

Cambridge Judge Business School

Cambridge Centre for Risk Studies 2017 Risk Summit

TOWARDS THE RESILIENT ENTERPRISE: CORPORATE RISK PROFILING

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Risk Studies



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Defining a Corporation

- **Corporation** – company or group of people authorized to act as a single entity and recognized as such by law.

Taxonomy of a Corporation

Strategy

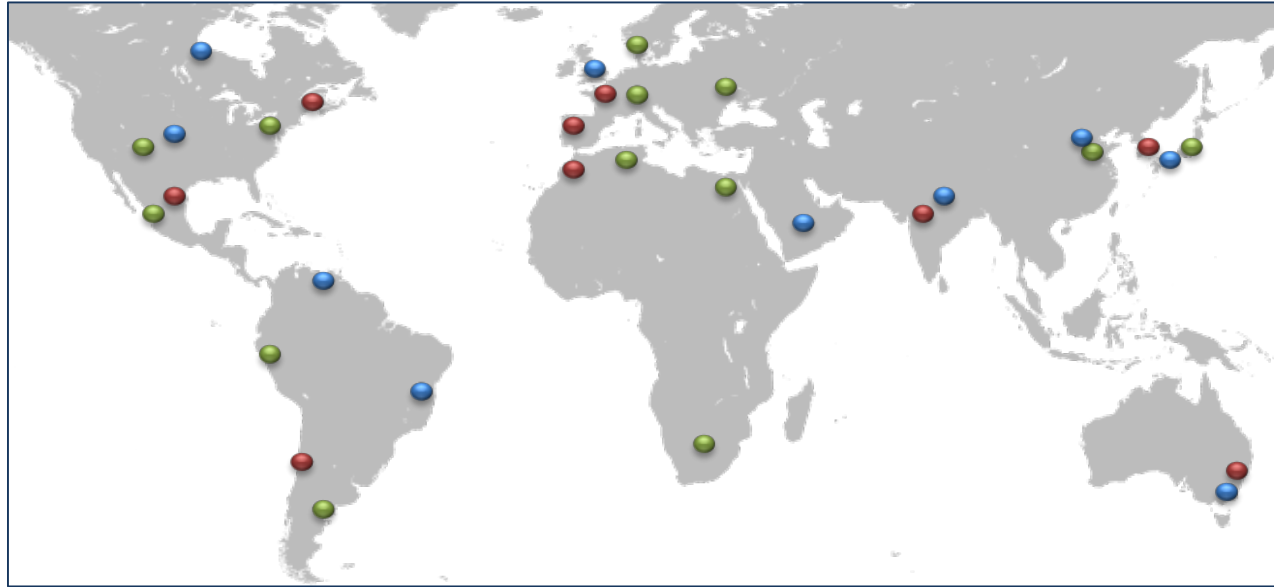
Culture

Talent

Systems

Settings

Complex Footprints of Global Corporations



- Perform large range of business activities
- External threats
- Legal and regulatory jurisdictions
- Geographical dispersion of functions, operations, customers
- Counterparties and secondary supply chains

