

# **THIS TIME IS NOT DIFFERENT:**

## **HUMAN NATURE AND DECISION MAKING**

**March 2010**

**Kostas Iordanidis  
Board of Directors  
Fortelus Capital**

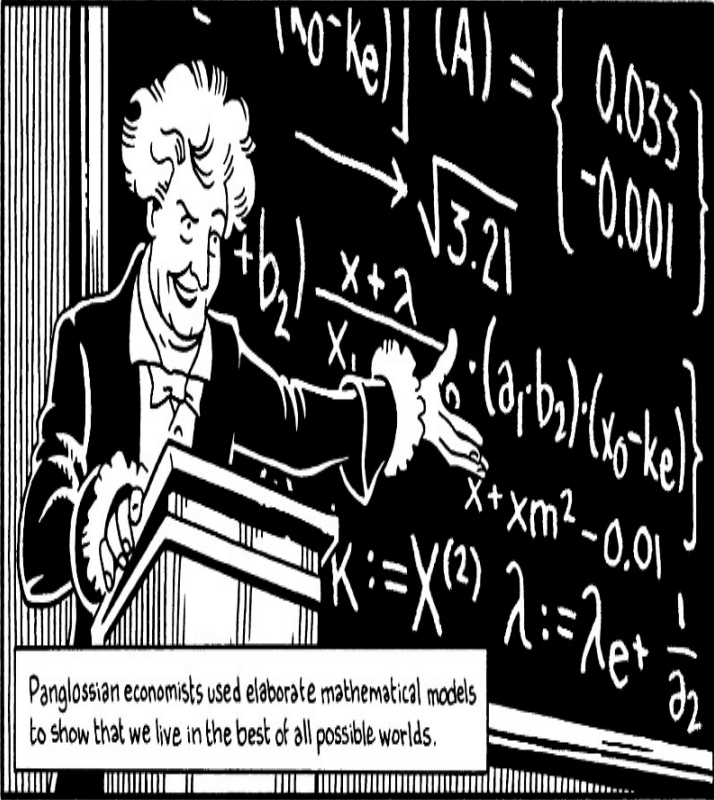
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- Investor Beliefs
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# INVESTOR BELIEFS



# Beliefs and delusional complacency

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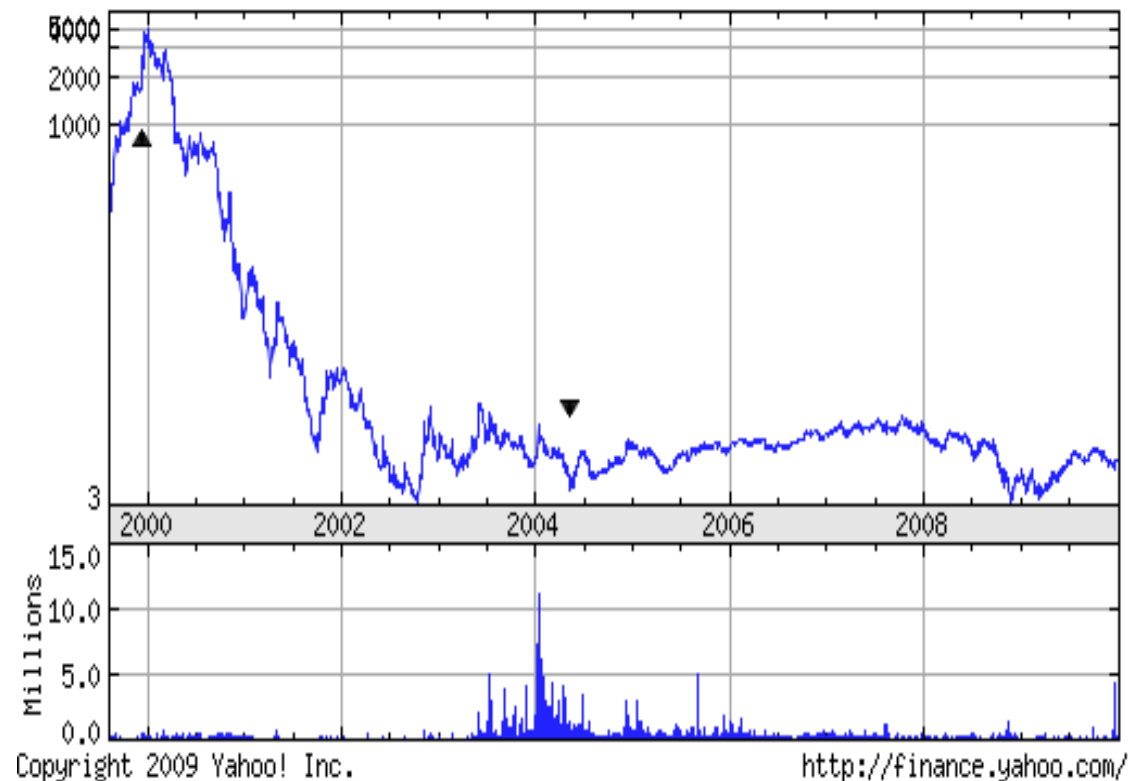
- **This time is different!**
- Markets are self-correcting mechanisms
- Financial innovation and disintermediation **decreases systemic risk**
- Market liquidity will remain abundant forever
- **Leverage** can be used to **permanently enhance** returns
- Credit ratings are **reliable indicators of risk**
- Volatility across asset classes will remain **permanently low**
- Asset class risk premiums will remain **permanently low**
- Emerging economies are **decoupled** from developed economies

# Rational Manias?

- My favorite internet stock: Internet Capital Group (ICGE)
- “Leveraged investment trust”
- B2B stocks
- Priced at 10 times the companies it held

INTERNET CAPITAL GRP INC  
as of 30-Dec-2009

Splits: ▼



# An insider's view on stock valuation

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- Scott McNealy CEO Sun Microsystems in 2002:

*“Two years ago we were selling at **10 times revenues** when we were at \$64. At 10 times revenues, to give you a 10-year payback, I have to pay you 100% of revenues for 10 straight years in dividends.*

- *That assumes I can get that by my shareholders.*
- *That assumes I have zero cost of goods sold, which is very hard for a computer company.*
- *That assumes zero expenses, which is really hard with 39,000 employees.*
- *That assumes I pay no taxes, which is very hard.*
- *And that assumes you pay no taxes on your dividends, which is kind of illegal.*
- *And that assumes with zero R&D for the next 10 years, I can maintain the current revenue run rate.*

