

## HOW TO GIVE THE MARKET THE FREUDIAN SLIP

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The language of “the market” tells us something about how we see it: cold, impersonal, logical, and seemingly very hard to beat. But at the same time much of the language used about investors is emotional, as with Alan Greenspan’s warning against “irrational exuberance”. **(1)** “The market” is a very distant concept. In reality we work in an organisation, on a particular floor, on a certain bank of desks and interact with colleagues and other groups of outside professionals. Ultimately what drives “the market” is what drives us as humans and groups of humans.

The following paper argues people are driven by emotion and the need to socialise rather than the need to be logical. In investment markets this means people are driven to be good employees rather than good investors. It also argues much of the theory around “the market” is flawed, which is particularly serious as it affects many of our working assumptions as investors. In a nutshell if you believe in betas or benchmark relative returns you believe in something that doesn’t work and is helping you to misdirect your resources. Finally this paper puts forward some pointers on creating an investment process and philosophy that allows you to beat “the market.” As this paper is concerned with emotion, the logical place to start is with the father of modern psycho-analysis, Sigmund Freud.

### Freud – the three part personality

Freud’s basic idea of personality consists of three parts: the Id, the Ego and the Superego **(2)**. Here is a standard textbook outline of these: **(3)**

“The Id is a reservoir of unconscious psychic energy that constantly strives to satisfy basic drives...The Id operates on the pleasure principle: if unconstrained by reality, it seeks immediate gratification. Think of newborn infants, who, governed by the Id, cry out for satisfaction the moment they feel a need, caring nothing for the outside world’s conditions and demands.

“As the Ego develops, the young child learns to cope with the real world. The Ego operates on the reality principle which seeks to gratify the Id’s impulses in realistic ways that will bring long-term pleasure rather than pain or destruction.

“The Superego is a voice of conscience that forces the Ego to consider not only the real but the ideal. Its sole focus is on how one ought to behave. The Superego develops through the identification process whereby we internalise the morals and values of parents and culture, thereby providing both our sense of right and wrong and our ideals.”

#### *The Id*

The Id, as outlined above, is all about seeking immediate gratification and there is plenty of evidence humans are hardwired to go for short-term gains. Research by neuroscientists Knutson and Peterson in 2005, **(4)** found that the brain anticipates receiving money in the same way other rewards are felt, such as food or recreational drugs.

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Conversely, it is very hard to take a loss. In his excellent book *Behavioural Investing*, James Montier **(5)** recalls playing a game with his colleagues at an investment bank. He offered them a bet on the toss of a coin. If the player lost he owed Montier \$100. Montier then asked what the minimum amount was they would need to win to make this bet attractive. The average response was well over \$200. It suggests people dislike a loss twice as much as they enjoy a gain.

In 2004 Andrea Frazzini **(6)** examined the transaction and holding patterns of US mutual funds between 1980 and 2002, analysing c30,000 portfolios. He discovered that 17.6% of all gains were realised but only 14.5% of losses, in other words professional investors were 1.2 times more likely to sell a winner than a loser.

In other words humans tend to cut their winning stocks and hold on to their losing ones. Whereas logic would dictate you should hold on to what is doing well and sell what is doing badly.

### *The Ego*

The role of the Ego is to rationalise the Id but the first problem is we are not great at rationalising and being logical.

Think of the last time you went into a supermarket to buy washing powder and were confronted with a bewildering array of brands, all priced differently, all in different sized boxes some on special two for one offers and some proclaiming they might be more expensive but their cleaning power was more concentrated. Did you work out which offered the best value for money? Or did you make a quick approximation, find a brand that you couldn't be criticised for back home and get out of the aisle fast?

Rules of thumb allow us to make decisions quickly, as they do in investment markets in the face of huge flows of data and time pressure, but they are not necessarily logical decisions. Unsurprisingly this has been a rich field of research for psychologists. Amos Tversky and Daniel Kahneman devoted a large part of their professional lives to mapping out the different types of rules of thumb and biases, all of use every day. In a 1974 **(7)** paper they noted that after observing a long run of red coming up on a roulette wheel, most people wrongly think black is more likely to come up the next time the wheel is spun. In fact the chances of red or black coming up are exactly the same.

