



The evolution of active management

Addressing the drivers of industry change and proposing a pathway to a more sustainable future.

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Summary

Active management of equity portfolios has a bright future, but to show that I must first discuss its challenges.

- Traditional active management of equity portfolios was built on enhancing market returns by using skill to select certain factors and stocks. Historically this has provided asset owners with superior risk-adjusted returns.
- Regulatory and technological developments have led to the growth of passive and quantitative investment strategies and also made markets increasingly difficult for traditional active managers to outperform because:
 - The information advantage that stock selection was founded upon has been eroded; and
 - Technology has industrialised how asset owners can access market and factor returns.
- Factors explain around 25% of active share price movements, the remainder provides a considerable opportunity for active managers to turn into reliable excess return.
- This paper puts forward how active management can be reinvented to remain relevant to asset owners. The proposition is founded on:
 - Alpha generation: going beyond traditional analysis of accounting measures by focusing on extra-financial factors – factors that are unique to each business, which lay the foundation of long-term financial and share price performance.
 - Efficient portfolio construction: turning alpha generation into sustainable excess portfolio returns.
- This proposition suggests that in order to be successful, active managers need to develop new skills and adopt a long-time horizon. Their success will be predicated on the fact that:
 - Any potential excess returns they generate will be generated from stock-specific or idiosyncratic risk, which lies outside the realm of statistical factors; and
 - This is a different alpha source, hence it creates a return stream that is not correlated to factor returns.

Active Alpha: we define this as investment strategies focused on capturing excess returns from stock-specific risk-led alpha, not factor betas, and which are characterised by high levels of active engagement and stewardship.

Introduction: the sources of return

Historically an equity investment has been about obtaining a part ownership in a business – an entrepreneurial venture. It has been recognised that investing in an individual business can provide great returns but that it can be risky.

I was fortunate to enter the institutional investment management industry in the 1990s. The firm I joined believed that equities outperformed other asset classes over the long term because they harnessed both economic growth and the value creation of entrepreneurs. While equities were risky compared to other asset classes, long-term owners were rewarded for taking this risk.

The firm also believed in active management and I was taught that while all equity indices tend to rise over the long term, this increase is an average. Our task as active managers was to build portfolios of shares that rose more than the average, and to avoid those that underperformed.

I was also taught that there were three ways of generating active returns, and I believe each of those lessons holds true today. Asset owners with long-term investment horizons have made equities a key asset class by seeking to capture and enhance the return of the market via three primary approaches:



i. By timing the market;



ii. By allocating assets to various segments of the global equity opportunity set; and



iii. Through superior stock selection

Successfully employing all three of these approaches, we believe, can provide superior risk-adjusted returns relative to the broader market. Furthermore, effective risk budgeting makes it possible for asset owners to generate higher compound returns without taking on higher levels of risk. As mentioned, these core principles still hold true today, but as the investing environment evolved over the past several decades I witnessed a dramatic change in the manner in which these approaches were deployed.

The good old days

In the 1990s, equity portfolios were built on a national or regional basis, and then various national/regional portfolios were assembled to form an institution's overall global equity portfolio. Typically, a significant home country bias existed within these portfolios due to perceived levels of risk.

The smartest and most experienced minds in the industry were dedicated to asset allocation. This consisted of two components: timing the market by holding cash or varying the beta of portfolios, and sector/region/country/size selection, which was a primitive form of what we now refer to as factor selection (Exhibit 1).

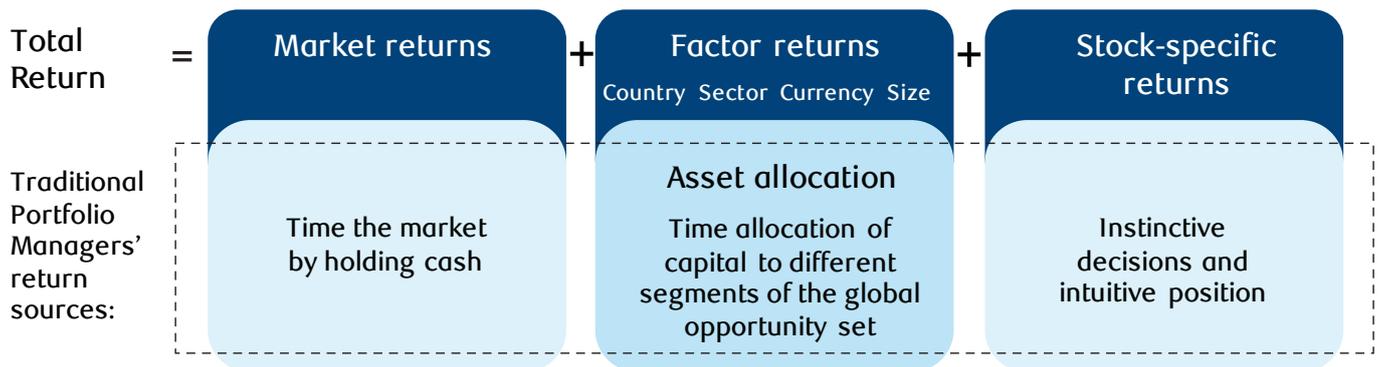
The building blocks for any equity portfolio were – and continue to be – individual stocks. Stock selection was conducted by large groups of young analysts like me, who were tasked with gathering and processing data into information so that basic investment judgements could be made about individual securities.

