

The Actuarial Profession  
making financial sense of the future

Risk and Investment Conference, Edinburgh, June 2010  
Colin McLean FFA, Managing Director, SVM Asset Management

**Impact of Behavioural Finance on Investment**




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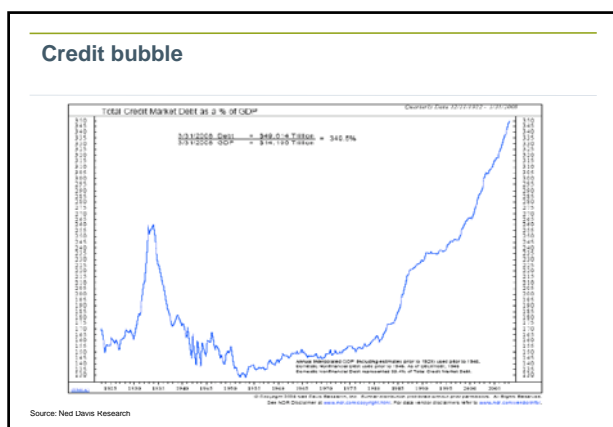
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**Statistical assumptions and risk models clearly wrong**

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 ( $10^{21}$ ) 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: Eurointelligence.com, data 1971 - 2008

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### Why are experts often wrong?

- Misunderstanding probabilities
- Anchoring in initial assessments
- Faulty search processes
- Overconfidence
- Over-complexity / overfitting

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### Problems with statistics

- Base rates
- Single events
- Natural frequencies
- Conditional probabilities
- Misunderstanding of Bayes

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### Bayes using probabilities




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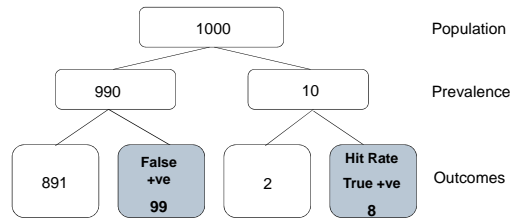
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### Natural frequencies

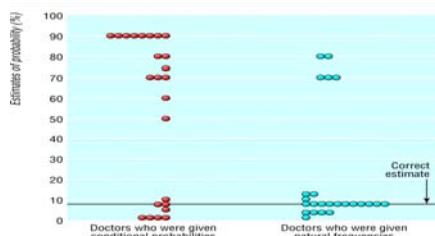


### Probabilities better conveyed as frequencies and pictures



Source: Michael Blastland, BBC.co.uk

### Probabilities vs natural frequencies



Doctors' estimates of the probability of breast cancer in women with a positive result on mammography, according to whether the doctors were given the statistical information as conditional probabilities or natural frequencies (each point represents one doctor)

Gigerenzer, G. et al. BMJ 2003;327:741-744 Copyright ©2003 BMJ Publishing Group Ltd

## Fund launch December 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.

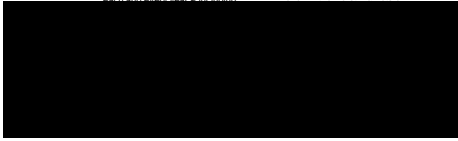
For what will be only a short period, ..... Capital has secured capacity with the acknowledged global elite of the hedge fund world. We have commented over recent months how "babies have been thrown out with the bathwater" and recent circumstances have given us the opportunity to secure access to this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

Source: Fund Marketing Document, Dec 2008

## Fitting the past perfectly

Positive returns in excess of cash  
and hedged currency, including

Tried & tested risk management  
- even in the worst markets on



### MANAGER SELECTION

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

At launch the fund will comprise, amongst others:

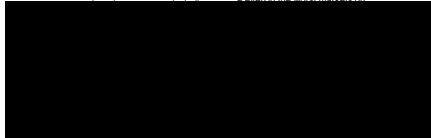
Nevsky Capital	BlueCrest International	Davidson Kempner International
Caxton Global	Lansdowne UK Equity	Man AHL Diversified
Winton Futures	Odey European	Paulson International
Moore Global Fixed Income	Brevan Howard	Horseman Global
	Capula Global Relative Value	

Source: Fund Marketing Document, Dec 2008

## Fitting the past perfectly

Positive returns in excess of cash

Tried & tested risk management  
- even in the worst markets on



### MANAGER SELECTION

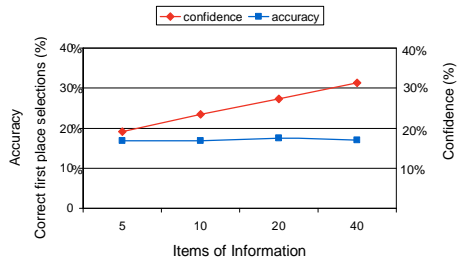
... will be actively managed, allocating to a range of "alpha-generating" managers

