Risk management of life insurance companies

For OLIS-LIAM-MII Life Insurance Seminar 2014

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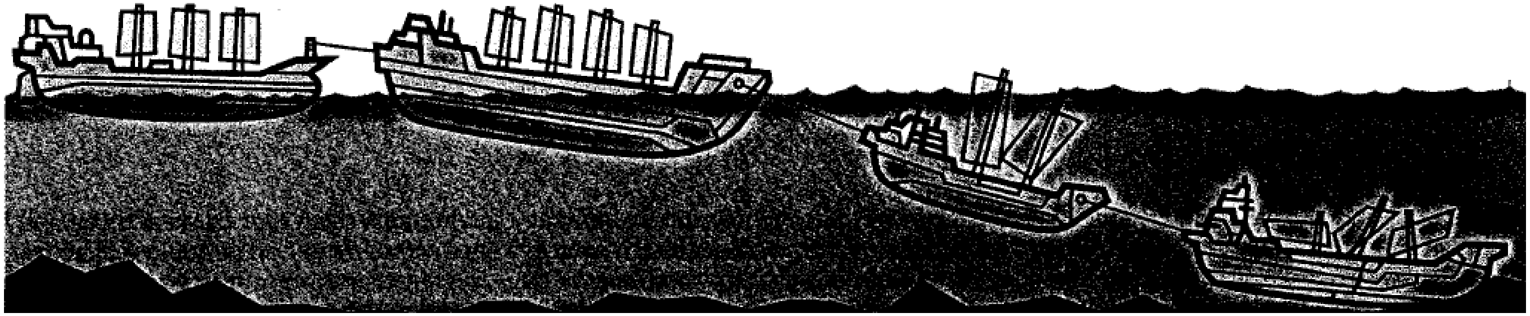
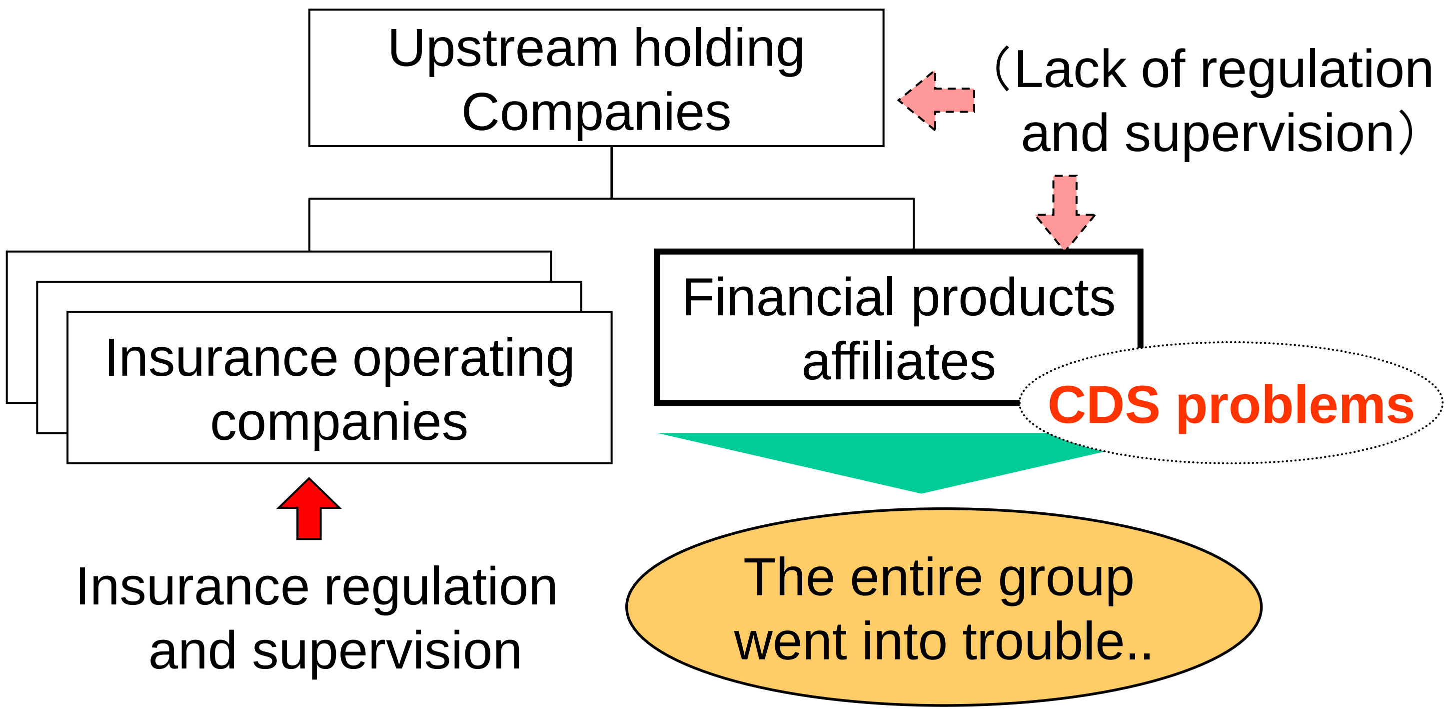
Lessons learnt : risk management and governance

