



Systemic Risk in Insurance

An analysis of insurance and financial stability

Special Report of
The Geneva Association Systemic Risk Working Group

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Insurance industry contributes constructively to the debate on systemic risk

The insurance industry and the systemic risk discussion


- The Geneva Association recently published the report “Systemic Risk in Insurance – an analysis of insurance and financial stability”
- This report is an industry response to the ongoing discussion by policy-makers and the media on potential systemic risk posed by insurance companies; the G-20 Summit in Pittsburgh last fall has initiated these discussions on systemic risk

Purpose of the report

- With this report, the industry provides a new and insurance-specific perspective on systemic risk and wants to contribute constructively to the ongoing debate
- The Geneva Association makes a contribution to identifying potential systemic risk drivers and puts forward some recommendations on how to deal with them
- The insurance industry wants to ensure the stability of the financial system by pro-actively engaging in the ongoing debate on systemic risk



An Appraisal of Insurance During the Credit Crisis



Insurers went through the crisis relatively unharmed and business was conducted as usual

Credit losses

Cumulative from 2007 (USD BN)

Entity	Cumulative from 2007 (USD BN)
Insurers	USD 271 BN
Banks	USD 1,715 BN

x 6

Credit losses

Cumulative from 2007, as % of 2006 Shareholders Equity

Entity	Cumulative from 2007, as % of 2006 Shareholders Equity
Insurers	26%
Banks	68%

x 2.6

Non-Life Insurance price changes in Europe (% from previous year)

Casualty (example)

	Q1 & Q2 2007	Q1 & Q2 2008	Q1 & Q2 2009
France	10-20	10-20	0
Germany	10-20	10-20	0-10
UK	10-20	10-20	0-10
Italy	0	0-10	0
Spain	10-20	10-20	20-30

■ X% Decrease
 ■ Flat
 ■ X% Increase

Total capital raised

Cumulative from 2007 (USD BN)