At launch the fund will comprise, amongst others:

Fairfield Sentry	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
Nevsky Capital	Capula Global Relative Value	

Source: Fund Marketing Document, Dec 2008

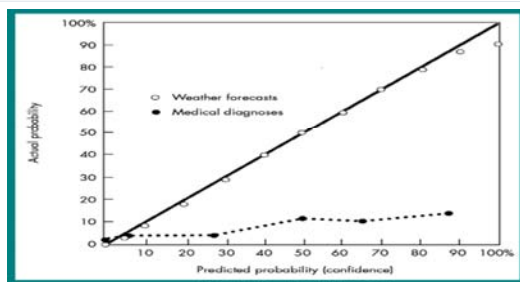
### Does more information improve your accuracy?



Mean changes in confidence and accuracy with increasing amounts of information  
Race handicappers

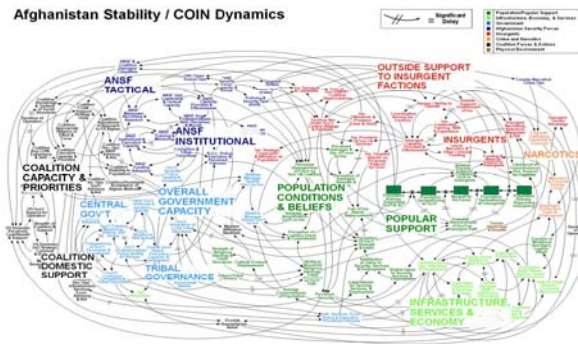
Source: Slovic 1973

### Overconfidence : actual accuracy vs perceived



Source: Plous 1993 p 223

### Afghanistan Stability / COIN Dynamics



Source <http://insrbcmmedia3.msn.com/> PA Consulting

### Wason's four card task 1972

If a card has a vowel on one side, then it has an even number on the other side



Suppose each card has a number on one side and a letter on the other. Which of these cards would you need to turn over in order to know whether the statement above is false?

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### Four card task : Gigerenzer & Hug, 1992

If a previous employee gets a pension from the firm, then that person must have worked for the firm for at least 10 years



Which of these cards would you need to turn over in order to know whether the rule was violated?

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### Four card task : Gigerenzer & Hug, 1992

If a previous employee gets a pension from the firm, then that person must have worked for the firm for at least 10 years



Employers

Employees

Which of these cards would you need to turn over in order to know whether the rule was violated?

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## Research problems

### How often have you come across high-profile off-cited papers that later turn out to be wrong?

Colleagues and I have looked at high-profile papers, with over 1000 citations each, that were later completely contradicted by large, well-conducted studies.

One example is the finding that beta-carotene protects against cancer. It doesn't, but we found a sizeable component of literature where these original beliefs were still supported. It's hard to believe the researchers had never heard they had been refuted.

People aren't willing to abandon their hypothesis. If you spend 20 years on a specific line of thought and suddenly your universe collapses, it is very difficult to change jobs.

John Ioannidis, clinical epidemiologist, who published a 2005 paper: *Why most published research findings are false*

## BP CEO: Chance of 'top kill' success 60-70%

Friday May 28, 2010 11:25:19 AM GMT



OIL-RIG/CEO (UPDATE 1)

\* BP CEO says has "wrestled" blown-out well "to the ground"

\* CEO says will know success of 'top kill' in 48 hours (Adds details from interview, background)

By Tom Bergin

OVER THE GULF OF MEXICO, May 28 (Reuters) - BP Plc's chances of succeeding in its "top kill" effort to plug a blown-out oil well beneath the Gulf of Mexico remains at 60 to 70 percent, CEO Tony Hayward told Reuters on Friday.

