Skill without governance can lead to disappointment

Stock selection: when perfection is not enough

Authored by:
Chris Cheetham, Global Chief Investment Officer
Vis Nayar, Deputy CIO Equities
Olivia Skilbeck, Quantitative Analyst

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At a glance

- In response to the many challenges facing active managers today, high-conviction investing is gaining ground. But does benchmark relative investing really restrain alpha? Skill, clear strategy and conviction might be necessary conditions for successful active management, but are they sufficient?

- The real challenge for high-conviction managers is that even if they have outstanding skill their performance is always going to be very noisy with prolonged drawdowns a real possibility. How can investors and managers stay in the game long enough to have a good chance of winning it?

- In the search for a solution, we look at the potential benefits of following a highly structured and disciplined investment approach. How might this help solve the problem facing active managers? Is there anything we can do to smooth returns without sacrificing alpha?

- Having discussed possible solutions, we introduce an innovative way of analysing performance which aims to disentangle the impact of process, skill and noise. Knowing what’s been going on is an important part of the battle.
Skill without Governance can lead to disappointment

Active equity management is a very tough gig. The expectations placed on managers today appear to be more demanding than ever. Moreover, numerous industry studies appear to demonstrate that the majority of active managers underperform their benchmarks. To make matters worse, active managers are now being attacked by the explosion of so-called smart beta strategies which are seen as viable, low cost alternatives to active management and which have, therefore, set the bar even higher for the ‘alpha generator’. Surveys conducted by Bernstein\(^1\), for example, suggest that these pressures are reshaping industrywide approaches to equity management with some managers resorting to taking fewer, highly concentrated positions as they seek to demonstrate their conviction and in order to justify ‘high’ active fees. Survey evidence suggests that the proportion of European fundamental active AUM held in funds with less than 40 holdings has risen from around 5% in 2005 to 25% today, a striking increase in high conviction investing.

Building on this clear trend, many observers have gone further, claiming that “true” active management should focus on only a handful of active positions with no regard for benchmarks or indices. In their view, adapting portfolios to mirror benchmark weightings restrains alpha and potentially contributes to systematic mispricing. Rather than comparing portfolio performance with index benchmarks, the rare talents of such high conviction investors should only be assessed against the returns generated by other similarly gifted managers, they argue.

While we fully acknowledge the need for ‘conviction’ and a willingness to take risk in any successful stock selection strategy, the challenge with this philosophy is immediately obvious. Why, as an investor, should I be willing to pay an active fee, which will eat into my net return, unless I believe that ultimately I am likely to enjoy a higher risk adjusted return than I can achieve by investing in the broad market at a much lower cost? Comparisons with broad benchmark indices are logical and inevitable and the real challenge for any active manager is to ‘prove’ that higher risk adjusted returns are achievable and then to demonstrate, ‘in flight’, that everything is going to plan. The paradox for the high conviction manager, building high conviction portfolios, is that performance is going to be very noisy.

That’s unavoidable, but worse still even a highly skilled manager is likely to suffer prolonged drawdowns. That’s tough for clients, and for managers, and the real question facing all investors, no matter how skilled, is how to stay in the game long enough to have a good chance of winning it. Simply hoping to get lucky isn’t a particularly attractive strategy.

Our objective in this paper is to discuss this dilemma and to provide some possible solutions. We start by reviewing ‘the problem’, discussing ‘noisy stock returns’, and present some worrying evidence on the lack of persistency in active returns. Unfortunately, past (active) performance really isn’t a good guide to future performance. Taking this a little further, we outline a simple example of a highly structured and disciplined investment process and test the implementation of that process with the benefit of an imaginary analyst with ‘supernormal’ skill. There is some good news and some less good news here. As we hoped, our strategy outperforms, but unfortunately performance is still very noisy. Perhaps surprisingly, we still haven’t solved our problem.

Moving into solutions mode, we argue that a robust stock selection process, which benefits from skill, though not to a supernatural extent, combined with disciplined portfolio construction can be the foundation of a sustainable active strategy. As importantly though, we seek to demonstrate that a process with conceptual clarity leads directly to a disciplined implementation and therefore strong governance. In turn, strong governance increases the chances of being able to demonstrate, in flight’, that everything is going to plan. In the final section, we use an innovative form of performance analysis to disentangle the varying impacts of process, the skill present in its implementation and straightforward noise.

