



International Association of Insurance Supervisors

**Global Systemically Important Insurers:
Initial Assessment Methodology**

18 July 2013



About the IAIS

The International Association of Insurance Supervisors (IAIS) is a voluntary membership organization of insurance supervisors and regulators from more than 200 jurisdictions in nearly 140 countries. The mission of the IAIS is to promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders and to contribute to global financial stability.

Established in 1994, the IAIS is the international standard setting body responsible for developing principles, standards and other supporting material for the supervision of the insurance sector and assisting in their implementation. The IAIS also provides a forum for Members to share their experiences and understanding of insurance supervision and insurance markets. In addition to active participation of its Members, the IAIS benefits from input in select IAIS activities from Observers representing international institutions, professional associations and insurance and reinsurance companies, as well as consultants and other professionals.

The IAIS coordinates its work with other international financial policymakers and associations of supervisors or regulators, and assists in shaping financial systems globally. In particular, the IAIS is a member of the Financial Stability Board (FSB), founding member and co-parent of the Joint Forum, along with the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO), member of the Standards Advisory Council of the International Accounting Standards Board (IASB), and partner in the Access to Insurance Initiative (A2ii). In recognition of its collective expertise, the IAIS also is routinely called upon by the G20 leaders and other international standard setting bodies for input on insurance issues as well as on issues related to the regulation and supervision of the global financial sector.

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Cover note

The global financial crisis underscored the interconnected nature of financial firms and the widespread financial and economic costs of their severe distress or failure as well as with public sector interventions for those that were distressed or expected to fail. The crisis also underscored the need for public authorities to act promptly and proactively to identify firms that are systemically important and to take measures to lessen the impact and reduce the moral hazard associated with public sector interventions and the distress or failure of such firms.

As part of this effort, the International Association of Insurance Supervisors (IAIS) is participating in a global initiative, along with other standard setters, central banks and financial sector supervisors, and under the purview of the Financial Stability Board (FSB) and G20, to identify global systemically important financial institutions (G-SIFIs¹). The focus of the IAIS' analysis is in relation to potential global systemically important insurers (G-SIIs).

The IAIS has developed an assessment methodology to identify insurance-dominated financial conglomerates whose distress or disorderly failure, because of their size, complexity and interconnectedness, would cause significant disruption to the global financial system and economic activity.

Interested parties may wish to consult relevant background papers which are available on the IAIS, FSB and Basel Committee on Banking Supervision (BCBS) websites, including the IAIS' report *Insurance and Financial Stability*.² Other key papers include:

- the IMF/FSB/Bank for International Settlements (BIS) staff report submitted to the G20 Finance Ministers and Central Bank Governors entitled *Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments*³ (October 2009);
- the FSB's recommendations on *Reducing the moral hazard posed by systemically important financial institutions (SIFIs)*⁴ (October 2010);
- the BCBS framework for identifying global systemically important banks (G-SIBs) and requirements for additional loss absorbency for G-SIBs⁵ (November 2011); and
- the determination of the first cohort of G-SIBs⁶ (November 2011).

¹ G-SIFIs are defined by the FSB as "institutions of such size, market importance, and global interconnectedness that their distress or failure would cause significant dislocation in the global financial system and adverse economic consequences across a range of countries." G-SIIs are one class of G-SIFIs.

² See IAIS (2011) <http://www.iaisweb.org/Other-papers-and-reports-46>

³ See <http://www.imf.org/external/hp/q20/pdf/100109.pdf>

⁴ See http://www.financialstabilityboard.org/publications/r_101111a.pdf

⁵ See <http://www.bis.org/publ/bcbs207.pdf>

⁶ See http://www.financialstabilityboard.org/publications/r_111104bb.pdf



Glossary of abbreviations

ART	Alternative Risk Transfer
BCBS	Basel Committee on Banking Supervision (also Basel Committee)
BIS	Bank for International Settlements
CDO	Collateralised Debt Obligation
CDS	Credit Default Swap
FSB	Financial Stability Board
G-SIBs	Global Systemically Important Banks
G-SIFIs	Global Systemically Important Financial Institutions
G-SIIs	Global Systemically Important Insurers
G20	Group of Twenty Countries
IAIS	International Association of Insurance Supervisors
ICPs	IAIS Insurance Core Principles
IFS	IAIS report <i>Insurance and Financial Stability</i>
IGT	Intra-group Transactions
ILS	Insurance-linked Securities
NTNI	Non-traditional Insurance and Non-insurance activities
SIFIs	Systemically Important Financial Institutions



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I. Introduction

- (1) The International Association of Insurance Supervisors (IAIS) is participating in a global initiative, along with other standard setters, central banks and financial sector supervisors, and under the purview of the Financial Stability Board (FSB) and G20, to identify global systemically important financial institutions (G-SIFIs⁷). The focus of the IAIS' analysis is in relation to potential global systemically important insurers (G-SIIs). To this end, the IAIS has developed this initial assessment methodology to identify any insurers whose distress or disorderly failure, because of their size, complexity and interconnectedness, would cause significant disruption to the global financial system and economic activity. Any such insurers will be regarded as systemically important on a global basis.
- (2) At the Summit meeting in Seoul, November 2010, the G20 leaders endorsed the FSB's framework for reducing the moral hazard posed by systemically important financial institutions. The framework recommends several policies which should combine to:
 - Apply more intensive and co-ordinated supervision of SIFIs,
 - Improve the authorities' ability to resolve SIFIs in an orderly manner without destabilising the financial system and exposing the taxpayer to the risk of loss,
 - Require higher loss absorbency for SIFIs to reflect the greater risks that these institutions pose to the global financial system,
 - Strengthen core financial infrastructures, and
 - Provide other supplementary prudential and other requirements as determined by the national authorities.
- (3) Initially, G-SIFI related work focussed on the banking sector, because that was a more immediate issue. The Basel Committee on Banking Supervision (BCBS) developed a framework for identifying global systemically important banks (G-SIBs). This framework, including requirements for additional loss absorbency, was contained in a rule text published in November 2011.⁸ The first list of 29 G-SIBs was

