

**Barnett Waddingham**  
**Investment Outlook 2009 Conference, January 2009, Birmingham**

**“Experts & Overconfidence”**

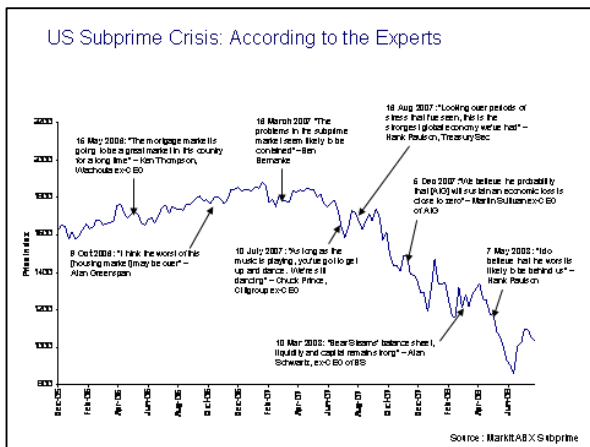
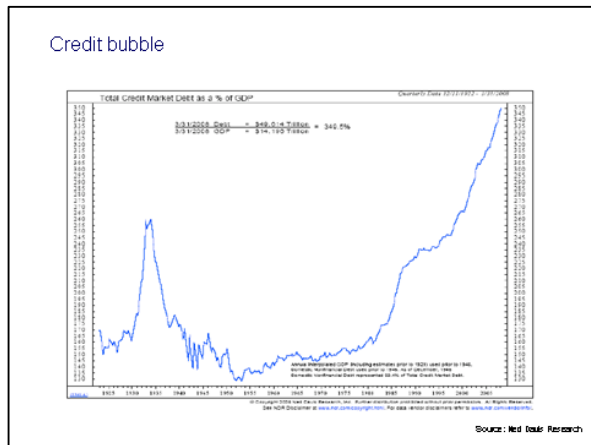
**Colin McLean, Managing Director, SVM Asset Management**

My talk involves behavioural finance – the interface between psychology and finance. However, you will be pleased to know that I am not going to lecture specifically on this theory – instead, I will talk about what I find interesting and believe has direct relevance to the practice of investment and indeed to our daily lives. The key issue I am going to focus on is the tendency for experts to get things wrong, and for complex modelling to fail. The good news is that there are methods involving much simpler analysis that work.

Behavioural finance contrasts with “traditional” or “standard” finance. The key change in the new thinking is a simple one. It accepts that full rationality in economic decisions might be a special case of behaviour, but more common is the application of the set of human biases and failings. But, even more important than that, is the conclusion that we should focus mainly on trying to correct our own biases and errors in making decisions.

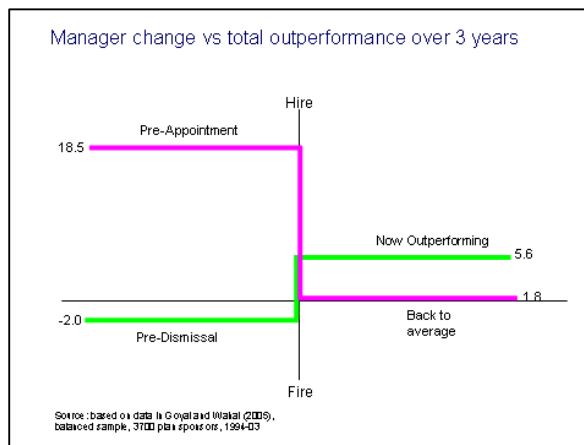
What changed was the recognition by some astute psychologists that the brain did not always process information in accordance with economic models of rational behaviour. And, surprisingly to those who think of psychology as a rather woolly, less academic field, many of these experiments have been repeated – giving the same surprising results time after time. We all as individuals tend to behave in quite predictable ways when faced with certain types of decision making, and these are not all “logical”.

My starting point is the evidence before us that the professionals and experts often get things spectacularly wrong. Indeed, the last two years has shown just how policymakers, central banks and bank chief executives - despite their unique access to information - completely missed the big picture. The big picture was clearly the credit bubble and the many signs that risks in banks and some other financial institutions had moved off the scale. Yet, even although the first clear signs of trouble in AAA bonds came in January 2007, few of these leaders interpreted the information in front of them correctly. In the UK, many commentators were similarly blindsided in a way that is illuminating about the nature of expert opinion. I will return later to what we can learn from this and do about it.