Entity	Cumulative from 2007 (USD BN)
Insurers	USD 170 BN
Banks	USD 1,468 BN

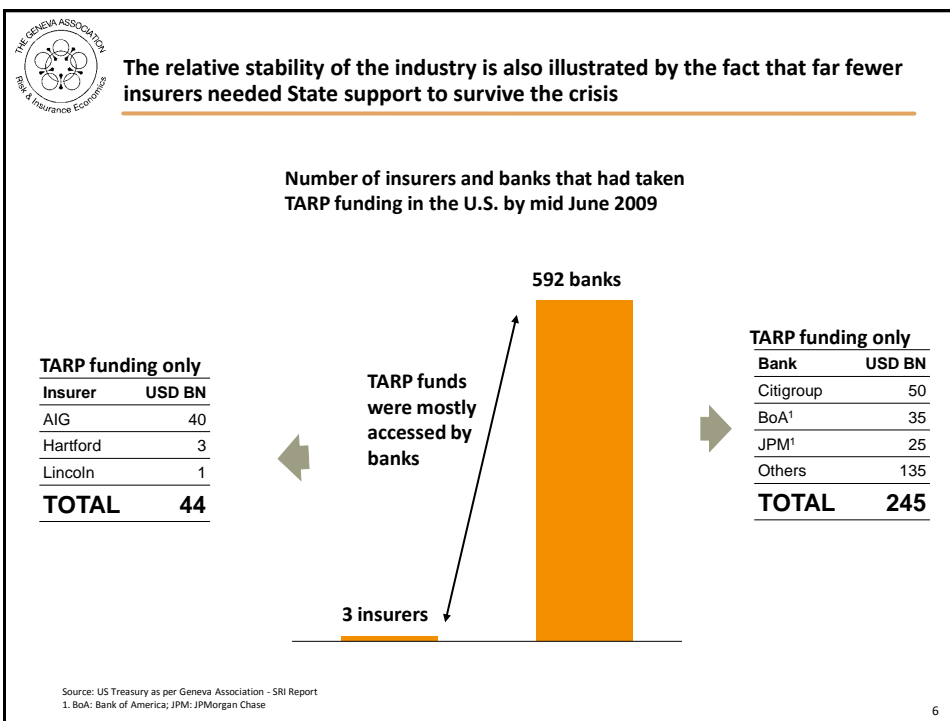
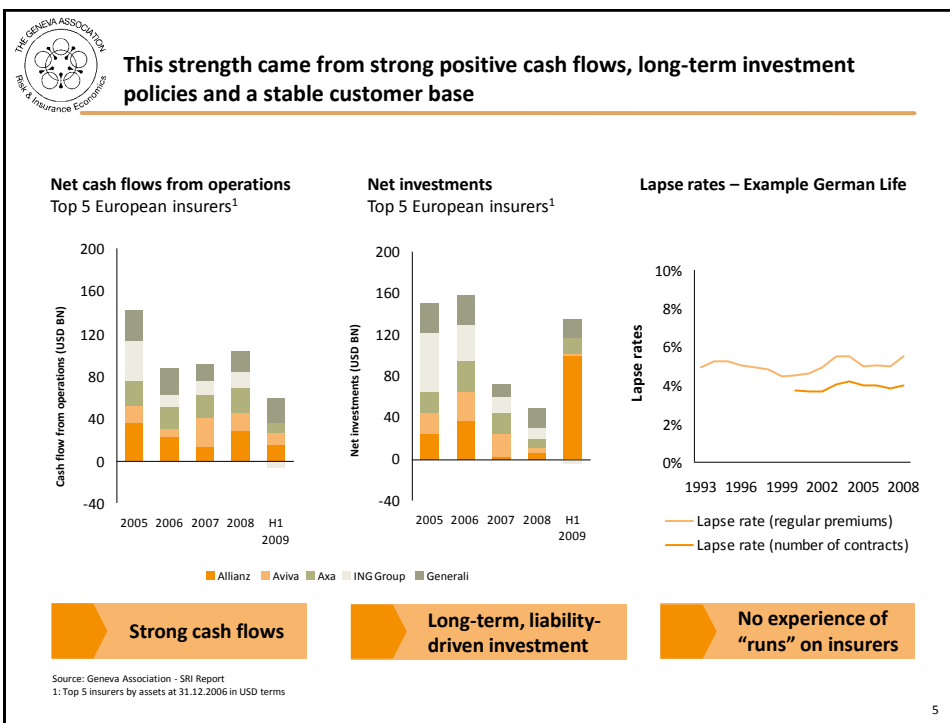
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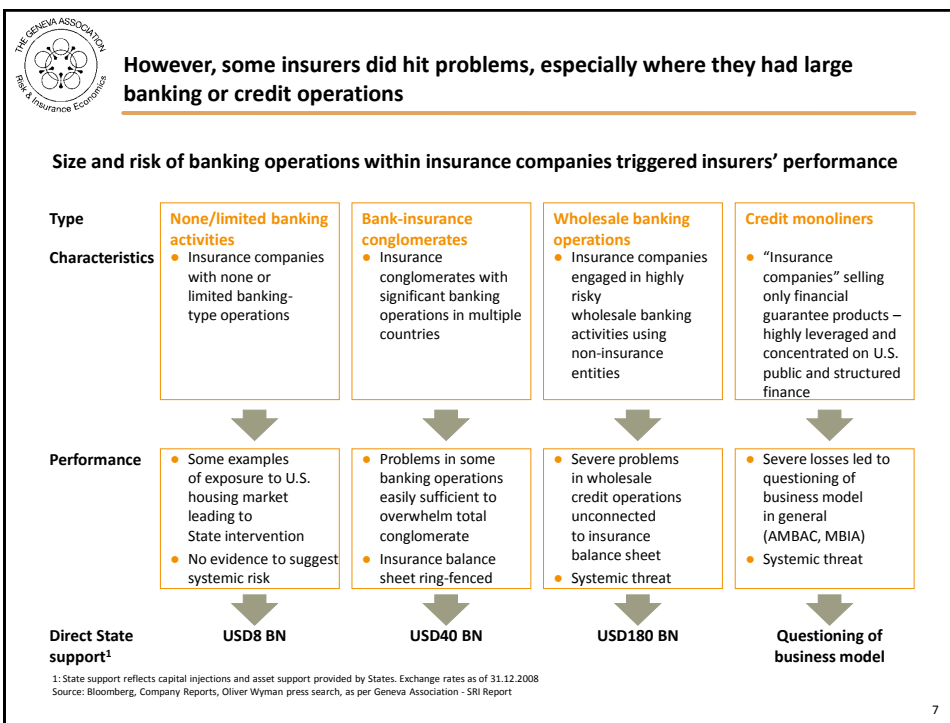
■ Europe
 ■ AIG
 ■ Other American
 ■ Asia
 ■ ING

Lower credit losses for insurers ...