⁷ G-SIFIs are defined by the FSB as "institutions of such size, market importance, and global interconnectedness that their distress or failure would cause significant dislocation in the global financial system and adverse economic consequences across a range of countries." Global systemically important insurers (G-SIIs) are one class of G-SIFIs.

⁸ See <http://www.bis.org/publ/bcbs207.pdf> - the rules text includes the following comments: "During the recent financial crisis that started in 2007, the failure or impairment of a number of large, global financial institutions sent shocks through the financial system which, in turn, harmed the real economy. Supervisors and other relevant authorities had limited options to prevent problems affecting individual firms from spreading and thereby undermining financial stability. As a consequence, public sector intervention to restore financial stability during the crisis was necessary and conducted on a massive scale. Both the financial and economic costs of these interventions and the associated increase in moral hazard mean that additional measures need to be put in place to reduce the likelihood and severity of problems that emanate from the failure of global systemically important financial institutions (G-SIFIs). ... A number of the policy measures will have a particular impact on global systemically important banks (G-SIBs), given their business models have generally placed greater emphasis on trading and capital markets related activities, which are most affected by the enhanced risk coverage of the capital framework. These policy measures are significant but are not sufficient to address the negative externalities posed by G-SIBs nor are they adequate to protect the system from the

disclosed by the FSB at the same time.⁹ The BCBS commented: “There is no single solution to the externalities posed by G-SIBs. Hence the official community is addressing the issues through a multipronged approach. The broad aims of the policies are to reduce the probability of failure of G-SIBs by increasing their going-concern loss absorbency and to reduce the extent or impact of failure of G-SIBs, by improving global recovery and resolution frameworks.”

- (4) It was foreshadowed in the FSB’s October 2010 report that the framework for dealing with G-SIFIs would be extended to cover insurance companies.¹⁰ G20 Leaders, at Cannes in November 2011, reiterated their expectation for the IAIS to complete its assessment methodology for identifying G-SIIs.¹¹
- (5) Given the importance of stable financial markets and recognising that part of its mission is to contribute to global financial stability, as stated in its By-Laws, the IAIS has been examining the issue intensively.
- (6) This document sets out the results of the IAIS work and describes the IAIS assessment methodology for assessing systemically important insurers.

A. IAIS position on insurance and financial stability issues

- (7) In developing the methodology, consideration was given to the fact that the traditional insurance business model is different from banking and, in particular, that traditional business does not involve payment system, credit intermediation or investment banking services. In November 2011, the IAIS published a report entitled *Insurance and Financial Stability* that describes the IAIS’ view of the relationship between the insurance sector and financial stability. This paper followed publication of a June 2010 position statement stressing the importance of the longer timeframe

wider spill over risks of G-SIBs. The rationale for adopting additional policy measures for G-SIBs is based on the cross-border negative externalities created by systemically important banks which current regulatory policies do not fully address.”

⁹ See http://www.financialstabilityboard.org/publications/r_111104bb.pdf FSB (2011) “[The] initial list is based on the methodology set out in the BCBS document *Global systemically important banks: Assessment methodology and the additional loss absorbency requirement*, using data as of end-2009. The list of G-SIFIs will be updated annually and published in November every year. Therefore, the list will not be fixed – there can be new entries and exits every year and the number of G-SIFIs may change. The BCBS methodology will be reviewed every three years to capture changes in the banking system and progress in measuring systemic importance. The present list contains global systemically important banking groups; future lists may also contain G-SIFIs that are not banking groups.”

¹⁰ See http://www.financialstabilityboard.org/publications/r_101111a.pdf. FSB (2010) states: “As experience is gained, the FSB will review how to extend the framework to cover a wider group of SIFIs, including financial market infrastructures, insurance companies and other non-bank financial institutions that are not part of a banking group structure.”

¹¹ See http://www.financialstabilityboard.org/publications/r_111104bb.pdf FSB (2011) “Policy Measures to Address Systemically Important Financial Institutions.” Also requested that the IAIS “pursue its work to develop a Common Framework for the Supervision of Internationally Active Insurance Groups by 2013, in order to foster group wide supervision and global convergence of regulatory and supervisory approaches.”

that applies to insurance liabilities¹² and the importance of insurance techniques that rest on the pooling of insurance risks, including the notion of insurable interest.¹³ The remainder of Section I summarises the most important conclusions of these papers relevant to developing the methodology.