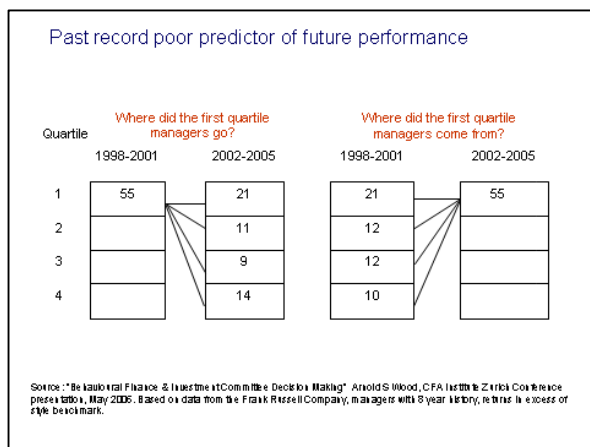


My conclusions might surprise you. For, the analysis has a direct impact on how investment managers are selected and monitored. I believe that the best rewards will be gained by using the selection process to get as comfortable as possible with a manager, and then being very focused on ongoing monitoring, so that extraneous information does not lead to ill-advised chopping and changing of managers.

First, though, I would like to look at the existing record of some major consultants in selecting conventional managers. An excellent study was conducted in this area by Goyal and Wahal. This study looked at US managers who had been fired, usually involving poor performance, although that was not always the main issue. It also reviewed those who had been hired, who usually had a stellar performance in the three years before appointment. It is a very comprehensive piece of research covering 3,400 plan sponsors over a ten year period from 1994 to 2003. The schematic illustrates what happened. Not only did the newly appointed managers quickly revert in the three years' following appointment, to little better than average performance, but the fired managers started doing rather well. Indeed, markedly better than the newly appointed ones.



This can be seen more clearly in quartile movements on the next slide. In an overall sample of 220 managers, the top quartile had relatively low persistency with 38% of those continuing in the top quartile. A slightly higher percentage delivered below average performances in the subsequent three years. In terms of identifying the next period's top quartile managers, slightly more came from previously below average performance as carried forward with first quartile persistency. Selecting managers based on top quartile performance illustrates a



failure to incorporate the base information about past performance not necessarily being a guide to the future. Clearly, short lists should include some underperforming managers.

It seems that some consultants and trustees do not understand the pattern of returns they should expect, or possibly worry about other things that do not relate to longer term performance and risk. Some stellar returns have emerged from managers after more than two years of underperformance, and patience has ultimately been rewarded. Indeed, almost every manager with a strong long term record of success has suffered at least two years of poor performance. Unfortunately, the halo effect means that this is not always recognised.

Unfortunately, the failure of experts in the financial sector is deep rooted, often linked to over-complexity of analysis and modelling. Much of regulation and risk analysis has been built round models that are clearly wrong. It finally took October last year to prove this. Using more than 30 years of historic data and assuming normal distributions, the statisticians calculated the likely frequency of daily moves. In fact we found a move in excess of 10% in a day, which should not only be a once in a lifetime event, but actually statistically would take one trillion universes to make probable. Yet this occurred again in the same month. It is not stockmarkets that were wrong, but that the expert statistical models are hopelessly flawed. Experts, and investment modelling need the common-sense test.

Statistical assumptions and risk models clearly wrong

Date	Dow % Change	Average Frequency (Normal)
07.10.2008	-5.11%	Once in 5,345 years
09.10.2008	-7.33%	Once in 3 billion years
13.10.2008	11.08%	Once in 603 trillion billion (10 <sup>21</sup> ) years
15.10.2008	-7.87%	Once in 171 billion years
22.10.2008	-5.86%	Once in 117 thousand years
28.10.2008	10.88%	Once in 73 trillion billion years

Source: Erolinelligence.com, data 1971 - 2008

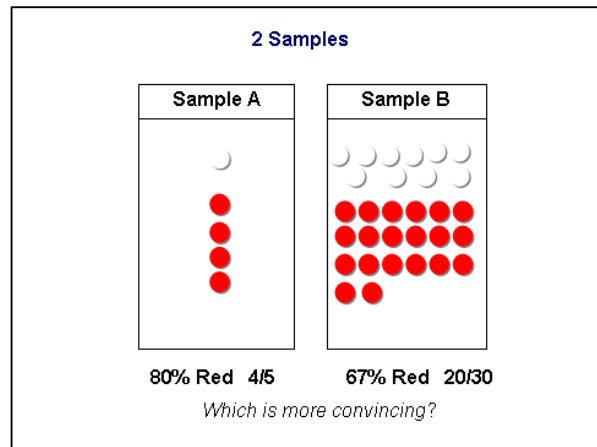
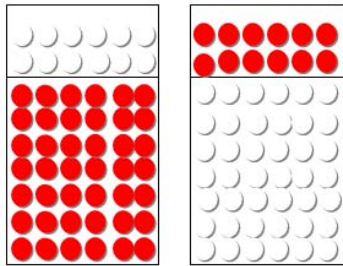
Why are the experts so often wrong? Behavioural finance gives us clues. I am going to focus on a few of the most important issues. Humans are not mentally equipped to intuitively understand statistics.