The gathering and processing of data was a very important and laborious part of the job. Companies issued financial reports in paper format, which had to be obtained, translated into English, and converted into spreadsheets so that the numbers could be analysed. Critically, we analysts had to adjust the numbers to account for the different accounting standards that existed across the globe.

Once useful data had been gathered, processed, and adjusted we could start to draw meaningful conclusions about the quality of each business, assess its trends, and answer basic questions about whether the business generated or consumed cash. Only then could we begin to make forecasts. Financial analysis was labour-intensive work that required skill and judgement in order to understand what had happened and assess what might happen. We spent most of our time researching the past, hence the title “research analyst.” Within the industry there was a clear benefit of scale; having more skilled financial analysts was a real advantage.

This was a wonderful time for the fundamental equity investment management industry. Scale, hard work, and dedication were rewarded with excess returns for asset owners, and the industry grew in size and prosperity.

Exhibit 1: Capturing total return – asset allocation



Source: RBC Global Asset Management.

Technological disruption

Technological disruption grew with computing power, and it came in many forms, two of which are particularly relevant to active management:

Information advantage

The information advantage that financial analysis once provided is being eroded. Now companies report their results under common accounting rules, typically in English, and do so electronically. Modern data services such as Bloomberg, FactSet, and even Google Finance can analyse financial data in seconds. Financial analysis skills have been industrialised, if not commoditised and automated.

Data analytics

Modern databases enable huge amounts of data to be analysed quickly. This data spans numerous securities, many years, and goes into considerable detail, which enables academics to utilise statistical techniques to identify common factors that exist between the share prices of various securities. Factors (e.g., Value, Growth) isolate commonalities more effectively than crude classification or characteristics (e.g., country, sector, size), which was the method used by asset allocators when I first entered the industry. For example:

- i. A company listed in the U.S. may well be a U.S. company for legal purposes, it may even be domiciled in the U.S., but its share price may behave like that of a Chinese company because the majority of its customers and operations are in China.
- ii. A large capitalisation stock may behave like a small capitalisation stock due to the nature of its business.

The factor-based exposure of securities is far more robust and reliable than the traditional classification-based method. This has enabled quants to create a vast array of

“Extra-financial assets and liabilities like brand, reputation, corporate culture, and know-how have become increasingly important drivers of corporate performance and value”

different portfolios that seek to capture returns associated with different factors within equity markets, such as:

- i. Passive portfolios that aim to capture the return of the entire market.
- ii. Smart beta portfolios that aim to capture the returns associated with individual factors such as Value, Size, or Quality.
- iii. Multi-factor portfolios that seek to combine different factors into a single portfolio, either in fixed weights or by timing the exposure based on an algorithm. There are a plethora of these strategies that range from timing market exposure over very short periods to regime-switching strategies that seek to alter the exposure to factors over the longer term.

There are further developments underway in the field of artificial intelligence and machine learning that can be applied to existing and new data sets. This progress may improve the ability to define factors more precisely and to time exposures to them.

The degree of automation required to operate these strategies, as well as the large capacity of capital that these strategies can absorb, has led to them being built on an industrial scale. As a result, these portfolios can be delivered to asset owners at a very low cost.

Other disruptive influences

There have been a number of other changes to the active management industry over this 30-year period. I would highlight two: (i) regulation Fair Disclosure (FD) introduced in 2000, and (ii) the increased adoption of the CFA qualification by the analyst profession. These developments have also contributed to reduce the information advantage that professional analysts once had.

The technology and information revolution caused profound changes to our economy and to how corporations create value. Intangible or extra-financial assets and liabilities like brand, reputation, corporate culture, and know-how have become increasingly important drivers of corporate performance and value, while tangible assets like factories, retail outlets, and bank branches are declining in relevance. Unfortunately, accounting conventions have not kept pace with these changes and do not properly recognise these extra-financial assets and liabilities. Consequently, financial analysis is being rendered less effective because of the declining power of financial reports to capture corporate value and how it changes over time. We know there is an opportunity set uncaptured by factor investing, however that does not mean that this is purely extra-financial.

