Fundamental Fallacies of Finance

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University of Cambridge

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Overview.

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- First Fundamental Fallacy of Finance:

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- First Fundamental Fallacy of Finance: Black-Scholes, delta-hedging

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- Third Fundamental Fallacy of Finance: what will it be?

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- Second Fundamental Fallacy of Finance: Securitization
- Third Fundamental Fallacy of Finance: what will it be?
- How can we prevent it?

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- Second Fundamental Fallacy of Finance: Securitization
- Third Fundamental Fallacy of Finance: what will it be?
- How can we prevent it?
- Who has an incentive to prevent it?

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Example: $Z = e^{-rT}(K - S_T)^+$, which can be explicitly priced as a function of S_0, K, σ, r and T:

$$P_{BS}(S_0, K, \sigma, r, T) = ..$$

- the Black-Scholes formula.

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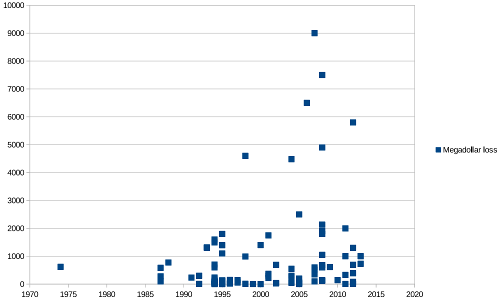

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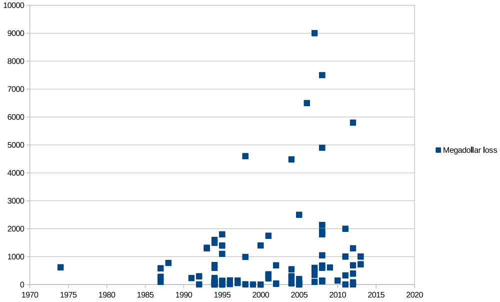

(See: `http://www.bus.lsu.edu/academics/finance/faculty/dchance/Research/DerivativesLosses.htm`)

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  - 'Let's hope we are all wealthy and retired by the time this house of cards falters'
  - 'Lord help our f***ing scam, . . . this has to be the stupidest place I have worked at'

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Once we have (α^j, g^j, Q) for all the countries, we have also got the exchange rates between currencies!

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- While banks get upside of risk-taking, they will not change;
- Regulators could force banks to act more reasonably ... but governments are afraid to drive finance industry to other locations.
- Is academia free from responsibility?

  Statistics 101 is always about estimation and hypothesis testing ...

Summary.

- Fallacies have inflicted huge losses and this is not finished - the Great Calibration Hoax is alive and well!
- Bad modelling is everywhere:
  - no account taken of model uncertainty;
  - individual components modelled with no thought to how they are to be combined;
  - overall risk merely a guess
- While banks get upside of risk-taking, they will not change;
- Regulators could force banks to act more reasonably ... but governments are afraid to drive finance industry to other locations.
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