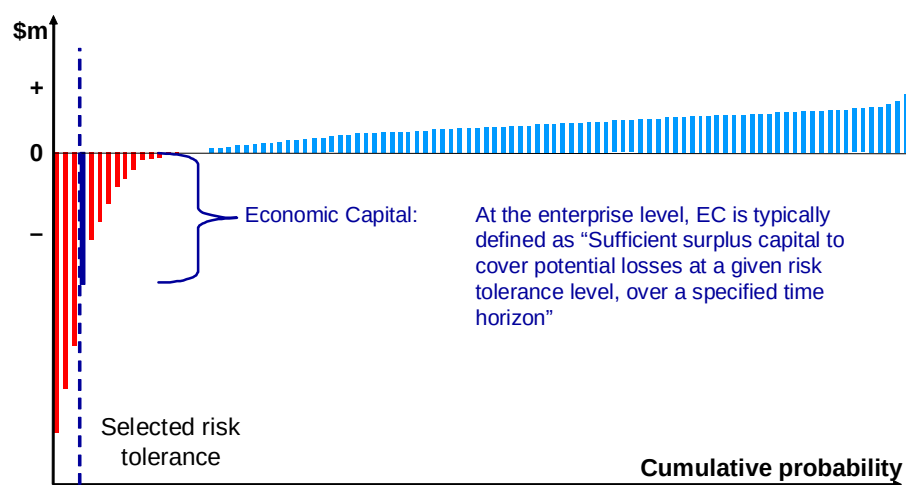


Annexure-1 : Background information on Economic capital

- “Typically, Economic Capital is calculated by determining the amount of capital that the insurer needs to ensure that its realistic balance sheet stays solvent over a certain time period with a pre-specified probability. E.g. the Economic Capital may be determined as the minimum amount of capital required to make 99.5% certain that the insurer remains solvent over the next twelve months.”
- “The word ‘economic’ indicates the fact that it measures risk in terms of economic realities rather than Regulatory or accounting rules which may have been designed to support non economic principles. This word also indicates that part of the measurement process involves converting a risk distribution into the amount of capital that is required to support the risk, in line with the insurer’s target financial strength (e.g. credit rating)”
- “Regulatory capital on the other hand is the amount of capital a regulator has determined an insurer needs to hold, but is generally not as specific to the insurer as Economic Capital would be. The Regulatory capital for particular risks would be calculated more broadly and the definition of risk would be a systemic one, rather than an insurer specific one”
- “At its most basic level, Economic Capital can be defined as sufficient surplus to cover potential losses, at a given risk tolerance level, over a specified time horizon”

Determining Economic Capital

Ranked distribution of present values of future profits from each simulation



Source: Tillinghast

- “There are other definitions of EC:
 - Sufficient surplus to meet potential negative cash flows and reductions in value of assets or increase in value of liabilities at a given level of risk tolerance, over a specified time horizon.
 - Excess of the market value of the assets over the fair value of liabilities required to ensure that obligations can be satisfied at a given level of risk tolerance, over a specified time horizon.
 - Sufficient surplus to maintain solvency at a given level of risk tolerance, over a specified time horizon”
- “While Definitions 1 and 3 refer to sufficient surplus, Definition 2 focuses on the characteristics of market value of assets and fair value of liabilities that define this surplus. All these broad definitions imply that all risks are to be taken into account. Although the definitions vary slightly, some common themes that tie them together are:
 - Sufficient surplus to cover adverse outcomes;
 - A given level of risk tolerance and risks covered;
 - A specified time horizon”
- “In calculating EC there are some key decisions to be made and the approach taken should reflect the nature of the company’s risks as well as management’s risk tolerance and objectives. The following are suggested at this stage:

Decision 1	Time Horizon:	One Year
Decision 2	Measure of Risk:	Value at Risk
Decision 3	Type of risks to be considered:	• Insurance • Operational • Market • Credit • Liquidity
Decision 4	Quantification Methodology / Approaches to implementation:	Stochastic simulation / Stress Testing
Decision 5	Statistical Correlation:	Aggregation/Diversification
Decision 6	Target level of security:	• Eg 99.5% or 99.9%