... meant stable prices and capacity for customers and much less bail out capital


Source: Marsh EMEA Insurance Reports 2007, 2008 and 2009, Bloomberg (as at 10 February 2010), DataStream as per Geneva Association - SRI Report





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FSB and IAIS definition of Systemic Risk



The report uses the FSB definition and criteria for identifying systemic risk as supplemented by the IAIS

Definition of Systemic Risk (FSB)

- “The risk of disruption to the flow of financial services that is (i) caused by an impairment of all or parts of the financial system; and (ii) has the potential to have serious negative consequences for the real economy.”
- Fundamental to this definition is the notion that systemic risk is associated with negative externalities and/or market failure and that a financial institution’s failure or malfunction may impair the operation of the financial system and/or the real economy.

Identification of systemically relevant institutions

FSB criteria

- **Size:** “The volume of financial services provided by the individual component of the financial system”
- **Interconnectedness:** “Linkages with other components of the system”
- **Substitutability:** “The extent to which other components of the system can provide the same services in the event of a failure”


IAIS addition

- **Timing:** Allowing for the fact that systemic insurance risk does not typically generate immediate shock effects, but plays out over a longer time horizon

The impact of the definition and criteria varies depending on the range of activities carried out by institutions such as banks and insurers

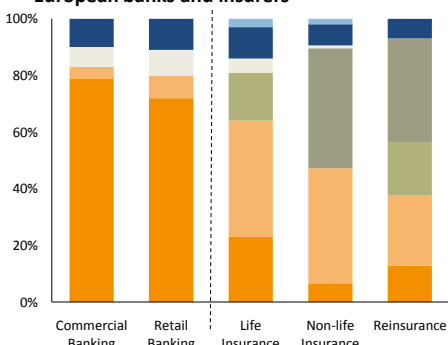
Source: FSB, IAIS as per Geneva Association - SRI Report

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The application of FSB criteria and IAIS addition needs to take account of the business activity of an institution to determine systemic risk (1/4)

Breakdown of economic capital for European banks and insurers



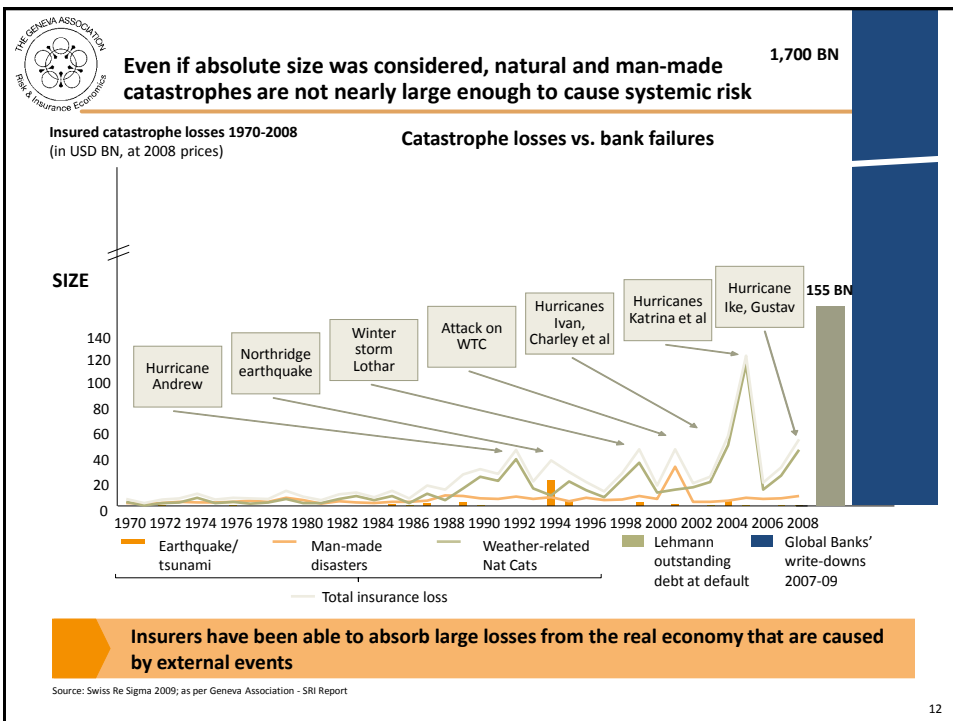
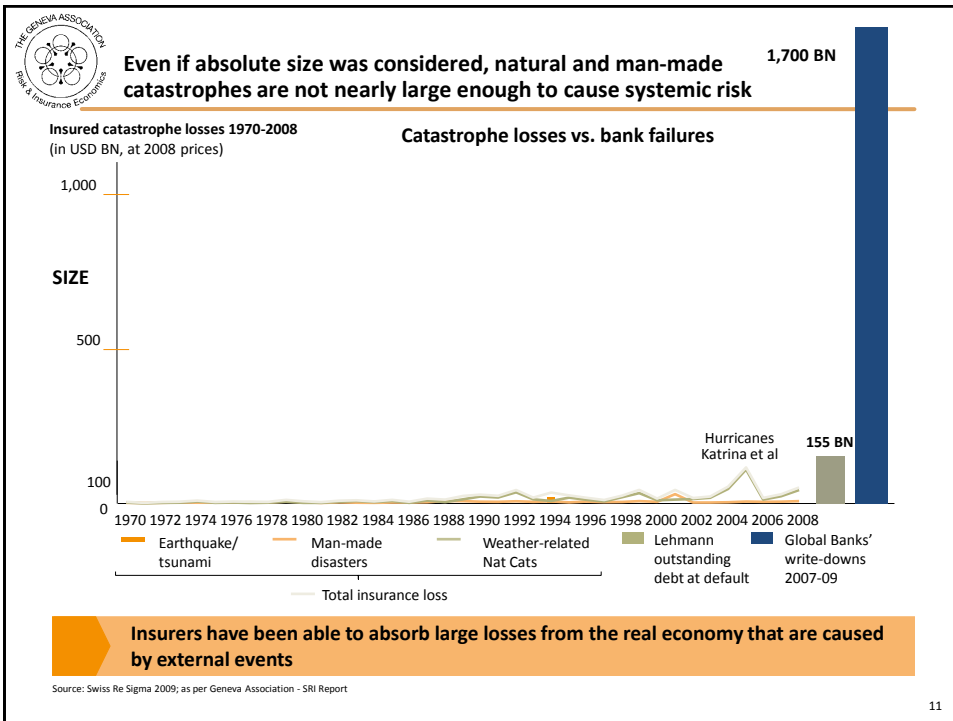
Category	Credit	Market	Life Insurance	Business	Non-life Insurance	Operational	Other
Commercial Banking	~80%	~10%	0%	0%	0%	~10%	~1%
Retail Banking	~75%	~10%	0%	0%	0%	~15%	~0%
Life Insurance	~25%	~40%	~15%	~20%	0%	~0%	~0%
Non-life Insurance	~5%	~40%	0%	~55%	0%	~0%	~0%
Reinsurance	~15%	~25%	~10%	~50%	~0%	~0%	~0%

