumRank. These three basic ranks are computed for every company in the market on a daily basis, summed and then re-ranked as a percentile from 0 (worst) to 100 (best).

ADD COLUMN CANCEL

CANCEL RESET TO DEFAULT APPLY CHANGES

Diversify across Styles

Diversification is a key principle in portfolio management. On the “**Allocation**” tab, you’ll find a resource to analyse the StockRank Style distribution of your portfolio holdings. An overweight to green ‘winning styles’ may indicate a higher likelihood of outperforming the market if the historical payoffs to factor investing endure in future.






Discover New Opportunities

If you have already packed your portfolio full of high-ranking stocks, time will see their rankings drift. Eventually, you’ll have to hunt for new ideas. One of the best ways to do this is to use our screening service. We publish daily lists of high-ranked stocks and their performance histories for you to research further.







Review the StockRank Screens

Clicking the 'Browse' tab of the Stockopedia website reveals the "Stockopedia Screens" in the sidebar. These are our proprietary screening lists based on our factor investing ratings - the StockRanks, RiskRatings and Style Classifications.

One of the best ways to find promising high StockRank stocks is to click onto the 'Top StockRanks' sub-category and scroll through screens like Top VM Rank and Top Momentum Rank.

Name	StockRank	Risk rating	Style	Inception ▾
Top VM Rank 113 stocks 	95	Speculative	Super Stock	+335.54%
Top QM Rank 148 stocks 	88	Speculative	Style Neutral	+265.76%
Top MomentumRank 126 stocks 	87	Speculative	Super Stock	+262.11%

Looking through the 'StockRank Style' screens allows you to take a more nuanced view of factors by sorting stocks into categories of four winning and four losing 'styles' of factor combinations.

Name	StockRank	Risk rating	Style	Inception ▾
 Super Stocks 160 stocks 	98	Speculative	Super Stock	+250.83%
 Style Neutral 200 stocks 	88	Speculative	Super Stock	+188.29%
 Momentum Trap 78 stocks 	43	Highly Speculative	Style Neutral	+136.11%

Finally, by checking the ‘Upgrades’ and ‘Downgrades’ screens, you can see which stocks are moving through our various classifications and do some research on why company X has just changed from a Turnaround to a Super Stock.

Create your own Screens

If you want to dig deeper, you can either duplicate our proprietary screens, or create your own from scratch. By clicking “Screens” in the sidebar and the blue “New Screen” button, you will be able to create extremely granular stock screens based on the StockRanks. You can also include more than 350 other factors like the Yield, Market Cap, Number of Brokers and more.

The screenshot shows a screen creation interface with the following elements:

- Header: "StockRank Mid Caps" with "SAVE", "CANCEL", and a menu icon.
- Sub-header: "+ Add description"
- Rule 1: "StockRank™" greater than 80. Includes a list icon, a checkmark, and a delete icon.
- Rule 2: "Size Group" includes "Mid Cap". Includes a list icon, a checkmark, and a delete icon.
- Rule 3: "Economic Sector" excludes "Financials". Includes a list icon, a checkmark, and a delete icon.
- Bottom left: "ADD RULE" button.
- Bottom: "Sort by: StockRank™" and "Descending" dropdowns, and an "Include dual lists" checkbox.

Adding a screen rule is easy. Just click “Add Rule” to open up a popup box to browse all our data. The StockRanks are contained in their own category, and if you want to access the StockRank Styles & RiskRatings you’ll find them under the “Profile” category. A similar data picker is used when customising tables, so it’s worth becoming familiar with this. Learn more about our StockRanks data library in the Appendix.

Watch for Upgrades

If you are interested in checking daily for new ranking upgrades, you can review them towards the bottom of the 'Today' page in the 'StockRank Movers' box. The tabs on this box quickly show you which companies have been promoted to the top StockRank decile and "winning" Style classifications. A link to the full lists are provided should you wish to dig deeper. "Downgrades" are not published on the Today page, but can be in "Browse".

StockRank Movers

90+ StockRank 7
Super Stocks 8
High Flyers 6
Contrarians 5
Turnarounds 2

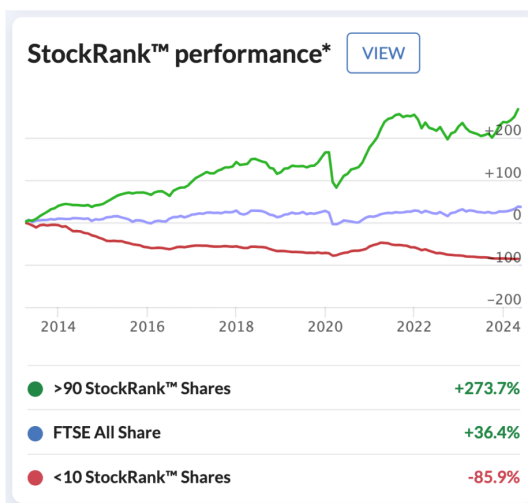
Name	Price	Change (%)	From	To
Burberry	1,723.50	+1.17%	89	↗ 90
Smiths	1,501.00	+1.08%	88	↗ 90
J Sainsbury	210.50	+2.68%	81	↗ 90
Ashmore	214.53	+1.10%	87	↗ 92
Foresight Solar Fund	123.00	+1.65%	89	↗ 90
Mission	55.90	-0.18%	89	↗ 90
FIH	235.00	0.00%	89	↗ 90

[SEE ALL NEW 90+ STOCKRANK](#)

Many of our subscribers have found great success by investing in shares that made rapid jumps to higher StockRanks on the publication of new results. This has often been a precursor to share price gains as the new financials disseminate among the analyst and investor communities.

Review the StockRank Performance

You can review the performance of the StockRanks by using our online tool, available in the “Learn” section under “StockRanks & Ratings”. A summary of the top and bottom ranked deciles is published on the Today homepage, which also provides the easiest route through to the performance tool.



Once in the Performance History tool, you can use the filters available to browse the StockRank performance by region, market cap, quantiles, rank and rebalancing period. So if you want to review the performance of the Quality Rank across large caps in five buckets (quintiles) in the UK (or any region) with annual rebalancing, it's easy to configure.

Region	Market cap.	Range	Rank	Rebalanced
UK	Large (Over £2.5bn)	Quintiles	QualityRank	Annually

All of these features are available at all times as part of your subscription. They provide a powerful toolbox to think deeply about factor investing and apply these

principles to your portfolio.

Expand your ranked universe

If you are an international subscriber you may wish to use a more optimal ranking for your broader universe. We provide some adapted versions of the StockRank for every company on Stockopedia, where each is ranked against a different market set:

- Its **Local** ranking market set, which may be its country (e.g. US) or a set of close regional countries (e.g. for small countries like Belgium) depending on the home market size. (See the Appendix for details). This is the default and recommended StockRank setting for most use cases.
- Its **Regional** ranking set, following broad geographic regional areas. For example: Europe, North America, Asia, Australasia.
- The **Global** ranking set, with every stock ranked against every other listed stock in our coverage.