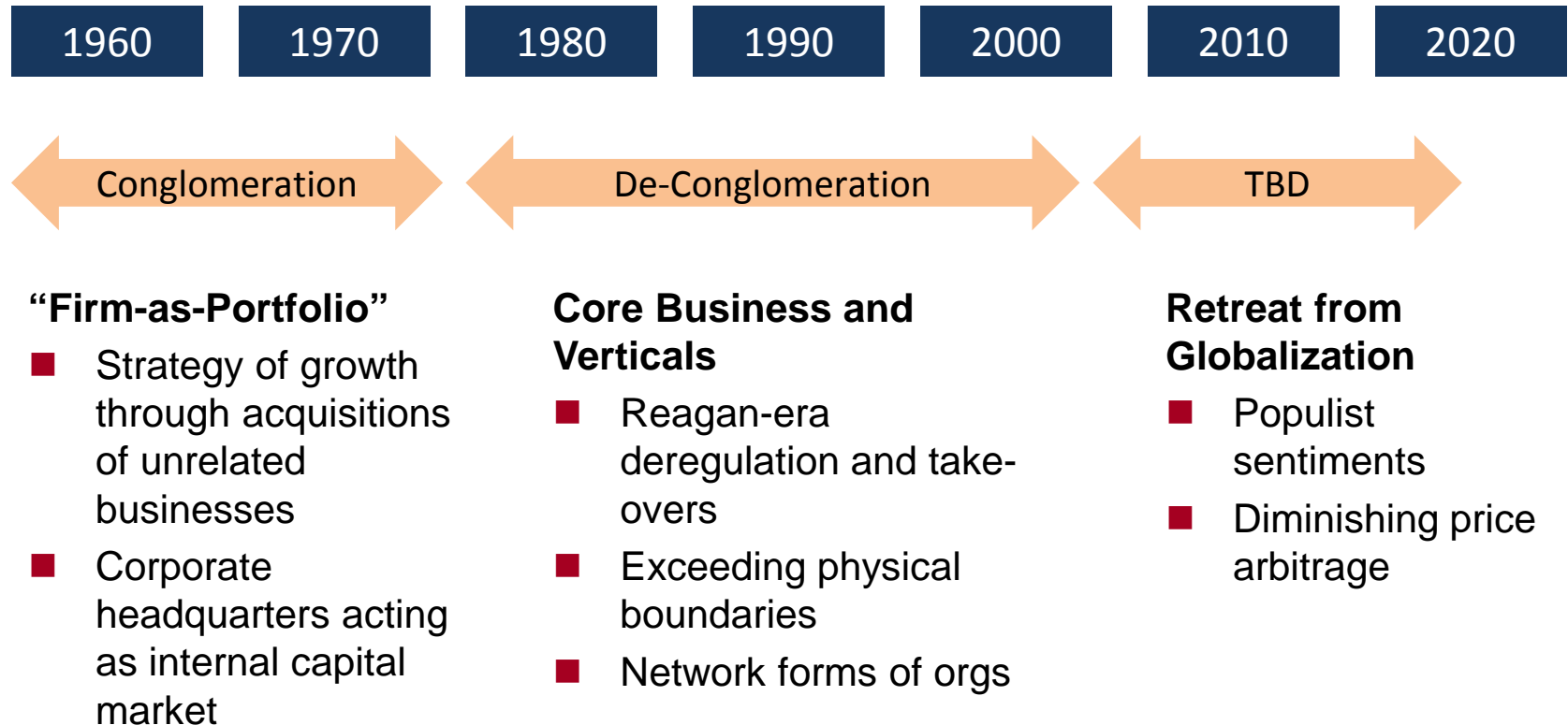
Where are the risks in a corporation?

Defining a Resilient Corporation

- **Strategy:** “Capability to respond rapidly to unforeseen change, even chaotic disruption.– Gartner Group
- **Execution:** “Ability of the value chain to deliver goods regardless of unexpected events” – IBM Global Services
- **Financials:** “Ability for corporation to provide long-term solvency and liquidity” - Financial Reporting council (FRC)

Many definitions of a resilient organization

Brief History of Recent Corporate Strategy

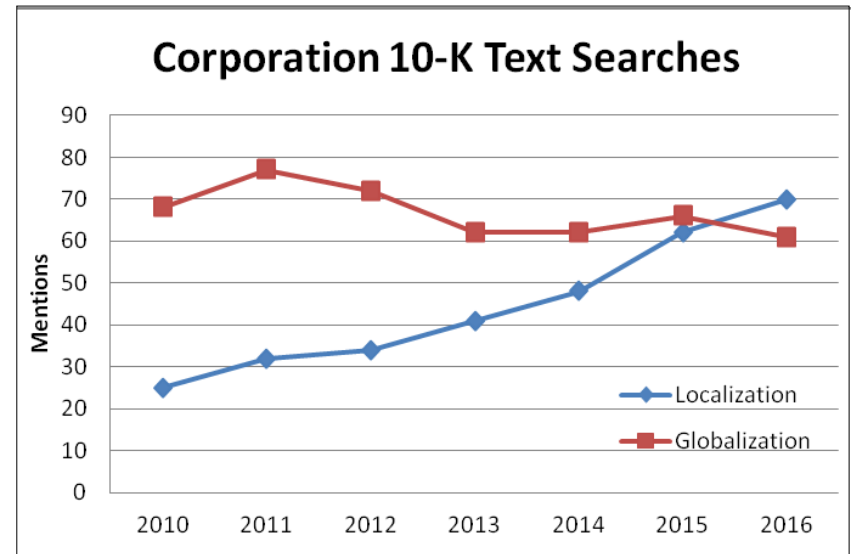


References:

1. David et al, Decline & Fall of the Conglomerate Firm in the 1908's. American Sociological Review, 1994
2. King, Stephen. Grave New World: The End of Globalization, the Return of History. 2017.