The second problem is our rational abstract calculation is based on probabilities and payoffs, neither of which we are good at. As the earlier Montier example showed, we put a disproportionate emphasis on loss as compared to gain.

What makes it even worse is we are confident in our judgements. In 2004 Torngren and Montgomery carried out a study **(8)**. They picked two groups; the first consisted of psychology students and the second of professional investors such as analysts, portfolio managers and brokers. Participants were then asked to select which stock out of a pair would do best over the next month. Players were given the name, industry and prior 12 months' performance for each stock. At each selection players were asked to state how confident they were in the outcome they had predicted.

Not only did the professionals, who used their knowledge to pick winners, do much worse than the students, who relied on guesswork and the previous month's results, but when the professionals were 100% confident in a prediction they were right less than 15% of the time.

As a result, once we have a view it takes a lot to make us change our mind. Ward Edwards in *Conservatism in Human Information Processing* (1968) **(9)** concluded: "it takes anything from two to five observations to do one observation's worth of work in inducing a subject to change his opinion."

### *The Superego*

So far we have looked at the human as an individual, now we look at the human as part of a group. Humans learn by repetition, which is a great advantage in evolutionary terms because we don't have to relearn behaviour, it can be taught us. But the downside of this is it means we are not good at questioning authority, be this a parent figure or a social group.

In 1961 Stanley Milgram **(10)** ran an experiment, which effectively asked subjects to put higher and higher levels of electric shock into a "victim", who was acting – although the subject did not know this. These shocks started at "slight", moving up the scale to "danger severe" (producing an agonized scream from the victim) and culminating in "XXXX" (resulting in a deathly silence). Subjects were instructed to press the button by a man in a white coat carrying a clipboard. In Milgram's study 65.1% of those taking part were prepared to administer the highest level of shock.

It also seems we have an instinct to herd. In 2004 neuroscientists Eisenberger and Lieberman **(11)** conducted an experiment where players took part in a three way computer game, throwing a ball back and forward between them. When two players passed the ball to each other and excluded the third, this generated brain activity in the third person at exactly the part of the brain that is activated by real physical pain. Being outside the group or at odds with the market view is very difficult.

It is this emotional need to run with the herd that in turn leads to market bubbles and crashes. The first example of this emotion driving investment markets was Tulip mania in 1636-37. This is widely considered as the first speculative bubble **(12)** and occurred in the Netherlands wherein demand for tulips reached such a peak that enormous prices were charged for a single bulb. This example is of itself relatively minor, but has subsequently been extensively used as a mortality tale. It has been a reference point for almost every subsequent market boom and bust. From more recent history examples include, John Kenneth Galbraith who used it in his excellent book *A Short History of Financial Euphoria* 1990, written just after the 1987 crash **(13)** and in describing the current sub-prime mortgage crisis journalists have found this an excellent analogy **(14)**.

### **The office and market environment**

Not only are humans driven by emotional reasoning and a herding instinct but these twin drives are exacerbated under pressure and stress. In their 2008 paper *Phantastic Objects*, Taffler and Tuckett **(15)**, suggest the environment is so high stress, as individuals attempt to digest data, act quickly, deal with clients, beat a market and attempt to predict an unknowable future, that it can trigger a mental defence mechanism which make it easier to do the job but with potentially devastating investment consequences.

They put forward the theory that faced with uncertainty and stress, it is very easy for individuals to split off good and bad feelings about investments and suppress the latter. This leads them to take higher and higher risk positions leading to a stock market bubble. They point out that all the bad news on internet stocks existed during the 1990s, it was in the small print, but everyone chose to ignore it focusing instead on the positives such as the belief in the new economy. This idea that all information and data is used to support a bull market status quo, goes a long way to explaining why all the complex risk models at investment banks couldn't prevent the subprime crisis.