If you are keen to learn more about how we compile these ranking sets, please refer to the appendix.

The majority of subscribers will not need to change these StockRanks settings as they are primarily interested in their own local markets. But if you wish to do so, or are an international investor, the setting can be changed permanently from your 'Personal Settings' page.

Before you go...

There's so much more to say about using the StockRanks, and so many more strategies that could be discussed. This is though why we continually create new editorial resources on the site, and guides and research studies in the Academy. Please do keep up to date there.

Before you go I do recommend you review the following chapters in the appendices.

- **Frequently asked questions** - I've tried to answer as many as I can in the next Chapter. Some answers there provide excellent insights.
- **Subscriber stories** - I've shared a few recent pieces of feedback. It's always good to hear from other investors using these resources.
- **Taking factor investing further** - a little more information about small caps and low volatility investing.
- **The complete StockRanks data library** - all the data points you can screen on.

I do hope you've found this a useful resource. More than this, I hope this has provided some confidence for you to use and trust the StockRanks as part of your investment process. I'm highly enthusiastic about them, and I do hope some of that has come across over these pages.

I really welcome feedback, and try to respond to all emails. Please do email me as the author at ed@stockopedia.com.

Safe investing!

Part V - Appendices

Some more rather useful bits...

Appendix 1: Frequently asked questions

About the data and process

Where is the data sourced from?

We currently source most of our financial statements data from LSEG (previously Refinitiv) which is one of the two largest institutional data providers (the other being Bloomberg). You can bank on their quality. They provide standardised balance sheets, income and cashflow statements as well as major shareholder data. We receive most new company accounts within 24 hours, but in heavy reporting periods it may take longer, especially for micro-caps. Consensus forecasts of company earnings, recommendations and target prices are sourced from their Institutional Brokers Estimate System (IBES) and updated daily.

We also use certain specialist data vendors for certain data sets that are not well served by LSEG. For example, we source directors dealing data from Smart Insider and Financial Express. Share price histories and Quotes are sourced directly from stock exchanges like London Stock Exchange, Nasdaq and Euronext, and indices from FTSE and S&P.

Our data sources may change if and when we identify higher quality vendors for specific data sets.

How are the StockRanks calculated?

Let's break the process down.

The first step is to source raw data from the third-party institutional data providers mentioned above across three major regions: Europe, Americas and Asia. After the

markets close, we begin extensive automated import processes that fetch data from our sources. The data is imported into our financial cloud on AWS. These import processes run around the clock.

All this data is organised, cleaned and stored in our AWS cloud. We then conduct a lengthy computational process to calculate two thousand accurate financial statistics for every stock in our database. Basic measures of valuation, momentum and profitability are all calculated from the source data. These fields are then used to calculate higher level algorithms across financial health, safety and risk.

Finally, we run a ranking and classification process. We sort and assign percentile ranks for each individual field, then combine them in well-tested recipes to compute the subcomponents of the Quality, Value and Momentum Ranks. We then use these three basic rankings to calculate the crossover ranks (QV, VM, QM) and the composite ranks (QVM StockRank, QVGM).

How often, and on which days, do the StockRanks change?

All our fundamental data is computed overnight after a full day's market trading. New rankings are released daily on Tuesday (after Monday's market action), Wednesday, Thursday, Friday and Saturday mornings. The ranks and classifications are published every day before the market opens in each region.

If the company's share price has not moved and there has been no new news or new fundamental data released the StockRank may still change. This is because it is a *relative measure* which rates the stock against all others in the market. The shares ranked near that stock will have had their data updated due to price, estimates or fundamental data changes.

- The inputs to the **Quality Rank** will largely update when the company's latest annual, interim or quarterly results have been released. This is because all the inputs are based on financial statements data alone. The Quality Rank is the most stable and slowest moving of all the ranks.
- The **Value Rank** changes daily as it is dependent on price-dependent valuation ratios like the Price Earnings ratio.

- The **Momentum Rank** changes daily as it is highly dependent on the share's recent price performance relative to the rest of the market, and changes in analyst sentiment.
- Please note that the **Value and Momentum Ranks will often move in opposite directions**, as the momentum rank may increase with price increases, while the value rank will decrease (as the stock gets pricier.)

Why is the Growth Rank not included in the StockRank?

When I began researching the structure of the StockRanks I was a die-hard “*growth at a reasonable price*” investor. Having been schooled in Jim Slater’s Zulu Principle I believed that all stock market returns were anticipated by earnings growth. What we discovered in our research was that while share price returns do depend on earnings per share growing, it is the *expectation* of growth that drives returns more than *realised* growth. By the time the earnings growth is realised, the share price has already moved.

The Growth Rank is derived from a combination of historical and forecast sales and earnings growth measures. However, our analysis found that the Quality and Momentum Ranks were actually better predictors of future earnings growth. We observed that the Growth Rank correlates with the Quality and Momentum Ranks, yet it underperforms in comparison. Why might this occur?

One reason is that growth rates are a mean-reverting series. It’s hard for companies to sustain high-growth rates over a sustained period of time. Take an example of ASOS Plc in the UK. Eventually, the company ran out of steam as its phenomenal growth rate stalled. There are of course quality compounding stocks that seem to grow perpetually, but they are the exceptions that prove the rule.

Earnings growth is also a highly salient feature. It’s so well followed by almost every investor that it ends up having less value as a predictive financial measure.

We do still provide the QVGM Rank for those who wish to use Growth as part of a multifactor strategy.

Why don't new IPOs have StockRanks?

We have fairly robust requirements for the computation of StockRanks. When new IPOs come to market, they sometimes have partial or limited datasets. If data is missing or partial, we will either not compute the StockRanks or flag the StockRanks as “preliminary” with a banner at the top.

Some IPOs come to market without publishing enough financial information for us to calculate ranks. We require at least a full set of annual financial statements, and a set of interim statements. As soon as this information is delivered and the stock has some trading history, we can publish preliminary ranks. It's worth being mindful that the Momentum Rank for new listings may be less reliable as some indicators rely on the 200-day moving average price and the one-year relative share price strength.

Are there any plans to change the StockRank composition in future?

We have kept the StockRank algorithm the same since inception, with most of our focus on data quality. Nonetheless, there is the chance that we may adapt it in future. The field of factor investing is constantly evolving, and new research ideas are continually published. We do assess and monitor the research on an ongoing basis.