- (8) Insurance is founded on the law of large numbers, which basically states that the aggregation of a large number of idiosyncratic risks ultimately results in a normal curve of distribution. It is therefore fair to say that the business model of insurance is based upon the assumption of a large number of ideally uncorrelated risks from policyholders to build up and maintain a well-diversified portfolio. In practice, this means that with an increasing portfolio there is less opportunity for unexpected results and a lower probability of very large losses (in relation to the entire portfolio). The risk profile of an insurer becomes less risky the more risks are assumed, i.e. the larger it is and the more diversified its business is (the more lines of business it writes).
- (9) The insurance business underwrites risks, and insurance claims become due upon the occurrence of idiosyncratic claims events that relate to:
 - Mortality,
 - Morbidity,
 - Property, and
 - Liability risks.
- (10) The insurance business model also has several unique features which are not typically found in banking, such as:
 - Insurance techniques rest on the pooling of insurance risks and probability theory such as the law of large numbers,
 - Insurers undertake a predominantly liability-driven investment approach,
 - The nature of insurance claims results in cash outflows that can occur over an extended period of time, and
 - A high degree of substitutability.
- (11) In general, insurance underwriting risks are not correlated with the economic business cycle and financial market risks and the magnitude of insurance events is not affected by financial market losses. The nature of insurance liabilities, and the fact that payments to policyholders generally require the occurrence of an insured event, makes it less likely for insurers engaged in traditional activities to suffer sudden cash runs that would drain liquidity.

¹² See IAIS (2010) <http://www.iaisweb.org/Other-papers-and-reports-46>: "In spite of this, insurers sometimes become financially distressed and, in a competitive market, financial distress and insolvencies may occur from time to time. The financial distress of an insurer usually plays out over a long time horizon. That is, assets of the insurer do not need to be liquidated until claims or benefits under the policies need to be paid, and this will not occur until months or even years in the future. Accordingly, regulators usually have the time to intervene to reduce potential losses to policyholders from the insolvency."

¹³ See IAIS (2011) "Insurable interest can be defined as an interest in a person or a good that will support the issuance of an insurance policy; an interest in the survival of the insured or in the preservation of the good that is insured. ... Financial derivatives are not considered insurance for regulatory purposes."

- (12) Insurers are, however, also exposed to risks faced by other financial institutions, including credit risk, operational risk, and market risk as well as interest rate and exchange rate risks. Nevertheless, the unique aspects of the insurance business model described above enabled most insurers to withstand the financial crisis of 2008-09 better than other financial institutions. While the effects of the crisis were certainly felt by the insurance industry, insurers engaged in traditional insurance activities in general were able to absorb the impact and demonstrated no impact on the broader financial system from a systemic risk perspective.
- (13) In contrast, insurance groups and conglomerates that engage in non-traditional (NT) or non-insurance (NI) activities can be more vulnerable to financial market developments and may therefore be more likely to amplify, or contribute to, systemic risk, than traditional insurers. Examples of non-traditional and non-insurance activities include financial guaranty insurance, capital markets activities such as credit default swaps (CDS), transactions for non-hedging purposes, derivatives trading or leveraging assets to enhance investment returns. In addition, the continually evolving marketplace is resulting in products and activities that blur the lines between traditional insurance and bank-type (or investment bank-type) activities.
- (14) For a more specific discussion and definition of NTNI activities, please refer to section 3.2 of the G-SII Policy Measures paper.
- (15) In summary, neither long experience of insurance markets nor information arising from the global financial crisis provides any evidence of traditional insurance either generating or amplifying systemic risk within the financial system or in the real economy. The potential for systemic importance is only considered to arise in any non-traditional or non-insurance activities.
- (16) However, empirical assessments of the systemic importance of insurers and insurance groups may change over time. A benign record in the past does not ensure the absence of a systemic risk potential in the future. That is why the IAIS is committed to reviewing the pace of innovation and change in insurance business models and assessing the potential for individual insurers to be classified as systemic.

II. Assessment methodology for systemic importance of G-SIIs

- (17) The IAIS has developed an initial assessment methodology to assess the systemic importance of G-SIIs and applied that methodology using year-end 2011 data collected from selected insurers in 2012. The initial assessment methodology involves three steps: collection of data,¹⁴ methodical assessment and a supervisory judgment and validation process. This section describes how these three steps were incorporated into the IAIS assessment methodology.

¹⁴ The Bank for International Settlements (BIS) collaborated with the IAIS by providing secured transmission channels for the collection of confidential data.



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- (18) This section first describes the scope of data collection and the challenges the IAIS encountered. Following this, the initial assessment approach is described. Finally, the initial modality of the supervisory judgment and validation process is explained.
- (19) The initial assessment approach is indicator-based and has several advantages¹⁵ and similarities to the approach developed by the BCBS for G-SIBs. For example, there is considerable overlap in the categories of indicators. However, insurers vary widely from banks in their structures and activities and consequently in the nature and degree of risks they pose to the global financial system. Thus, the particular indicators selected for identifying G-SIBs reflect different drivers of possible negative externalities and hence of the importance of insurers for the stability of the financial system.
- (20) As indicated by the BCBS, no assessment approach will perfectly measure systemic importance across all global financial institutions. Thus, similar to the BCBS approach in identifying G-SIBs, the IAIS methodology also recognises the importance of supervisory judgment and validation of the results flowing from the indicator approach. The IAIS supervisory judgment and validation process includes additional qualitative and quantitative assessments, including the selection of candidates for the process.
- (21) The additional quantitative assessment takes the form of a business segment specific risk-weight assessment approach that is structurally aligned with the concepts described in *Insurance and Financial Stability*. This approach is referred to as the “IFS assessment approach.” The IFS assessment approach centres around segmenting the business portfolio of insurance companies and insurance-dominated groups and conglomerates in traditional insurance, semi- and non-traditional insurance activities as well as non-insurance financial and non-insurance industrial activities, as the systemic importance of the aforementioned business activities ranges from marginal (in traditional insurance) to potentially significant (in non-insurance financial activities, e.g. banking).