We conclude that a thoughtful process, implemented with skill, executed with a disciplined approach to portfolio construction and which is both transparent and well governed, is likely to be much more sustainable than so-called benchmark agnostic high conviction investing. ‘You don’t need to get lucky early on’. Clients can benefit from active management while experiencing less noise and shorter drawdowns which in turn should give them more confidence that everything is as it should be.

\(^1\)Bernstein Research, In Defence of Active Management, 31 March 2016
Noisy returns

Of the current constituents of the S&P 500 index, just over 40% have suffered a 70% drawdown or greater at some point since 1990, and over a quarter have undergone an 80%+ drawdown. Many of these substantial drawdowns have taken place during a market crash, but even when market return is positive there is still substantial room for error in stock picking.

If we consider the S&P 500 as indicative of the stock selection opportunity set, these results suggest that there was plenty of opportunity for stock pickers to get it wrong when an index tracker seemed an attractive option. Moreover, these drawdowns can be notoriously hard to predict. Good fundamentals provide a suggestion, but not an assurance of return potential. A flippant response may be to search for a fund manager with superior stock selection skill who knows how to avoid these pitfalls.

However, research suggests that manager selection is no easier than stock picking. Past performance record is an imperfect indication of stock selection skill. Porter and Trifts (2012) observed that a significant proportion of the “best” fund managers earned reputations through superior returns early in their tenure, but failed to maintain this level of performance later in their careers.2

SPIVA conducts analysis into the persistence of US fund performance rankings, including a comparison of the performance quartiles for two non-overlapping consecutive 5 year periods. The table below shows how funds in each 2006-2011 performance quartile ranked during 2011-2016. The relationship between first period and second period ranking is fairly random. Overall a first quartile manager had less than a 1 in 5 chance of repeating that performance in the subsequent period. Furthermore, top quartile fund managers were more likely to end up in the bottom quartile than any other. The percentage of funds that fail to survive the second period is astonishing, particularly for lower performance quartiles. High turnover in funds affords investment managers the opportunity to inflate composite track records in a way that may not be fully appreciated by the common investor. It is important to consider the effect of this survivorship bias in any rigorous assessment of the effectiveness of stock picking.

The S&P 500 is market cap weighted and performance is therefore skewed towards large caps. Exhibit 1 shows the number of S&P 500 constituents suffering a negative return each year.

The number of declining stocks is understandably large during recessionary years, but there are a number of years when over half the index constituents saw negative returns whilst the benchmark return was still positive.

Exhibit 1: Number of stocks delivering negative absolute total return in the S&P 500

![Graph showing the number of stocks delivering negative absolute total return in the S&P 500 from 1990 to 2014]

Exhibit 2: Five-Year Transition Matrix—Performance Over Two Non-Overlapping Five-Year Periods

<table>
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<tr>
<th>All Domestic Funds</th>
<th>Number of funds at start</th>
<th>1st Quartile</th>
<th>2nd Quartile</th>
<th>3rd Quartile</th>
<th>4th Quartile</th>
<th>Merged/Liquidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Quartile</td>
<td>434</td>
<td>17.28</td>
<td>18.66</td>
<td>22.58</td>
<td>29.49</td>
<td>11.98</td>
</tr>
<tr>
<td>2nd Quartile</td>
<td>434</td>
<td>23.96</td>
<td>15.21</td>
<td>18.66</td>
<td>20.05</td>
<td>22.12</td>
</tr>
<tr>
<td>3rd Quartile</td>
<td>433</td>
<td>19.17</td>
<td>22.40</td>
<td>19.40</td>
<td>12.47</td>
<td>26.56</td>
</tr>
<tr>
<td>4th Quartile</td>
<td>434</td>
<td>15.21</td>
<td>19.35</td>
<td>14.98</td>
<td>13.59</td>
<td>36.87</td>
</tr>
</tbody>
</table>

Source: S&P Dow Jones Indices LLC. Data for periods ending March 31, 2016. Past performance data are not a reliable indication of future returns.

One school of thought suggests that the effectiveness of analyst skill as a whole is inherently cyclical and depends on a combination of macroeconomic factors outside the fund manager’s control. First of all, the effectiveness of stock selection, regardless of skill, is enhanced or hampered by the extent of the opportunity set at that time. In exhibit 3, we can see that the pairwise correlation between global stocks has oscillated over time. When pairwise correlation increases, stocks exhibit the same behaviour and become less independent, therefore the return differential between possible investment choices decreases and there are fewer opportunities to beat the index return.