Globalization Trends and Considerations

- "Chasing the lowest labour costs is yesterday's model", Fortune 500 CEO.
 - Philosophy of localization versus globalization appears to be gaining traction in corporate strategies



Source: Retreat of the Global Company, Economist 2017

Non-financial Factors

- Agents of inequality
- Destroyer of jobs
- Anti-corporatism
- Exchange rates
- Regulation and Taxation

Metrics of a Corporation's Global Footprint

Aharoni Definition of Multi-national Corporation

- **Performance Definitions:** Foreign sales and earnings, foreign assets, number of foreign employees
- **Structural Definitions:** Number of countries of operations, nationality of top management, organizational structure
- **Behavioural Definitions:** The extent to which management personnel think internationally about strategic opportunities

Other considerations

- Distance between geographical locations
- Cultural distance
- Flow of goods and capital
- Patent filings
- Stock market participation
- Supply chain footprint

Reference: Raj Aggarwal et al, What is a multinational corporation? Classifying the degree of firm-level multinationality, International Business Review. 2010

Corporate Failures and Viability Risk

- Recognition of viability risk - growing trend for international corporates to improve their risk reporting
- External requirements: SEC 10-K in US, and Long Term Viability Statements in UK
- Accountability to shareholders is becoming an increasing driver of executive concern
- Move towards “1-in-100” risk reporting initiative for corporations

Reference: Thornhill & Amit, Learning about Failure: Bankruptcy, Firm Age, and the Resource-Based View. Organization Science. 2003.

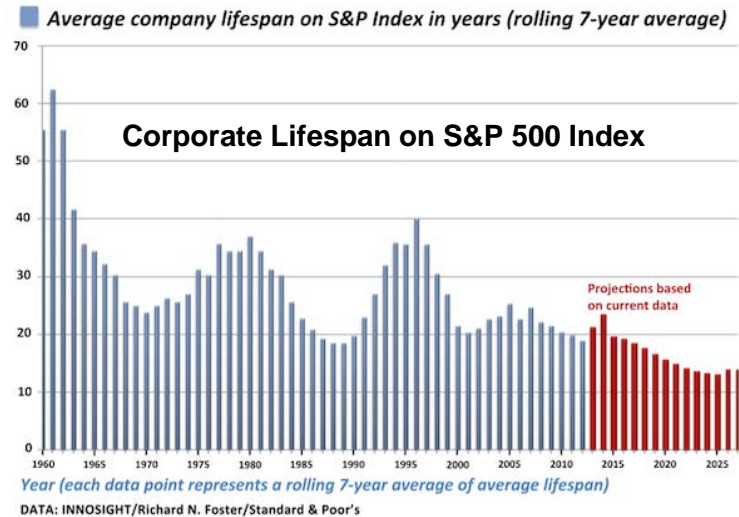
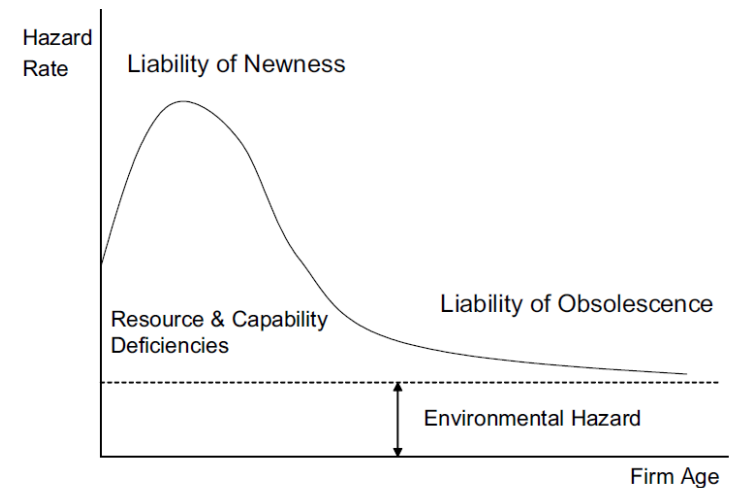