Emotional and behavioural traits don't simply apply to fund managers but to everyone in the market. Journalists feel the need to provide a rationale for market moves in their stories, but they are seldom right. In 1989 Cutler, Poterba and Summers **(16)** looked at the 50 largest moves in the US stock market between 1947 and 1987. They concluded: "On most of the sizeable return days...the

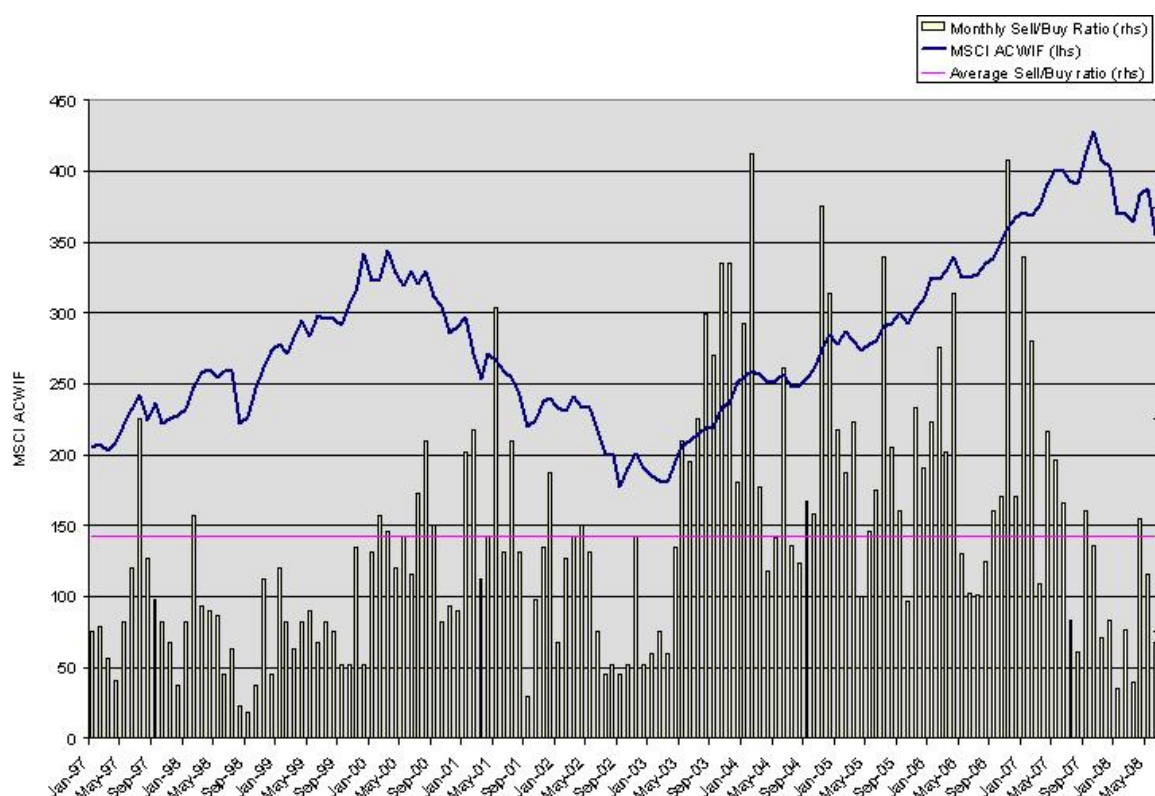
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information that the press cites as the cause of the market move is not particularly important. Press reports on adjacent days also fail to reveal any convincing accounts of why future profits or discount rates might have changed.”

When it comes to sell-side analysts, Montier **(17)** compared actual operating earnings for the S&P 500 from 1986-2005 with **analyst forecasts** and concluded they simply take the immediate past and extrapolate it into the future.

As for company managers, they like fund managers, have a professional responsibility to be positive about the outlook to outsiders. Fund managers never leave a company meeting being told to sell the stock by the directors. Yet directors do buy and sell their own stock and it make sense to follow what they do, not what they say. As the chart below shows there is a strong correlation **between buying and selling by company directors and subsequent share price moves**. Studying director dealings is as close as you can get to insider dealing while still saying the right side of prison, and it works.

### Insider selling/buying vs market performance



Source: Thomson Reuters

MSCI ACWIF is the Morgan Stanley Capital Index – All Countries World Index Free. Buy/sell ratio is the ratio of shares sold to those purchased in \$ terms for the periods shown – when the ratio is at extreme low levels insiders are buying and when it is at high levels they are selling.

### The efficient market hypothesis

As we have seen it is not just fund managers but everyone in “the market” who acts through a mixture of emotion, flawed logic and self-interest, so why does the idea of the market as a rational and logical entity persist?

The answer is we have all been taught the market is efficient, and even those who were not taught directly, have been bought up with a set of assumptions that it is. If you rely on alphas, betas, the Capital Asset Pricing Model, believe in index tracking, believe in quasi index tracking or run a fund against a benchmark index you are following the efficient market theory.