Wider market conditions also influence the precision of fund manager’s most basic stock selection tools. Value investing is one such example; this popular method of stock selection delivered strong returns in the 2000s, but its performance was more subdued in later years. Discounting cash flow models are a widely accepted, rigorous method of deriving intrinsic fair value, but their effectiveness has been impacted by the ongoing ultra-low rate environment.

As the discount rate decreases, DCF valuations become increasingly weighted towards uncertain cash flow contributions further in the future, which can significantly impact their accuracy.

Of course, investors are rarely content to sit through a bumpy ride. They appreciate stability and a degree of predictability in their investment return. Given the level of noise in stock-specific performance and the decay in the effectiveness of common analytical methods, it is a stark reality that strong stock selection skill is a necessary but not sufficient criterion for the delivery of a strong active capability. Good governance can offer a material improvement in the effort to bridge this gap and help investors navigate difficult periods by giving comfort about the robustness of a particular approach. In the following sections, we demonstrate how concentrated stock picking without a disciplined process and thoughtful portfolio construction makes active managers’ jobs unnecessarily difficult and jeopardises the wealth of their clients.

Exhibit 3: Rolling 90 day average pairwise correlation of total returns – MSCI AC World constituents

Source: HSBC Global Asset Management, Thompson Reuters, MSCI, March 2017
Traditional fundamental analysis typically assesses companies’ future earnings potential through rigorous analyses of financial statements and qualitative measures of operating efficiency. Stocks deemed to exhibit sustainable profitability or growth are expected to outperform in the mid to long term. However, a highly profitable company can still prove a poor investment if its market price overestimates its future earnings potential. An effective investment process should apply a disciplined approach that directly compares companies’ projected performance in the context of current valuations to gauge their return potential.

Consider, for example, the use of a simple PB-ROE framework to translate fundamental insights into stock portfolios (see box).

In exhibit 5 on page 7, we demonstrate the superior returns that can be gleaned from this straightforward valuation framework relative to a purely profitability-driven approach. The PB-ROE approach earns a significantly higher cumulative return than the ROE-only portfolio and is particularly successful from 2003 to 2007. Despite its unassuming simplicity, the long-term return potential of our illustrative PB-ROE process is evident from its outperformance relative to the MSCI AC World Index.

Screens of this type have the potential to help analysts focus their time on potentially interesting securities. Ideally, how analysts approach this research should also be subject to a disciplined strategy. The standardisation of details such as valuation models, accounting adjustments, discount rates, etc. increase the transparency of stock analysis and enhance direct comparisons between similar companies.

PB-ROE

The economic connection between PB and ROE was carefully analysed by Jarrod Wilcox, who derived an equilibrium relationship between the two that prevailed in almost all industries. Within the range of typical company PB and ROE values, this logarithmic relationship can be approximated as linear with minimal loss of accuracy, producing a much more intuitive model. We can therefore employ the spirit of the Residual Income Framework in a systematic form to assess all stocks in our opportunity set in an efficient way. This screen uses a universe-wide OLS regression of PB versus ROE and ranks stocks according to their distance from the regression line. Stocks far below the line have a level of profitability that is temporarily undervalued relative to the average of the market. On average, we expect the value of such stocks to appreciate to that implied by the model, through mean reversion.

Exhibit 4: The P/B-ROE Valuation Model
Are strategy and skill enough?

Despite the strong return-harvesting potential offered by academically-supported investment strategies, these approaches are not without flaws. For instance, PB-ROE exhibits a high level of cyclicality and can experience significant drawdowns. The grey line in exhibit 6 demonstrates this, depicting the rolling three-year active performance of a PB-ROE portfolio for MSCI Europe constituents between January 1998 and June 2016. The cyclical nature of the signal is easily discernible; at its peak in August 2003, the strategy delivers a rolling three-year active return of 227%, but it underperforms the benchmark for 36% of the rolling windows covered.

The portfolios are created using a portfolio construction tool that tries to hold the top-ranking stocks subject to a maximum absolute stock weight of 2.5% and a monthly turnover constraint of 10%.