- The financial crisis has shown the need to strengthen risk management and governance.
  - Credit default swaps (CDS), CDOs, structured products, intra-group transactions, etc.
  - Use of credit ratings
  - Liquidity risks
  - Systemic risks



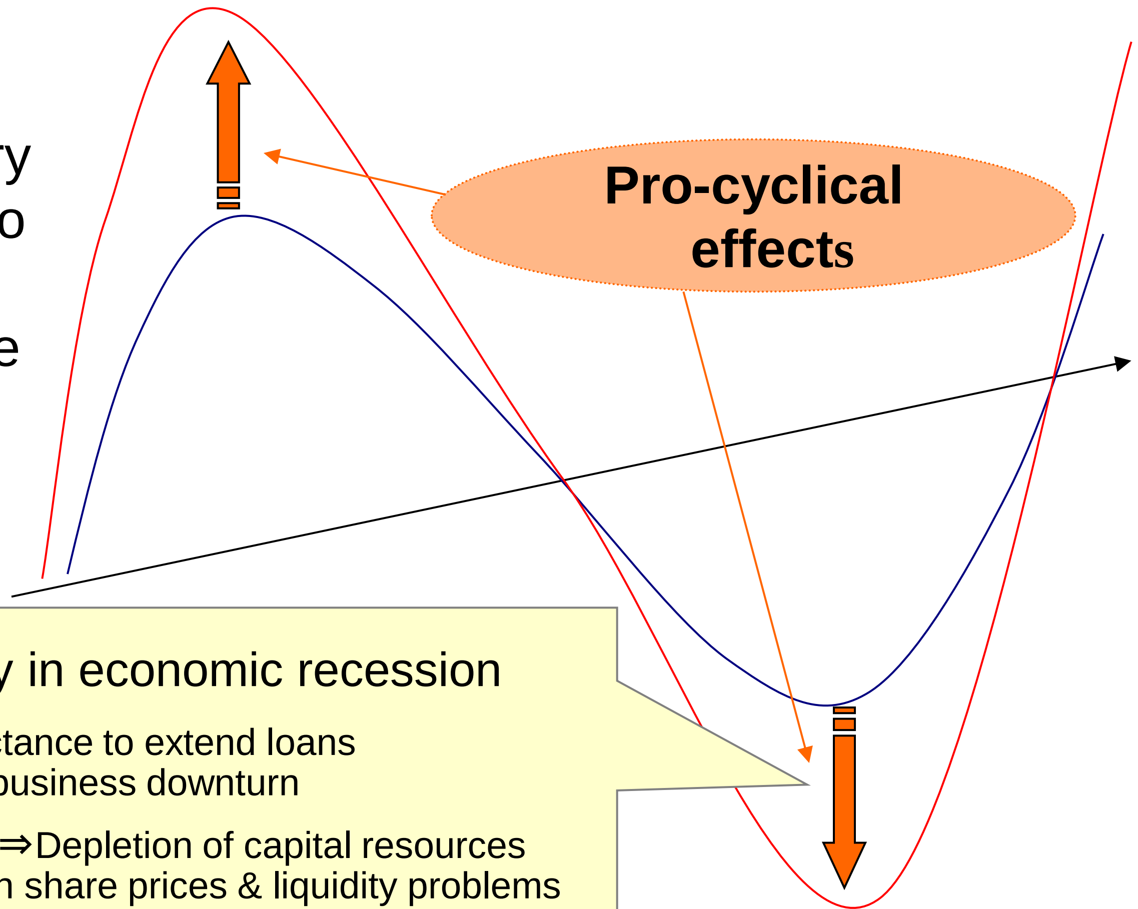
Lessons learnt : need for global supervision

- The crisis has confirmed the need to regulate and supervise the whole group.
  - Holding companies
  - Non-regulated entities, SPVs, etc.