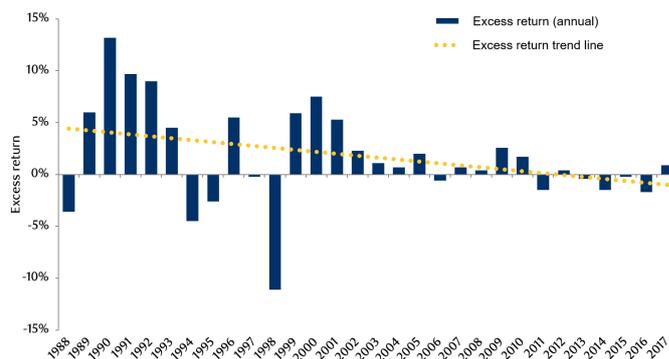
Industry impact

The automation of financial analysis means that what used to take weeks can now be done in seconds, with greater precision and accuracy. No doubt skilled analysts can still draw more precise conclusions from the same financial information than their less skilled peers, but the opportunity to add value from financial analysis has been considerably diminished and continues to decline.

The impact on the fundamental equity investment management industry has been well documented. Excess returns have declined (Exhibit 2), particularly in the larger, more analysed markets like the U.S. Large Capitalisation segment. The decline in excess returns is often cited as evidence that the market is becoming increasingly efficient, and asset owners have become less confident about the level – and consistency – of future excess returns.

Unsurprisingly, there has been a meaningful increase in assets allocated to passive and quantitative investing strategies, as well as significant pressure on fees paid to fundamental investment managers; lower fees for lower excess returns.

Exhibit 2: Excess returns vs. MSCI World



Source: U.S. mutual funds, Morningstar World Equity Large Cap 1988 – 2017.

Scaling the opportunity: factors & alpha

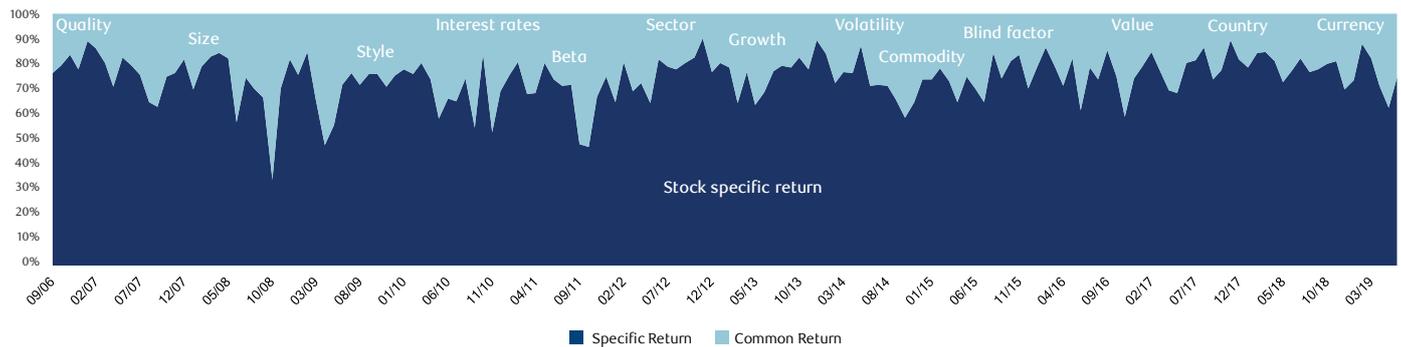
The industry has made considerable progress in defining factors and capturing associated returns. This is based on the view that the return on a portfolio is made up of the returns on a series of factors plus an error term: alpha. The point of the error term is that it can create ‘noise’ in the returns of a factor-based portfolio. The positive is that this alpha can be diversified away so that in a well-diversified factor-driven portfolio it has a small, unnoticeable impact on returns.

Portfolio return = market return + factor 1 + ...+ factor n + alpha

This view of the world suggests that stock selection is pointless because it is not possible to get it right on a consistent basis, because the market is now too efficient, and financial analysis is best conducted by computers. This view is supported by data of the decline in excess returns generated by fundamental active managers, which suggests that factor-based investing is the best way to maximise asset owners’ risk-adjusted returns. This is why many believe that the opportunity for active managers to outperform has evaporated.

As a well-trained analyst, I am compelled to examine the data from which these conclusions are derived. Thankfully my colleagues have the skills to analyse the degree to which the opportunity for fundamental active managers to outperform has evaporated. They have examined the return of constituents of MSCI World Index over a period greater than 12 years to see if the dispersion of returns

Exhibit 3: Dispersion of non-market returns



Source: RBC Global Asset Management & Northfield, UNBS PAS, Citi GRAM, Axioma. RBC Global Equity representative account data as at June 30th, 2019. Please refer to the last page for the extended sourcing and further important information¹.

from different risk sources has declined. They used a well-constructed risk model to quantify the proportion of the non-market-related share price movements that can be explained by factors. The results of their analysis are shown in Exhibit 3 above. Their conclusion suggests that factors explain only about a quarter of active share price movements and that this proportion has been reasonably consistent over time. The remaining 75% is alpha or ‘noise’, which for smart beta managers must be diversified away. But for active managers, this is the opportunity set and it remains compelling.

Stock-specific alpha: turning the quant’s ‘noise’ into excess returns

The considerable amount of alpha in equity markets provides a meaningful opportunity for active managers to generate excess returns. An active manager’s task is to capitalise on the fact that the market or index return is an average, and to use analysis and skill to identify those stocks that produce an above-average return and to avoid those that don’t.