A. Data issues

(A) Scope of data collection

- (22) The dynamic nature of insurers’ business models and the financial markets in which they operate means assessing the systemic importance of insurers requires recent, consistent and good quality data. Because many of the data items are either not publicly available or not publicly available on a consistent basis, the IAIS collected relevant data items from selected global insurance groups. The IAIS requested insurers to report data to their respective supervisors as of year-end 2011, based on group level data consolidated for accounting purposes, including all insurance

¹⁵ As indicated by the Basel Committee, “The advantage of the multiple indicator-based measurement approach is that it encompasses many dimensions of systemic importance, is relatively simple, and is more robust than currently available model-based measurement approaches and methodologies that only rely on a small set of indicators or market variables.” See <http://www.bis.org/publ/bcbs207.pdf>.

entities and non-insurance entities. Some data items were difficult for all insurers to provide on a consolidated basis and aggregate data reflecting major entities in the group may have been reported instead.

- (23) Data was requested and obtained through the respective national supervisors from 50 insurers in 14 jurisdictions selected according to the following criteria:
- Insurance groups whose total assets were USD 60 billion or more and whose ratio of premiums from jurisdictions outside the home jurisdiction to total premiums was 5% or more.
 - Insurance groups whose total assets were USD 200 billion or more and whose ratio of premiums from jurisdictions outside the home jurisdiction to total premiums was between 0% and 5%.
 - Finally, a few insurers, such as financial guaranty insurers, were added to the scope by supervisory judgment.

(B) Data quality

- (24) Unlike the banking sector where BIS statistics cover various areas of banking activities on a global basis, the IAIS had few precedents for collecting data on a global basis for the insurance sector. One such precedent is the data collected for the IAIS Global Reinsurance Market Reports¹⁶ which the IAIS has been collecting for almost ten years. However, the nature, scope and scale of the data collected to test the G-SII assessment methodology is a significant new undertaking for the IAIS. The IAIS encountered several challenges to collecting consistent and high quality data, including:
- Insurers' management information systems do not necessarily provide all consolidated data items which were requested by the IAIS.¹⁷
 - Accounting differences exist, including differences in valuation of some assets, derivatives, insurance contracts and technical provisions.
 - Jurisdictional or regional differences exist in the interpretation of some insurance business terms.
 - Definitions provided for some data items could be made more specific.¹⁸
- (25) In cooperation with the respective national supervisors, the IAIS improved the data quality and consistency by comparing information to public sources where available and, where appropriate, by further consulting with relevant supervisors. The adjusted data was considered satisfactory for developing a proposed assessment methodology.

¹⁶ See <http://iaisweb.org/Global-Reinsurance-Market-Report-GRMR-538>. In 2012, the IAIS merged this report into a Global Insurance Market Report, which documents the performance of primary insurers and reinsurers as well as key developments in the global insurance market.

¹⁷ Unlike the role played by the BIS and the BCBS for the banking sector, there is no consolidated regulatory data collection for the insurance sector by the IAIS.

¹⁸ Due to the reasons given above, establishing definitions that are sufficiently clear and comparable across jurisdictions/regions is a challenge.

- (26) Where considered material, adjustments were made to relevant data items to focus on financial activities by the selective exclusion of non-financial subsidiaries from consolidated group-wide metrics.

B. Methodical assessment process

- (27) Global systemic importance needs to be primarily measured in terms of the impact that distress or failure of an insurer may have on the global financial system and the wider economy rather than in terms of the probability of a failure. This is consistent with the BCBS approach.

(A) Indicator-based assessment approach

- (28) The indicator-based assessment approach is related to the BCBS's G-SIB methodology. However, the specific nature of the insurance sector, as described in *Insurance and Financial Stability*, has influenced the selection, grouping and weights assigned to certain indicators.

- (29) The selected indicators are grouped into five categories:

- Size: The importance of a single component for the working of the financial system generally increases with the amount of financial services that the component provides. It should be recognised, however, that in an insurance context size is a prerequisite for the effective pooling and diversification of risks.
- Global Activity: The methodology is aimed at identifying components of the financial system whose failure can have large negative externalities on a global scale.
- Interconnectedness: Systemic risk can arise through direct and indirect inter-linkages between the components of the financial system so that individual failure or distress has repercussions around the financial system, leading to a reduction in the aggregate amount of services.
- Non-traditional and non-insurance activities: As described in *Insurance and Financial Stability*, non-traditional insurance activities and non-insurance financial activities are potential drivers of the systemic importance of insurers and thus have the greatest impact upon failure.
- Substitutability: The systemic importance of a single component increases in cases where it is difficult for the components of the system to provide the same or similar services in the event of failure.

- (30) The IAIS has identified indicators which contribute to capturing the degree and nature of each insurer's systemic importance in each of the five categories from multiple-dimensions. The following table describes the 20 indicators chosen for the initial assessment methodology and the reasons for choosing them. To capture impact given failure, indicators are mostly incorporated as absolute value figures, although in some cases ratios are also used to capture a relative impact given failure, typically comparing the size of a given activity with a relevant aggregate measure.



Table 1. Five categories of the IAIS indicator-based assessment approach.