The question we now consider is whether this variability can be reduced by enhancing our screen with considerable stock selection skill. Let us consider a “perfect” fundamental analyst who follows the PB-ROE framework. She can predict the future profitability of a company five years ahead perfectly and tries to improve upon PB-ROE’s performance by assessing her perfect five-year forward ROE estimate against current prices. In practice, we replicate this by incorporating the actual, realised ROE at time \( t + 5 \) years back into the PB-ROE model at time \( t \) and select stocks according to their resultant ranking. We use the performance of her portfolio as a test to discover whether skill, in the limit of perfection, is enough on its own to overcome the shortcomings of stock screens and deliver the consistent returns clients expect.

Exhibit 5: PB-ROE versus ROE only cumulative returns for the global universe.

Exhibit 6: MSCI Europe PB-ROE portfolios – rolling 3 year active returns.

Source: HSBC Global Asset Management, Thompson Reuters, MSCI, IBES, WorldScope, March 2017
Past performance data are not a reliable indication of future returns.
With the exception of two short periods in 2004 and 2006, our perfect stock picker’s skill and fundamental analysis process is effective in achieving superior returns compared to regular PB-ROE. This of course simply serves to illustrate how stock prices do not always reflect fundamentals! The analyst preserves the peak outperformance in 2003 whilst significantly reducing the percentage of windows delivering rolling active three-year negative returns from 36% to 20%.

Nevertheless, given her supernatural ability, it is disappointing to see any negative returns at all. Particularly bad performance is observed during 2000, relatively early on in the backtest. Porter and Trifts’s research demonstrates that avoiding underperformance early on in a fund manager’s tenure is key to escaping termination. If our analyst were unlucky enough to have been hired three years prior to the year 2000, it is most likely that she would have been fired in spite of her abilities.

Repeating the analysis for two other universes: MSCI USA and FTSE Japan (exhibit 7), we observe the same outcome for both. The stock picker’s divine ability reduces the likelihood of underperforming the benchmark, but does not eradicate it. In Japan, her selection skill ensures that she earns only positive three-year returns during the Global Financial Crisis.

However, given that she delivered negative rolling active returns for the first two and a half years of performance data, our seemingly divine fund manager would have almost certainly lost her job.

Our example carries an important message: even when a very talented fund manager is coupled with a sensible valuation framework, portfolio returns can still exhibit a substantial amount of noise.

Consequently, it is difficult to assess a manager’s skill fairly on the basis of short-term performance alone.

Our investigation has not considered the impact of fees on investment return, but this would only act to increase the chance of our example portfolio underperforming the benchmark. Grim reality dictates that there is always an element of luck involved and investors should be prepared for both positive and negative outcomes. Even the best valuation practices and the most diligent research cannot protect stock selectors from systemic shocks, unforeseen company events and irrational price movements.

Concentrated positions may have periods when they perform extremely well, but the temptation to time investment in funds could prove hazardous. Although the potential upside for investors is very attractive, there is always a non-zero possibility that the client would have been better off investing in a passive product.
A significant component of the noise exhibited by our example portfolio can be explained by its large aggregate active exposures to systematic sources of risk, such as countries, industries and styles. Applying greater thought to how portfolios are constructed, including diligent risk management, can help to iron out these variations in return, leaving only the natural noise inherent in the alpha signal itself. Benchmark-constrained portfolio-construction tools serve this purpose by ensuring that systematic exposures remain within a certain tolerance range relative to the performance benchmark, whilst also controlling levels of idiosyncratic risk through stock-specific active allocation limits.

As concentrated active portfolios have risen in popularity, some practitioners have become increasingly disenchanted with benchmark-constrained portfolio construction. Vayanos and Woolley (2016) argue that performance benchmarks generate distortions in incentives and asset valuations. They also claim that benchmark constraints actively harm value investors by forcing them to buy stocks that have already appreciated in value. However, to dispense with benchmark constraints altogether would be to miss the significance of what a market cap index represents.

Market capitalisation provides an accurate reflection of the aggregate opportunity set of all investors and is perhaps the most widely understood weighting scheme. More importantly, it is unique in that market cap-weighting is the one investment strategy that is "truly passive": once the initial market cap allocation is set, the portfolio remains correctly weighted regardless of market movements (subject to stock splits and stock dividends, etc.). Moreover, strategies that deliver this return are cheap and very accessible. Thus an active manager who is paid to perform detailed analysis is cut little slack by investors for underperforming this return.