Our analysis indicates that an average of 75% of active share price movements cannot be explained by factors which ought to provide a significant opportunity for security selection. However, the evidence would suggest that hitherto the majority of the fundamental active management industry has failed to turn this opportunity into reliable excess returns.

Just because the industry has not always been able to do so in the past does not mean that it is impossible. Given the scale of the opportunity it is incumbent on active managers

to find a way to turn these share price movements into reliable excess returns. In order to do this we believe that active managers must get two things right:

- i. Alpha generation: devise means of explaining and predicting the share price movements that are not explained by factors.
- ii. Alpha capture: devise means of efficiently capturing alpha and turning it into reliable portfolio excess returns.

“Our analysis indicates that an average of 75% of active share price movements cannot be explained by factors which ought to provide a significant opportunity for security selection”

What it takes: alpha generation

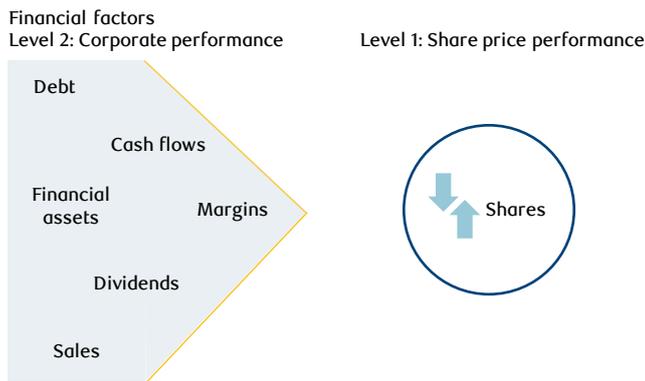
Back to basics: stock selection & tools

What is clear from the data is that not every security in a particular factor group (e.g., country, sector, size) has a similar return. It would be ridiculous to expect every internet company, biotech, or utility to generate identical performance. Intuitively we know that each business within a particular category is different because it has a unique history, management team, strategy, corporate culture, employees, reputation, and brand, among countless other variables. This is what leads similar businesses to have different financial outcomes (e.g., revenues, earnings, cashflows) and different share price returns.

Source: ¹Further information: To complete this analysis, we computed the factor contributions and stock-specific return for each constituent of the MSCI World Index at the beginning of each calendar month. For each security, we aggregated the factor contributions into a common return. For the common return and stock-specific return, in addition to the total security return, we computed the cross-sectional variance across all the constituents. (To avoid securities without a full month of return, we excluded securities that dropped out of the MSCI World Index during the month)

In theory, the cross-sectional variance of the total return should equal the sum of the cross-sectional variance of common return and the cross-sectional variance of stock-specific return, since stock-specific returns are assumed to be idiosyncratic. However, in reality, there is cross-sectional covariance between common returns and stock-specific returns. This covariance may be positive or negative. When computing the share cross-sectional return variance that can be attributed to cross-sectional stock-specific return variance, we make the conservative assumption that a positive covariance is added to cross-sectional common return variance and negative covariance is deducted from cross-sectional stock-specific return variance.

Exhibit 4: Public market value chain



Source: RBC Global Asset Management.

A stock picker’s task is to identify stocks that outperform. Conventional wisdom suggests that the main tool in this endeavour is financial analysis. (Exhibit 4)

I have already argued that this has been industrialised and commoditised. I would also argue that financial analysis on its own is an incomplete tool for stock pickers because it is a poor indicator of a business’s value in the long term. So then, what is the way forward?

Back to basics: why short-term accounting measures are a poor measure of business value

In addition to the inability of financial reports to accurately capture intangible or extra-financial assets and liabilities, there is much academic literature on other reasons why accounting measures are a poor measure of business value. I will use two simple examples to illustrate the fallibility of short-term accounting measures.

One: a business that eliminates all research and development (R&D) spending is guaranteed to increase short-term profitability. Depending on the nature of the

business this increase in profitability could be sustained for several years, and during this period any profit-based valuation method will indicate a more valuable business. However, at some point in the future this business will cease to have any new products for its customers. This, in turn, will likely lead customers to defect to competitors and result in lower profits and declining cash flows and, ultimately, a less valuable business. In the long run, financial returns do reflect the real value of the business but the time lags are considerable and can result in misleading conclusions.