Category: <u>Size</u>		
Indicator	Content <i>[with adjustments applied to 2011 data by Analysis Team]</i>	Rationale
Total assets	Total on balance sheet asset size	Straightforward indicator of size
Total revenues	Sum of insurance gross premium earned, investment income, realised gains and losses, fees and commissions, and other income	Indicates the extent or scale of financial services of an insurer from a different angle (Looking at only asset size may underestimate activities of non-life insurers)

Category: <u>Global activity</u>		
Indicator	Content <i>[with adjustments applied to 2011 data by Analysis Team]</i>	Rationale
Revenues derived outside of home country	Sum of the total revenues recognised from jurisdictions outside the home country	Indicates the extent of global activity from a revenue perspective
Number of countries	Number of countries where a group operates with branches and/or subsidiaries outside of the home country	Indicates the extent of global activity from an operational perspective

Category: <u>Interconnectedness</u>		
Indicator	Content <i>[with adjustments applied to 2011 data by Analysis Team]</i>	Rationale
Intra-financial assets	Sum of lending to financial institutions and holdings of securities (debt securities, commercial paper, certificates of deposit and equity) issued by other financial institutions	Indicates the potential for failure or distress of an insurer to impact the financial system through fire sales of assets
Intra-financial liabilities	Sum of borrowing from financial institutions and issuance of securities (debt securities, commercial paper and certificates of deposit) owned by other financial	Indicates the degree to which failure or distress of an insurer could impact those with exposures to it



Category: <u>Interconnectedness</u>		
<i>Indicator</i>	<i>Content [with adjustments applied to 2011 data by Analysis Team]</i>	<i>Rationale</i>
	institutions	
Reinsurance	Gross technical provisions for reinsurance assumed business	Indicates the degree of interconnectedness with the insurance sector through reinsurance transactions
Derivatives	Gross notional amounts of derivatives outstanding <i>[including some types of embedded derivatives with 2011 data]</i>	Indicates the degree of interconnectedness with the financial system through derivatives transactions
Large exposures (This indicator will be reviewed prior to data analysis in future years).	Combination of: (a) Total asset exposures to the 19 largest counterparties (including counterparties in derivative transactions but excluding domestic sovereign debt and separate account assets), and (b) Ratio of total asset exposures to the 19 largest counterparties to total assets (excluding separate account assets) (c) Ratio of domestic sovereign exposure to its market size	Indicates the degree of interconnectedness focusing on concentrations in asset exposures to major counterparties In its ratio form this indicator could point towards insurers that have a higher degree of concentrations in assets
Turnover	Two ratios: (a) Ratio of total purchase of invested assets* plus total sale of invested assets to total assets, and (b) Ratio of total sales (issuance) of funding liabilities* plus total retirement of funding liabilities to total liabilities *in accordance with cash flow statements	This indicator could point towards insurers that are more active in the capital markets than is normal for a traditional insurance business
Level 3 assets	Combination of:	Indicates the potential scale of fire sales of illiquid assets by an



Category: <u>Interconnectedness</u>		
<i>Indicator</i>	<i>Content [with adjustments applied to 2011 data by Analysis Team]</i>	<i>Rationale</i>
	(a) Total level 3 assets, and (b) Ratio of total level 3 assets to sum of level 1, 2 and 3 assets ¹⁹ <i>[excluding the ratio for insurers added to the scope via supervisory judgment with 2011 data]</i>	insurer in distressed financial market situations In its ratio form it could point towards insurers that are more active in markets for complex assets than is normal for a traditional insurance business

¹⁹ Level 1 Assets are based on unadjusted, quoted prices for identical assets in an active market. Level 2 Assets are based on quoted prices in inactive markets, or whose values are based on models - but the inputs to those models are observable either directly or indirectly for substantially the full term of the asset. Level 3 Assets are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement.



Category: Non-traditional insurance and non-insurance (NTNI) activities		
Indicator	Content <i>[with adjustments applied to 2011 data by Analysis Team]</i>	Rationale
Non-policy holder liabilities and non-insurance revenues from financial activities *	Combination of: (a) Total on balance sheet liabilities minus all policyholder liabilities,* (b) Ratio of (a) to total on balance sheet liabilities, (c) Total revenues from financial activities of non-insurance businesses, and (d) Ratio of (c) to total revenues * all technical provisions held for fulfilling insurance contracts	Indicates the extent to which an insurer conducts NTNI activities using both balance sheet and revenue figures Policyholder liabilities are a proxy for traditional insurance activities: "total liabilities minus policyholder liabilities" indicates NTNI activities In its ratio form it could point towards insurers that do more NTNI activities than is normal for traditional insurers
Derivatives trading	Gross notional amount of CDS protection sold	Indicates the scale of CDS protection sold which links an insurer with other parts of the financial system An insurer's distress or failure could impact financial positions of buyers of CDS protection
Short term funding	Combination of: (a) Absolute sum of: • Short term borrowing, • Commercial paper issued, • Certificates of deposit issued, • Gross value of collateral received from repos, and • Gross value of collateral received from securities lent; and (b) Ratio of sum of the above mentioned items to total assets	Indicates the extent to which an insurer could be involved in maturity transformation A large degree of short-term funding is a feature of financial institutions involved in maturity transformation Ratios pointing to a larger-than-normal amount of short-term funding could signal an insurer venturing into this kind of business and assuming the liquidity risks that come with it, including the potential for fire sales of assets
Financial guarantees	Sum of: (a) Gross notional amount of debt securities including structured finance insured for financial guarantee. Not including CDS	Financial guarantee and mortgage guarantee products link an insurer with other parts of the market and are correlated with the economic cycle