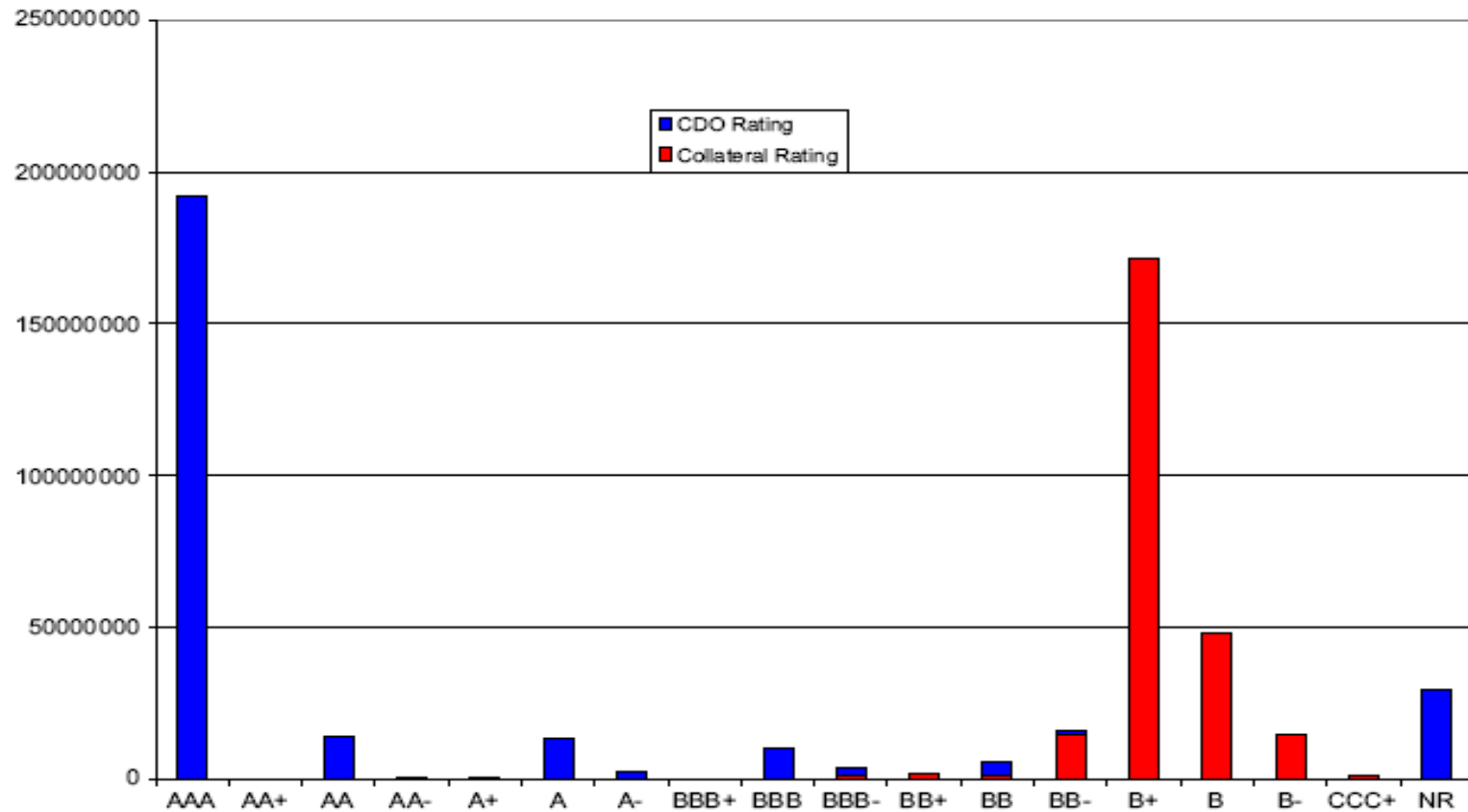
*Now, having done that, would any of you like to buy my stock at \$64? Do you realize how ridiculous those basic assumptions are? You don't need any transparency. You don't need any footnotes. What were you thinking?”*

**Source:** “A Talk with Scott McNealy”, *BusinessWeek*, April 1, 2002

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# Financial alchemy

CDO credit rating vs. Collateral rating (3812 tranches)



Source: Benmelech and Dlugosz, "The alchemy of CDO credit ratings", *Journal of Monetary Economics*, 2008

**WHY DO  
HUMANS  
BEHAVE  
THIS WAY?**



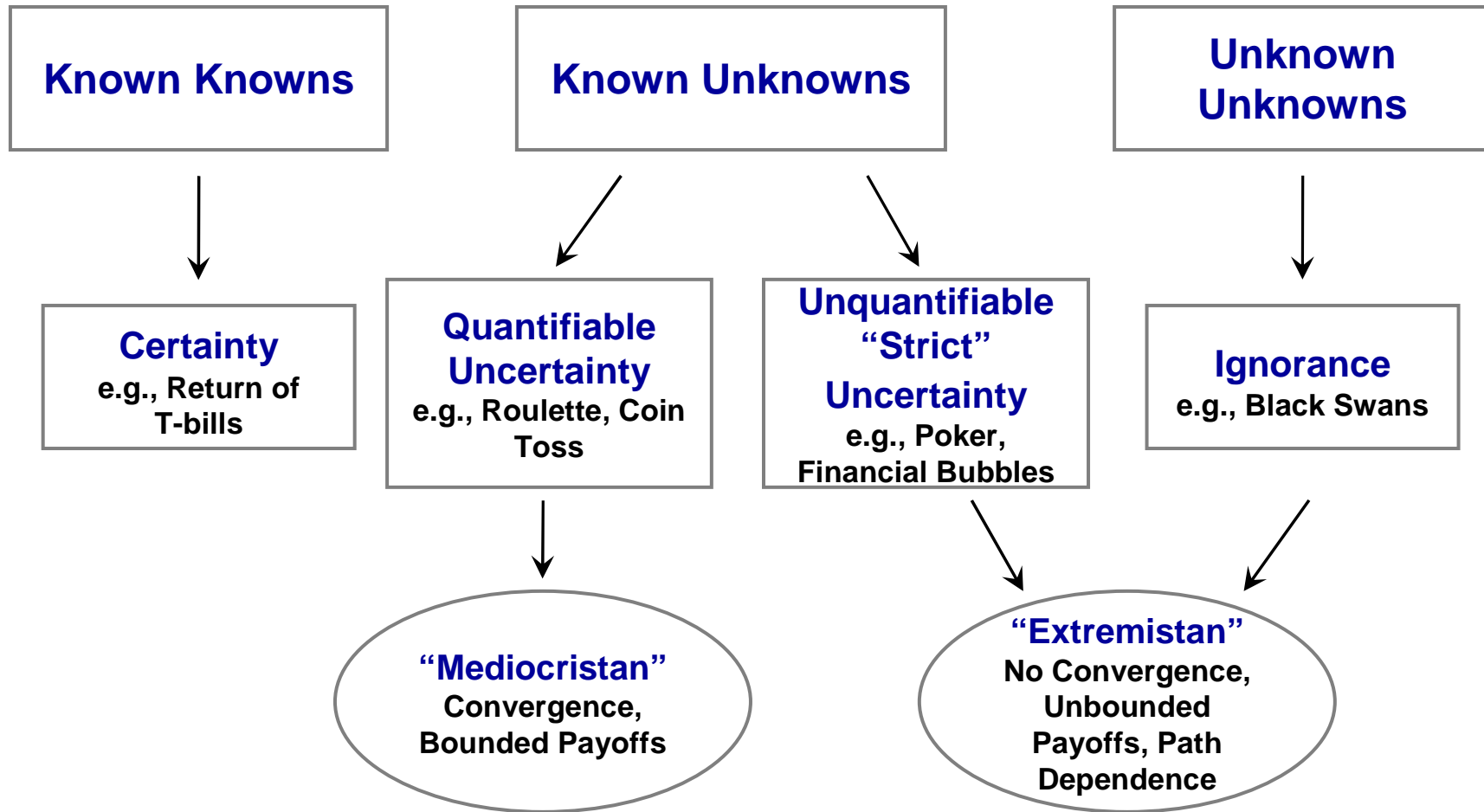
# Five reasons why...