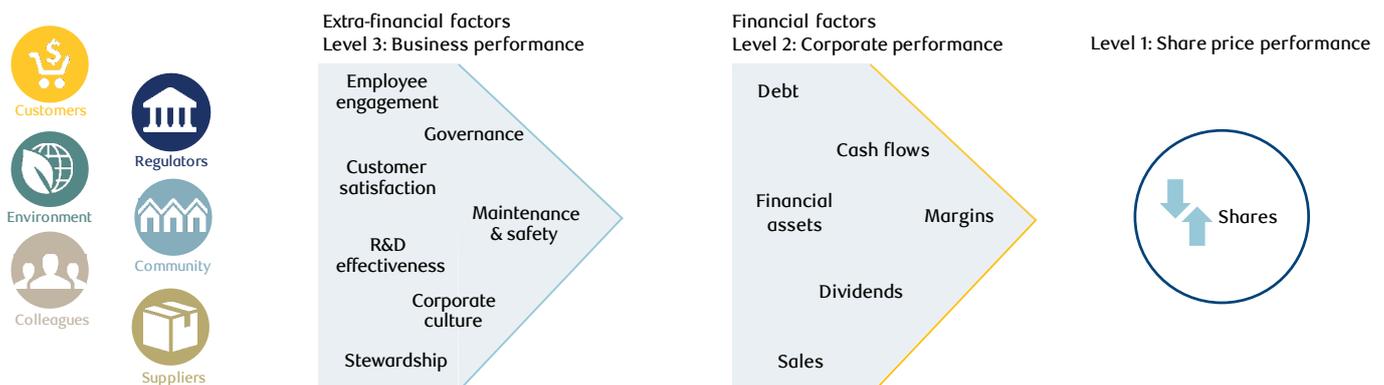
Two: another illustration of the difference between accounting measures and economic value relates to employees and corporate culture. Short-term profits can be boosted by cutting costs associated with employee training, development, work conditions, and wages. However, this will almost inevitably lead to low morale which could impact productivity, the departure of skillful and experienced employees, and a decline in corporate culture, employee engagement, and trust. Again, these will impact the business and the share price in the long term but are not reflected in accounting methods.

What is perverse is that the opposite may also be true. In both of the examples above, businesses that spend on R&D and their employees will appear to have lower accounting profits but, all other things being equal, may be more valuable businesses. Focusing on short-term financial profitability, however, can lead to exactly the opposite conclusion.

What is a stock picker to do? Forecasting

Stock pickers must develop methods of forecasting future long-term financial returns, and undoubtedly there are different methods of doing so. I am sure that there are algorithms that can extrapolate short-term financial performance into the future, however accurately predicting long-term financial outcomes is considerably more difficult.

Exhibit 5: Public market value chain



Source: RBC Global Asset Management.

To predict long-term financial results, stock pickers need to analyse the unique factors associated with each business that drive its business performance, and which, in turn, drive its future long-term financial returns. Long-term financial returns, in turn, drive future long-term share price performance. Let's call these unique factors extra-financial factors (they are also commonly referred to as business factors or pre-financial factors) so that we can differentiate them from financial factors. (Exhibit 5)

Unfortunately, analysing extra-financial factors is not as simple as measuring how much a business spends on R&D, employee training and development, environmental safety, and customer care, to name a few examples. It also requires an assessment of how wisely this expenditure is undertaken, and its financial impact. For example, corporate history is full of examples of businesses that spent huge amounts on R&D but did not have much to show for it. Today this is clearly a challenge for many industries, not least in the pharmaceutical and technology sectors.

“Skill and expertise need to be developed to assess nuanced factors such as corporate culture, and employee engagement”

This analysis suggests that the critical skill for stock pickers is understanding and evaluating extra-financial factors as well as assessing their impact on financial returns. Skill and expertise need to be developed to assess nuanced factors such as corporate culture, employee engagement, customer satisfaction, the business's social licence to operate, maintenance and safety procedures, R&D effectiveness, brand and reputation, and these will vary from industry to industry and will also shift over time. This is not what is typically taught to young analysts!

This information is generally ignored by traditional financial reporting. It is qualitative, contextual, and difficult to source, and therefore not always present in a simple quantitative format. As such it is not reported in a standardised manner and is therefore unlikely to be consistent across companies, industries or regions. The stock picker will have to apply judgement to draw meaningful conclusions from the information that is provided.

How precisely these judgements will be deployed will depend on the design of the active manager's investment process. Broadly, these judgements can be used either to seek to avoid losing investments – businesses that will have poor future financial and corporate performance – or to endeavour to identify future winners – those that will have superior corporate and financial performance.

The scale and time horizon over which extra-financial factors impact corporate and financial factors is not clear; it is hard to estimate to what extent poor culture will impact future corporate profits and when this will become apparent. Active investors have to accept this temporal variability and manage at the portfolio level. Many readers will have correctly noted the similarity between the extra-financial factors listed above and ESG factors. In our view this is why ESG factors are an alpha source and key driver of excess returns.

“The stock picker will have to apply judgement to draw meaningful conclusions”

Active ownership: another source of return

A deep understanding of extra-financial factors should enable an active manager to:

- i. Allocate capital more effectively, which will provide economic and market-wide benefits.
- ii. Be a better steward of investments by engaging more effectively with boards and management to improve returns at a corporate level.

What it takes: alpha capture

Position sizing matters

Earlier I explored the link between extra-financial factors and corporate financial returns, which we believe drives share prices. I argued that analysing extra-financial factors helps to predict future long-term financial returns which, in turn, predicts share prices. This hopefully enables a stock picker to turn what factor investors consider to be statistical ‘noise’ into signal.