- Insurers are exposed to a combination of risks in different geographies...
 - Credit and market risks
 - Insurance risks
 - Other risks
- ...while banks’ activities, whether retail or commercial banks, are mostly concentrated on credit risk and, to a lesser extent, market risk
- Insurers’ risks are generally less correlated than banks’ risks, e.g.
 - Mortality/longevity vs. market risks
 - P&C/cat risk vs. market risks
- Composite insurers achieve a diversified risk profile by combining various activities
 - P&C insurance activities
 - Life insurance activities
 - Asset management activities
 - Retail banking activities
- Reinsurers’ business model is driven by diversification of nat. cat. exposures in terms of risks and geographies

Diversification not size is key

Source: 2006 ECAP Survey, – IFRI CRO Summary – Companies’ Annual Reports, as per Geneva Association - SRI Report

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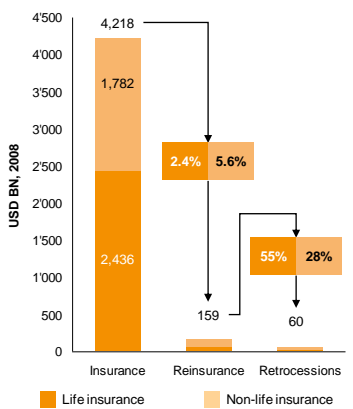




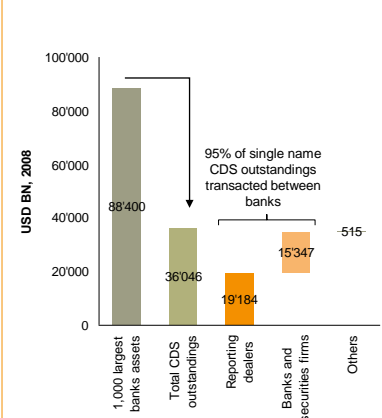
Insurers and reinsurers are far less inter-connected than banks in their risk-transfer and funding activities

INTERCONNECTEDNESS

Insurance Example
Low level of business ceded by insurers, based on gross written premiums



Banking Example
CDS notional exposures equivalent to 41% of worldwide banking assets



Low interconnectedness

Source: Swiss Re sigma, IAIS Global Reinsurance Market Report 2009, BIS.
Note: It should be noted that the insurance values are a flow whereas the CDS is a stock figure. However, the comparison of the proportions is a valid one.