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- Uncertainty
- Markets resemble beauty contests
- Rationality and evolutionarily optimal strategies
- Career risk
- Business risk

# Risk, Uncertainty, and Ignorance

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# Epistemology and decision making

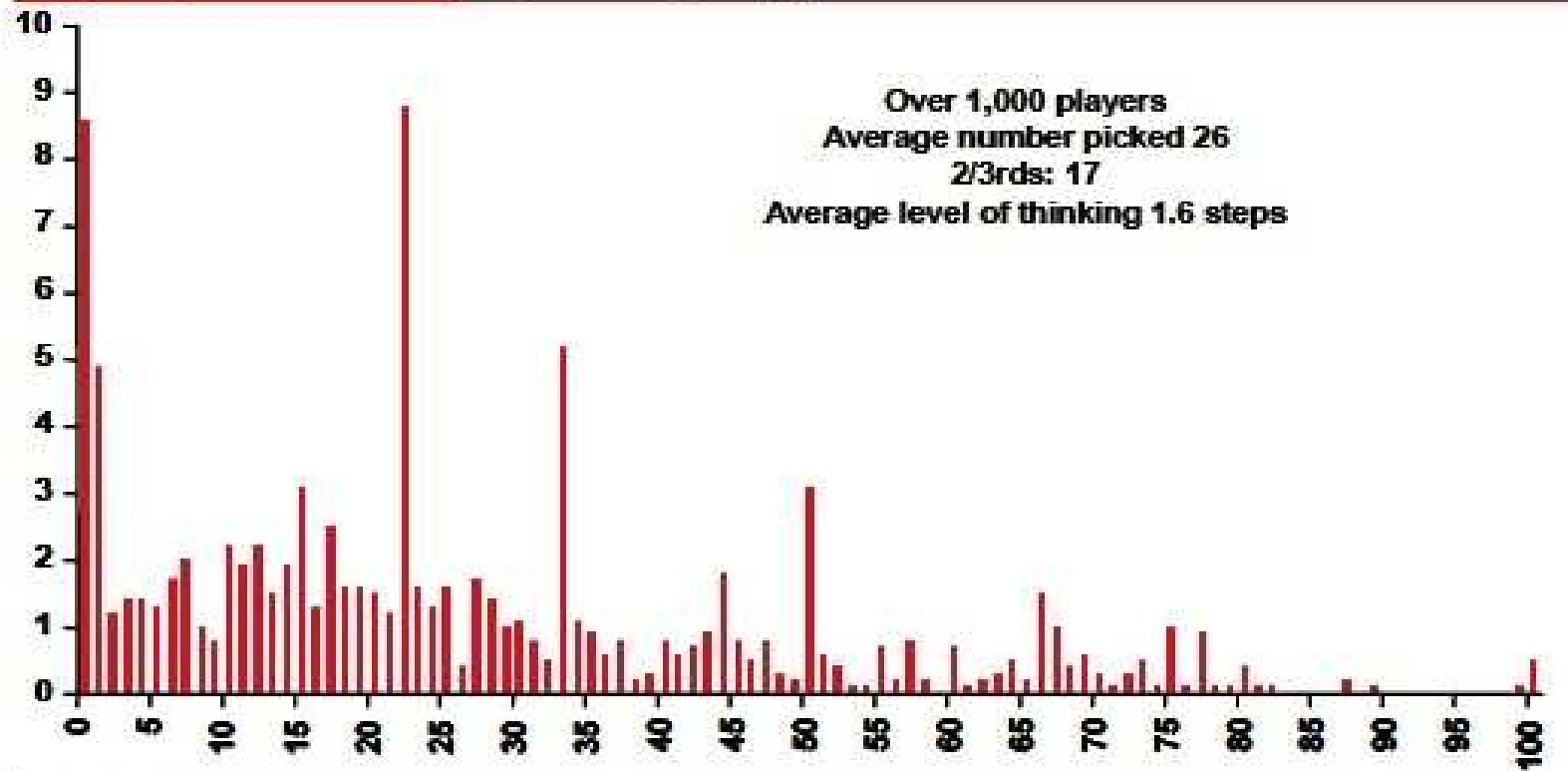
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- The **true underlying process** that determines asset returns is **unknown**
  - We do not observe probability distributions
  - We merely observe **random draws** from an unknown underlying distribution
- Belief formation leads to decision making
  - **Indeterminate** beliefs
  - **Indeterminate** decisions
    - Objective function – **preferences**
    - Cognitive **capacity** to **optimize**

# Beauty Contest: Rationality & Knowledge

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Frequency of choices in beauty contest game (%)