Lessons learnt : pro-cyclicality

- The crisis has highlighted the need to address the issue of pro-cyclicality.
  - What is pro-cyclicality?: an effect that supervisory intervention or marked to market accounting amply the volatility of the financial cycle



- Examples of pro-cyclicality in economic recession
  - Asset Deterioration ⇒Reluctance to extend loans ⇒Credit crunch ⇒ Further business downturn
  - Downturn in share markets ⇒Depletion of capital resources ⇒Sales of shares ⇒ Drop in share prices & liquidity problems
  - Recognition of unrealised losses in net income or impairment ⇒Sales of assets⇒Drop in asset prices & liquidity problems

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1. Some lessons learnt from the crisis
2. Supervision and risk management: Comparison with banks/securities
3. Risk management and supervisory tools
4. An overview of Risk Management in Nippon Life Group

Banking supervision and risk management

General characteristics of banking supervision and risk management

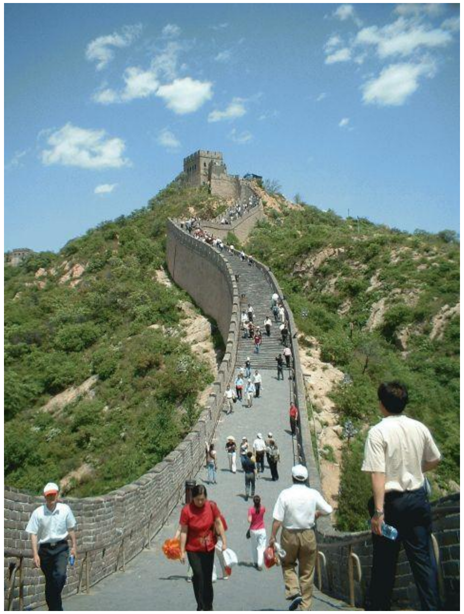
- Emphasis on systemic stability
- Main risk – credit risk
- Importance of asset valuation
  - Loan valuation and provisioning
- Time scale for risk management
  - Shorter than for insurance
- Uniform risk-based capital
  - Basel III
- Consolidated supervision

Insurance supervision and risk management

General characteristics of insurance supervision and risk management

- Main risk – liabilities risk
- Importance of liabilities valuation
- Time scale of risk management
  - Long term (cf. life insurance)
- Ring-fence supervisory approach

ComFrame



Securities supervision and risk management

General characteristics of securities supervision and risk management

- Enforcement power and market surveillance
  - More than institutional supervision
- Main risk – funding liquidity risk and market risk
- Time scale of risk management
  - Short term
- Importance of disclosure

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What risks are insurers exposed to?

- Market risks
- Credit risks
- Underwriting risks
- Liquidity risks
- Operational risks

Market risks

Market risks: The risk to an insurer's financial condition arising from adverse movements in the level or volatility of market prices

Market risks include:

- Interest rate risk
- Equity and real estate risks
- Currency risk

(Source: IAIS)

Market risks

Market Risks
(the risks of market value fluctuations)

Mitigation Techniques

- ❑Asset – Liability matching
- ❑Monitoring of market risk trends and net market exposures
- ❑Immunization strategies

Regulatory Controls

- ❑Investment regulations (market-sensitive assets)

Capital Requirement

- ❑Volume by Asset type & risk classification
- ❑Financial impact of the market value reduction

Credit risks

Credit risks: The risks of financial loss resulting from default or movement in the credit quality of issuers of securities, debtors, or counterparties and intermediaries, to whom the company has an exposure

Credit risks include:

- Default risk
- Downgrade risk
- Indirect credit or spread risk
- Concentration risk and correlation risk

(Source: IAIS)

Credit risks

Credit Risks
(the risks of counterparties becoming unable to meet commitments)

Mitigation Techniques

- ❑Diversification
- ❑Investment policy to limit credit risk exposures
- ❑Credit scoring
- ❑Monitoring and evaluation of creditors and credit risks

Regulatory Controls

- ❑Investment regulations (credit limit / diversification)
- ❑Supervision, analysis and on-site inspection

Capital Requirement

- ❑Volume by Asset type & credit risk class
- ❑Formula recognizing the expected value of losses

Underwriting risks

Underwriting risks: The various kinds of risk that are directly or indirectly associated with the technical or actuarial bases of calculation for premiums and technical provisions, as well as excessive growth.