We argue that portfolios which loosely constrain weights against a benchmark ultimately provide the best protection versus active return trade-off for the client. The default 2.5% active stock-specific constraint applied in our risk-managed portfolio-construction tool is effective in its purpose whilst being sufficiently loose to pursue alpha opportunities. It is also flexible enough to prevent the type of damaging scenarios described by Vayanos and Woolley. It is not common for investors to be forced to buy stocks purely because recent price appreciation has led to a breach of constraints.

To illustrate how thoughtful portfolio construction can reduce noise and thereby reduce the chance of underperforming the benchmark, let us consider a realistic, yet competent stock-picker (see box on page 10) who constructs a PB-ROE-based portfolio in two different ways. The second, "constrained" approach, applies a risk-orientated portfolio-construction tool. In this process, stock weights are subject to an active, rather than absolute, stock-specific constraint of 2.5%, active country and sector weights are constrained to 5% and all non-core style exposures are constrained to +/- 0.1 standard deviations.

Exhibit 7: Rolling 3 year active returns for PB-ROE portfolios based upon the MSCI USA universe (left) and the FTSE Japan universe (right)

Source: HSBC Global Asset Management, Thompson Reuters, MSCI, IBES, WorldScope, March 2017
Past performance data are not a reliable indication of future returns.

For example, an S&P 500-constrained US PB-ROE portfolio with a +/-2.5% active stock weight limit would have only bought three names between January 2005 and June 2016 and no more than one stock in any given monthly rebalance for the sole purpose of meeting stock specific constraints.

Core style exposures are those directly associated with the PB-ROE signal and include Value, Profitability and Dividend Yield. Our risk model follows the same factor definitions as Bloomberg PORT.
In exhibit 8, we consider two sets of 10,000 random five-year PB-ROE portfolios between January 2000 and June 2011, one set for each portfolio construction method. At each month into the five-year investment horizon we calculate the probability of cumulatively underperforming the benchmark. This is calculated from the percentage of the 10,000 portfolios that register a negative cumulative active return by that point.

Given the positive skew exhibited generally by historical stock performance, we expect to see an exponential decay in this probability as the portfolio benefits from compounding positive returns. Indeed, the probability appears large in the first six months as tenure is too short to benefit from compounding. It proceeds to decrease over time. However, greater levels of noise in the unconstrained portfolio’s returns keeps the probability elevated past 10 months at 10-17% whilst the probability of the constrained portfolio settles at the much lower value of 5%. Past the 40th month, the effect of positive return skew and compounding is sufficient to keep the probability low in both portfolios. Therefore, through the simple use of a benchmark-constrained portfolio construction tool, we have halved the chance of our process underperforming the benchmark in the short to midterm.

Monte-Carlo Investigation

Our previous investigation into the perfect analyst assumed that she had perfect knowledge of company fundamentals five years in the future, but did not consider any information about the intervening period. This removed our analyst’s ability to time her entrance point into an investment. Academic research diverges on whether fund managers can time the market. In this investigation, we give our analyst the benefit of the doubt by using the average, rather than the final, ROE over the next five years to reflect her superior forecasting ability. However, given that a combination of perfect foresight and perfect timing ability is extremely unrealistic, we reduce the analyst’s rate of successful predictions from 100% to 55% (i.e. the model uses last year’s ROE figure for 45% of stocks).

We conduct this investigation as follows. First, we calculate 100 different ROE data sets by randomising the 55% of stocks that our analyst predicts perfectly. Then for each ROE data set, we use our PB-ROE model and portfolio-construction tool to create portfolios over 100 different five-year intervals between January 2000 and June 2011. The resultant 100x100 = 10,000 simulations can then be used to calculate the percentage of observations that register a negative cumulative active return since inception each month. Given the large number of observations, this should provide a strong estimation of the probability of cumulatively underperforming the benchmark.
Accurate performance analysis

Ex-post analysis of performance plays an important role in the ongoing improvement of ex-ante stock selection. Investment managers need to apply the same depth of thought required in portfolio construction to portfolio analysis in order to make correct inferences from past returns. We have already discussed how difficult it is to assess a manager’s skill fairly on the basis of short-term performance alone. There is no fail-safe investment process guaranteed to work in all scenarios.

Therefore, if at all possible, the success of active portfolios should be evaluated in the context of the performance of the underlying investment strategy. It is important to disentangle the components of returns that can be explained by:

- The performance of the investment process given current market and macro conditions
- The skill of the fund manager, both in terms of implementing and adding value to the underlying investment process.