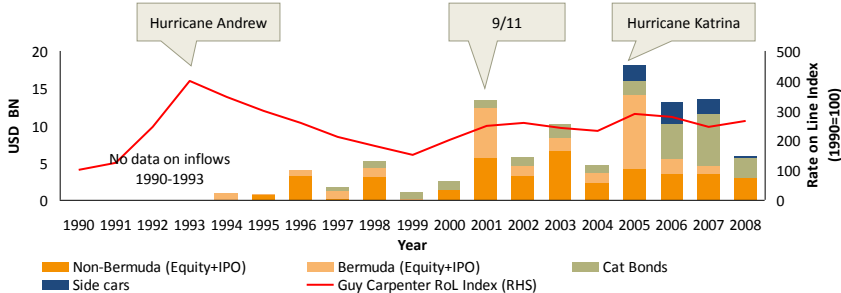
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Reinsurance capacity has always reappeared after natural catastrophes - hence insurance capacity is highly substitutable

SUBSTITUTABILITY

New capital flows into nat cat reinsurance industry and nat cat reinsurance rates



- Reinsurance rates increases for years following big catastrophes
- This attracts steady inflow of capital in the industry through new entrants or capital increases of existing reinsurers (including side cars and cat bonds)
- In addition, capital base of reinsurers is also progressively rebuilt after large natural catastrophes through the higher reinsurance rates

Insurance capacity is highly substitutable if the underlying event is insurable

Source: Thomson, Guy Carpenter, AON Benfield, Dealogic, Oliver Wyman analysis, as per Geneva Association - SRI Report

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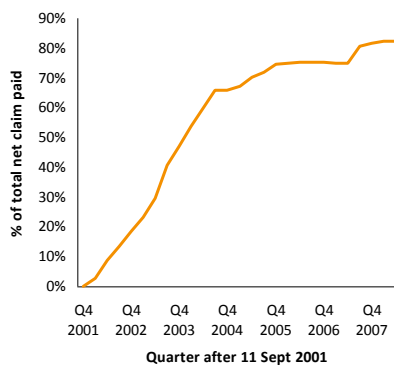


Insurance also differs from banking in the timing of activities – banking events happen with enormous speed whereas insurance events are rather slow

TIMING

- Unlike banking liabilities, most insurance liabilities are not liquid and payment cannot be triggered by policyholders
 - Claims have to be triggered by a valid insurable event
 - Claims are not paid immediately
- In particular, large catastrophic claims are paid at a different pace than in banking
 - E.g. two years after the 2001 World Trade Center event, only 40% of claims were settled
- The failure of an insurer is a well understood process that is far more controlled than a banking failure
 - Dampens effect of risk of contagion

Timing of World Trade Centre Insurance Claims Cumulative proportion of claims made



The timing of insurance claims settlements reduces the risk of contagion as insurers are not exposed to sudden liquidity crunches

Source: Reinsurance Association of America, Catastrophe Loss Development Study, 2008 as per Geneva Association - SRI Report

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In conclusion...

- ! Size needs to distinguish between absolute concentration of exposure or dilution of risk through diversification
- ! Interconnectedness needs to allow for the materiality of the connections compared to the overall balance sheet
- ! Substitutability needs to distinguish between the uniqueness of any individual market participant, and the ability of a market as a whole to be re-capitalised
- ! Timing of transmission between insurers is significantly slower than between banks, allowing mitigation measures that dampen systemic risk

Thus, we argue that the criteria need to be considered against specific risk activities, rather than institutions

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Company failures are at the heart of the systemic risk discussion - however, insurer wind-ups are stable processes that do not pose a systemic risk

Regulatory background

- Regulation attempts to limit the possibility of insolvencies, and in particular insolvencies caused by imprudent management decisions
- Regulation contributes to stability of the insurance market,
 - By defining rules or principles that prevent failures under circumstances that could lead to a systemic collapse
 - By giving protection to the rights and entitlements of policy-holders and other policy beneficiaries

Industry specificities

- Pre-wind-up reserving requirements stabilize the actual wind-up process
 - Reserves predominantly held in local legal entities
 - Reserves to be covered by securely invested "tied assets" (depending on local law)
- Policy-holders' claims generally receive privileged treatment in insurer's insolvencies
- No accelerated wind-up process required
 - Low lapse rates, also during run-off, due to penalties for policy-holders
 - Liabilities mature over many years which allows for the recovery of market values of tied assets
- No two-way trading portfolios: mostly one set of liability holders (policy-holders) and one set of assets (investments). Hence, netting, collateral and counterparty risk spirals are rare

Insurer failures should not be prevented at any cost. The disappearance of old and appearance of new market participants is an essential element of market economies.