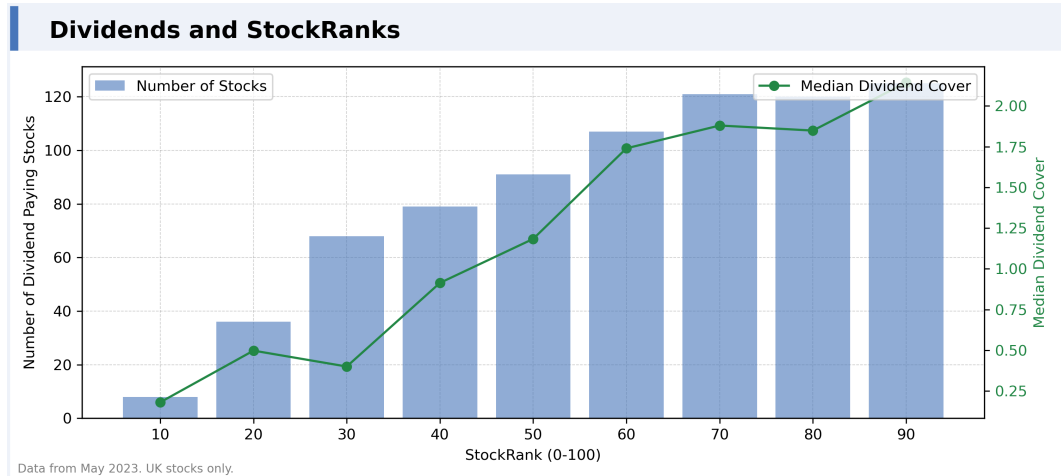
More on high-ranked stocks

Can I use high-ranked stocks in a dividend income portfolio?

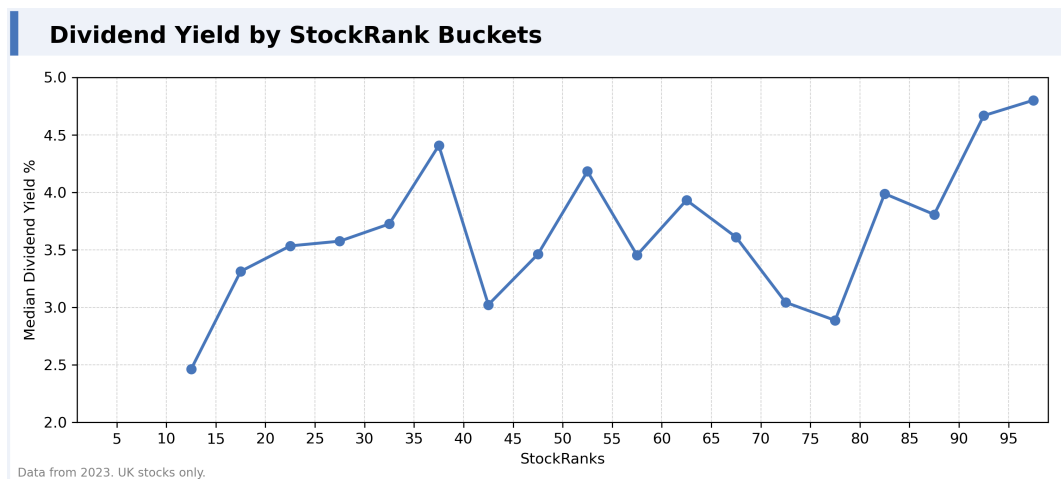
Yes, of course. In general, dividend-paying stocks are more profitable stocks. While you may find dividend payers all the way through the ranking spectrum, there will be a higher proportion of dividend-paying companies in higher ranking segments.

The chart below shows the current number of UK dividend-paying stocks at each ranking level. It also shows the dividend cover of the shares (a measure of dividend safety) which is how many times the dividend is “covered” by profits. As you can see, there are far more dividend payers in the high-ranking set. They have good yields

but also because they are more profitable, have more dividend safety.

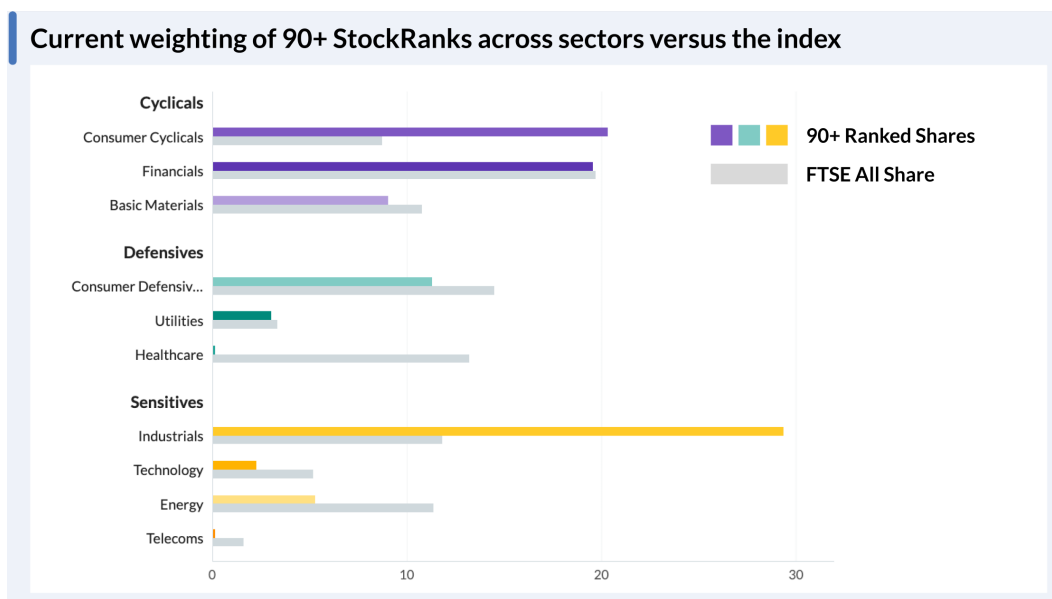


While you won't find many stocks in the low-ranking sets that pay dividends, dividend payers may still appear to offer reasonable historic yields. The worry is though that the dividends may not be very safe due to the very low dividend cover.



Do higher ranks favour certain sectors?

Yes. If you are screening using the StockRank you should be mindful that the results can be biased towards certain sectors. There may be proportionally fewer Healthcare and Technology stocks with a 90+ StockRank as they are often valued at a premium, on higher P/E Ratios. There can be a skew to Industrials and Consumer Cyclicals, as they typically trade on lower P/E Ratios. Energy, Basic Material and Financials have become known as value sectors (with lower P/E ratios), so you may find more of those sectors with high Value Ranks.



If you are constructing a portfolio, diversifying across sectors (thereby accepting lower rankings in some sectors) is a valuable thing to do. Many of the best performing stocks in the market do come from higher rated sectors like Healthcare, Technology and Consumer Defensives. Dropping your StockRank cut-off in those sectors to a lower level may help generate a more resilient portfolio.