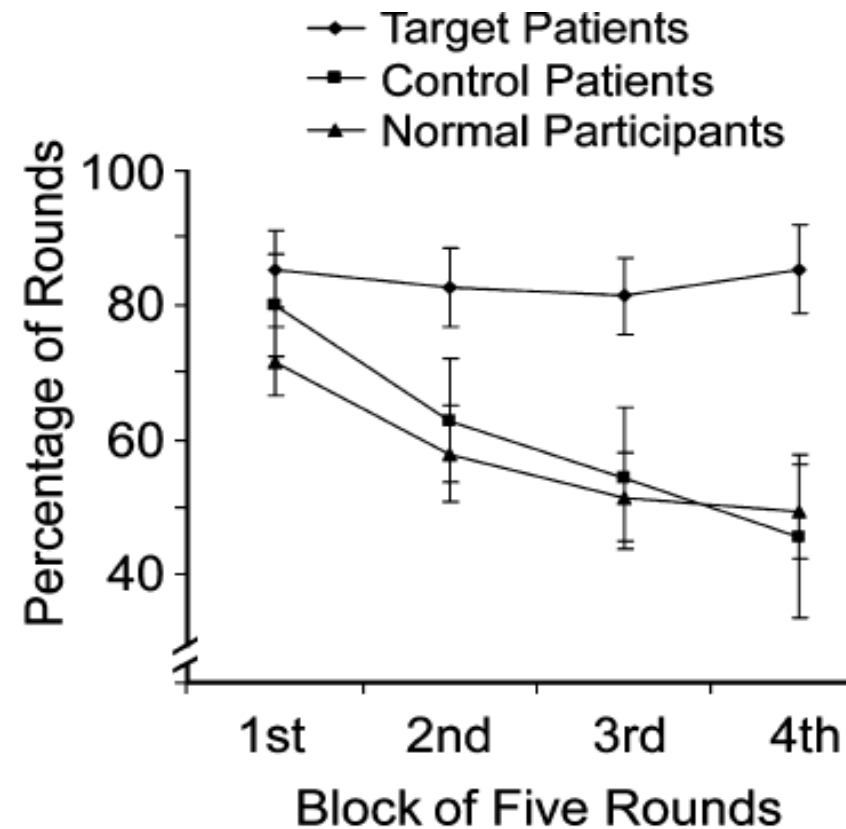
Source: SG Global Strategy

Source: Nagel et al., "One, Two, (Three), Infinity: Newspaper and Lab Beauty-Contest Experiments", 1999

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# Neurobiology and evolution

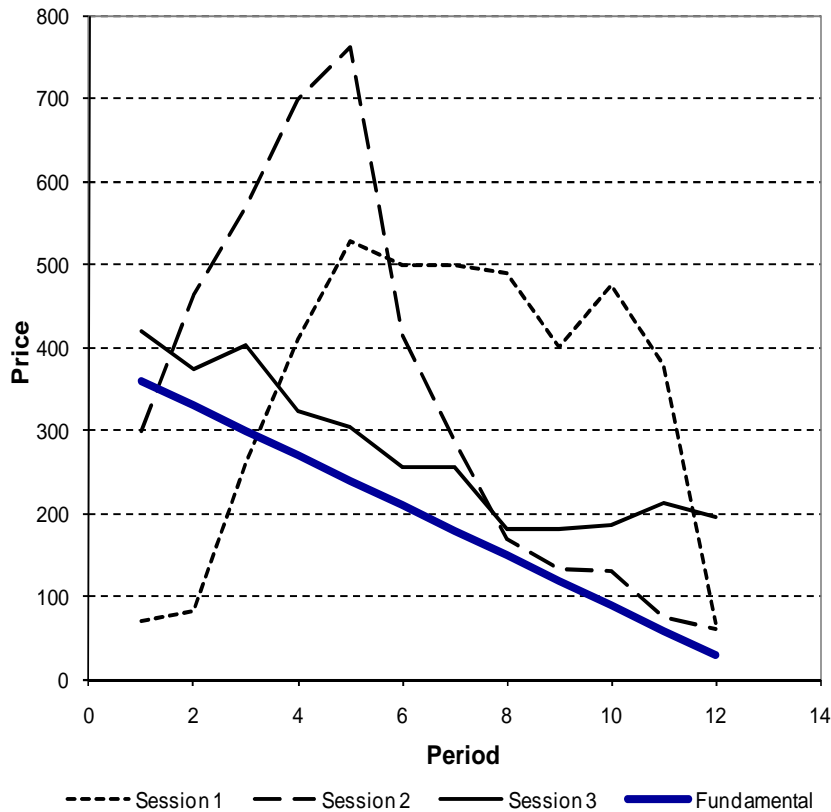
- Simple game:
  - \$20 initial capital
  - 20 rounds deciding to invest or not  
\$1 per round
  - Coin flip, heads you win \$2.50, tails  
you lose \$1.00
- Target patients: Damaged  
brain's emotional center (i.e.,  
amygdala)
- Control patients: Other brain  
damage



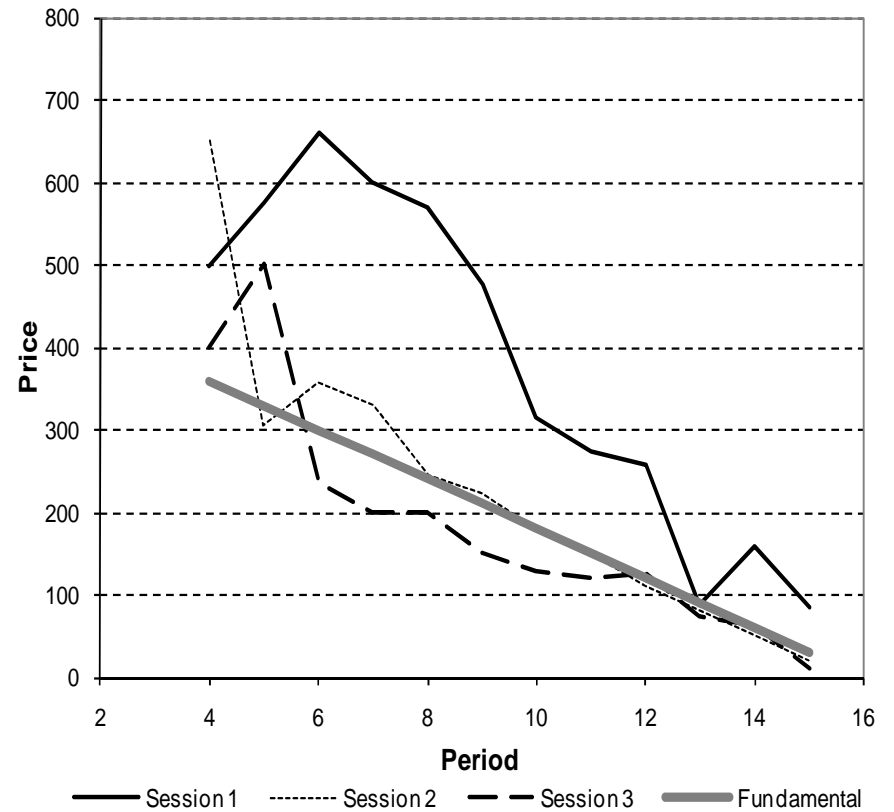
Source: Shiv et. al., "Investment Behavior and the Negative Side of Emotion," *Psychological Science*, 2005

# Speculation and Active Participation

Median Transaction Price by Period:  
Single Market with No Speculation



Median Transaction Price by Period:  
Two Markets with No Speculation



Source: Lei et. al., "Non-Speculative Bubbles in Experimental Asset Markets: Lack of Common Knowledge of Rationality vs. Actual Irrationality," *Econometrica*, 2001

# Career risk: Analyst forecasts

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- Ferraro & Ross, 2008: Why they have been **slow to reduce their earnings forecasts** since the onset of the crisis:
  - They **haven't seen anything like this before** – because of *“the paucity of financial crises ... in recent history”* they tend to *“underestimate the effects of systematic or top-down developments.”*
  - The **companies haven't seen anything like this before**. A survey of analysts reveals that 25 percent of companies that used to provide profit guidance no longer do.
  - Analysts *“seek to carry favour with management in order to preserve their information networks.”*
  - Analysts need to manage their *“reputational risks”*, so they *“engage in herding behaviour”!*
  - The costs of getting a big call wrong far outweigh the benefits of getting a big one right.