Why are experts often wrong?

- Misunderstanding probabilities
- Anchoring in initial assessments
- Overconfidence
- Over-complexity

The difficulty with probabilities can be illustrated by an example. Imagine two bags are filled out of sight with the same number of poker chips. In one bag two-thirds of the chips are red, and the remainder are white. In the other bag the proportions are reversed, with one-third red and the remaining two-thirds white. Your task is to guess which is the bag with the mostly red chips and which has mostly white chips.

You are allowed to grab a handful from bag A – say, five chips – and several handfuls from bag B – say, 30 chips. What happens is that four of the five chips from bag A are red, while 20 of the 30 chips you pulled from bag B are red. Which bag would you guess has more red chips? Would you go with the 80% reading from the bag A sample, or the 67% from bag B?



Most typically reason that the 80% is more convincing, but B would be the more certain choice. Statistics tell us that the larger the sample – 30 chips versus 5 – the more reliable the conclusion. It may not seem an important example, but consider how many decisions in life are based on small, statistically insignificant or inconclusive samples. We might buy a fund that has performed well this year, or be impressed by awards without understanding what they mean.

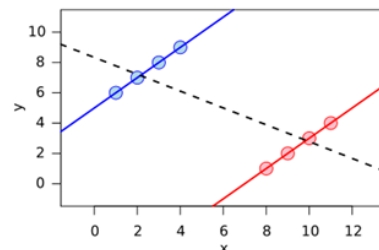
This difficulty in juggling two sets of data and drawing simple conclusions has important real world consequences. Two trials of different drug treatments for kidney stones were run, providing the data I show. On the whole data, treatment B was better. Yet, looking behind this, it is possible to see that treatment A was more effective on both conditions, with the combined result being caused by the differing sample sizes. This is actually a common problem in all types of data analysis, where a key underlying factor is overlooked. This is a little clearer on the schematic graph, and it does highlight the difficulty we all face in understanding probabilities. The problem with probabilities and predictions often gets worse the more complex the modelling. Incorporating more factors and data into analysis does allow it to model the past better, but may not be the best way of making forecasts.

Drug Trials – Kidney Stones

	Treatment A	Treatment B
Small Stones	93% (81/87)	87% (234/270)
Large Stones	73% (192/263)	69% (55/80)
Both	78% (273/350)	83% (289/350)

Source: British Medical Journal 1986

Misunderstanding Statistics



Simpson's paradox: for combined data, a positive trend appears for two separate groups (blue and red), a negative trend (black, dashed) appears when the data are combined.

Source: Schatz, Wikipedia 2007

Some of the modelling issues are quite subtle, but present in our everyday activity. My next example is also of manager selection and features a well known fund of hedge funds which announced last month that it was to launch a new \$400 million fund at the end of January. This slide shows some of the features of the current marketing document. It represents an average of 13 selected managers, perfectly selected with hindsight to deliver positive returns for 10 years – an enviable track record, although it is not actually a record of an actual fund. It comes with a graph showing impressive and steady performance, but it was the claims made with perfect hindsight that interested me. So much so, that I printed off the version of the flyer I received last month, which looks like this. The only change – the track record shown is still the same – is that we can see originally there were 14 and not 13 funds. Indeed, the fund that was dropped previously had the highest profile on top left, Fairfield Sentry. Fairfield had more than half its assets “invested” with Madoff, but this has now been wiped from history. The point is that all the claimed characteristics of this fund of hedge funds, optimised over a 10 year history, fell away within two months.