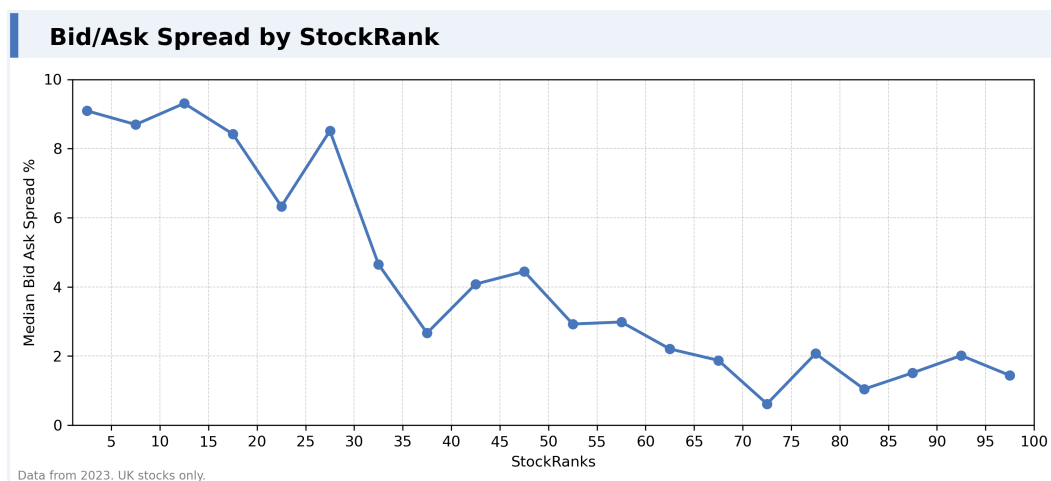
Do higher ranks consider how liquid a stock is?

No. We do not include liquidity factors in the core ranking algorithm. Generally though it's the lowest ranked shares that have the widest "bid-ask spreads". This is the difference between the price at which you can buy (the ask), and the price at which you can sell (the bid). A wide spread is a sign that the stock is very expensive to trade.

My recommendation is for most investors to use a filter to exclude the lowest liquidity shares (such as micro-caps, or higher bid-ask spreads) as they can be challenging to deal in size and can trap the unwary in a bear market.

Using screening rules such as the following can help filter these kinds of shares out:

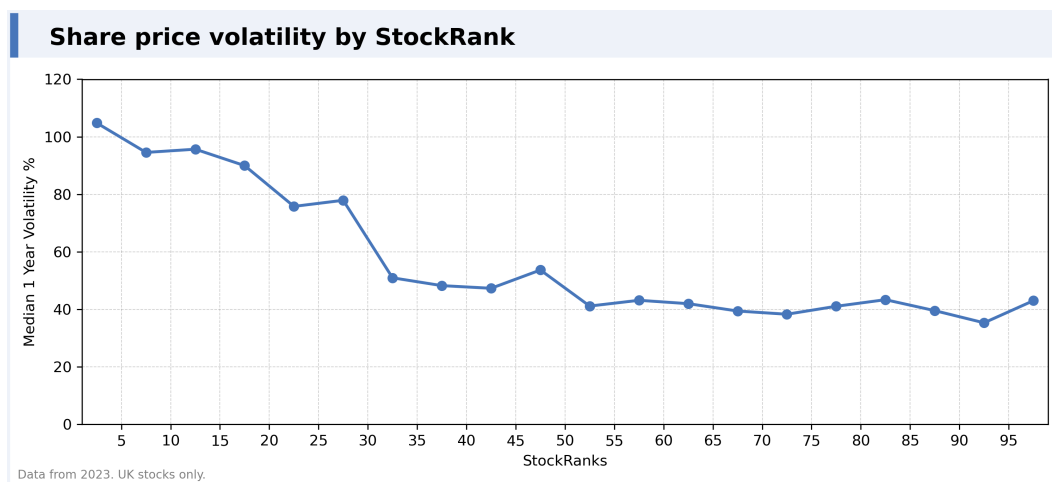
- Spread < 5% (500 basis points)
- Mkt Cap > £20m



I've seen the 90-100 ranked bucket skew at times towards smaller-cap shares, while the 70-80 ranked bucket towards mid and large caps. This does though depend greatly on the market environment. At the bottom of the 2023 bear market, many large caps were the highest-ranked shares. One should be mindful when sorting the market by ranking, that small caps can be less liquid.

Are higher ranks likely to be less volatile stocks?

The *lowest* StockRank stocks are more likely to be volatile, riskier and classified as “Highly Speculative”. The chart below shows the current annual volatility of shares in each ranking bucket. It shows a generally decreasing volatility across the buckets as the rank rises, though it levels out above a 50+ StockRank. Within the mix of each bucket there can be all kinds of different volatility shares. It’s straightforward to screen out the “Highly Speculative” RiskRatings to avoid higher volatility shares if you so wish.



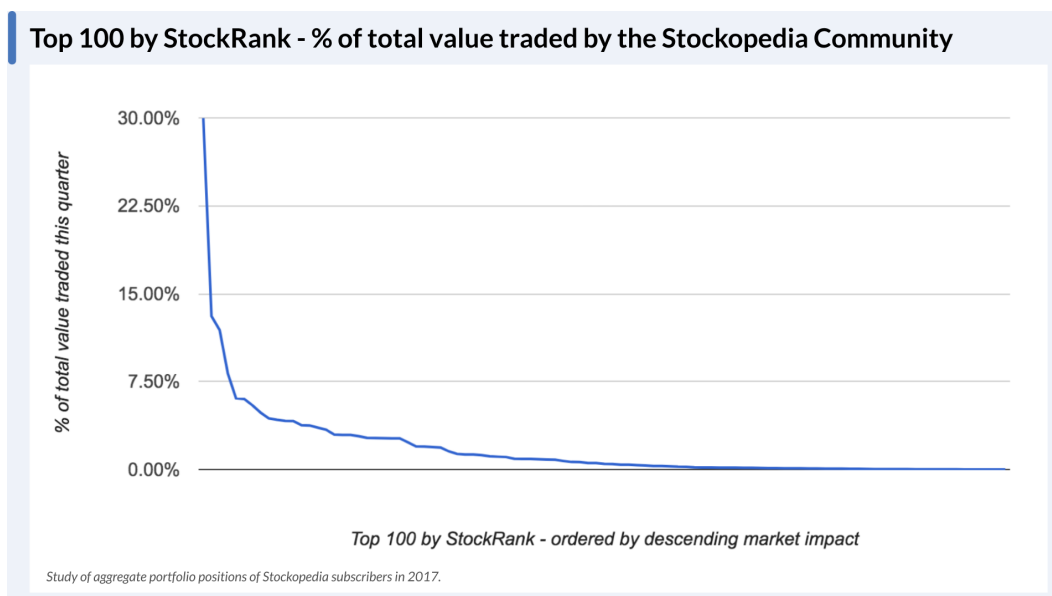
Do higher ranked stocks outperform due to the Stockopedia community buying them?

It’s so easy to find the highest-ranking shares on Stockopedia that the assumption must be everyone is buying them. After all, you just have to click on the StockRank screens to find them. The historical performance is published for all to see on the homepage, and we blog about the philosophy behind them constantly. Surely, the cat is out of the bag?