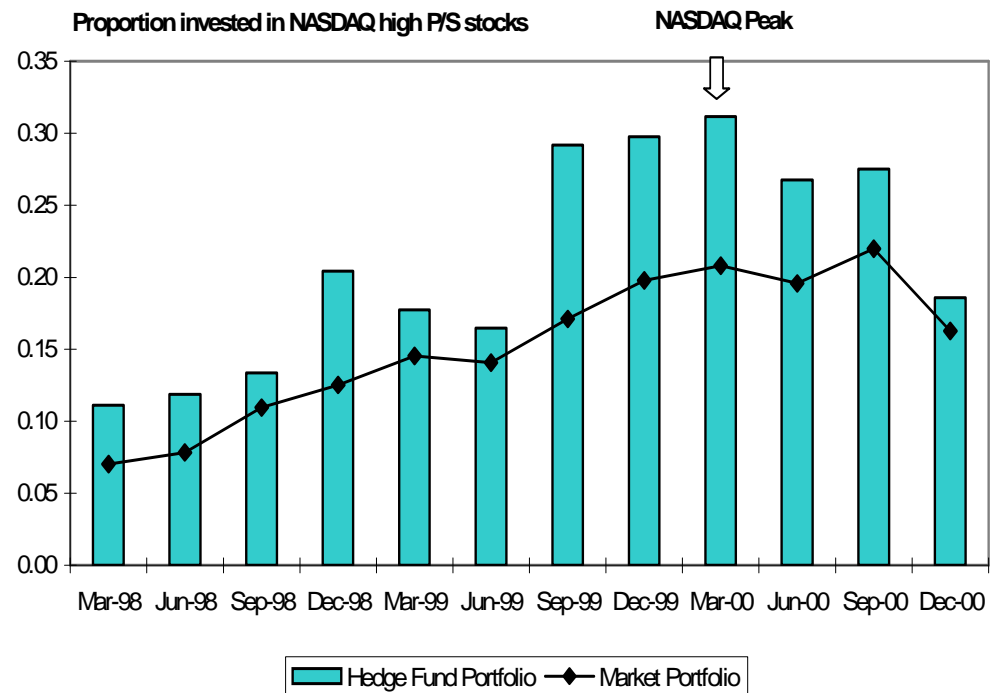
*“Our expectation is that sector analysts' forecasts will **continue** to not accurately reflect deteriorating operating conditions for many companies.”*

Source: Kohler, “Secrets and lies”, *Business Spectator*, December 2008

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# Riding the Internet Bubble

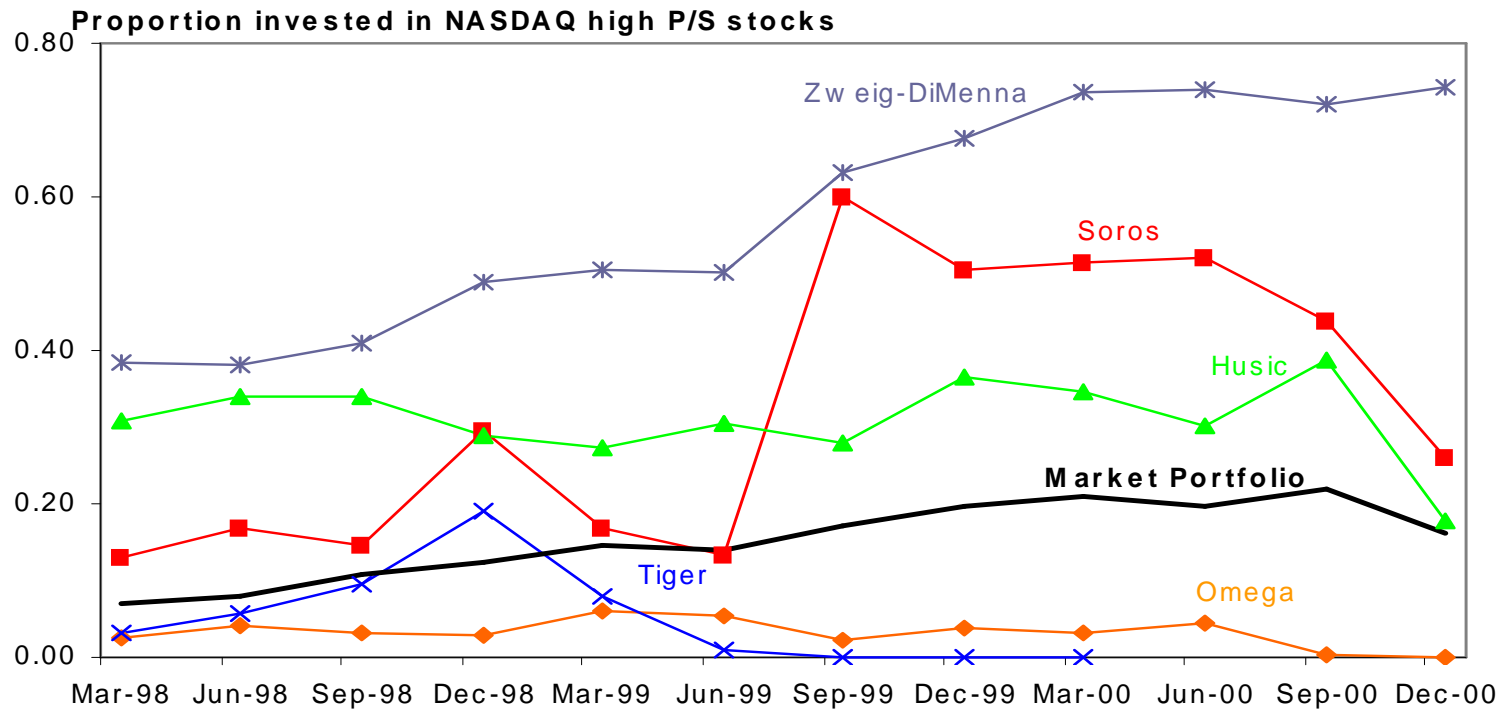
- Hedge funds increased their exposure to internet stocks in 1999
- They were quick to cut exposure in 2000



Weight of NASDAQ technology stocks (high Price/Sales) in aggregate hedge fund portfolio versus weight in market portfolio