Underwriting risks include:

- Claims risk
- Pricing risk
- Reserving risk
- Catastrophe risk
- Reinsurance risk

(Source: IAIS)

Underwriting risks

Claims Risk

(the risk of future claims in excess of the expected level)

Mitigation Techniques

- ❑Skills and sound practice
- ❑Reinsurance
- ❑Diversification of insured
- ❑Pooling with other insurers
- ❑Financial modeling

Regulatory Controls

- ❑Regulations on contracts
- ❑Exclusionary clauses
- ❑Reinsurance regulations
- ❑Valuation of liabilities

Capital Requirement

- ❑Unexpected claims cost
- ❑Prudent case scenarios

Underwriting risks

Pricing Risk

(the risk of inadequate pricing due to errors in judgment)

Mitigation Techniques

- Sound product pricing and product design

Regulatory Controls

- Valuation of liabilities that recognizes premium deficiencies
- Pricing regulations to impose appropriate pricing

Capital Requirement

- Pricing risk should be covered by the value of liabilities.
- Not rely on capital for shortfalls

Underwriting risks

Catastrophe Risk

(the risk that rare events result in a abnormal level of claims)

Mitigation Techniques

- ❑Reinsurance to cover the risk in excess of preset loss
- ❑Securitization
- ❑Geographic diversification
- ❑Financial modeling

Regulatory Controls

- ❑Regulations and funding mechanism
- ❑Special pool for cat risks
- ❑Requirement of provisions and reinsurance

Capital Requirement

- ❑Catastrophe risk factors
- ❑Not merely rely on capital

Liquidity risks

Liquidity risks: The risks that an insurer, though solvent, has insufficient liquid assets to meet its obligations when they fall due

- Liquidity profile of an insurer is a function of both its assets and liabilities

Liquidity risks include:

- Matching risk
- Liquidation value risk
- Affiliated investment risk
- Capital funding risk

(Source: IAIS)

Liquidity risks

Liquidity Risks
(the risk that cash payment demand exceed cash resource)

Mitigation Techniques

- ❑Investment policy with action target for liquidity
- ❑Monitoring and managing claims in relation to the cash
- ❑Contingency plans

Regulatory Controls

- ❑Investment regulations
- ❑Regulations and supervision over contract term and policy wording

Capital Requirement

- ❑Capital is not an effective technique for this risk

Operational risks

Operational risks: The risks arising from failure of systems, internal procedures and controls leading to financial loss

- *direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events*

Operational risks include:

- Custody risk
- Technology risk
- Management risk
- Business disruption risk
- Fraud

(Source: IAIS)

Operational risks

Operational Risks
(the risk arising from failure of systems, people, management, and from external events)

Mitigation Techniques
- ❑Corporate governance and policies; investments, claims, contingencies, technology, marketing, underwriting, disclosure, complaints, back-up facilities, code of conduct
- ❑Sound internal control
- ❑Business recovery strategy
- ❑Sound internal standards for training and I.T.

Regulatory Controls
- ❑Supervisory process and on-site inspection

Capital Requirement
- ❑Size and nature of risk

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ERM Framework (case of Nippon Life)

- Risk Management Committee, a consultative body to Managing Directors' Meeting, is responsible for Risk management of each risk category.
- Reporting system is structured between Management and underlying committees, related departments and offices.
- We take an integrated risk management approach to the risks enterprise-wide

Board of Directors

Managing Directors' Meetings

Risk Management Committee

Investment Risk Management Subcommittee

Administration Risk Management Subcommittee

Computer System Risk Management Subcommittee

Insurance underwriting risk

Liquidity risk

Investment risk
- ･Market risk
- ･Real estate risk
- ･Credit Risk

Administration risk

Computer system risk

Enterprise Risk Management

ERM Structure (case of Nippon Life)

- We review, monitor and assess our business plan's adequacy by checking its result vs. projection, Solvency Margin (SM) ratios with stress tests and the extra-ordinary scenarios.