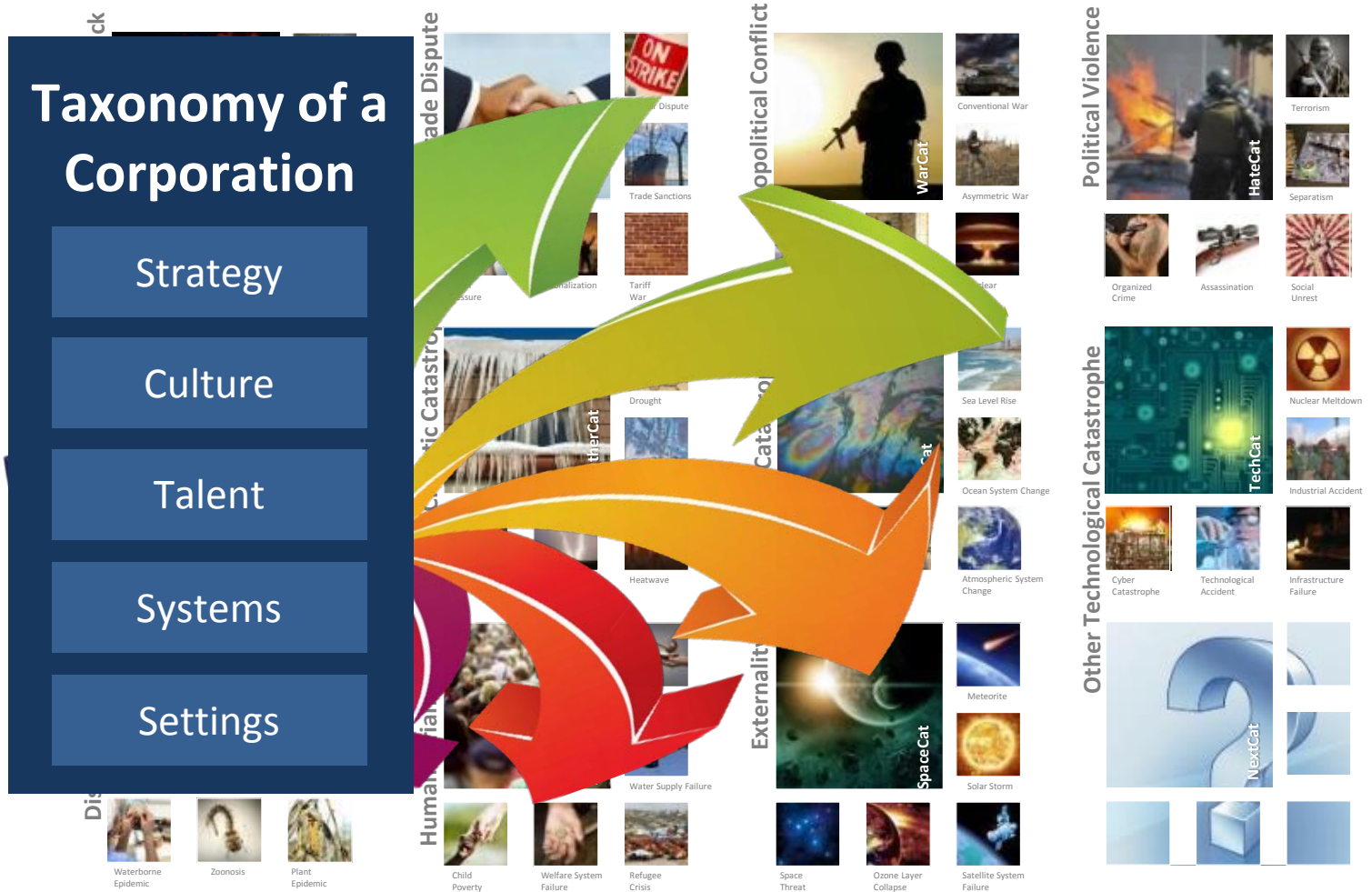
Figure 1 Firm Age and Mortality Risk



Interviews from Corporates

- **Geography:** Lacking model for evaluating risks to the corporation in relation to geography. E.g. Assets, counterparties, secondary supply chains, legal and regulatory jurisdictions
- **External threats:** Lacking consistent or comprehensive model for identifying and evaluating risks to the corporation from external threats.
- **Stress testing:** Do not have a consistent and comprehensive approach to stress testing the state of their corporation
- **Reporting:** How to complement existing reporting requirements with meaningful enterprise risk insights and address multiple stakeholder communities
- **Methods and Metrics:** Lacking consistent methodologies for determining metrics for normalized view across enterprise