In essence the theory is that humans are rational and so a share price can only move if new information comes into the market. Once that information is digested and understood the price will adjust accordingly. We don't know where that information will come from, it is unknown, and so share price changes are random.

In 1952 Harry Markowitz published “Portfolio Selection” **(18)**. He reasoned if share prices are efficient, there is no point in trying to maximise returns. Instead he argued, maximise the risk/return trade off by minimising risk, and he used the variance of returns, or beta, as the risk measure. In 1970 Eugene Fama coined the phrase “Efficient Market Hypothesis” (EMH) **(19)**.

But there are problems with the EMH. Firstly, investors do not perceive variance as risk: no one has ever complained about variance when it is producing higher share prices; they call it “return”, it is when it is generating negative returns that it becomes “risk”. What investors are really concerned about is making money and as mentioned above, loses weigh more heavily with them than gains. Secondly beta is neither stable nor predictive. Fama, along with French, found no relationship between beta and stock returns from all New York Stock Exchange stocks over the period 1963-90 (Inquire 1992) **(20)**.

Thirdly, price changes are not random. Random events such as tossing a coin create a bell-curve or normal distribution of returns. If the returns on the Dow Jones Index had been “normal” there should have been only six days between 1916 and 2003 with moves of more than 4.5%, in fact there were 366 (Saunders, 2005) **(21)**. Since then, academic studies have found evidence of momentum in the US (Jegadeesh and Titman 1993) **(22)**, Europe (Rouwenhorst 1998) **(23)** and the UK (Lui, Strong and Xu 1999) **(24)**.

Finally, if you buy an index, then the more expensive the stock, the less value it offers and the bigger the share it has in the index. It makes you overweight what is expensive and underweight what is cheap. It is hard to break the intellectual constraints of the past. The EMH is stubbornly holding on and it is helping investors to misdirect their capital.

### The efficient employee hypothesis

Humans operate in the market not as investors on the whole but as employees. Consider a fund manager job and how attractive it is: it has high status, you are constantly told you are good not just by the standards of your own industry, but against the wider world; and it throws off a stream of income, a big stream of income. Some of this is salary; some of it is bonus; some of it could be guaranteed bonus. In other words all the emotional upside of being a player with none of the risk. Why would anyone in their right mind want to put that at risk? If you decided to give it up your family would probably book you an appointment with a psycho-analyst.

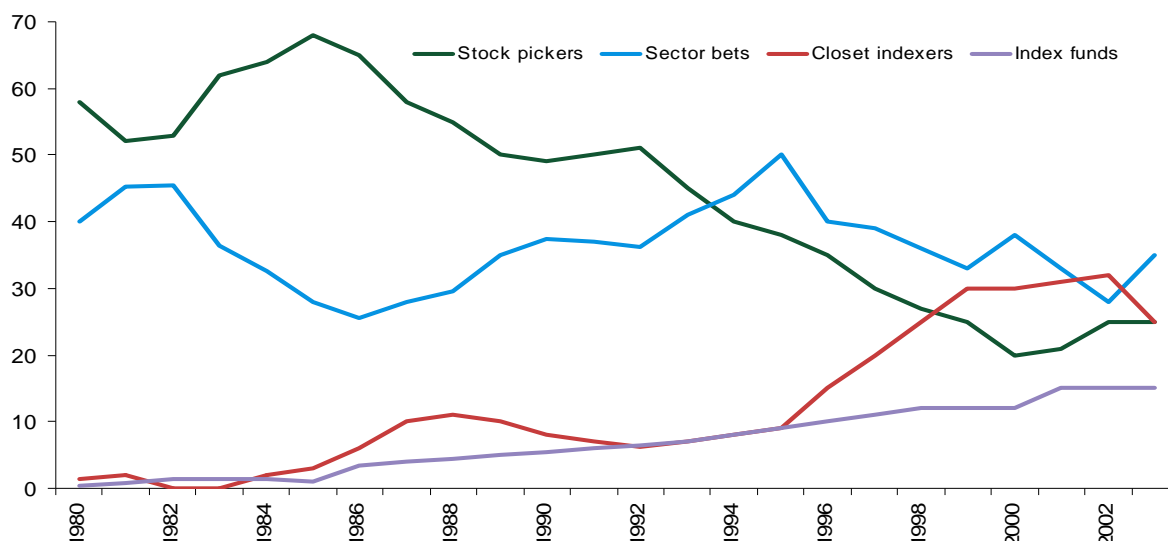
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The fact most fund managers do not beat the market is not a sign of market efficiency; it is a sign most managers are employees, not investors. *As Warren Buffett put it: "Failing conventionally is the route to go; as a group, lemmings may have a rotten image, but no individual lemming has every received bad press."* (25)