The next chart analysed the “market impact” of the Stockopedia community’s ownership of the top 100 ranked shares across aggregated portfolio data. (The study

was done in 2017 - we do have double the number of subscribers since then, so bear this in mind).

The levels of investment across the 90+ ranked names was not linear. Of the capital invested at the time in the top 100 StockRank names, 50% was invested into only 14 of those names. A third of the top 100 by StockRank took in less than 2% of the total.



At the time, only an average 1.8% of total market volume (median 0.48%) was traded by the Stockopedia community in our study. This was not excessive. There was a slightly higher market impact across high StockRank stocks rather than low, but it was marginal.

Why are there still high StockRanks when the market is down?

The StockRanks are calculated as relative percentiles across all stocks in the market. *There will always be 10% of the market ranked 90 or higher, irrespective of the general valuation of the market.* If the stock market is overvalued, and priced at a very bullish extreme, there will still be 10% of the market ranked 90+.

A 90+ ranking is not a buy recommendation, nor is it a measure of intrinsic value. It simply means that those stocks rank more highly for the quality, value and momentum factors than the rest of the market. There are bearish market environments where almost all stocks will fall. Even in these environments, there will be 10% of the market ranked 90 plus.

The StockRanks are not designed to be predictors of the general level of the stock market. Market timing is a valuable skill to develop, but it is out of scope in the design of the StockRanks. We will address market timing, and overall market valuation, in a separate publication at a future date.

Other ranking questions

Is a large move in a company's StockRank an important signal?

At this stage, we have not run any empirical tests on whether large changes in the rankings are predictive of future returns. It does, though, make intuitive sense that they should. There is plenty of anecdotal evidence to suggest that when a share makes a large jump in its StockRank, the share price can spring to life.

Novacyt was one such example many subscribers benefited from after a huge StockRank spike after the financials radically improved in late 2020.

We do know that new financial information, while published quickly, can take time to disseminate through the analyst community. Perceptions change slowly, as analysts and investors are often anchored on historic levels.

Many of our subscribers monitor the rank changes on the Today page. As Diane O mentioned *"Each day I look at the daily StockRanks that come up ie 90+ StockRanks, Super Stocks, High Flyers, Contrarians which identify potential opportunities."*

Novacyt - a big pandemic winner after a big StockRank jump



Should I use the rankings differently in different market environments?

In bullish market periods, there can be a very high payoff to momentum stocks. It's not unusual to see P / E ratios double or more for many stocks. As the bull cycle peaks, quality stocks can outperform strongly. As the markets decline, there can be a flight into quality large-cap names.

You can't though just take safety in quality. Valuation matters. After a long bull run, overvalued momentum stocks can be crushed. Even some high-quality shares can end up very overvalued, and they will not be immune to correction.

Quality value stocks can regularly perform well in difficult markets, especially if they have been shunned by growth investors in the previous bull cycle. I witnessed that after the dot-com bubble, but also after the pandemic. They ended up being one of the more resilient parts of the market. But don't be naive, all stocks tend to suffer in bear markets.

From the lows of a bear market, value stocks tend to recover the fastest, especially

deep value stocks. While there are never any hard and fast rules that work across all market cycles, it is worth being mindful of these rules of thumb.

One subscriber wrote in with the following anonymous advice:

"Pay attention to the scores, then the general state of the market. In panic situations fire from the hip and buy oversold situations. In euphoric situations sell as much as possible, especially high Momentum, low Value."

Why are the StockRanks of early-stage businesses always low?

Early-stage companies can be significantly loss-making. They may be developing innovative technologies, new healthcare solutions, or exploring speculative mining properties. These kinds of companies, given their fragile financials, lack of profitability, and ongoing losses, will tend to have low ranks.

Their Quality Rank is often poor as they rarely generate profits. As they may have no profits, cashflow, dividends or even sales, they will generate few valuation ratios. They will regularly trade on very high Price-to-Book ratios, as they regularly have mostly intangible assets, with many not on the balance sheet. As a result, the Value Rank is usually very low.

As the statistics in the win rates chapter show, the odds of success in lower-ranking shares are low. There are, of course, some massive winners in low-ranking shares, as sometimes companies really do strike gold. But too many times, low-ranked shares of extreme popularity with private investors have gone on to hugely disappoint.

Sirius Minerals was one such example. As a developer of potash mines for fertilizers, it became one of the most-owned shares among private investors, especially in the north of England where its Whitby mine was located. It was constantly seen in the top traded shares list at Hargreaves Lansdowne. Dilution, disappointment and doubts over financial viability, led to a lowball takeover by Anglo-American. It delisted at a fraction of the purchase price most investors bought in at.

Sirius Minerals - an extremely popular share that disappointed



If the momentum rank is really high, have I already missed out?

Buying high momentum rank stocks is always a galling affair. When you look at the chart after a strong run over the last 12 months, it can feel like you've missed the boat. Time and again, this has been a mistake.

David Stevenson of the Financial Times once wrote an article about Dart Group in 2013 that was titled "Stock Screens to Net the Ones That Get Away."¹ He discussed how he had reviewed Dart Group but failed to buy when all the fundamental indicators were flashing go. Dart Group went on to be a great multibagger in the stock market. It doubled again in the next 12 months.

The truth is, everybody else is looking at the same chart as you and reacting in the same way. If a company really does have terrific fundamental characteristics, is reasonably valued, and of good quality, then investors like you are all hanging back. They've also seen the price go up. They want to buy, but can't bring themselves to.

Yes, waiting for a pause or a correction in these kinds of shares can make sense, and avoiding them completely at the end of a long bull market is sensible. But on

average, a portfolio of those stocks has outperformed. Of course, within the set, there will be some that will indeed run out of steam. Some may collapse. Using a good risk management approach to cut your losses on momentum shares, I believe, is absolutely fundamental to getting the most out of the style.

Should I make a list of companies I like first, then choose the highest ranks, or vice versa?

Developing your own investment approach is a very personal decision. If you are a truly dedicated, and excellent stock picker, then your own research will become the most important element of your process. The ranks are just a statistical counterpoint for you to either agree with or disagree with.

I have personally found that I have underperformed my own systematic models when I've picked stocks from the list. This seems to be a common issue. James Montier, when he was an analyst at Société Générale, wrote the following in a paper titled "Ode to Quant":

*"The evidence is clear: quant models usually provide a ceiling (from which we detract performance) rather than a floor (on which we can build performance)."*²

So I would encourage you to either:

1. Dedicate yourself to becoming a truly exceptional stock picker. I know many ISA millionaires who have had outstanding returns in this way over multiple decades. It is though, a passion and a craft for those who excel at it.
2. Hone a more systematic or checklist-driven style that really fits your psychology. This too takes time, and dedication, but is a consistent and proven path.

I would say that great stock pickers are more capable of generating truly life-changing, compounding, excess annualised returns. But the dedication required needs to be a true, life-long search for mastery. If in doubt, keep things simple and play the averages.