Overlaying the Cambridge Risk Framework onto a Corporation



Overlaying the Cambridge Threat Maps onto a Corporation

Taxonomy of a Corporation

Strategy

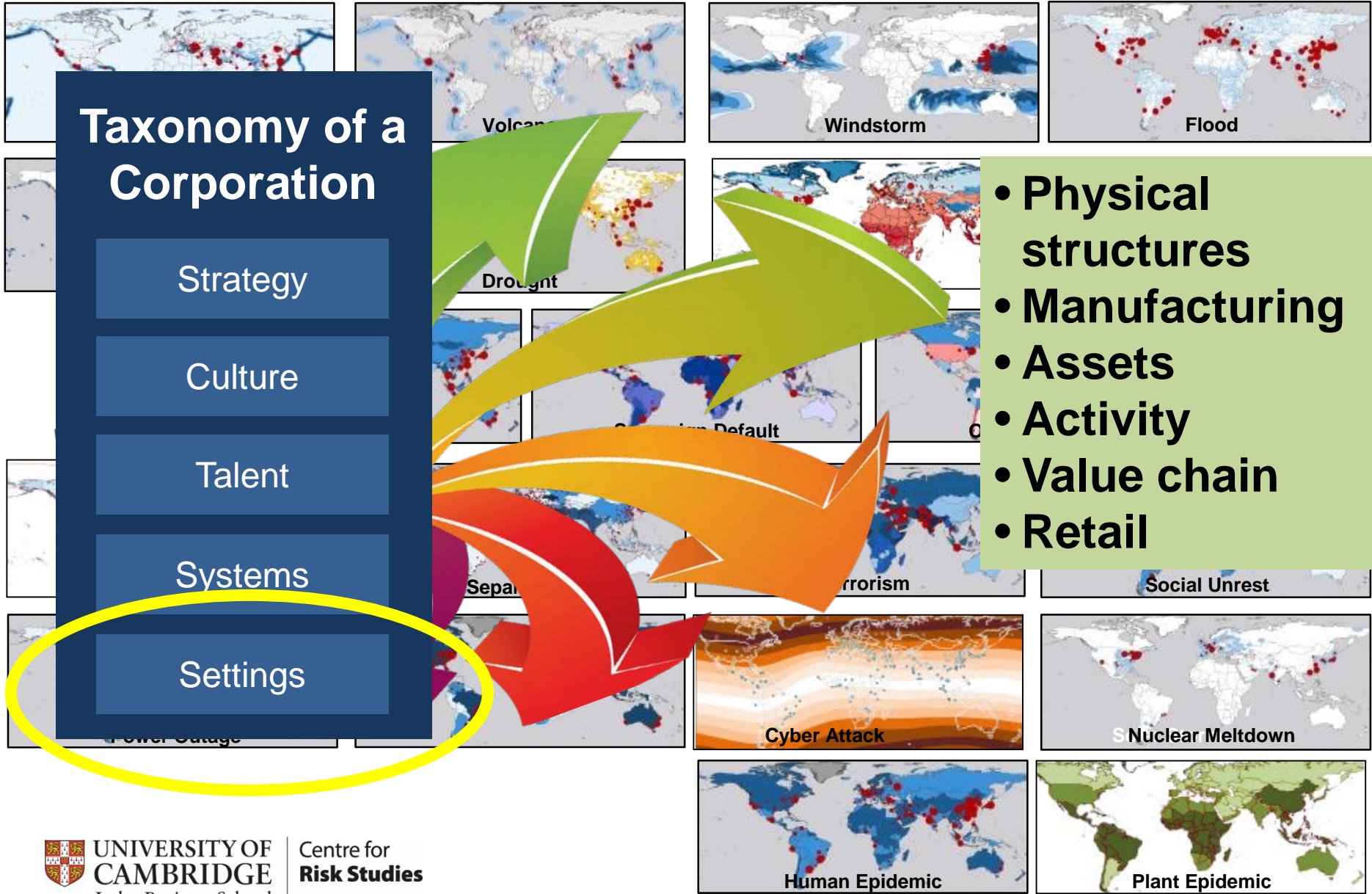