Fitting the past perfectly

... will be actively managed, allocating to a range of “alpha-generating” managers

At launch the fund will comprise, amongst others:

Nevisky Capital	BlueCrest International	Davidson Kempner International
Caxton Global	Lansdowne UK Equity	Man AHL Diversified
Winton Futures	Odey European	Paulson International
Moore Global Fixed Income	Brevan Howard	Horseman Global
	Capula Global Relative Value	

SOURCE: Fund Marketing Document v1, Dec 2008

Unfortunately modelled only to October 2008

The superior skills of the managers gives the fund the ability to perform positively even in the most hostile market conditions, demonstrated by cash-plus returns in 2008

Building on our reputation for innovative and forward-thinking product, ... Fund provides access to the cream of the investment world via a unique range of proven managers. Whilst many hedge funds have struggled with unprecedented market conditions and have succumbed to the crisis, some of the world's best exponents have continued to generate positive returns and, in some cases for the first time in years, have opened for new subscriptions.

For what will be only a short period, ..... Capital has secured capacity with the acknowledged global elite of the hedge fund world. We have commented over recent months how “babies have been thrown out with the bathwater” and recent circumstances have given us the opportunity to secure access to this undeniable talent.

SOURCE: Fund Marketing Document v1, Dec 2008

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Moore Global Fixed Income	Brevan Howard	Horseman Global
Nevisky Capital	Capula Global Relative Value	

SOURCE: Fund Marketing Document v1, Dec 2008

Another issue in decision making is in how presentation influences a decision. This is described in behavioural finance as “anchoring” or “framing”. Because we often stick close to our initial impression or conclusion, the framing of a question matters. Exactly the same problem presented in different ways can lead consistently to different decisions. In one of Nobel Laureate, Daniel Kahneman’s studies, he gave half of the participants a mug and the other half no mug. The results showed that people with a mug wanted to trade the mug for an average of approximately \$7 cash, while the people without a mug valued the same type of mug at \$3 cash. The two acts are logically the same – trading a mug for money – but those with mugs did not want to give up something they already had. Translated into the investment environment, it is clear that presenting a decision in a positive framework produces a different result than a negative one.

This tendency we have to fix onto initial observations or the immediately available as a reference point, is often exploited in company reports. Long before an investor gets to the numbers, in what are usually very lengthy accounts, there are often many pages of glowing management commentary. What is possible now, is not just analysing company accounts systematically, pulling out the numbers, but the text analysis can now also be done more easily. Indeed anyone with a PC can do this and can pull out the actual semantics that are used in this 200 page annual report. Given the poor relative performance the insurer has had, you might expect on the left hand side to see some words at least suggesting the challenges and problems in the business. But absolutely none of problems or issues in the business are addressed, and the overall tone to investors is shown

on the right hand side. That might be fair enough if the annual report is to be used purely as a marketing document and is to be reassurance for staff or customers, then that is fine. But it certainly is not doing the job of conveying to investors just what the risks and challenges are for the business as well as what it has achieved.

We need to consider how much we might be influenced by the way an analysis or question is presented. It also explains why experts tend not to shift position quickly when confronted with new and contradictory evidence. Forecasts of inflation, interest rates etc tend to bunch around today's values.

### Framing - words matter

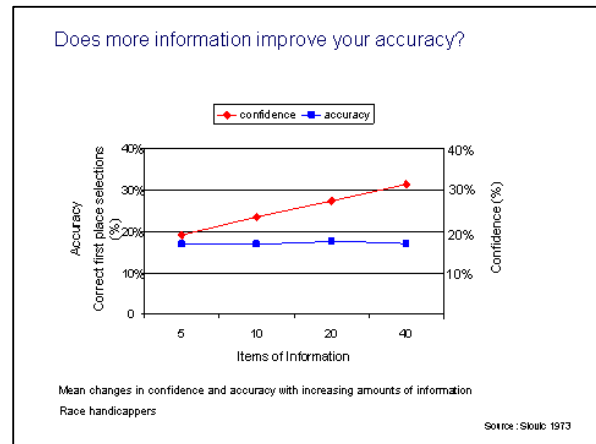
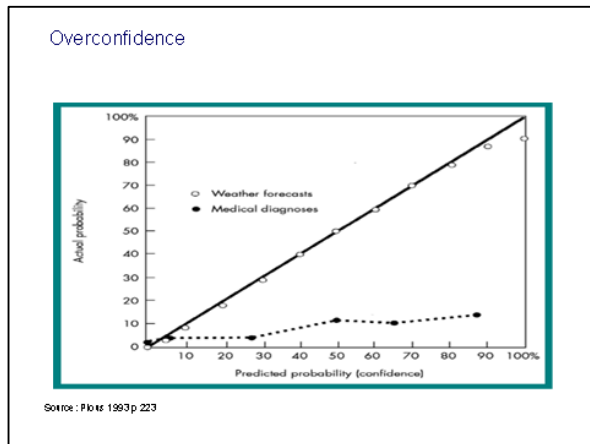
Occurrences of:

Underperform	2	Achieve/achievement	85
Disappointed	0	Good/better/best	150
Bad/worse/worst	8	Excellent	15
Poor/poorly	1	Grow/growing/growth	207
Weaker/weakness	5	Improve/improvement	73
Challenge	7	Strong/stronger/strength	150
		Success	55

Source: Aulis plc 2007 report SWM analysis

Much new research work is being carried out on expert judgement and overconfidence, but I will illustrate this with two of the classic research papers on this. They make the point very clearly that only in relatively few areas do experts estimate probabilities in line with ultimately observed frequencies. This is a calibration issue, about how sure an expert is about a judgement. In fact, poor judgement about the likelihood of error is a widespread human failing, illustrated by the fact that studies have shown almost everyone rates themselves as a better than average driver.

Personal contact with companies is something that fund managers like, but it can be demonstrated that this can be a factor in overconfidence, and the more so the smarter a manager thinks he or she is. We can not only misunderstand the odds, but more subtly be over-confident in our belief in what we do know. We do not put a wide range of future outcomes or discount them sufficiently by comparison with the near-term and near at hand.



What tends to happen, is that anything above six or seven pieces of information, is not reflected in improved judgement, but instead simply reinforces confidence in that judgement. This can be quite counter-productive if flexibility or the possibility of bad judgement must be admitted. Investing institutions collect information, and managers often like to describe themselves as avidly gathering everything that is available. But it not only may not improve the conclusion, but actually mean being blind to error. Meteorologists are one of the few groups of experts who calibrate well, and the key to this is receiving *regular, prompt and unambiguous* feedback. This is important for investment professionals, too.

Too much information

[20 Reasons Why the U.S. Consumer is Capitulating, thus Triggering the Worst U.S. Recession in Decades](#)  
Nouriel Roubini | Nov 14, 2008

- Be sceptical of too much explanation from experts
- Can be failure to seek contrary evidence – confirmation bias
- Maximum of 6 – 7 key facts

Source: RGE Monitor

This tendency for experts to continue collecting additional arguments, well beyond the handful necessary, is illustrated in the next headline. Nouriel Roubini of RGE Monitor and New York University has been one of the most successful experts over the past year, but it is clear that he is increasingly focusing his efforts on supporting the same argument, with little hint of any contradictory evidence. This newsletter takes pride in getting his total arguments up to 20, which I suspect people will actually find less convincing.

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The answer to over-complexity in modelling and forecasting is surprisingly simple. It is being evidenced in a lot of current research, particularly by Gerd Gigerenzer of the Max Planck Institute in Berlin. Nevertheless, the solution is challenging. Culturally, we have the following core beliefs:

More information is always better  
More choice is always better

In fact, additional information may be flawed, it can give spurious confidence to entrench in an existing position, and it may be far too complex, geared to fitting history. It sometimes even paralyses us into avoiding decisions. Our belief in choice is also often flawed. Marketers now recognise that providing an additional comparison, subtly positioned with reference to others, can influence your final choice of product. The slide illustrates the type of thing that can be done. This can be even simpler and more subtle when buying on the internet, given historic information about purchases and cookies. In this case, people tend to go for the bundled offer, given a choice of three. Most selected this when given a framework of apparent value. Narrowed simply to a choice between A and C, far more choose to simply buy the cheaper online access. The actual choice presented typically influences our framework of value. This phenomenon is now being studied in the growing field of choice architecture, recognising actual human behaviour in choice. Key features of choice architecture are identifying influences on the choice, identifying the likely default position, giving relevant feedback and expecting error. Too much data can encourage us to overlook the salient, and it is with just the six or seven key pieces of information that we must train our intuition.