Category: Non-traditional insurance and non-insurance (NTNI) activities		
Indicator	Content <i>[with adjustments applied to 2011 data by Analysis Team]</i>	Rationale
	protection sold or surety bonds, and (b) Risk in force for mortgage guarantee insurance, which is the gross mortgage default amount covered by all mortgage insurance policies issued	An insurer's distress and failure could impact the financial positions of guaranteed parties
Minimum guarantee on variable insurance products	Total technical provisions for variable annuities and contingent annuities including additional technical provisions for any guarantees <i>[Greater of the account value of all life insurance and annuity products that provide protection against financial risk and the assets backing these products used with 2011 data]</i>	Variable insurance products (including variable annuities and unit linked products with capital protection) most often include some type of guaranteed levels of payment to policyholders: attempting to pay guaranteed amounts could accelerate asset sales by an insurer and exacerbate already distressed market conditions There is also the possibility that hedging strategies for guarantees could adversely affect markets in times of wider market stress
Intra-group commitments	Combination of: (a) Intra-group commitments granted by insurance entities or the top holding company of an insurance group for the benefit of non-insurance entities of the group and intra-group commitments granted by non-insurance entities to any other entities in the group, and (b) Ratio of intra-group commitments granted by insurance entities or the top holding company of an insurance group for the benefit of non-insurance entities of the group and intra-group commitments granted by non-insurance entities to any other entities in the group to total assets <i>[A maximum of shareholders equity applies to (a) with 2011 data]</i>	A large amount of intra-group support given to the non-traditional / non-insurance entities of the group may indicate significant NTNI activities and/or lack of self-sufficiency of NTNI activities Many intra-group commitments can also indicate a complex company structure and greater difficulties in resolving an insurance group or conglomerate The ratio is used to account for the fact that the size of intra-group commitments could overestimate (underestimate) the issue in case of a large- (small-) sized insurance company



Category: Non-traditional insurance and non-insurance (NTNI) activities		
Indicator	Content <i>[with adjustments applied to 2011 data by Analysis Team]</i>	Rationale
	<i>[excluding the ratio for insurers added to the scope via supervisory judgment with 2011 data]</i>	
Derivatives trading (excluding hedging and replication) in economic terms	Gross notional amount of the NTNI-related portion and the non-NTNI-related of derivatives excluding “hedge reducing risks” and “hedge replicating risks” <i>[Not used with 2011 data]</i>	Indicates the degree of speculative derivatives trading
Extent of liquidity of insurance liabilities	Amount of liabilities that can be surrendered upon request within 3 months without economic penalty plus 50% of the amount of liabilities that can be surrendered with economic penalty (such as fees or tax) lower than 20% <i>[Amounts regardless of the timeline threshold were used with 2011 data]</i>	Indicates the potential for an “insurance run” to occur because the liabilities are more exposed to being “on demand” than traditional insurance liabilities

Category: Substitutability		
Indicator	Content [with adjustments applied to 2011 data by Analysis Team]	Rationale
Premiums for specific business lines	Combination of: (a) Direct gross premiums written and assumed premiums for catastrophe coverage (b) Direct gross premiums written and assumed premiums for credit coverage including mortgage guarantee coverage, financial guarantee and export credit coverage, (c) Direct gross premiums written and assumed premiums for aviation coverage, and (d) Direct gross premiums written and assumed premiums for marine coverage	Indicates the degree of lack of substitutability in some specific insurance markets The three markets selected are considered to be significant and highly concentrated markets in a global context

- (31) As discussed in *Insurance and Financial Stability*, the two most important categories for assessing the systemic importance of insurers are the NTNI category and the interconnectedness category. Non-traditional and non-insurance activities are important because the longer timeframe over which insurance liabilities can normally be managed may not be present, and interconnectedness is important because there can be strong connections between the insurance and banking sectors. Therefore, these indicators receive higher weights.
- (32) Consequently, the size, global activity and substitutability categories are given lower weights. This is consistent with the risk diversification benefits that can accrue with greater size of traditional insurance activities and global spread, and the usual speed with which loss of insurance capacity is replaced by new entrants into the market. Size and global activity indicators were also used in the initial selection of those insurers included in the scope of the data collection exercise. Furthermore, analysis also shows that several of the indicators in other categories are to some extent correlated with size. Assigning a lower weight to the size category avoids allowing size a disproportionate influence on the overall result. Although not a separate category of its own (as in the BCBS's approach), complexity has been captured by some of the indicators within the other categories (e.g. intra-group commitments).
- (33) Taking these factors into consideration, higher weights are given to the non-traditional insurance and non-insurance activities category and the interconnectedness category, while lower weights are given to the other three categories. Following review of various scenarios, the weighting for the non-traditional insurance and non-insurance category is 45%, the weighting for the interconnectedness category is 40%, and the weighting for each of the other three categories is 5%. Within all five categories, equal weight is given to each indicator.