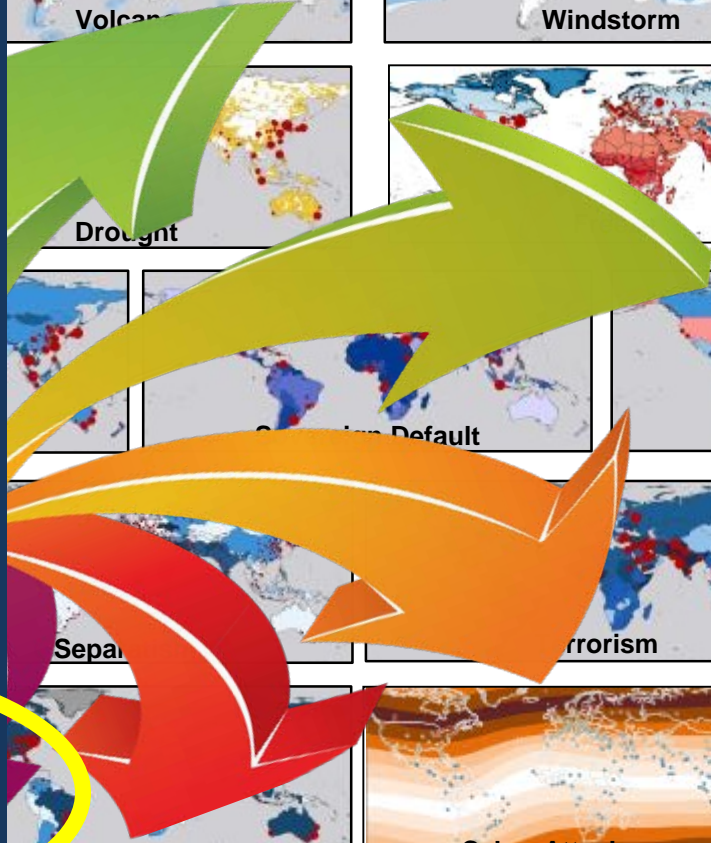
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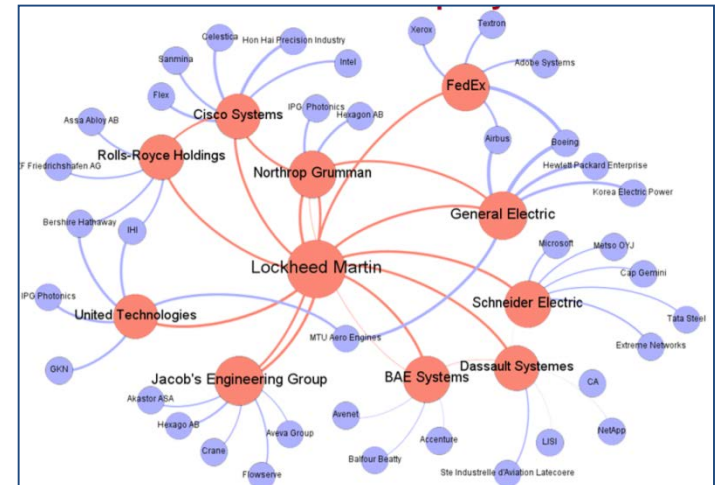
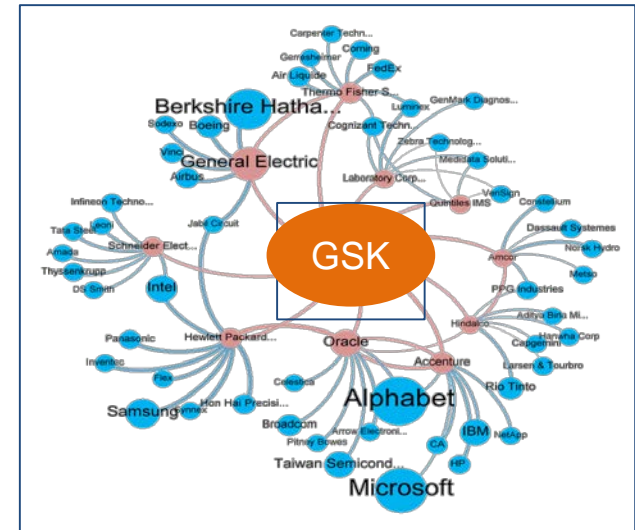
Settings