Business Plan

- Sales plan
- Corp.-wide Divisional

- Investment Plan
- Expenditures Plan

- Capital
- Dividends

:

Risk Management Structure

Viewpoint	Assess Adequacy (Planned/Actual)	Assess Adequacy (Stress Tests)		
	Setting Scenario, Planned/Actual	Risk Scenario		Extra-ordinary Scenarios
Soundness – P/L	・Profit sources ・Product units ・Projection	Fluctuation in profit/loss Monitor Adjusted SM ratios		
Soundness	・Business Plan incl. Mid-term plan - ALM policy - Fund Allocation - Capital policy ・Risk limit for each asset class ・Present Value on Liability vs Reserves	**Short-term** 【Regulatory measure】 ・SM ratio ・Net asset 【Internal measure】 "Early warning indicator" ・Asset base SM ratio ・Risk limit	**Mid-long term ALM / Capital policy** 【Internal measure】 ・Surplus base SM ratio ・Risk limit	・Stress Test Underwriting Investment
Others	・Liquidity ・Operational risk ・Compliance	Continued effort to quantitative risks		・Stress Test liquidity Fixed Asset

Stress Test – Risk Scenarios (case of Nippon Life)

- Although they are unlikely events occur within a year, below are the events which impact our portfolio with interest rates/currency fluctuation. Stock market slumps in all scenarios.

Yen appreciation

Decrease in interest rates

Increase in interest rates

Yen depreciation

① Recessions - developed countries

Europe-driven financial crisis,

Japan, US & Europe all enter in recessions

② Burst at Chinese bubble economy

Sharp deterioration in stock & property market in China,

RMB devaluation, currency crisis in Asia

Stress events for Adjusted SM ratio（Surplus base）

③ Financial deterioration - developed countries

Downgrade on UST, Bunds as

US, Europe fiscal deficits widening

④ Japan's debt crisis

Japan's fiscal deficits widening,

JPY, JGB sell off

Stress events on Adjusted SM ratio (Asset base）

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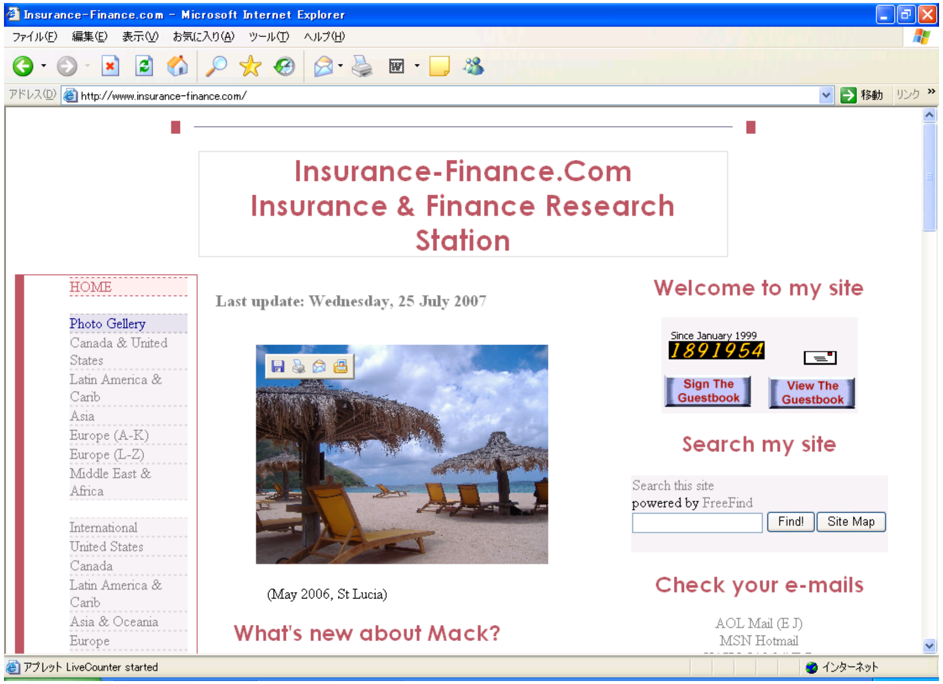

Any questions? email to ***m-okubo@nliinter.com***

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