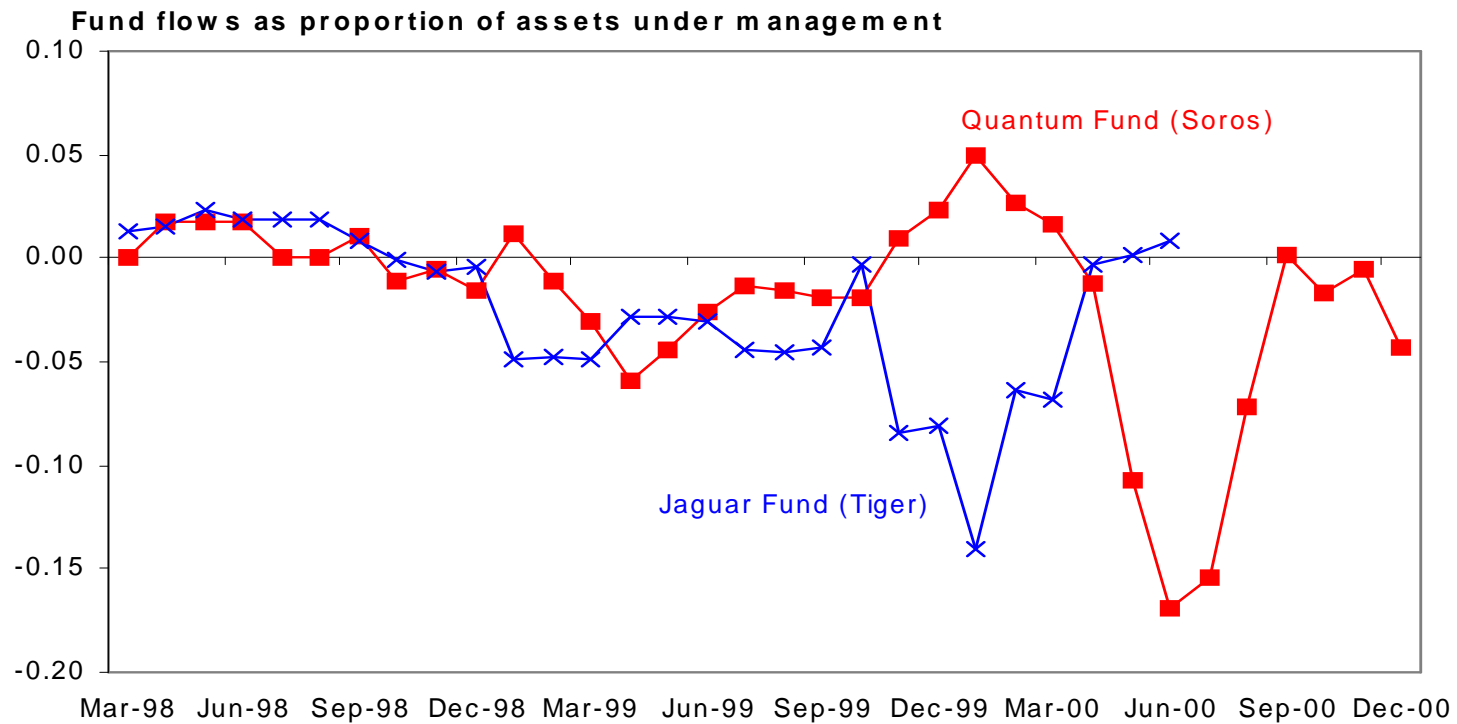
Source: Brunnermeier and Nagel, "Hedge Funds and the Technology Bubble", *Journal of Finance*, 2004

# Business risk: Loss of capital



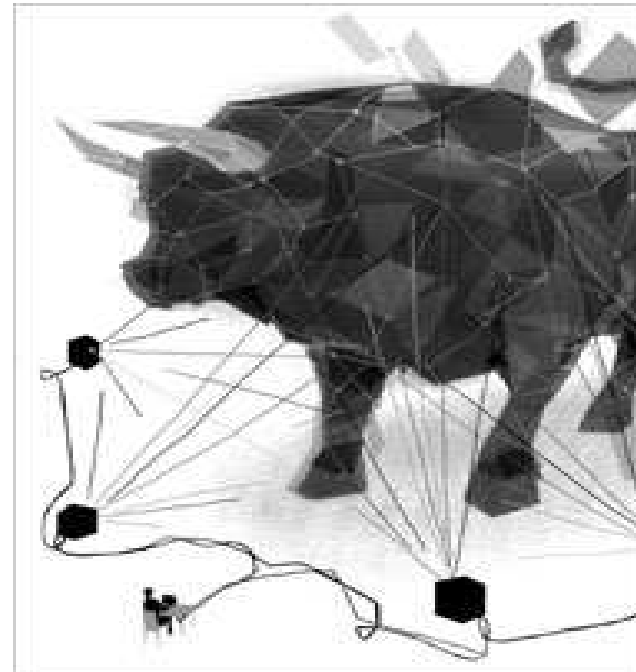
Source: Brunnermeier and Nagel, "Hedge Funds and the Technology Bubble", *Journal of Finance*, 2004