- Physical structures
- Manufacturing
- Assets
- Activity
- Value chain
- Retail



Cambridge Organographs

- **Organograph** – the network and organization structure of its exposure
 - Sites; Business Units; People; Markets; Value flows; Supply chain; IT systems; Counterparty networks; Investment portfolio structure
- We are currently specifying a standardized data schema to capture any business' organograph
- We overlay the business organograph onto Cambridge Risk Framework to derive the risk analytics for that enterprise



Note: Diagrams use public data sources

Cambridge Risk Framework

- Cambridge Risk Framework is our analytics platform
- We model 22 threat types
 - Over 12,000 localized shock scenarios for major cities all over the world
 - Over 5,000 scenarios of systemic shocks to the global economy
- Less than half are insurable perils
 - Corporates have no recourse to insurance for protection against the other threats
- Maintaining these views of risk requires building live data streams and networks of subject matter specialists

Finance, Economics and Trade



Market
Crash



Sovereign
Crisis



Commodity
Prices

Geopolitics and Security



Interstate
Conflict



Terrorism



Separatism
Conflict



Social
Unrest

Natural Catastrophe and Climate



Earthquake



Tropical
Windstorm



Temperate
Windstorm



Tsunami



Flood



Volcanic
Eruption



Drought



Freeze



Heatwave

Technology and Space



Nuclear
Accident



Power
Outage



Cyber
Attack



Solar
Storm

Health and Humanity



Human
Pandemic



Plant
Epidemic

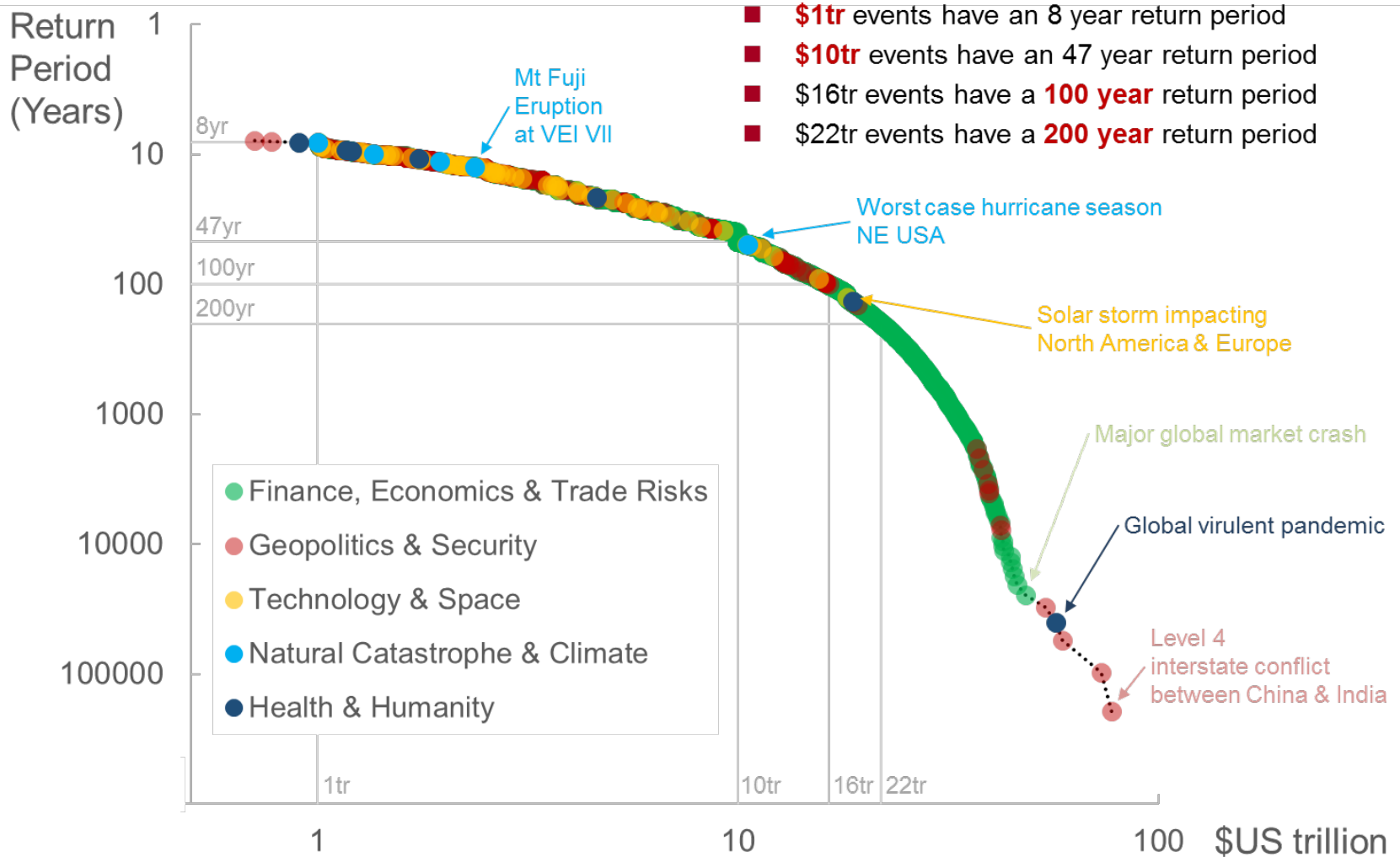
Signifies 'insurable peril'