The next stage of turning this signal into reliable excess returns is the ability to capture it in portfolio returns. There are two important areas to examine:

- i. The link between extra-financial factors and corporate performance is at an individual investment level. How multiple investments are combined into a single portfolio matters.
- ii. The link between corporate performance and share prices also merits further examination because it is not a clear and direct relationship.

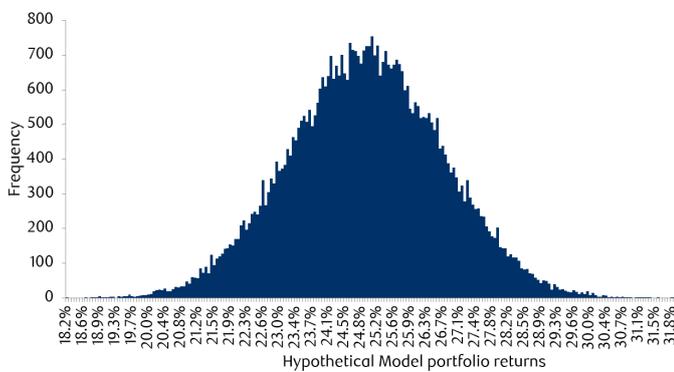
The reality is that every equity portfolio is made up of individual securities, that are marked to market. Ultimately, the investor's portfolio is worth what the constituent share prices are worth, and the investor compares the return of this portfolio to the opportunity cost, which is the return of the benchmark (i.e., investors could passively earn the return of the benchmark).

Position sizing: combining multiple investments into a single portfolio

While investment selection is important, so is position sizing. Equity investments can be held in fractional holdings so it is possible to construct an almost infinite number of portfolios from a relatively modest number of securities.

Exhibit 6 below shows the distribution of returns from 50,000 different portfolios constructed using the same 30 securities over a 12-month period. The 21.5% range of returns is considerable, and demonstrates that position sizing truly matters.

Exhibit 6: The distribution of returns, identical holdings but random position sizes (50,000 portfolios)



Source: RBC Global Asset Management as of September 20th, 2019. Calendar year 2017, applied to MSCI World Index, 30 names selected. With position sizes of 0-10% and excluding cash for 50,000 random portfolios.¹

“Position sizing truly matters”

The reasons for this are as follows: first, different securities will have different expected returns. It is self-evident that investors should allocate the capital of a portfolio to the individual investments based on the expected outcome, whether that is the expected return or the expected risk-adjusted return.

Second, different combinations of securities will create portfolios with different factor exposures. Given that the component securities are unlikely to be independent of each other, there will be correlations between them which will, in turn, cause portfolio returns to vary depending on how much capital is allocated to those co-varying securities. Ironically, factor exposures become ‘noise’ when constructing an alpha-driven stock-picking portfolio and have to be diversified away.

Investors who want to capture returns by turning statistical ‘noise’ – stock-specific returns – into positive excess returns will need to build portfolios in which performance is driven by their insights, while controlling any unintended factor exposures.

¹The hypothetical model portfolios referenced do not represent actual client portfolios. There are certain limitations inherent in hypothetical model results like those portrayed, particularly that such hypothetical model returns do not reflect trading in actual client accounts and do not reflect the impact that material economic and market factors may have had on the adviser’s decision-making had the adviser actually been managing client funds.

Apart from the ability to predict stock-specific returns, active portfolio managers must possess:

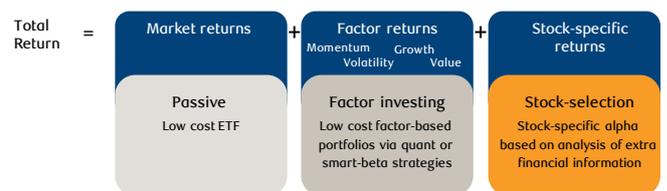
- i. A standardised way to express expected risk-adjusted returns for each investment opportunity (e.g., business insights, financial forecasts, valuation/return forecasts).
- ii. Tools to measure and control factor exposures that may occur in portfolios as a result of the investments selected.

Portfolio construction therefore becomes the framework within which portfolio managers can assess the trade-off between these two, often conflicting, objectives: maximising exposure to their best investments vs. minimising exposure to unintended factor returns.

Finally, we should mention time-frames. The link between extra-financial factors, corporate financial returns, and share prices is marked by considerable time lags. To our knowledge not much work has been done in this area, however what can be said is that capturing the returns from business factors is likely to require a long holding period.