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Towards a Methodology on Systemic Risk

Approach for assessing systemic relevance of risk activities

Criteria considered for assessing the systemic relevance of risk activity

Specific considerations when assessing the criteria

- Does a transmission mechanism exist?
- What are the triggers?
- What is the likelihood of these triggers being breached?
- Can the risk activity cause significant losses?
- Can the activity be substituted by someone else?
- How big is a potential impact?
- How fast does the loss materialise?
- How fast does the loss transmit?

Risk activities are deemed systemically relevant if they pass the risk assessment

Source: Geneva Association - SRI Report

We apply the FSB criteria to the universe of activities potentially carried out by insurance companies

Overview

Key activities in which insurers are engaged

- A** Traditional insurance business of originating liabilities by providing protection/guarantees
 - Underwriting catastrophe risks
 - Underwriting long term risks
 - Writing business with redemption options
 - Writing life business with embedded guarantees
- B** Investing policy-holders' and shareholders' investments, in equities or derivatives
 - ALM and strategic asset allocation
 - Derivatives activities on non-insurance balance sheets
- C** Transferring insurance and market risks to third parties
 - Hedging with derivatives
 - Reinsurance and retrocession
 - Insurance linked securities and derivatives
- D** Capital raising, short-term and long-term funding, liquidity management
 - Treasury related-activities
 - Long-term capital raising
- E** Selling credit protection
 - Credit insurance
 - Financial Guarantees¹
 - CDS writing (on large scale and off balance-sheet)

Specific business model

- Financial Guarantees¹

1 Not considered to be part of "usual" insurers' universe of activities as provided by monoliners
Source: Geneva Association, SRI Report

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Insurers core-activities are not systemically relevant as their size, interconnectedness, substitutability and timing would not create immediate impact on financial stability

Risk activities not deemed systemically relevant

- A** ○ Asset Liability Management & Strategic Asset Allocation
 - Underwriting catastrophe risks
 - Underwriting long-term risks
- B** ○ Writing business with redemption options
 - Writing life business with embedded guarantees
- C** ○ Hedging with derivatives
 - Reinsurance and retrocession
 - Insurance linked securities and derivatives
- D** ○ Long-term capital raising
- E** ○ Credit insurance

Systemic relevance rejected for at least one of the following reasons

- ✗ Size:** Limited size
 - No disruptive effects on financial markets
- ✗ Interconnectedness**
 - Level / intensity of interaction does not create contagion
- ✗ Substitutability**
 - Given ability of market to find a substitute
- ✗ Timing:** Slow speed of impact
 - Allows insurers to absorb impact, through capital raising or orderly wind-up

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Financial guarantee is small in terms of premiums – however it guarantees US\$2.3 TN of financial assets and is thereby connected to the financial system

Global premiums (USD BN)

Category	Premium (USD BN)	% of Non-life
Non-life	1520	-
Fin. Guarantees	5.3	0.4%

- Financial guarantee premiums correspond to 0.4% of global non-life premiums
- Guaranteed bonds represent USD 2.3 TN

Estimated market share (by guaranteed assets 2008)

Provider	Market Share (%)
MBIA	34%
AMBAC	19%
FSA	18%
Assured Guaranty	11%
Others	12%
Syncora	6%

- Financial guarantee providers are very concentrated, hence not easily substitutable

Major banks' exposures to monolines (USD BN)


Bank	Exposure (USD BN)
Morgan Stanley	9.7
BOA	44.8
Citibank	113
Credit Agricole	241
Société Générale	30.8
Deutsche	51.3
UBS	18.4
RBS	42.1
Barclays	40.0
BNP	22.0
HSBC	10.9

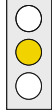
- Through their investments in wrapped securities, banks have accumulated significant exposures to monolines

Monolines are potentially systemically relevant and need regulation specific to their business model

Source: Swiss Re Sigma 02/2006: Credit insurance and surety: solidifying commitment; Swiss Re Sigma 05/2007: World insurance 2006, MBIA and AMBAC annual reports, ECB – Credit Default Swaps and Counterparty Risk, August 2009; as per Geneva Association - SRI Report

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 **Derivatives activities (incl. CDS writing) on non-insurance balance sheets**