Table 2. Weights given to each category and individual indicator

<i>Category</i>	<i>Category weighting</i>	<i>Individual indicator</i>	<i>Indicator weighting [for 2011 data]</i>
Size	5%	Total assets	2.5%
		Total revenues	2.5%
Global activity	5%	Revenues derived outside of home country	2.5%
		Number of countries	2.5%
Interconnectedness	40%	Intra-financial assets	5.7%
		Intra-financial liabilities	5.7%
		Reinsurance	5.7%
		Derivatives	5.7%
		Large exposures	5.7%
		Turnover	5.7%
		Level 3 assets	5.7%
Non-traditional insurance and non-insurance activities	45%	Non-policy holder liabilities and non-insurance revenues	6.4%
		Derivatives trading	6.4%
		Short term funding	6.4%
		Financial guarantees	6.4%
		Minimum guarantee on variable insurance products	6.4%
		Intra-group commitments	6.4%
		Liability liquidity	6.4%
Substitutability	5%	Premiums for specific business lines	5%

- (34) For each insurer, the score for a particular indicator is calculated by dividing the individual insurer amount by the aggregate amount summed across all insurers in the sample. When an indicator consists of a combination of sub-indicators, the same calculation will be done for each sub-indicator; the results will be averaged to reach the score for the indicator overall.
- (35) The score is weighted by the indicator weighting within each category. Then, all the weighted scores are added. For example, the total asset size indicator for an insurer that accounts for 10% of the sample aggregate total asset size variable will receive a score of 10%. If the indicator weighting for the total asset size is X%, it will contribute (10%) x (X%) to the total score for the insurer. Similarly, if the indicator

weighting for the total intra-financial assets is Y%, an insurer that accounts for 10% of intra-financial assets will receive a score of 10% that will in turn contribute (10%) x (Y%) to the total score for the insurer. Summing the scores for all indicators gives the total score for the insurer. The maximum possible total score (i.e. if there were only one insurer in the world) is 100%; if an insurer accounts for 10% of each of the indicators, its total score is be 10%.

(B) IFS assessment approach

- (36) The IFS assessment approach is more directly based on the concepts described in *Insurance and Financial Stability*. It adopts a business segment specific approach.
- (37) In essence, the IFS assessment approach segments the business portfolio of an insurer into its traditional insurance, semi- and non-traditional insurance as well as non-insurance financial and industrial activities. Then, the assessment approach associates risk weights commensurate with the systemic importance of the various business activities of insurance companies. The risk weights are multiplicative factors of total assets broken down along the segmentation of the business portfolio of insurance companies. The risk weights reflect the IAIS position that systemic importance in insurance is primarily associated with the conduct of non-insurance financial and non-traditional insurance business. The IFS assessment approach was used as an additional source of information during the supervisory judgment and validation process.
- (38) Both the indicator-based and the IFS assessment approach are consistent with the concepts expressed in *Insurance and Financial Stability*. The supervisory judgment and validation phase of the overall methodology produces a more robust assessment of the systemic importance of insurers supporting the results of the indicator-based assessment approach with the segment-based IFS assessment approach. The IFS assessment approach does not use indicators as proxies of systemic importance that may potentially fail to cover certain risky activities, but assesses each segment of business comprehensively on its own.
- (39) Further information on the approach is contained in Annex 1.

(C) Incorporating supervisory judgment and validation

- (40) The indicator-based approach was used to provide a first indication of the relative importance of insurers within the scope of the G-SII analysis and also to provide a list of G-SII candidates, with additional candidates selected from results of the IFS assessment approach.
- (41) It is recognised, however, that using the indicator-based assessment on its own may not be sufficient to determine whether the resulting candidates are in fact systemically important. Additional explanatory information and analyses may be required, including in cases where both assessment approaches diverge. Such additional information and analysis may be needed, for example, in order to:
- Enhance the understanding of the data flowing into the indicators and produce a more accurate interpretation of the indicator results.
 - Reveal extenuating circumstances that cannot be easily quantified in the form of an indicator, e.g. a major restructuring or run-off situation.

- Provide information on the extent and nature of risks associated with a particular type of semi-traditional or non-traditional insurance activity and its systemic relevance.
 - Provide for an assessment of the liquidity aspects of the insurer's specific products/liabilities and whether such liquidity calls might have systemic implications for the global economy.
 - Provide for a more in-depth understanding of the nature and extent of the firm's interconnections with other financial counterparties.
 - Provide for a more nuanced assessment of the systemic risk implications of intra-group guarantees and off balance sheet risks.
- (42) On this basis, the IAIS held discussions with the relevant group-wide supervisors of each G-SII candidate to obtain their views on the results of the calculations. Based on the assessments, and further informed by their discussions with relevant group-wide supervisors, the IAIS determined where additional analysis was required. In such cases, the IAIS obtained additional information on selected G-SII candidates from public sources and supervisors.
- (43) However, it is important to note that regardless of the results of the indicator-based and IFS assessment approaches, the IAIS will conduct discussions with relevant supervisors who suggest that an insurer should be added to the list of G-SII candidates.
- (44) This additional layer of analyses will be conducted in an effective and transparent way. To the extent that such additional inputs alter the results flowing from the indicator-based and IFS assessment approaches, such judgments should be supported by verifiable arguments.
- (45) It is possible that a particular supervisor or supervisors may challenge the results of the findings of the assessment methodology. In such cases, the IAIS will scrutinise the justification for such arguments.
- (46) In summary, the IAIS will adhere to the following general principles when incorporating supervisory inputs into the process:
- The bar for judgmental adjustment to the output of the initial quantitative analyses should be high.
 - The process should focus on impact to the global financial system of an insurer's failure, not its probability of failure or distress.
 - The judgmental overlay should comprise well-documented and verifiable information.
- (47) The process for incorporating additional inputs is:
- Collection of the data and supervisory commentary for all insurers in the scope of the data collection,
 - Methodical application of the indicator-based approach, supported by the IFS assessment approach,
 - For those insurers that are G-SII candidates, discussion with supervisors and additional analyses as may be required,
 - IAIS recommendations to FSB on potential G-SIIs, and



- FSB and national authorities, in consultation with the IAIS, drawing on relevant qualitative and quantitative indicators, determining the cohort of any G-SIIs.