“Maximising exposure to their best investments vs. minimising exposure to unintended factor returns”

Exhibit 7: Capturing total return - a focus on factor returns

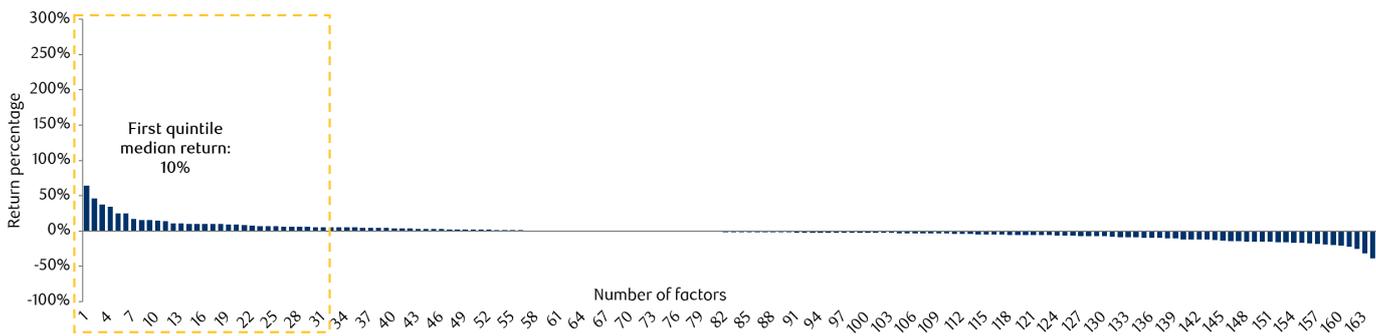


Source: RBC Global Asset Management.

What it means for asset owners

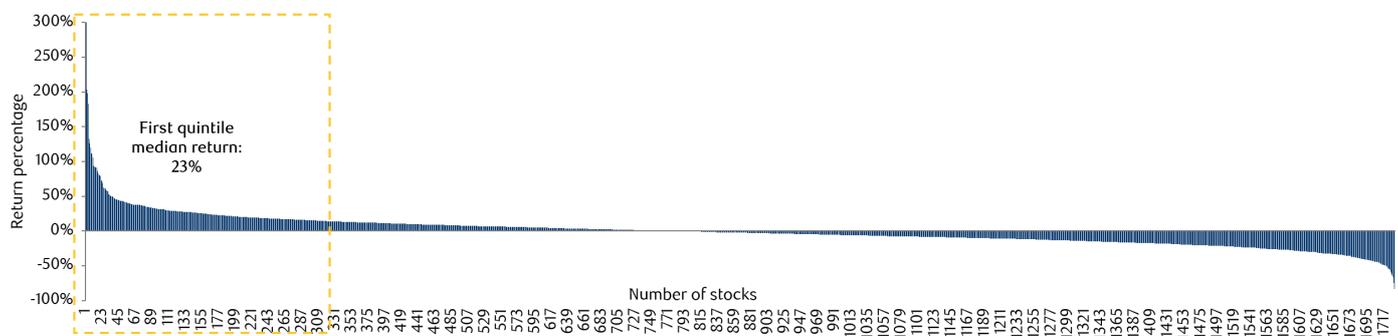
The developments in the investment industry that I have examined in this paper have meant that asset owners are increasingly focusing on two return sources to drive their portfolio returns: returns from the market (passive) and returns from factors (smart beta and quantitative investing) (Exhibit 7). Undoubtedly the quality of these strategies has improved and the associated costs have fallen, but nevertheless our analysis suggests that it is a narrow set of return drivers. Different managers should provide identical market returns, and there should be a high degree of correlation between the returns of different factor-based portfolios. This limits the amount of diversification an

Exhibit 8: Ranking of common factor returns



Source: RBC Global Asset Management, Axioma, MSCI World Index. Data as of June 30th, 2019.

Exhibit 9: Ranking of stock-specific returns



Source: RBC Global Asset Management, Axioma, MSCI World Index. Data as of June 30th, 2019.

asset owner can achieve in building their portfolios or, put another way, it limits how asset owners can deploy their risk budgets.

The approach to active investment management that I have advocated in this paper seeks to generate outperformance from stock-specific risk that lies outside the realms of factors. This is a different alpha source, hence it creates a return stream that is not correlated to factor returns.

This is potentially valuable to asset owners because they can access returns from three risk sources: the market, factors, and stock-specific returns. By adding a third source of return, asset owners should be able to improve their overall risk-adjusted returns by blending these sources in different measure.

The scale of the opportunity is demonstrated in Exhibits 8 and 9. Compared to factor selection, stock selection provides a much greater opportunity to create or destroy value. This underlines the opportunity for a skilled stock selector to outperform and underperform as well.

Conclusion

The active management industry has changed dramatically over the course of my career. I have witnessed industry disruption as many of the traditional sources of value creation that active managers once deployed, such as asset allocation and market timing, have been industrialised. Technology has enabled the manufacturing of passive and factor-based strategies on an industrial scale, and asset owners can now access market and factor-based returns in a commoditised manner. This has driven down fees and taken share from traditional active managers and, furthermore, has questioned their future relevance.

What is clear is that active managers cannot carry on as they did before, trying to compete against technology is unwise to say the least. If they are to be relevant to asset owners, active managers have to co-exist with passive and factor-based strategies. Successful active managers will have to focus value creation on areas where factors and technology cannot generate the nuanced analysis required to make carefully considered investment decisions (Exhibit 10).