Conclusion: **Potentially systemically relevant** 

Description

- Trading in uncovered (credit or non-credit) derivatives or assets with embedded uncovered derivatives (e.g. callable bonds)

Aggravating factors

- Positions booked in a non insurance entity with no regulatory capital
- Positions not captured in insurers' economic or regulatory capital
- Many insurers with same triggers and hedging reactions (programme trading)

Transmission mechanism/circumstances

- Derivatives collateral calls exceed financial resources creating impact on counterparty

Size/Impact

- Insurers can build significant derivatives' exposures that go unnoticed and create significant inter-connectedness with financial markets (e.g. AIG)


Necessary pre-conditions

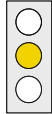
- Derivatives must be uncovered and the margin call must exceed liquid financial resources

Speed

- Due to marking-to-market and collateral calls

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 **Treasury-related activities: Mis-management of short-term funding raised through securities lending and commercial paper**

Conclusion: **Potentially systemically relevant** 

Description

- Geared investment activity: Funding risky asset purchase through short-term debt issuance / securities lending collateral

Aggravating factors

- Fragile liquidity position due to investment in illiquid assets
- Covenant based on credit rating downgrade

Transmission mechanism/circumstances

- Liquidity market dries up
- Forced sale of assets to meet cash outflow creates downward market dislocation
- Default on securities lending may create instability in counterparty (often banks)

Size/Impact

- Volume of CP/securities lending low compared to available liquid assets
- However some insurers may have more fragile liquidity positions

Necessary pre-conditions

- Forced sale to meet a liquidity need: Treasury activity must be large in comparison to insurer's cash-flow
- Collateral must be invested by the lender in risky or potentially illiquid assets

Speed

- In line with term of funding in place. Can be immediate as securities lending transactions can be interrupted at short notice

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No core insurance activities are systemically relevant - just two non-core activities that could be systemically relevant

Core insurance/ reinsurance business do NOT represent a risk to the financial stability...

... however, some risk activities, IF conducted massively under inadequate risk control and poor supervision, could be of systemic relevance to the wider financial sector



- Derivatives trading on non-insurance balance sheet (including CDS trading)



- Mis-management of short-term funding raised through commercial papers or securities lending

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Coverage of insurers' activities in regulatory frameworks and mitigating measures



Regulation that would only be applied to a few 'too big to fail' insurers likely to distort entire insurance market and impact the broader economy

- Following adverse consequences could occur:
 - **Market unfairness** and need to re-state each year creating unfair follow-on issues
 - **Increased pricing** by systemic institutions, while non-systemic players price aggressively
 - **Decrease in risk-bearing capacity:** likely to increase overall pricing (unless additional capital is raised)
 - **Moral Hazard:** perception of 'too big too fail' across competitors, investors and clients that they have 'de-facto state guarantee'
 - **Distraction of regulators attention** from risk activities or products triggering systemic risk
- Broad economic consequences given (re-)insurers macro-economic role regarding provision of savings- and risk transfer products

- **To tackle the issue of systemic risk, supervisors and policy-makers need to identify systemically risky activities**
- **Potentially systemically relevant activities should be dealt with through a responsive regulatory framework**

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Current and planned regulatory regimes in Europe and the U.S. adequately capture insurance activities. However, two risks need to be addressed further

Regulation of assessed main insurance risk activities (European and U.S. insurance regulation)

- The assessed regulatory regimes address the discussed risk activities
- However, comprehensive and integrated regulation needs to be assured across all geographies in order to appropriately capture all risk activities
- The two non-core insurance activities require specific regulatory elements to ensure proper regulation which are briefly summarised below and detailed in the recommendations

Derivatives activity on non-insurance balance sheets


- Comprehensive, integrated and principles-based supervision of insurance groups
- Group-wide and tailored capital requirements

Mis-management of short-term funding raised through commercial papers or securities lending

- Group-wide liquidity risk management, e.g.:
 - Liquidity stress tests
 - Strong liquidity risk governance

In our mitigating measures, these risk activities are adequately addressed

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We recommend five measures that demonstrate the industry's engagement to contribute constructively to the discussion on systemic risk


Mitigating measures to reinforce regulatory regimes and strengthen industry practice

- 1 Implement comprehensive, integrated and principles-based supervision of insurance groups**
- 2 Strengthen liquidity risk management**

Additional measures to strengthen financial stability

- 3 Enhanced regulation of Financial Guarantee Provision**
- 4 Establish macro-prudential monitoring with appropriate insurance representation**
- 5 Strengthen risk management practices and build on lessons learned**