My portfolio holdings score very poorly against the ranks. What should I do?

This is common for new subscribers who import their portfolios and review the rankings. It can be very distressing to see that one's holdings rank poorly, especially if they are shares you're attached to. As I've said before, high-ranking stocks provide a tailwind to your portfolio, but low-ranking stocks provide a headwind.

You are the expert in the shares that you own. Just remember that the laws of factor investing show that the more low-ranked stocks you own, the more likely it is that your returns will tend to the average ranking of your portfolio.

I would advise reviewing all your holdings one by one. Consider whether any are going to need more dilutive fundraisings in the future, and whether you are comfortable with the implications. Placings could weigh heavily on their share prices in the future.

Consider reducing your exposure to low-ranked stocks and find other ideas that may be higher ranked. Over time, a skew towards higher-ranked shares in any stock picker's portfolio, as long as it is well diversified, should lead to better returns if replicated over the long term.

One subscriber wrote in with an answer that backs up the above principles:

*When I first subscribed to Stockopedia, I entered all of my existing portfolio and past trades into the platform and then viewed my portfolio through the powerful lens of the StockRanks. I immediately sold all "losing style" stocks that I held. Between April 2012, when I first started investing, until December 2016, when I discovered Stockopedia, my total return had been around 45%. Over the subsequent 5 years, my returns soared to almost 170%, allowing me to bring forward the date of my planned retirement by several years to April 2021. Since I retired, my returns have been a little more pedestrian (a little over 20%) but in challenging markets they have still beaten the FTSE All Share index. **Ali W***

And lastly...

If this works, why have you not kept it a secret so it never loses its edge?

The factors contributing to the StockRank are well known. In fact, value investing has been around for over 100 years, but it still 'works'. All the factors are drawn directly from well disseminated academic research that have been published for many years. Yet still their effectiveness persists.

In reality, market prices are predominantly set by *human participants*. Irrational investing abounds that create mispricings. High-ranked stocks also carry various risks that are off-putting for investors. Outperformance is a premium, or payoff, earned for carrying those risks and investing in those mispricings.

The market may get more efficient in future, and factor investing could stop working, but this does seem to be some time away. The recent bear market from 2021 to 2023 saw so many fund managers turned into forced sellers of companies they loved due to investor redemptions. Market cycles are likely to continue to throw up opportunities for factor investors for many years to come.

If this works, why haven't you started a fund or ETF?

We have considered it and are not ruling it out.

Notes

¹ Financial Times. *Stock screens to net the ones that got away*. 2013.

² Montier, James. *An Ode to Quant*. 2006.

Appendix 2: Subscriber Stories

Here's a range of useful stories and tips from subscribers that further reinforce principles from some chapters in the e-book. It's good to read people's thoughts in their own words!

On the benefits of avoiding Story Stocks

Prior to using the StockRanks I mainly fell foul of believing a good story or selling too early / too late. I now have built in StockRanks using 50% of my portfolio and have seen good gains. The ranks act as a great filter and provide a small stock list to filter through. It also helps highlight the risk of some of the stocks referred to by the community. I still accept some risk but feel a lot more confident now than I did before. **Andy S**

What StockRanks has done is assist in seeing through some tips. I require detailed information about the investments I make. I am not impressed by many of the 'tipsters' out there, who seem to only use selected information to suit their story stock. StockRanks give me credible information to assess Investment long term potentials. **Gorky B**

When I started as a very inexperienced investor, I was looking for companies I knew and was influenced by bulletin boards as well. My performance was pretty awful overall but not disastrous as I was lucky with some punts. When I subscribed to Stockopedia I noticed this box at the top right corner of the screen and I found that my top holding company had all the four numbers in red. That couldn't be good! I started to investigate the StockRanks and how they work. I realised most of my holding were Sucker Stocks or in the best case a Value Trap. I read some of the information about how higher StockRanks tend to outperform heavily the lower valued. Since that moment (and after reading a bunch of books

as well), I started to pay more attention to StockRanks and refused to buy anything lower than 80 and I it went well. **Abel S**

On their use in Stock Picking

Don't blindly use the ranks, but have a methodology of looking at the financials you understand (I'm not an accountant, so tend to focus on EPS, EPS growth, DIVS and DIV growth) and doing some of your own research. **Steve H**

Trust but verify. I use StockRank to get a shortlist then look at ROCE, Gearing and other factors that have been picked up from webinars. My only thought now is maybe sometimes I miss out on turnarounds as their StockRank by nature will probably not be as good, but the StockRanks help me sleep soundly with existing portfolio. **Mccand**

StockRanks are invaluable in providing a reliable 'quick and dirty' initial weeding process of possible candidate stocks for the portfolio. Beyond that the detailed financial information within StockReports, along with qualitative information from external sources, guides me to a final decision on whether or not a candidate is included. Put simply StockRanks are the underpinning of my decision making. **David A**

Don't take it as gospel / silver bullet. Use it to form and challenge your thinking. No system can be 100% as there are too many unknown variables. **Andy G**

If I read about a particular company that I am then interested in, I will then do further research and check the StockRank, if the rank is below a certain level I will put the stock in a watchlist, if above I will then go ahead and purchase. I personally use them more for a final sanity check. **Matt J**

The StockRanks include all of the important metrics for evaluating a company. There's no need to re-invent the wheel. It's best to include

2 of the 3 ranks when looking for companies in the highest percentile.

David L

Try and make sure most of your stocks have a Rank of 50 or greater. If they should fall below that & into the bottom two quintiles (40 or less) then you should definitely review those and make sure you are happy to continue holding them. **Jamie S**

I normally invest in stocks with quite high Value Momentum or Quality Momentum. This strategy has definitely yielded me good results, I am out of the woods and made decent returns. I don't go anywhere near Stock with overall rank less than 65. TCAP, Shell, CNA, IAG are few examples with high StockRanks which have performed well for me. **Sunil K**

I have used a blend of NAPS/factor selection but with some human intervention. When I first started I learned the hard way that even though a business can have a good QVM, QM and/or VM it needs to not be going sideways or even worse trending down so I now use the charts to help time an entry. **Mccand**

On handling losers and bad times

Most of the stocks that I have picked from StockRanks have done fairly well. However I did try certain cyclical sectors where the ranking was very high but the ranks changed drastically as the results came out. In 1 particular stock I lost some money. But I made an exit and booked losses. **Rahul S**

Where it didn't work is in special situations for example FA or FIN (earlier CSFS). **Ignatius P**

They helped me to an increased focus on quality and growth in dividends and less emphasis on absolute yield. Good examples of this are Bloomsbury Publishing (BMY) & Computacenter (CCC) which I have held long

term and have grown into top 10 positions for me. While on the flip side a reduced emphasis on yield and also helped me to get out of Carillion before it collapsed. I didn't however get out of Conviviality in time, my one and only complete loss ever in over 30 years of investing. Reviewing the history brings home the trap of ignoring profits warnings & being too complacent, which I fell into here. **Jamie S**