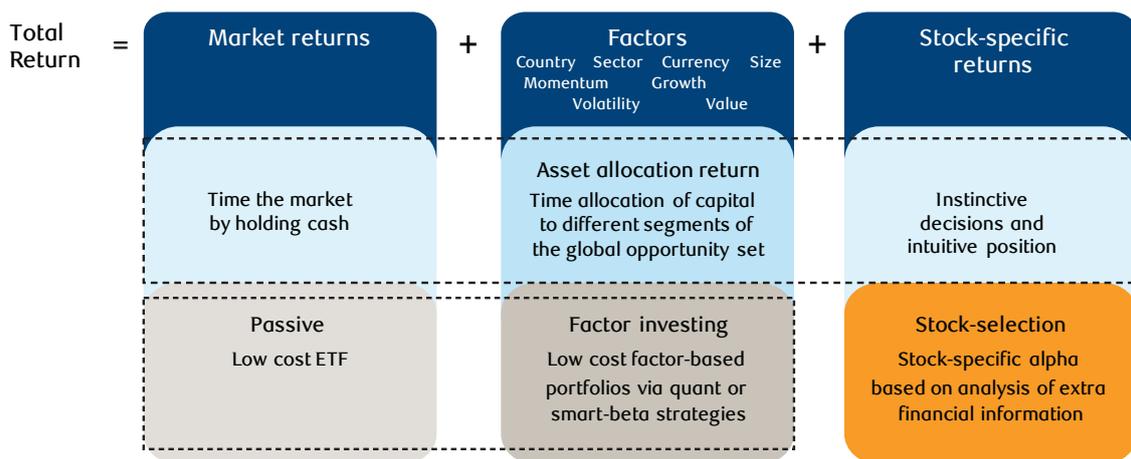
Analysis of the evidence suggests that factors have limited explanatory powers and there remains a vast pool of opportunity for active managers to exploit. I have argued that in order to exploit this opportunity, active managers will have to do two things: first, active managers must develop new skills and capabilities to evaluate extra-financial factors such as corporate culture in order to generate alpha; second, they must pair these skills with alpha-capture capabilities to ensure that they are turned into outperformance for their clients (Exhibit 11).

The converse to this argument is that active managers must also resist the temptation to compete with technology in manual attempts at factor definition and beta-based investment strategies that can be easily replicated by algorithms.

I sincerely believe that the future for active managers is bright. This is a highly skilled and motivated community that wants to do right by its clients. It is just a matter of time before the approach evolves and is re-engineered to be more effective. Perhaps past success is slowing down the speed of evolution, but I feel confident that the evolution will take place.

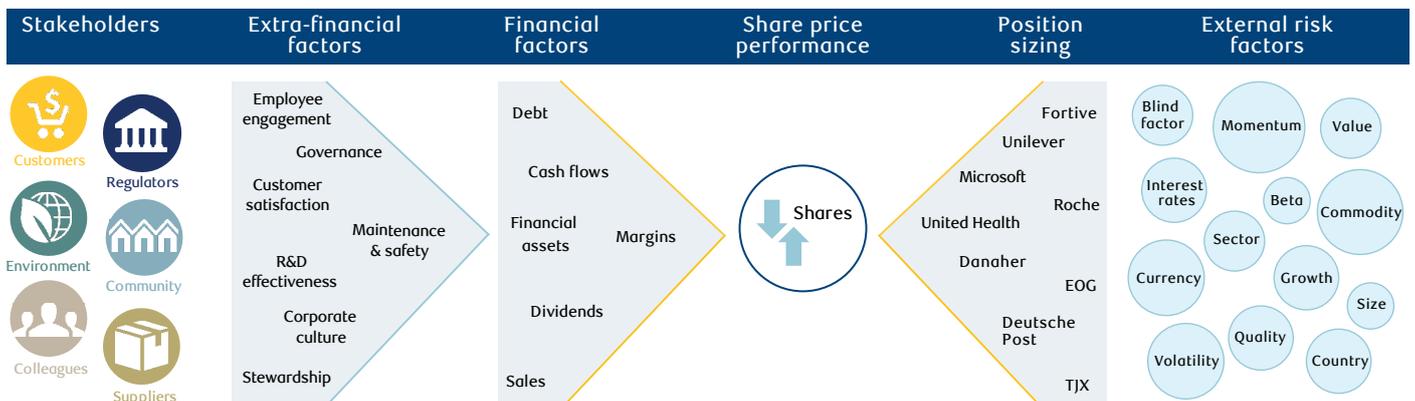
“The approach to active investment management that I have advocated in this paper seeks to generate outperformance that lies outside the realms of factors. This is a different alpha source, hence it creates a return stream that is not correlated to factor returns”

Exhibit 10: Capturing total return



Source: RBC Global Asset Management.

Exhibit 11: Capturing total return – the full picture



Source: RBC Global Asset Management.

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