

# Identifying Global Systemically Important Financial Institutions

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A key element of the G20 response to the global financial crisis has been to develop policies to address the ‘too-big-to-fail’ problem posed by systemically important financial institutions (SIFIs). The first step is to identify such entities. To that end, there has been extensive work undertaken in recent years, especially at the global level in view of the cross-country impact of large international financial institutions should they fail or become distressed. This article examines the methodologies developed by standard-setting bodies for identifying global SIFIs among banks, insurers and non-banks, drawing out common elements as well as important differences among them. Policy work addressing the ‘too-big-to-fail’ problem is ongoing. At the recent G20 Summit in Brisbane, leaders built on these reforms by endorsing two further proposals to improve the ability to resolve failing or distressed global systemically important banks.

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## Definition of a (Global) SIFI

The ‘too-big-to-fail’ problem refers to the fact that certain financial institutions, because of their size and/or interconnectedness, could pose a material risk to financial stability and the real economy if they were to fail. Such institutions are referred to as systemically important financial institutions (SIFIs). This issue pre-dates the recent financial crisis.<sup>1</sup> However, the damage to the financial system and the wider economy caused by distress at several such institutions during the crisis, plus the cost of public sector bail-outs, have spurred authorities to develop policies to minimise the probability and impact of a SIFI failure. A precondition for implementing these policies is the ability to identify a SIFI, which has led international bodies to develop agreed identification methodologies. These methodologies distinguish between systemic importance at the global and at the domestic level. Given that the failure or distress of large cross-border institutions can have serious

effects across multiple jurisdictions, international efforts since the crisis focused initially on identifying global SIFIs and, in particular, global systemically important banks.

At its first meeting at leaders level in 2008, the G20 called for work to define the scope of SIFIs. Building on joint work with the Bank for International Settlements and the International Monetary Fund,<sup>2</sup> in 2010 the Financial Stability Board (FSB) defined SIFIs to be those institutions ‘whose disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity’ (FSB 2010, p 1). Further, the FSB defined ‘global SIFIs’ in particular to be ‘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’ (FSB 2010, p 2). These FSB definitions of (global) SIFIs are reflected in the several methodologies that were subsequently developed by international and national bodies to identify SIFIs even though, as

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1 For example, the term ‘too-big-to-fail’ gained prominence following the US Federal Deposit Insurance Corporation’s intervention in the resolution of Continental Illinois, a bank which failed in 1984.

2 See BIS, FSB and IMF (2009).

discussed below, different approaches were used for different types of institutions.

Three methodologies have been developed by the relevant standard-setting body for identifying global SIFIs:<sup>3</sup>

- *global systemically important banks* (G-SIBs), developed by the Basel Committee on Banking Supervision (BCBS)
- *global systemically important insurers* (G-SIIs), developed by the International Association of Insurance Supervisors (IAIS)
- *non-bank non-insurer (NBNi) G-SIFIs*, developed jointly by the FSB and the International Organization of Securities Commissions (IOSCO).

While a common focus of the methodologies is to identify SIFIs during 'normal' times, it is possible that authorities would consider a wider group of financial institutions to be systemically important during a crisis. A possible criticism of identifying SIFIs is the potential for exacerbating moral hazard, by reinforcing perceptions that an institution is 'too-big-to-fail' and therefore potentially prone to receiving public sector support. For this reason, the package of reforms addressing the 'too-big-to-fail' problem includes a number of measures to make SIFIs more resolvable without public support.

While Australia is not home to any identified G-SIBs or G-SIIs, domestic agencies have been involved in the development of these methodologies through membership of international bodies. As in other reform areas, this participation has sought to promote good policies and proportionate approaches. For SIFIs, this involves being careful to ensure that methodologies to identify 'global' SIFIs do not incorrectly capture largely domestically focused entities.

## Methodologies for Identifying Global SIFIs

### Global systemically important banks (G-SIBs)

Banks were the initial focus of global efforts for identifying G-SIFIs, because they typically dominate financial systems, present the largest systemic risk and in several jurisdictions were the main type of financial institution requiring public sector support during the crisis. The G20 tasked the BCBS with developing a methodology for identifying G-SIBs, which was released in 2011 (BCBS 2011). The methodology uses indicators of banks' size, interconnectedness, substitutability, complexity and global (cross-jurisdictional) activity to rank their global systemic importance (see Appendix A for a summary of the indicators used by the BCBS). These categories are largely self-explanatory, with the possible exception of substitutability, which refers to the capacity for the activities of an institution to be readily replaced by other service providers in the event of failure. A key basis for the BCBS' methodology, and one which has been followed by the other standard-setting bodies, is that the focus of the identification methodology is on the impact of an institution's failure or distress on the financial system and the economy, not the probability of failure or distress.