Business Networks

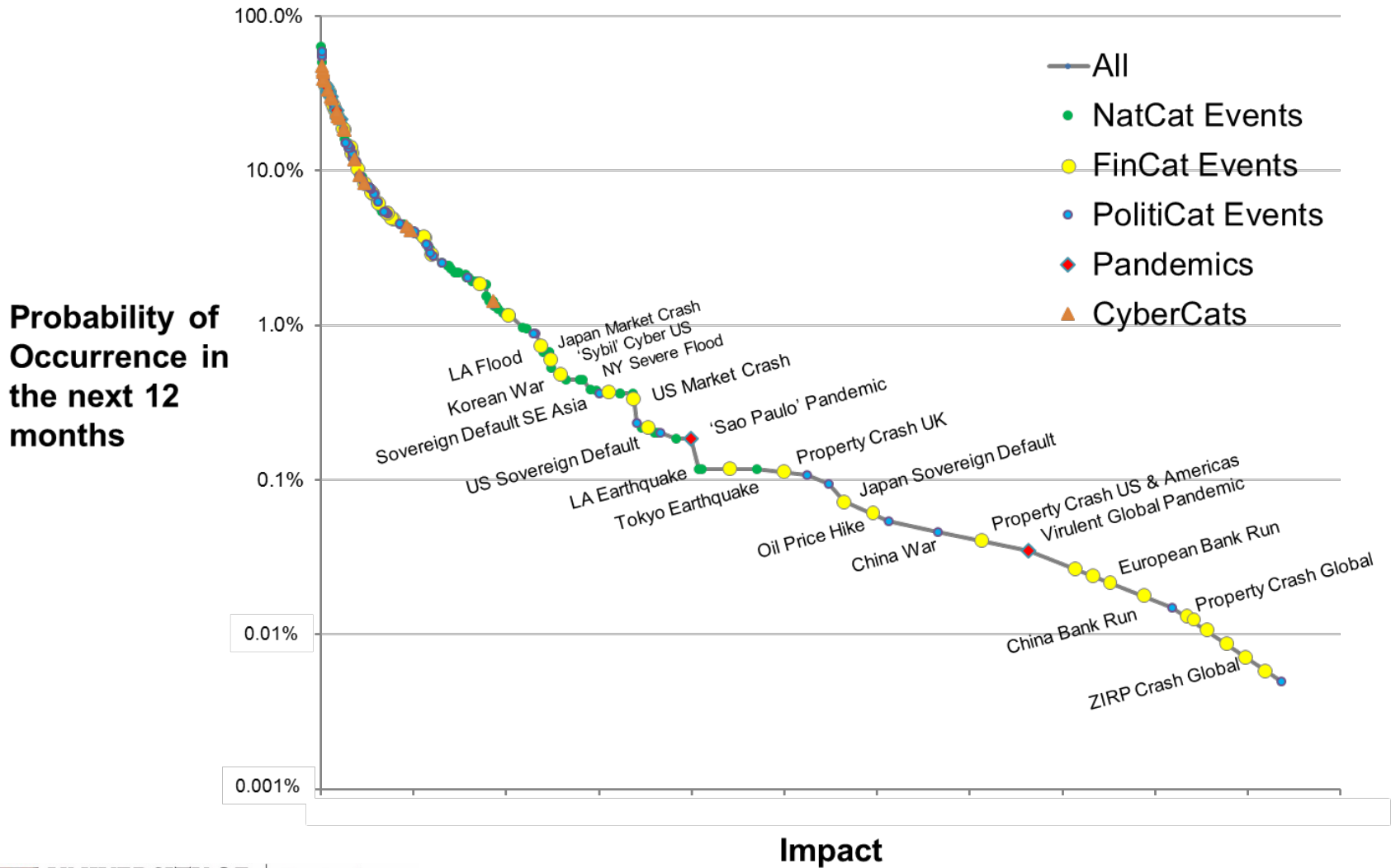
- The world is now a collection of global networks
 - A system of systems
- Includes models of major business networks
 - Global financial system (18,000 banks)
 - Global enterprise network
 - International sectoral trading networks
 - Transportation layers (air; shipping; roads)
 - Infrastructure (Internet landscape; power wide area synchronous grids)



Global EP Curve



Corporation's Unique EP Curve



Concluding Thoughts on Furthering the Resilient Corporation

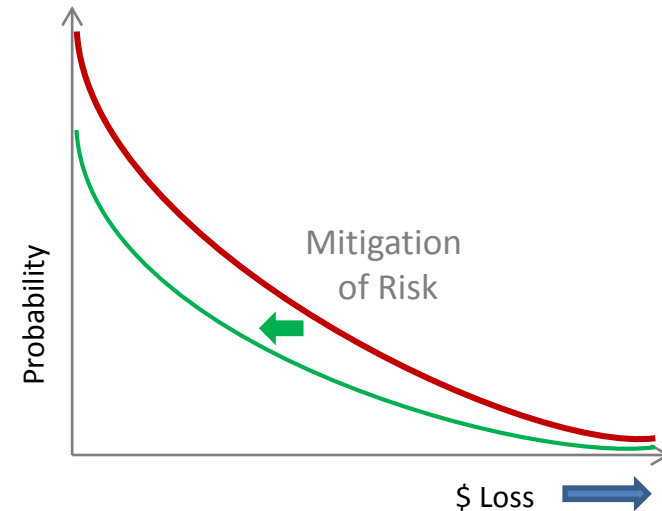
■ Challenges to the Corporations

- Changing global strategies and subsequent risk management plans
- Understanding its enterprise risks and communicating them via the balance sheet and overall value

■ Value of an enterprise risk picture

- EP curve can allow a corporation to optimise their “insurance” purchasing framework
- Identify the most cost-effective ways of improving its resilience
- Apply Risk Accounting to its processes
- Reflect risk savings on balance sheet

■ Increase transparency for corporations, risk transfer agents and capital markets



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