(D) Designation Process

- (48) Following the ranking of insurers according to the indicator-based assessment approach and the supervisory judgement and validation process, the FSB and national authorities, in consultation with the IAIS, determined the cohort of G-SIIs.

III. Future steps

- (49) The assessment methodology may be revised at least every three years. Although changing the methodology too often will disturb the business planning of insurers, changes in the overall economy and insurance markets should be reflected in the assessment methodology.

Annex 1 – IFS Assessment Approach

- A-1 The IFS assessment approach embodies key notions of the *Insurance and Financial Stability* report of the IAIS. It builds on the segmentation of the business portfolio of insurers and insurance-dominated groups and conglomerates into the traditional insurance, semi- and non-traditional insurance activities as well as the non-insurance financial and non-insurance industrial activities as the systemic importance of these business activities spans a spectrum ranging from marginal (in traditional insurance) to considerable (in non-insurance financial activities, e.g. banking).
- A-2 In essence, the IFS assessment approach segments the business portfolio of an insurer into its traditional insurance, semi- and non-traditional insurance as well as non-insurance financial and industrial activities. Then the assessment approach associates risk weights commensurate with the systemic importance of the business activities of insurance companies. The risk weights are multiplicative factors of total assets broken down along the same segmentation of the business portfolio of an insurance group. The risk weights reflect the IAIS position that systemic importance in insurance is primarily associated with the conduct of non-insurance financial and non-traditional insurance business. Table 1 lists the risk weights under consideration with the insurance business portfolio of insurance companies broken down into its traditional, semi-traditional and non-traditional insurance activities.

Table 1. Risk weights applied to 2011 data

INSURANCE	Traditional	Semi-traditional	Non-traditional
Underwriting and supporting investment / treasury functions	2.5%/20%	12.5%/50%	22.5%/75%
NON-INSURANCE Financial activities	100%		
NON-INSURANCE Industrial activities	0%		

- A-3 The IFS assessment approach does not assume that traditional insurance business may never gain systemic importance nor compound issues generated in other activities of an insurer. It therefore attracts a low but non-zero weight. At the other end of the spectrum non-insurance financial business attracts a risk weight of 100%, which is reflective of the fact that non-insurance financial business is immediately concerned with the payment system, credit intermediation and investment banking / capital markets and related activities, and that it should consequently be treated like banking. Provided that the G-SIFI project is concerned with the identification of global systemically important financial institutions, non-financial industrial activities attract a zero weight.
- A-4 The key metric retained to capture the relative importance of any given business segment is total assets broken down along the aforementioned segments. The size of an operation becomes ever more relevant as the business portfolio of insurance companies shifts from traditional insurance to non-insurance financial activities.

A-5 Only a few key metrics serve as a common yardstick when assessing the business portfolio of insurance companies on a consistent basis. There are even fewer such metrics when insurance groups and conglomerates are to be assessed in relation to each other on a global basis and the metric ought to be as available, reliable and stable as possible. The IAIS settled for total assets after having explored other metrics. Although partly available through segment reporting in annual reports total revenues and break-downs therefore prove too volatile on a year-on-year basis and are tainted by netting effects; also, revenues may not necessarily be reflective of the effective scale of the underlying business.

A-6 Total assets can be determined for all business activities in the portfolio of insurance companies, even though, today, the granularity of annual reports typically stops at segment reporting. To be reflective of the full scale of non-insurance financial as well as semi-traditional and non-traditional insurance business, the break-down of total assets must be adjusted for off-balance-sheet positions including intra-group commitments. Insurance-dominated groups and conglomerates do know well how their total assets are allocated across their business portfolio. If not, they should not be engaged in any operation other than traditional insurance business in the first place. Considering the *Insurance and Financial Stability* report and the IFS assessment approach, the insurance industry should have a genuine interest in advancing their reporting according to the requirements set out.

A-7 The sum of the various multiplications of assets of a given business segment by their respective risk weight add up to a figure referred to as G-SII IFS-score. This can be expressed formulaically as follows:

G-SII-IFS score =

1.	2.5% or 20%	x	ASSETS (TRADITIONAL)
2. +	12.5% or 50%	x	ASSETS (SEMI-TRADITIONAL)
3. +	22.5% or 75%	x	ASSETS (NON-TRADITIONAL)
4. +	100.0%	x	ASSETS (NON-INSURANCE-FINANCIAL)
5. +	0.0%	x	ASSETS (NON-INSURANCE-INDUSTRIAL)

A-8 In the IFS assessment approach insurance companies are ranked according to the result of their G-SII IFS-score.

A-9 Both the indicator-based and the IFS assessment approach are consistent with the concepts expressed in *Insurance and Financial Stability*. The supervisory judgment and validation phase of the overall methodology aims at producing a more robust assessment of the systemic importance of insurers, supporting the results of the indicator-based assessment approach with the segment based IFS assessment approach. The IFS assessment approach does not use indicators as proxies of systemic importance that may potentially fail to cover certain risky activities, but assesses each segment of business comprehensively on its own.