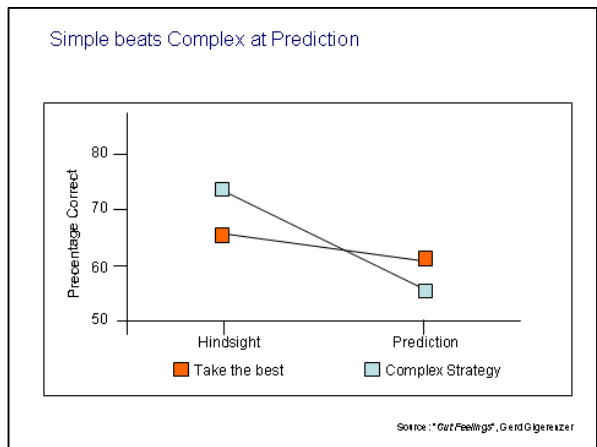
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Source: "Predictably Irrational", Dan Ariely

Gigerenzer highlights the importance of selecting a few key pieces of information in a complex environment. We can use them successfully in simple rules of thumb which actually take advantage of the evolved capacities of the brain. One example is easily seen in cricket when a fielder moves to catch a ball. A simple heuristic can be broken down into 1) fix gaze, 2) start moving, 3) adjust speed to keep a constant angle of view on the ball. This may be helped by holding a hand up as you run, but even dogs can manage the feat without that. It highlights the importance of breaking a challenge down into its key elements, when we can then handle it instinctively with the right information.

We have seen from the initial slides just how complex strategies can fail. Often simpler strategies will outperform. The next slide illustrates two different approaches to predicting which of a group of 57 US high schools will suffer the highest drop out rates. The complex strategy involved modelling 18 factors and, as we can see, explained the past rather better. The other approach simply used current attendance rates and found that actually better predicted the future outcome in drop outs. This approach might be described as "take the best". Fix on the handful of key factors in making a decision, and then decide when the first clear difference emerges, rather than modelling all.



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In practice, extensive searching may not improve a decision. Intuitively, we often use this in our everyday lives. We recognise also that we can use some of the endorsements that others give. Not the false comfort of being pleased to invest alongside a high profile name, but the help with a decision that comes from the judgement of many others.

In summary, the cognitive illusions that have most impact on decision making are set out in the slide. The effects are evident and persistent. These key behavioural biases tend to be amplified in committees, as individuals react and game. We tend to anchor on information that is recent or easy to recall. This, and the disposition effect, also encourages us to fix on book cost. Individuals rarely adjust sufficiently from an original position to recognise new information. Indeed, the confirmation bias highlights the tendency for people to misread evidence as additional support for an initial hypothesis. We also tend to misinterpret past data, both in

terms of correlations and our bias to exaggerate the predictability of those past events. They can make us blind to future risks or the full breadth of range of outcomes.

What can be done about all of this in investing institutions? Behavioural finance asks individuals to recognise and deal with cognitive illusions, but are there ways in which organisations can be structured, or their decision making controlled, to counteract some of the adverse impact? Based on emerging research in this area, I will attempt some suggestions.

Psychological Bias	Effect on Investment Behaviour	Action
Overconfidence	Trade too much Take too much risk	Set annual trading limits, evaluate record objectively, avoid sector switches Keep similarly sized portfolio holdings Reduce info collected Incorporate base data Reduce forecasting Examine opposing rationale
Get Even, Anchoring, Endowment Effect	Take too much risk trying to break even	Pay less attention to cost of investment / book value Run winners (cut losses) Highlight values, not changes
Group behaviour/ social context/gaming	Sub-optimal decisions	Small committees or decision groups ; Diverse teams Poll team or committees

One of the biggest issues is overconfidence, clearly a bigger issue for experts who may not be helped by additional information. One of the clearest solutions is to put portfolios into a structure, much as is done with focus funds, where managers are discouraged from making much bigger bets on some stocks based on perceived confidence. Incorporating base data or some structured metrics may also be a way of bringing reality to a process. The only genuine way of appraising confidence is to regularly examine opposing rationale.

The answers that psychology and behavioural finance offer have wider application than just investment. I suspect many already apply some of these rules of thumb, which typically reflect good decision processes. We know others have given thought to selection, and can make use of that. We also know that we should over-rule our inclination to overconfidence – making some holdings bigger bets, or trying to time the market rather than invest steadily. And, the last year has shown just how robust one of the simplest diversification methods has been – far superior to many funds of hedge funds that failed to truly diversify. One charity I know well has given its manager the flexibility to move between 40/60 and 60/40 split between shares and gilts. In 2008 that beat the Yale and Harvard Endowments with all their expertise and multiple asset classes. I suspect that the trustees of many smaller funds taking a clear and well thought out approach will have similarly beaten many big funds over the past two years.

- Simple methods that work
- Buy products with brand you recognise
  - Follow the most trodden mountain path
  - Pick the most popular version on iTunes or Amazon
  - £ cost averaging
  - Allocate money equally across portfolio
  - Balanced mix of shares and gilts



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