Many fund managers get bonus according to their relative annual performance and analysis of fund manager behaviour in the first and second half of the year is revealing. Those who do well in the first half reduce their volatility in the following six months. Those who perform poorly increase volatility (Brown, Harlow and Starks 1996) (26). If they hit their target they cut their winners, if they are behind they gamble with their losses.

*It is a growing trend as the institutional ownership of world markets increases and with it the trend towards tracking and quasi tracking.*

### The evolution of the mutual fund industry - % of all equity assets



Source: Cremers Petajisto (2006) and Dr KW Macro research

Not only is institutional ownership on the rise but also the timescales on which managers are judged are coming down and with it the holding period for stocks. In research by DrKW and Bogle (24) into the average holding period of stocks on the New York Stock Exchange they discovered that the average holding period for a stock in 2005 was 11 months, in the mid 1950s it was closer to eight years. This time frame has more in common with speculating and creates an additional challenge for those whose goal it is to beat the market.

### Conclusion

The central proposition of this paper is that the market is inefficient as it is prone to behavioural biases and the economic theory we have all been taught does not explain the daily market action. Suitably we know it as a "stock market" instead of a stock university – it is about human interaction as opposed to IQ per se.

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This inefficiency is driven by the fact that market is the reflection of human emotions as so ably described by Freud. The consequence is that whilst the market is never late for work, has a hangover or is just simply in a bad mood its gyrations over a trading day directly reflect the reactive emotions of the price drivers, the employees of the market, that is the fund managers.

Freud recognised that humans need to stay with an opinion formed over time. For fund managers this permeates itself into a desire to recognise a profitable return, an almost cussed approach to taking a loss and admitting an incorrect decision. As John Maynard Keynes so succinctly put it “The difficulty lies not so much in developing new ideas but escaping from old ones.”

In addition this paper highlights the human tendency to act with the herd along with a perfectly logical desire to protect ones standing (the Efficient Employee hypothesis). To add further complication is the fact that some of these issues, even of themselves, are contradictory for example going with the herd and yet unable to recognise a loss.

So the question is, how can these be overcome?

The first step is to recognise that these issues exist in your choice of investment professional. The question to consider is how does the investment manager cope with these forces? What philosophy and approach is adopted? How does this create a repeatable and sustainable process to generating out performance?

It is the view of this paper that the key is to look for an approach that fully recognises and exploits human failings. A sustainable process, designed to beat the market, requires a grounding force immune to manipulation.

