Identification & Management of Emerging Risks

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What is an ‘Emerging Risk’?

- Lloyd’s defines an emerging risk as: *an issue that is perceived to be potentially significant but which may not be fully understood or allowed for in insurance terms and conditions, pricing, reserving or capital setting.*
- In practical terms, the defining feature of an emerging risk is high uncertainty concerning the essential features of the risk (likelihood and impact)
- The aim of emerging risk management at Lloyd’s is to *reduce uncertainty* through research and scenario development.

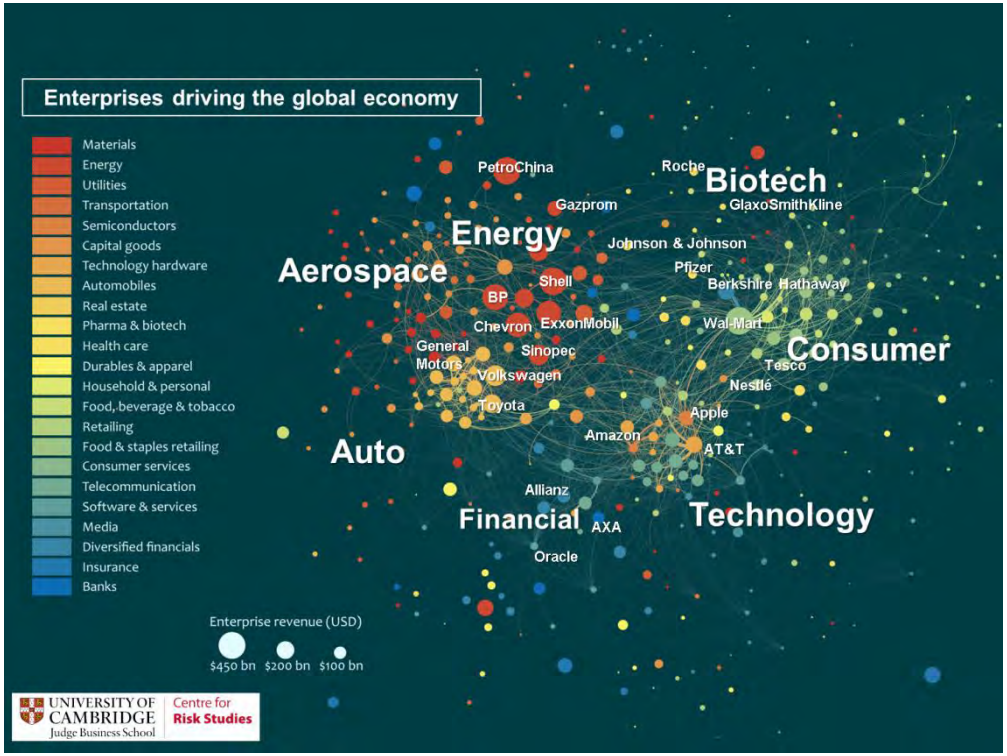
Plausible but extreme

- Implies an extrapolation of observed occurrences: the ‘known unknowns’
- Events remain the most powerful force in framing analysis
- Insurers are required to be resilient to losses incurred against 1:200 events
  - For emerging risks, we must be comfortable in accepting expert judgment as the basis of this assessment

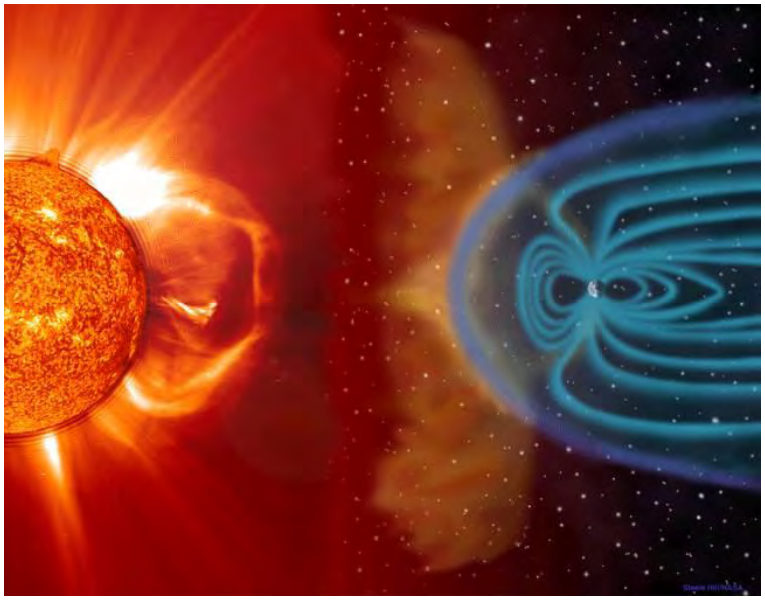
Lloyd’s Realistic Disaster Scenario
2-tonne bomb blast, Rockefeller Centre, New York City