I've used various approaches taking account of StockRanks in various ways. I've had a couple of years when I got really poor results. **S H**

On the Styles

Avoiding "red" Losing Styles, will always keep you out of trouble. Avoiding losses is the fastest way to winning at investing and Stockopedia is an amazing tool for that. **Ali W**

I also pay attention to the StockRank Style & RiskRatings & try to make sure all my holdings are in the winning styles & again pay attention if any of these slip in to the under performing categories. Make use of the ability to download data and use it in spreadsheets. I have been able to do this to create my own Scoring system which helps me to quickly identify the types of stocks which meet my requirements / criteria. **Jamie S**

On finding new ideas

I like to review information from Stockopedia commentators like Paul Scott (a great admirer for a long time) and Graham Neary. StockRanks allow to to review whether their discussions of stocks fit with my long term goals. **Gorky B**

Combine the StockRanks with the Screener to identify the best investment match for your investment goals and trust the results. The biggest

mistake I made was allowing my personal opinion of a business to cloud the facts presented in front of me. I didn't invest in my top screener pick as a result and that stock is now five times the value it was. **Richard M**

Another place I use to flush out companies to investigate further is the daily list of advancers and most viewed companies showing good gains with good StockRank ratings. Another source of suggestions is the various published recommendations for the next ten-baggers. Always interesting, but nearly always too speculative for this old man. I Invest about 5% of my wealth in each stock I buy. **Duncan S**

Watch stocks with StockRank trending upwards on consistent basis and be an early mover. Boring stocks with high overall StockRank do perform well in long run. **Sunil K**

Take the time to learn how the systems work, and don't be afraid to ask questions of Ed and the team. Use the StockRanks and Screens to create a "universe" of interesting companies, but do plenty of secondary research. Use the "Run through a checklist" tool to analyse ideas and companies in the news against the screens. Build portfolios and screens to regularly track and update - and be diligent about this. Don't try and select everything that comes up, it's not possible to buy everything! But do trust in your data and take action. In the end we are all responsible for our own decisions. Just make these the best you can.

On Diversification and Selling

I think the most important tip I can think of is diversify, no matter how certain you are about a particular stock don't put all your money there. I've learnt the hard way. **Rahul S**

I am using StockRanks for 2 years and my portfolio continue to beats benchmark indices through different cycles. It also helps me declutter

by helping weed out noise to find gems that can sustain long term. My portfolio is diversified in Europe, US and India and this methodology unsurprisingly works across, however the linkage in US and Indian stock market is very strong. **Himanshu S**

Unless you are an extremely knowledgeable stock picker with in depth accountancy knowledge, then trust the StockRanks in combination with portfolio diversification. **Ali W**

I find using 12% trailing stop loss gives me a useful prompt to re-evaluate. It's easy enough to come back in. **Duncan S**

Using the KISS principle. I buy max 10 stocks with stockrank>90 and sell <70, it has so only had 2 sells/ buys since starting approx December 23. **Robert W**

Appendix 3: Taking factor investing further with small and low risk shares

As a serious investor, you may look beyond the three basic factors of Quality, Value and Momentum to develop your strategy. The literature on investing is broad, and the quantity of financial metrics available can be daunting. I'd like to briefly illustrate the power of using two additional factors in stock selection and portfolio construction - which belong to the extended "five factor framework" discussed earlier.

1. Size - *small beats big*

"Elephants don't gallop!"¹

The decade from 2010 to 2020 was dominated by headline-grabbing, mega-cap returns from the likes of Amazon, Apple and Netflix. These household names, with apps on everyone's home screen, have heralded a new age of monopoly tech domination. Small-cap investors took fright - should they throw in the towel?

Not completely. There is plenty of evidence that the tiniest stocks in the market are junky, hard to trade and suffer from lottery ticket pricing - which essentially means they are too expensive.² This is one reason why investors in junior markets (like AIM in the UK) can regularly underperform.

However, a terrific paper from Cliff Asness at AQR³ backs up the experiential evidence that smart small-cap investors have always done well. He showed that small caps do indeed beat large caps across 23 international markets - but **only if you buy quality***.

The good news is that focusing on smaller companies with high profits and margins is the way to go. *The Quality Rank makes this easy.*



Size Fields and Size Groups

Stockopedia provides measures such as Market Capitalisation and Enterprise Value as standard yardsticks of equity and company size. Many investors may find our Classification system - **the Size Groups** - easier to screen on. With four categories across **micro cap**, **small cap**, **mid cap** and **large cap** investors can easily focus on the range of the market that suits them - and easily target *the small cap effect*.

2. Low Volatility - *conservative beats speculative*

It's been almost drilled into us - *there's no such thing as high returns without risk* - and to an extent this is true. Stocks are generally riskier than bonds which are riskier than cash, thus stocks return more than bonds which return more than cash.

But *within* stocks, there's a weird inverse effect. *Lower risk stocks tend to outperform higher risk stocks*. The risk and return relationship inverts. *High returns at low risk* - can it be true?

It seems that in the stock market there is a tortoise and hare effect.⁴ The speculative, fast-moving hare wins in a sprint, but the conservative tortoise wins the longer race. Market participants understand that in 'risk on' periods, the highly speculative stocks rocket, but in 'risk off' periods they collapse just as much. The conservative, lower risk shares trundle along regardless and end up winning overall.

We've written an entire guide⁵ about this low risk / low volatility anomaly so we won't go into too much depth here... but a key principle is to *avoid the most highly speculative shares in the market*. While some in the industry use the 'beta' to measure this, I find the best proxy is the share's price volatility. Stick to low volatility shares.



Risk Ratings & Volatility Measures

At Stockopedia we provide a range of share price volatility measures over multiple timeframes to use in screening the market for lower risk shares. The Classification system also provides **the Risk Ratings** - which rates all stocks in the market as either **conservative**, **balanced**, **adventurous**, **speculative** or **highly speculative**.

Using Size, Risk, and Style together

The above size and risk classifications can be used in tandem with the StockRank Style to understand any share in the market swiftly and easily. It becomes straightforward to differentiate a “Large Cap, Conservative, High Flyer” from a “Micro Cap, Speculative, Sucker Stock”. In a previous study, we found that the highest performing combinations of risk+style has been Conservative Super Stocks and Speculative High Flyers.

Notes

- 1 Slater, Jim. *The Zulu Principle*.
- 2 Eraker, Bjorn, and Mark Ready. *Do Investors Overpay for Stocks with Lottery-Like Payoffs 2014*.
- 3 Asness, Clifford S., et al. *Size Matters, If You Control Your Junk*. 2015.
- 4 Van Vliet, Pim, de Koning, Jan. *High Returns from Low Risk: A Remarkable Stock Market Paradox*.
- 5 Croft, Edward and Firth, Thomas. *The RiskRatings - How you can profit from share price volatility*.