# Business risk: Loss of capital



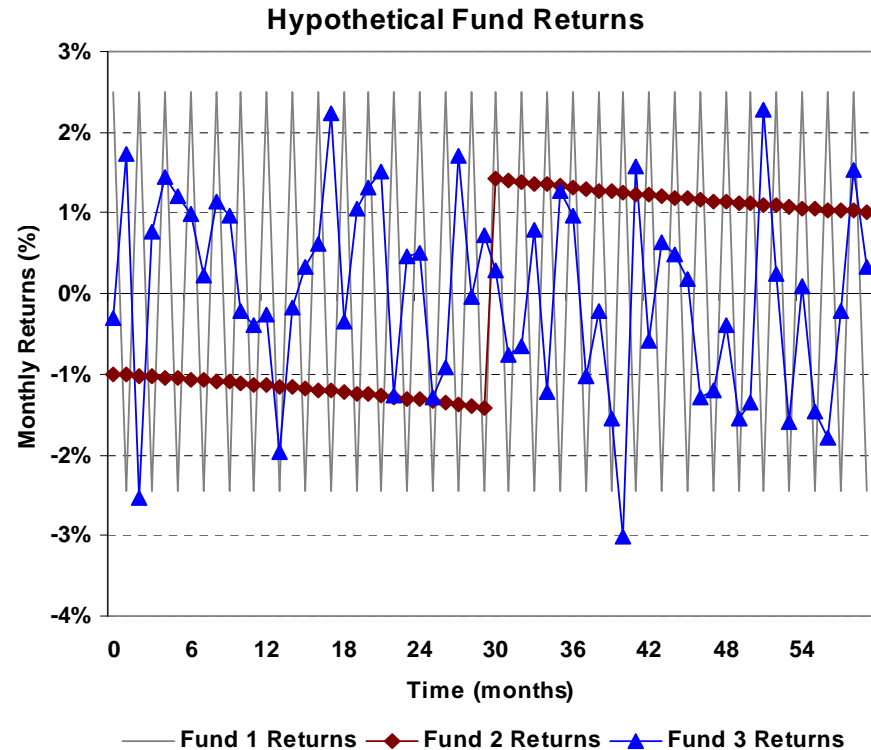
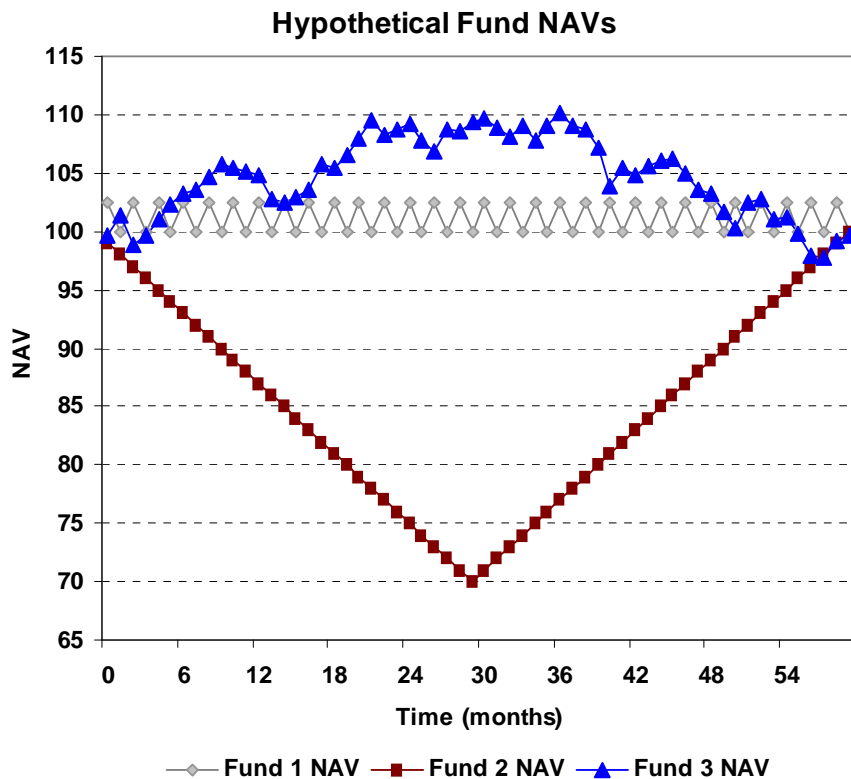
Source: Brunnermeier and Nagel, "Hedge Funds and the Technology Bubble", *Journal of Finance*, 2004

# MEASUREMENT, FORECASTING, AND BLACK SWANS



# Volatility is not a measure of risk

Volatility **ignores dependence**. Fund 1 is twice as volatile than the other two funds but a lot less risky!



# The perils of forecasting

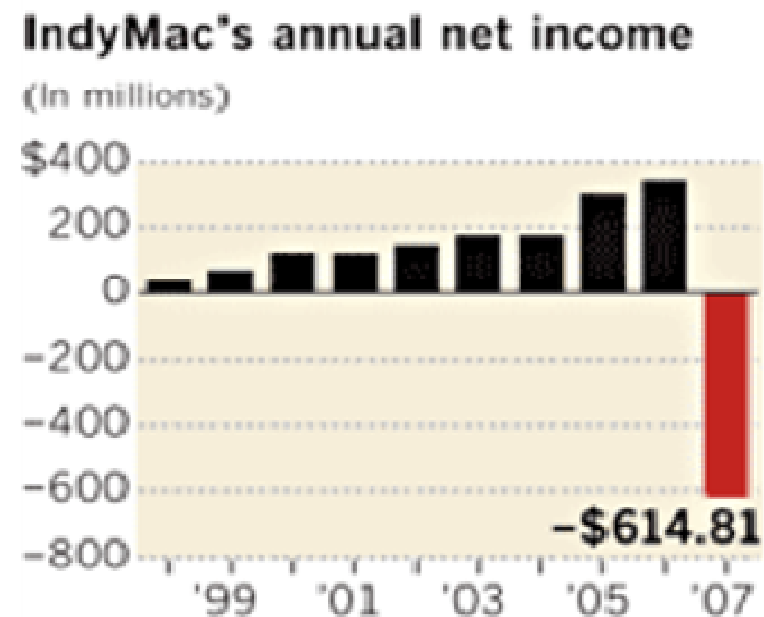
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- The **future is never exactly like the past**
- Complex models fit past data well, but do not necessarily predict the future accurately
- Simple models predict the future better than complex statistical models
- Statistical models **underestimate uncertainty** because of faulty assumptions:
  - **Events** are **independent**
  - Forecasting errors are **manageable**
- **Variability** matters:
  - Drowning crossing a river that is on **average** 1m deep!
  - **Confidence** matters more than point forecasts

# Predicting the fate of a turkey...

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- **Black Swans:**
  - **Outliers**, outside the realm of regular expectations
  - **Extreme Impact**
  - **Retrospective predictability**
- Black swans lie **beyond predictability**
- The turkey cannot predict its future!
- But we can (**meta-history**)...