Globalisation & systemic risk

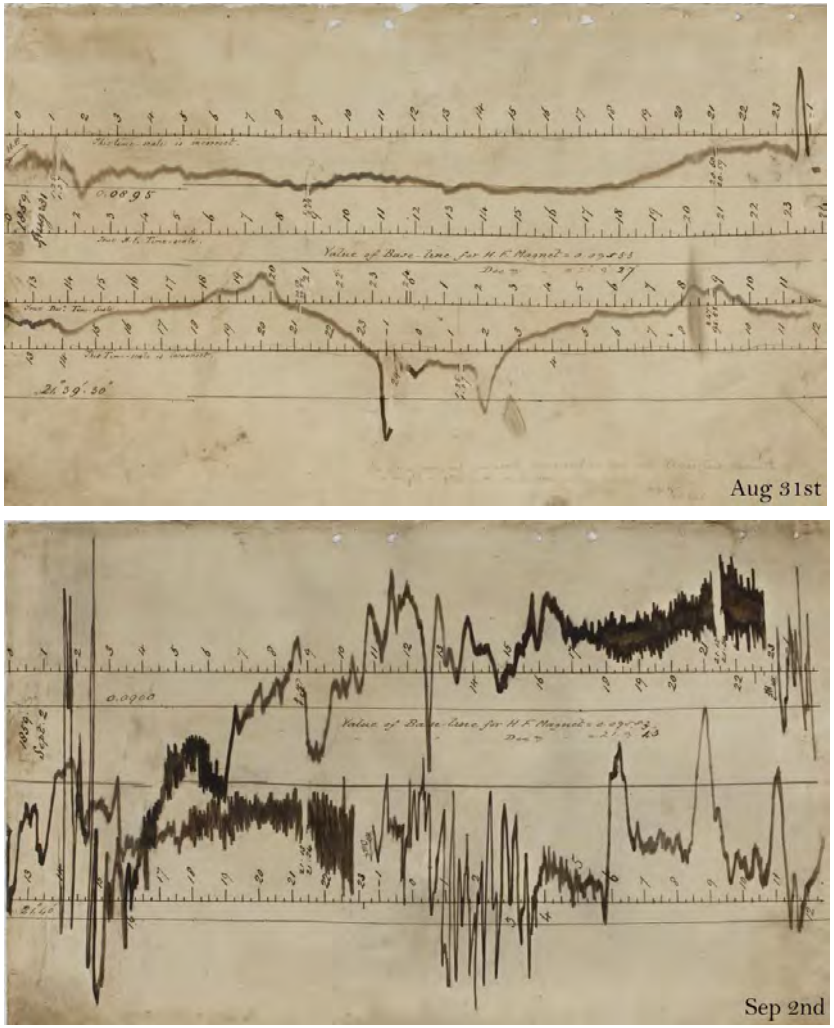
- Increasingly difficult for clients to link impact with proximate cause
- Top risk management concerns: cyber attack, reputational harm, business interruption
- For insurers, systemic shocks are a key issue in exposure management



Case study: extreme space weather



Coronal mass ejection and the earth's magnetic field
(source: European Space Agency)



Magnetogram recordings of the 'Carrington event'
Recorded at the Greenwich Observatory, 1859
(source: British Geological Survey)

Case study: severe space weather

- Lloyd's commissioned research on the risk to the North American electric grid which showed that an extreme geomagnetic storm is almost inevitable in the future, with a return period of 150 years
- Electricity grids can be overloaded and critically damaged by geomagnetic disturbance from space weather:
  - Lloyd's research showed that a severe event could generate a power outage in North America of between 16 days and 2 years, affecting a population of 20-40 million.
  - Global navigation satellite systems (including GPS) could be rendered partially or completely inoperable for 1-3 days. This would impact multiple sectors of the economy, including critical infrastructure and financial services (e.g. for time recording of transactions).

Damage to high voltage transformer, South Africa 2003, following geomagnetic storm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