Appendix 4: The complete StockRanks data library

Once you dig deeper into the Stockopedia site by customising stock screening rules, alerts, and table columns, you'll come across the full depth of our StockRanks Data Library. We provide not only the basic StockRanks (QVM) but a range of 'crossover' and 'composite' rankings which provide alternative angles for sorting through the market. Here's a brief introduction to our data sets:

Basic Ranks

We provide the three basic QVM components of the StockRank as well as a Growth Rank.

Ranking	Description	Traits
Quality Rank	High scoring stocks by this measure will be profitable, cash generative, high margin, low debt businesses that rarely issue shares. Low scoring stocks will be speculative, cash consuming companies that often disappoint.	Good
Value Rank	High scoring stocks will be cheap on a range of measures versus what they own and what they earn and often out of favour with investors. Low scoring stocks will be expensive.	Cheap

Ranking	Description	Traits
Momentum Rank	High scoring stocks will have rising share prices, close to new highs, with analysts increasing their earnings estimates. Low scoring stocks will be trading at lows with analysts cutting their numbers.	Strong
Growth Rank	High scoring stocks have good forecast earnings growth, and strong historic earnings and sales growth. Low scoring stocks will have poor forecast & historic growth.	Growing

Our research has shown that the returns to the Growth Rank are highly correlated with the Quality Rank and Momentum Ranks.

Crossover Ranks

While the Quality, Value and Momentum StockRanks are each powerful in their own right, they are best used in tandem with each other. We provide a range of 2 factor crossover ranks which help identify stocks with certain characteristics.

Ranking	Description	Traits
QV Rank	This blends the Quality and Value Ranks equally to provide a quick way of finding good, cheap stocks. Reams of great Investors - including Joseph Piotroski, Joel Greenblatt and Warren Buffett target this style.	Good, Cheap

Ranking	Description	Traits
VM Rank	This blends the Value and Momentum Ranks equally to provide a quick way of finding cheap, strong stocks. Value and Momentum are the two strongest forces in almost ALL markets and together they make great bedfellows. Versions of this approach have been a core focus of Quants like Cliff Asness.	Cheap, Strong
QM Rank	This blends the Quality and Momentum Ranks equally to provide a quick way of finding good, strong stocks. The writings and practices of Traders like O'Neill, Richard Driehaus and Mark Minervini have shown that focusing on Quality & Momentum is the best way to make money in expensive, market leading stocks.	Good, Strong
GM Rank	This blends the Growth and Momentum Ranks equally to provide a quick way of finding growing, strong stocks. We provide this two factor rank for more growth-minded investors.	Growing, Strong

Composite Ranks

Finally, a pair of composite ranks brings all the basic rankings together into a three-factor and four-factor model. The StockRank and the QVGM Rank.

Ranking	Description	Traits
StockRank	This blends the Quality, Value and Momentum Ranks into a single three factor ranking. These are the three most powerful pure factors for stock market investors and together they have historically acted as powerful return drivers for portfolios.	Good, Cheap, Strong
QVGM Rank	For legacy reasons we also provide a QVGM rank - blending all four of the Basic Rankings into a single composite. The Growth factor is correlated with the Momentum and Quality ranks and we've found the QVGM approach to underperform a straight QVM approach.	Good, Cheap, Strong, Growing

The performance of all these ranks can be found at the [StockRanks Performance page](#) on the site.

Appendix 5: Local, Regional and Global Ranking Sets

As mentioned at the end of the Product Guide, we provide three versions of the StockRanks. A local, regional and global StockRank. They provide different universes for stocks to be ranked against. Each is based upon a different compilation of countries and regions.

Here are some further details about how they are compiled and how to use them.

About the local ranking sets

Stocks are ranked against a local set of shares. This can be just a single country, or a group of countries. Our decision as to whether or not to group countries together was influenced by three primary factors:

1. **Market size** - It doesn't make sense to create a percentile rank for stock markets as small as the Netherlands with just 130 stocks. We wished to ensure that very small countries were not ranked alone, but as satellites within larger sets. We have generally aimed to maintain between 1,000 and 3,500 stocks within each local ranking set to ensure that percentile rankings are meaningful and more likely to be effective.
2. **Market Classification** - We used developmental data from the World Bank and other public sources to ensure only close and coupled economies are grouped together. There is always some judgement in drawing sensible boundaries.
3. **Geographic proximity** - Given that most investors are familiar with nearby economies, it makes sense to rank stocks within close regional sets.

After much research we settled on the following ranking hierarchy (global, regional, and local ranking sets) across geographies:

- **Global (comprising 4 regions)**
 - **Region 1: North America (2 local ranking sets)**
 - * United States
 - * Canada
 - **Region 2: Europe (7 local ranking sets)**
 - * Northern Europe (*Iceland, Norway, Sweden, Finland, Denmark*)
 - * British Isles (*UK & Ireland*)
 - * Western Europe (*France, Belgium, Netherlands*)
 - * Central Europe (*Germany, Switzerland, Austria*)
 - * Southern Europe (*Spain, Portugal, Italy, Greece*)
 - * Central Eastern Europe (*Poland, Hungary, Romania, Czech Republic, Slovakia, Latvia, Lithuania, Estonia*)
 - * South Eastern Europe (*Bulgaria, Slovenia, Cyprus, Bosnia, Macedonia, Serbia*)
 - **Region 3: Asia (3 local ranking sets)**
 - * Japan
 - * Asian Tigers (*Hong Kong, Singapore, Taiwan, Korea*)
 - * India
 - **Region 4: Australasia (1 local ranking set)**
 - * Australasia (*Australia, New Zealand*)

We may add more markets to Stockopedia - both in these regions and in new regions including Africa, Middle East and South America. These sets may be liable to change.

How and when to use them

- The 'local' StockRanks are best used:

- When you are a single market subscriber (e.g. a UK subscriber, or a US subscriber).
- When viewing a StockReport and you wish to analyse it against its local market set (e.g. it's often best to compare a UK stock against the UK market).
- The **'regional'** StockRanks are best used:
 - When you are a regional subscriber (e.g. Pan-European subscriber).
 - When screening or comparing a stock against other stocks in its region.
- The **'global'** StockRanks are best used:
 - When you are a global or cross-regional subscriber.
 - When screening or comparing a Stock against stocks in different regions.

The ranks for all three are highly correlated, but it should not be unexpected that the difference between local and global StockRank can be more than 10 percentile ranks.

What to watch out for

If you are a global subscriber and have set your preferred StockRank to 'local' and screen the market for 95+ ranked stocks you will need to understand your results. Your results will return the "top 5% of stocks ranked against their own local markets" joined together. That can of course be an extremely useful but it may not be what you are looking for.

If you are looking for the top 5% of ranked stocks ranked against the global universe then it's better to use the 'global' StockRank.

It is worth noting here that some recent academic research has shown that factor investing works better when done regionally, than when done globally. So for our own investing, we are more likely to use the local or regional StockRanks even if screening globally. But each to their own of course !