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1 Implement comprehensive, integrated and principles-based supervision of insurance groups

Description


- Both in normal and stressed market conditions, supervision of cross border entities should be made at consolidated level enabling the assessment of consolidated risk exposure and capital position of groups in line with its economic reality, rather than with its legal structure

Group supervision	Supervisory Colleges / Group supervisor	Principles-based
<ul style="list-style-type: none"> Multinational administrative agreements Cross-industry coordination / cooperation Capture all regulated and non-regulated entities of a group 	<ul style="list-style-type: none"> Clarification of supervisory responsibilities, power and resourcing Improve international cross-supervisor / cross-sector collaboration, coordination 	<ul style="list-style-type: none"> Flexibility for regulators Allowing for financial innovation De-incentivise regulatory arbitrage

Comments

- Proposal essential to reduce existence of any loopholes in groups operating in multiple industries and multiple geographies
- Consistent with Recommendations 4, 5 and 6 of Joint Forum
- Measure fully consistent with direction of EU regulatory framework

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2 Strengthen liquidity risk management


Description

- Mis-management of short-term funding raised through securities lending and commercial paper could – under extreme circumstances, and if carried out on a massive scale – bring about potential systemic risk
- Current regulatory regimes focus on solvency and capital requirements.
- Thus, we suggest strengthening liquidity risk management
- Liquidity risk management should focus on strong liquidity governance
 - Written liquidity risk policy and stress management plan (approved by senior management to grow liquidity risk awareness and culture)
- Requiring capital to provide for liquidity risk is ineffective - no amount of potentially illiquid capital can replace comprehensive liquidity risk management
- Liquidity stress tests should be a standard part of best practice liquidity risk management.
- Global coordination warrants a consistent implementation by all regulators in their own framework

Comments

- Liquidity monitoring requirements to form part of existing insurance-specific regulation, rather than adding separate regulatory layer and new regulatory burden

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3 Enhanced regulation of Financial Guarantee Provision


Description

- Monoliners have a different business model to traditional diversified insurers
- Policymakers should ensure the appropriateness of regulation for monoliners by taking their specific business model into account

Comments

- Consistent with recommendation 15 of the Joint Forum and supportive of recommendation 17 of the Joint Forum

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4 Establish macro-prudential monitoring with appropriate insurance representation


Description

- Establishment of macro-prudential monitoring bodies whose mission should be to monitor the overall macro-economic risks that could threaten the stability of the financial services sector
 - Direct interaction with insurance groups would be left to the group supervisor and to supervisory colleges
- Composition and functioning of macro-prudential monitoring bodies should ensure a balanced representation of the various financial services sectors
- Establishment of a forum of senior industry representatives and potentially independent experts, who would maintain dialogue with the regulators and in particular with the IAIS Financial Stability Committee
 - Establish an open and pre-emptive dialogue on business practices
 - Work with the IAIS on the relevant areas of potential systemic concern
 - Feedback of insights into the discussions with macro-prudential monitoring bodies
- BCBS, IOSCO, and IAIS should work together to develop common cross sectoral standards where appropriate and discuss all systemic issues on global scale

Comments

- Macro-prudential monitoring will help to reduce the possibility of financial institutions abusing regulatory arbitrage by opting for more advantageous regulations in certain geographies or in certain alternative forms
- This measure is consistent with recommendation 3 of the Joint Forum

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5 Strengthen risk management practices

Description

- The insurance industry has made significant progress on Enterprise Risk Management over recent years, as the performance of the sector through the crisis testifies
- However, it is important that the industry continues to demonstrate its commitment to the highest standards of risk management practices across all risk types and activities.
- The industry is already constantly reviewing its risk management processes and is currently extensively looking into the implications of the current crisis. The industry will incorporate the lessons learned from past crises, notably on stress testing on liquidity risk
- The industry is fully committed to further strengthen risk management in insurance companies

Comments

- This recommendation is a statement of intent by the industry to continue the current process, individually and collectively

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Insurance and financial stability - conclusion

- The insurance industry weathered the financial crisis well and was not the source of the crisis.
- Insurers' core activities are not systemically relevant. A small number of quasi-banking activities alongside insurance either caused failure or triggered significant difficulties.
- Supervisors and policy-makers should focus on risk activities, not on institutions, when assessing systemic risk. Current and upcoming insurance regulatory regimes - economic and principle based - already adequately address insurance activities.
- The insurance industry is committed to contribute constructively to the debate of systemic risk and continue in its role as a financial system stabiliser.

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