## Too much information – becomes a story



**The economic and financial intelligence that matters**

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

Source: RGE Monitor

### Experts

- Be sceptical of too much explanation from experts
- Confidence can be failure to seek contrary evidence – confirmation bias
- Maximum of 6 – 7 key facts
- Try to spot stories

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### Cues on search

However	vs	Moreover
Perhaps	vs	All the more so
Facts	vs	Stories
Abstract unknowns	vs	Concrete stories

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### Analysts' reports:

*What do these words tell us?*

Reassuring	Upbeat
Quality	Diversify
Confidence	Resilience
Strength	Comfortable
Quantitative	Solid
Tone	Optimistic

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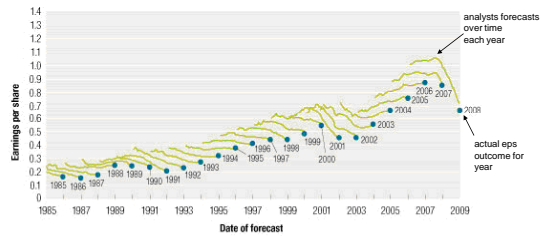
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### Analysts' perpetual earnings optimism



### What clients want to hear

Conviction	Selective
Core	Quality
Long-term	Fundamental

*"... hopes quality stocks can turnaround performance"*

*"... is convinced better-quality companies will be rewarded in 2010"*

### Track records

Last year was the first year of underperformance in a decade of running money for ...

With an unbroken upward line year-on-year since 1982

In the past 10 years X's funds have not had a single year of negative returns

This guy has managed to return 1-1.2% per month year after year after year

### Simple beats complex at prediction

- Complex fits past data better
- Simple can predict future better
- Overfitting and data noise

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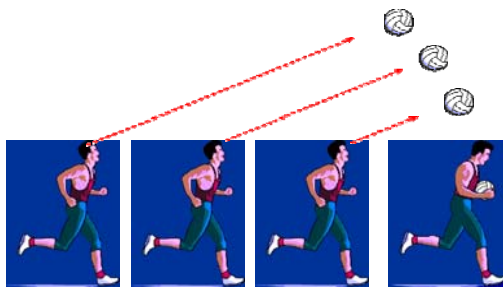
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### Gaze heuristic




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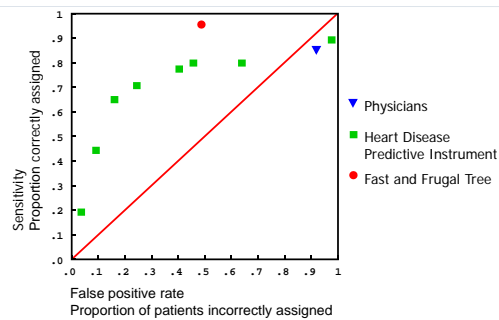
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### Emergency room decisions: admit to the coronary care unit?




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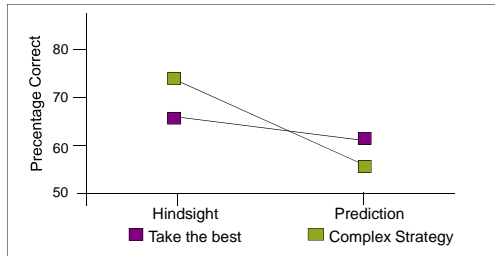
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### Simple beats complex at prediction



Source: "Gut Feelings", Gerd Gigerenzer

### Dealing with psychological biases

Psychological Bias	Effect on Investment Behaviour	Action
Overconfidence	Trade too much Take too much risk	Set annual trading limits, evaluate record objectively, trading records, avoid sector switches Keep similarly sized portfolio holdings Reduce info collected Incorporate base data Reduce forecasting Examine opposing rationale Report risks to analysis
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

### Dealing with psychological biases

Psychological Bias	Effect on Investment Behaviour	Action
Group behaviour/ social context/gaming	Sub-optimal decisions	Small committees or decision groups; Diverse teams in terms of backgrounds, roles and risk aversion. Contributions based on expertise, not rank Poll team or committees Collect privately-held info in advance Ensure challenge, include critics Gather facts on opposing hypotheses Take in input from outsiders Encourage admission of biases; look for systematic biases Reframe options, expose assumptions Pre-mortems and post mortems Document and learn from past decisions

### Simple methods that work

- Checklists for investing
- 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
- Just use base rates, build strategy around base
- Excessive Sharpe ratio for hedge risks

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### Investment Warning

Please remember that past performance should not be seen as an indication of future performance. Stockmarkets and currency movements may cause the value of an investment to fall as well as rise and investors may not get back the amount originally invested. Investing in small companies may increase the volatility of the fund.

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SVM Asset Management Ltd, 7 Castle Street, Edinburgh EH2 3AH  
Tel: 0131 226 6699 [www.svmonline.co.uk](http://www.svmonline.co.uk)

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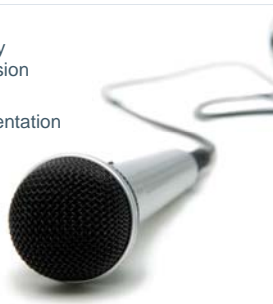
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### Questions or comments?

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