In keeping with our previous examples, consider a highly competent analyst who follows a PB-ROE-based process in two different stock markets. In the first market, conditions are favourable for PB-ROE, whilst in the second, conditions are less favourable and the process is in the midst of a performance down cycle.

For the sake of simplicity, assume the benchmark performance in both markets is the same.

The top two charts in exhibit 9 compare the performance of the PB-ROE screen (green) and the performance of our analyst’s portfolio (blue). The distributions depicted reflect the range of possible returns that could be achieved by analysts of varying abilities who follow the PB-ROE process. In both cases, our analyst’s performance lies in the right tail of the distribution as a result of her impressive abilities, yet the difference in the effectiveness of the PB-ROE screen leads to a contrast in fund performance.

6In practice, this can be generated by Monte Carlo techniques, calculating thousands of PB-ROE portfolios, each subject to different randomised vetoes.
Now consider a much weaker analyst who is a poor stock selector and actually detracts from the performance of PB-ROE. In the bottom two charts, we can see that his performance consistently falls in the left tail of the distribution. However, whilst his lack of skill is clear when process performance is weak (right hand chart), it is masked by the strong PB-ROE performance in the left-hand chart. Indeed, on the basis of fund performance alone, it is not possible to detect a difference in skill between the weak analyst working on a constructive market for PB-ROE (bottom left) and a strong analyst working in a destructive market for PB-ROE (top right). This example highlights the flaws in strategies that consider high manager turnover an inevitable consequence of pursuing high alpha.

Quantitative techniques can be applied to try to distinguish pure skill from process performance, leading to informed manager evaluation and constructive improvement measures. Meanwhile, attribution analysis offers an additional dimension of feedback by identifying specific systematic or stock-specific exposures that have contributed to or harmed performance. Together, these two tools can help identify when managers have added value to the process, but can also shed light on whether this performance comes from consistently good stock selection or a single, lucky decision.

Source: HSBC Global Asset Management, March 2017
Past performance data are not a reliable indication of future returns.
For investors looking for consistent, sizeable alpha, traditional stock-picking has proven rather a disappointment. “Perfect” fund managers are near impossible to identify on the basis of past performance alone. Recent performance figures suggest that top quartile managers are more likely to drop to the bottom in subsequent periods than any other quartile. If this weren’t bad enough, we have shown that even perfect managers cannot deliver alpha with certainty over the mid to long term. So how can we make clients feel more confident about the future of their assets? Good governance, in the form of disciplined multi-stage research and thoughtful portfolio construction, can help to remove some of the randomness in fund performance, leading to a more consistent active track record. When market conditions are turbulent and strong stock selection skill is simply not enough, this helps investors to navigate difficult periods by providing assurance in the robustness of the investment strategy.

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Conclusion
Authors

Chris Cheetham
Global Chief Investment Officer
HSBC Global Asset Management

Chris is the global Chief Investment Officer of HSBC Global Asset Management. He joined HSBC's Asset Management business in May 2003 as Global Chief Investment Officer. Chris was previously Global CIO of AXA Investment Managers and also held the position of CEO AXA Sun Life Asset Management. Chris began his career with Prudential Portfolio Managers (now M&G), where he worked in a variety of investment management roles, ultimately as Director of Investment Strategy and Research.

Chris holds honours degrees in Economics from Hull (BA) and Warwick (MA) Universities.

Vis Nayar
Deputy CIO, Equities
HSBC Global Asset Management

Vis Nayar is Deputy CIO, Equities and is responsible for investment research. He has been working in the industry since 1988, joining HSBC Markets in 1996, and has been with HSBC Global Asset Management since 1999. Over his career Vis has extensive research and portfolio management experience in the long only equity, alternative investments and structured products businesses.

Vis holds a BSc in Electrical Engineering from Imperial College, University of London and a Masters in Finance from London Business School. He is a CFA charterholder, holds a Certificate in Quantitative Finance (CQF) and also qualified as a Chartered Accountant in the UK. He is also a member of the advisory board for the Masters in Finance programmes at Imperial College.

Olivia Skilbeck
Quantitative Analyst
HSBC Global Asset Management

Olivia Skilbeck is a Quantitative Analyst in the Global Equity Research team and has been with HSBC Global Asset Management since 2013. Prior to joining Global Equity Research in 2015, Olivia trained as an Analyst in the Asian Equities team in Hong Kong.

She holds a BA in Natural Sciences from Trinity College Cambridge and has completed all three levels of the CFA examinations.
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