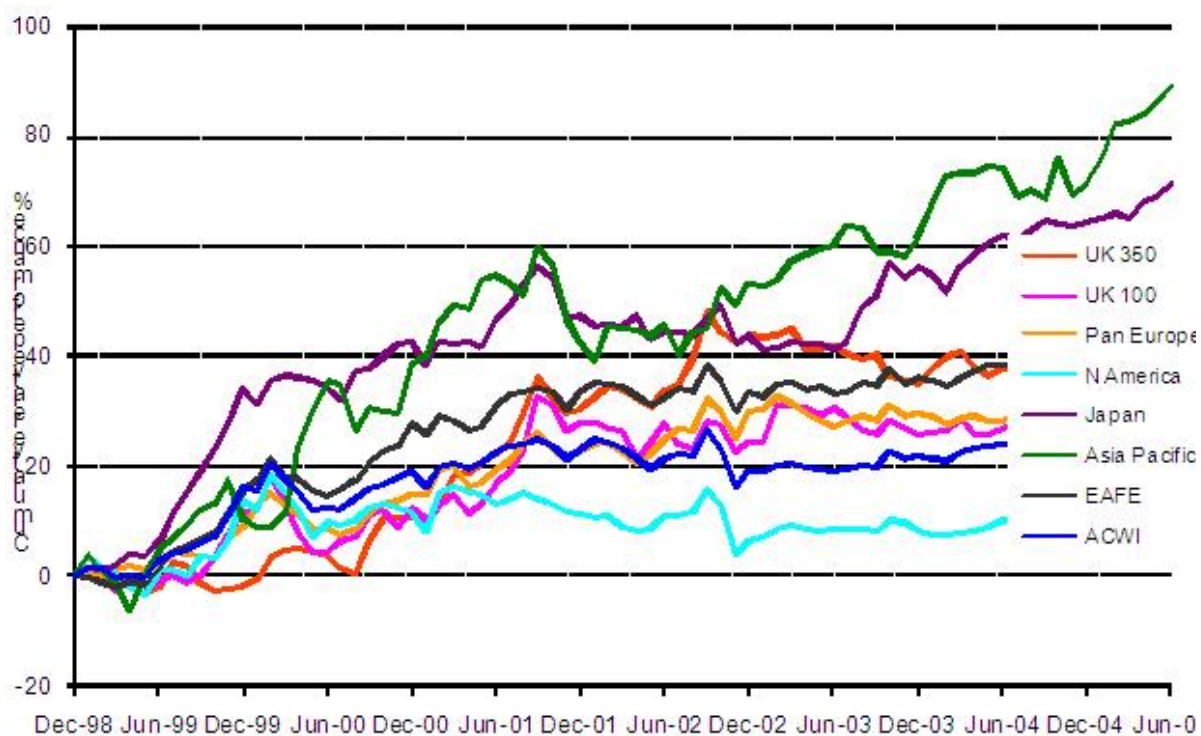
As this paper has argued, humans rely on emotion rather than logic so it is vital to have a stock selection and portfolio construction policy in place that removes as many opportunities as possible for an investment manager to act emotionally rather than logically. That means an investment strategy that focuses exclusively on what drives stock and good quality investment returns over time.

There are basically four crucial factors to take into consideration in selecting an investment. Firstly, look at companies that have a high level of solvency, as the credit crunch demonstrates big does not mean solvent. Secondly, identify stocks that are not just good companies but are good investments. Valuations really matter – buy share prices and don't fall in love with the company. Thirdly, look for stocks that are growing their earnings per share, companies that generate higher earnings should get rewarded with a higher share price over time. Fourthly, identify stocks where positive change is taking place, be it micro or macro, and look to exploit this. To challenge this argument then the investment would display the following characteristics; a poor balance sheet, a high valuation, negative earnings growth and exhibits negative change.

At Martin Currie we have, through our proprietary screening tool the Dynamic Stock Matrix (DSM), built a system that screens almost 10,000 companies daily and ranks them against each other on four key factors – Quality, Value, Growth and Change. This system has been designed to remove the emotion of the individual at the initial phase of the investment process, thus allowing a wholly objective view of the entire market to be taken. This enables an efficient and effective filtering process to flag up interesting ideas for further analysis and review.

The chart below shows internal analysis over the period from December 1998 to June 2005 of the output of the DSM. By just buying the top quintile of stocks generated investors would have been rewarded with out performance in all of the major investment regions **(28)**.

## DSM top quintile relative to region average



Source: Martin Currie / Factset

However, in the same way numbers and statistics should be used to challenge ideas and assumptions, they should not be used as security blankets to reinforce existing views. When a barrage of statistics appear the key question is “what are the assumptions behind these numbers?”.

For this stage you need to seek skilled and experienced investment personnel who can get behind the numbers, question the investment case and model future scenarios. It is for this reason that we coin the DSM a ‘glass box’: it provides clarity, objectivity and perspective. It then allows human skill to work within a numerical framework that minimises the natural tendencies and frailties described earlier in this paper.

Finally, portfolio construction is where risk and reward are brought together. A portfolio should be just that and not just a collection of ideas. Risk needs to be considered at a stock level but also at sector and macro levels. As investors have seen over and over again, poor risk management can cost dearly in the long run.

So this paper sets out the biases inherent in the market. Human behaviour, both singular and plural, is the biggest inhibitor to performance. However, if this is both recognised and then exploited by a clear approach, applied in a dispassionate way by investors rather than employees then superior returns follow. This is how to give the market the Freudian slip.



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