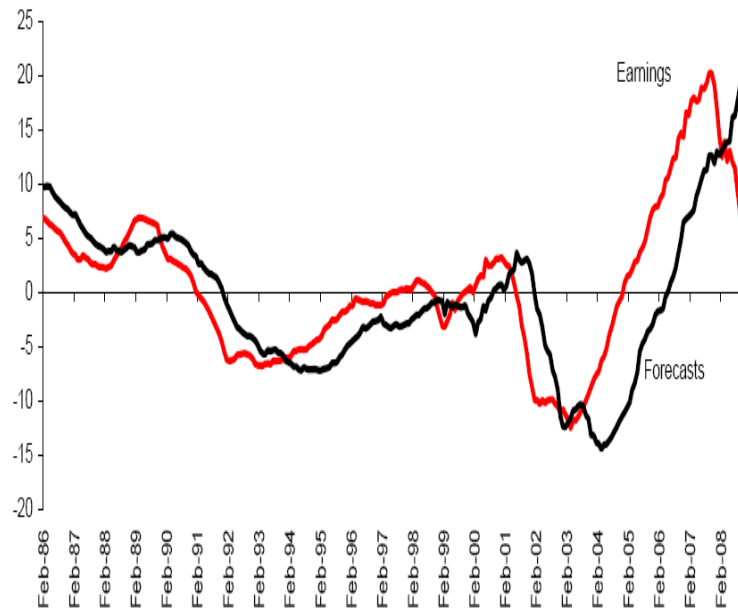


*Source: Bloomberg News*

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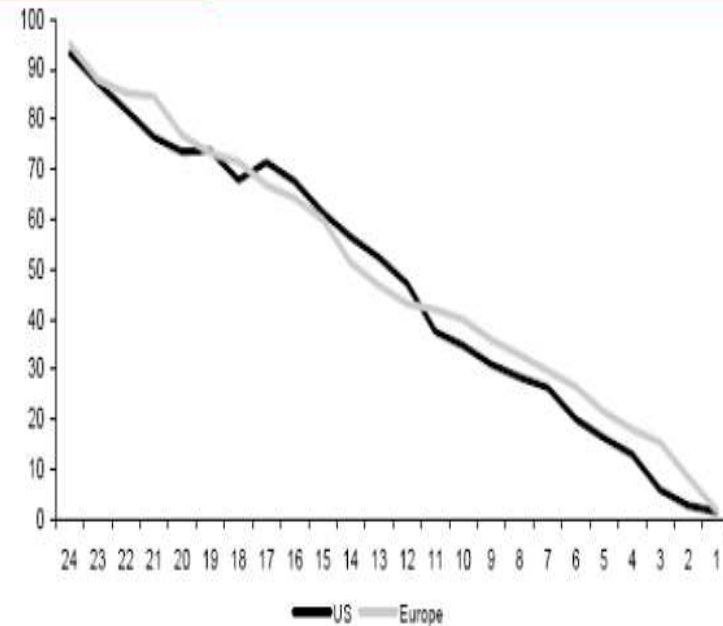
# How well do analysts forecast?

Deviations from trend of earnings and forecasts (\$ per share)



Source: SG Global Strategy

Forecast error over time: US and European markets 2001-2006, %



Source: SG Global Strategy

# CAN WE LEARN FROM HISTORY?



# Seven lessons from Keynes

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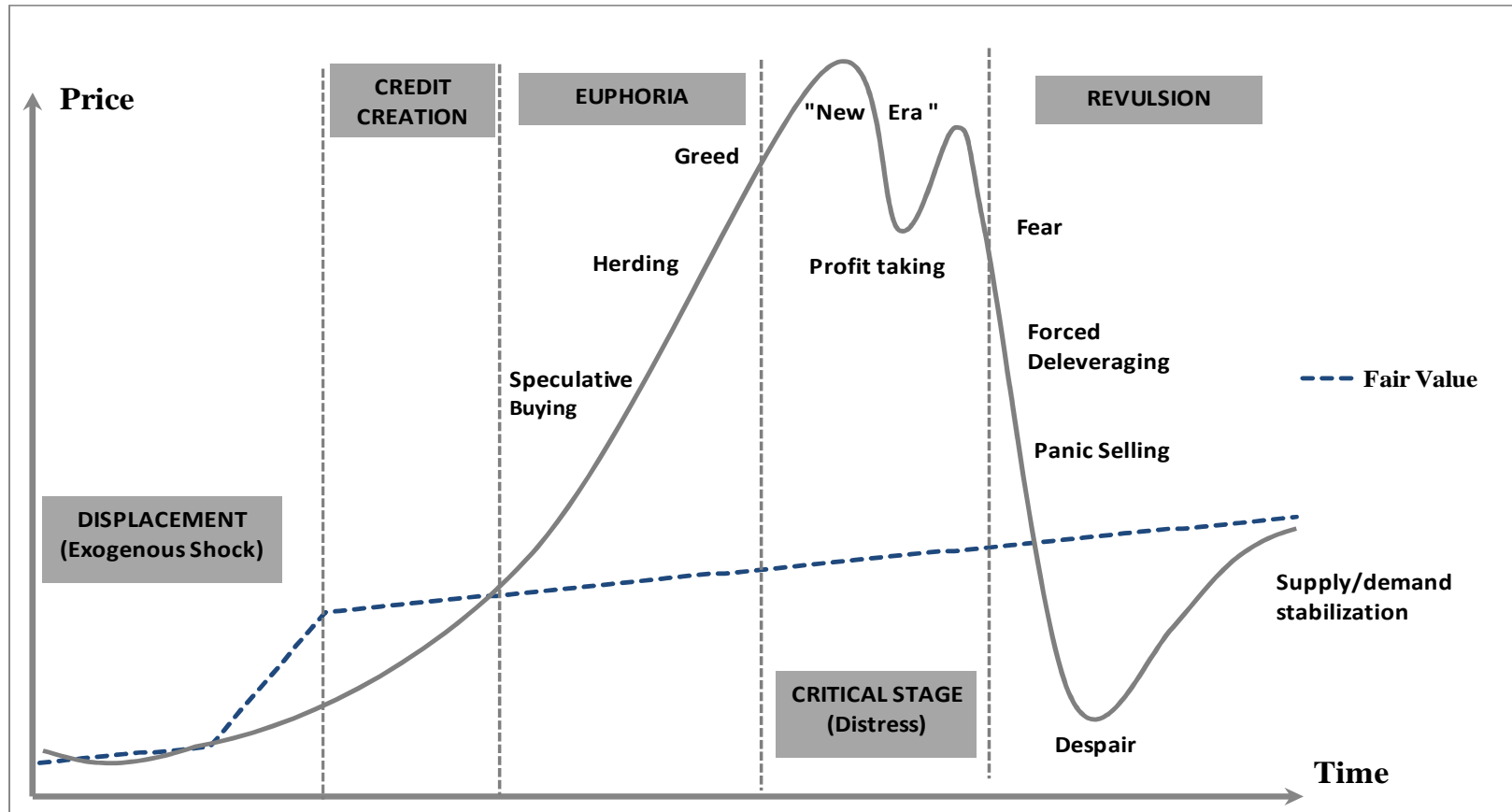
1. Distinguishing between **speculation** and **enterprise (investing)**
2. **Beauty contest**: “Anticipating what the average opinion expects the average opinion to be”
3. Market prices reflect the **mass psychology** of a large number of **ignorant** individuals
4. **Leverage** and **margin of safety**
5. **The perils of forecasting** – Both **uncertainty** and **variability** matter
6. Sources of instability: **Speculation** and **animal spirits**
7. **Liquidity “fetish”** – no such thing exists for the market as a whole

Source: John Maynard Keynes, *The General Theory of Employment, Interest and Money*, Harcourt Brace, 1935, Chapter 12: “The State of Long-Term Expectation”

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# Can we predict crises?

## Minsky: Theory of financial instability



Source: Minsky, *Stabilizing an Unstable Economy*, McGraw Hill, 2008

# Lessons for investing

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- **Accept uncertainty**
- Adopt a **skeptical** attitude questioning the conventional wisdom
- Question the value of your forecasts
- Actively manage your portfolios
- Accept that beliefs should not always lead to actions
- Avoid **leverage**, especially coupled with **illiquidity**
- **Buy insurance** against tail events, especially when it is cheap

# SUMMARY



7.24.09

# A different view of the world?

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*“The real trouble with this world of ours is not that it is an unreasonable world, nor even that it is a reasonable one.*

*The commonest kind of trouble is that it is nearly reasonable, but not quite.*

*Life is not an illogicality; yet it is a trap for logicians.*

*It looks just a little more mathematical and regular than it is; its exactitude is obvious, but its inexactitude is hidden; its wildness lies in wait.”*

G.K. Chesterton, “Orthodoxy”, 1908

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