Using this methodology, around 75 of the world's largest banks were ranked using data for each indicator. Each bank's overall score represented its global systemic importance relative to the other banks in the sample. Based on the clustering of scores produced by the methodology, banks with the highest scores above a certain 'cut-off' were designated as G-SIBs. National authorities are also able to add to the list if they judge a domestic bank that they supervise to be of global systemic importance. The annual G-SIB identification process involves banks submitting data to their national regulator, which in turn pass these data onto the BCBS, which coordinates the assessment. The final

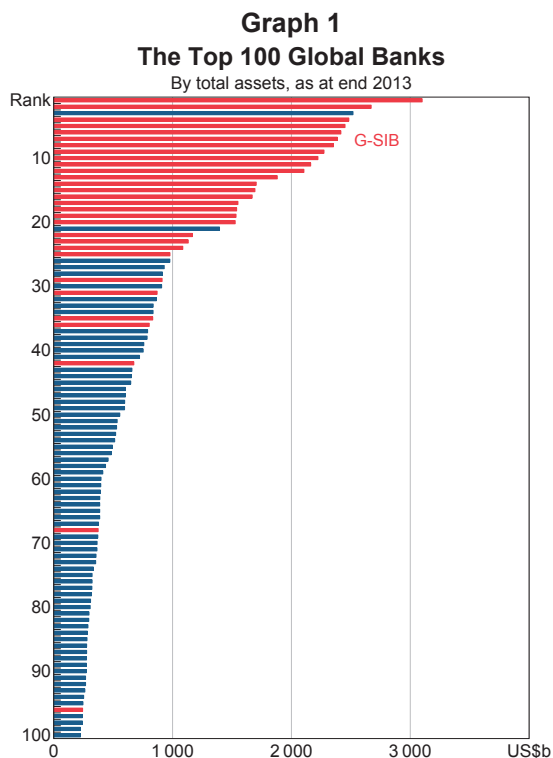
<sup>3</sup> There is an extensive research literature by academics and other researchers on the identification of SIFIs, which often draws heavily on market indicators and/or networks of connections between financial institutions. The focus here, however, is on methodologies developed by international standard-setting bodies, which in turn lead to 'official' designations as (global) SIFIs.

step involves the FSB publishing the list. To date, there have been four annual G-SIB designations, starting in 2011, with the list being updated every November to reflect new data and any adjustments to the methodology.

The identification of G-SIFIs has enabled the development of a number of policies designed to reduce the probability and impact of failure of such institutions. These policies will also provide an incentive for G-SIFIs to reduce their systemic importance over time. To date, the lists have been very stable at their annual November updates, with only a few banks being added or removed, and there also exists a degree of stability of the rankings *within* the list.<sup>4</sup> This stability is hardly surprising since major changes to a bank’s global systemic importance would not usually be expected to happen quickly. Moreover, frequent and large changes to the rankings could indicate that the methodology is not robust.

While size has an equal weighting (20 per cent) in the BCBS’ methodology as the other four categories (interconnectedness, substitutability, complexity and global activity), it is often positively correlated with the other categories as well given the tendency for larger banks to also be more interconnected, complex and globally active. The important influence of size is reflected in the fact that of the 30 largest global banks by assets, 24 have been currently identified by the FSB and BCBS as G-SIBs (Graph 1). However, several of the largest global banks are not on the G-SIB list, and not all G-SIBs are among the very largest global banks – a couple of G-SIBs are much smaller in terms of global assets. Specialised banks in particular could be relatively small in terms of assets but still rank much higher than other banks on a particular indicator (such as substitutability), which would boost their overall ranking of global systemic importance.

4 Beginning in 2012, G-SIBs were allocated to buckets corresponding to their required level of additional loss absorbency, with G-SIBs allocated to higher buckets as their global systemic importance increases. There has been limited movement of banks between the buckets from one annual G-SIB list to the next.



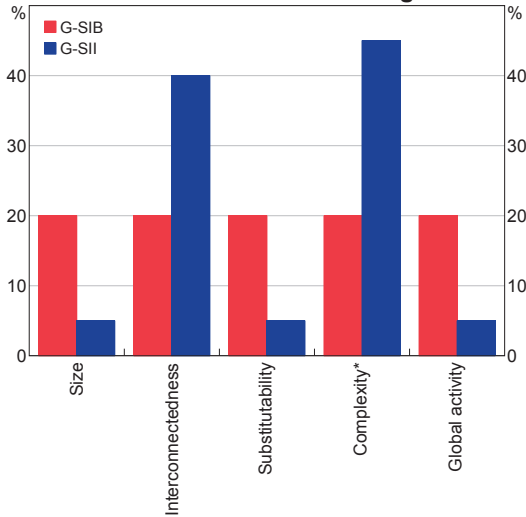
Source: The Banker

### Global systemically important insurers (G-SIIs)

The IAIS’ methodology for identifying G-SIIs is similar to that for G-SIBs (IAIS 2013). Data are collected from selected insurers, via their national supervisors, that meet certain materiality thresholds on indicators in five broad categories (size, interconnectedness, substitutability, non-traditional insurance and non-insurance activities, and global activity). Insurers are then ranked according to their level of global systemic importance. Based on this methodology, nine insurers were designated as G-SIIs in July 2013, with the list unchanged in the 2014 update.

There are, nonetheless, a few key differences between the G-SII and G-SIB methodologies. While the BCBS methodology has an equal 20 per cent weight for each of the five impact categories, the IAIS’ G-SII methodology is more nuanced, allocating differing weightings (Graph 2). One difference is that while size is important for banks, it is much less important

**Graph 2**  
**Weights Used in the**  
**G-SIB and G-SII Methodologies**



\* For G-SIIs, non-traditional insurance and non-insurance activities  
 Sources: BCBS; IAIS

in the G-SII methodology (with only a 5 per cent weight compared with the 20 per cent weighting in the G-SIB methodology).<sup>5</sup> This reflects the IAIS’ view that complexity and interconnectedness are relatively more important in assessing systemic risk for insurers, points that were highlighted during the crisis by global insurance company AIG, which had experienced severe financial stress from its activities in credit default swaps and subprime mortgages rather than difficulties arising from its insurance business. Subsequent US government support reflected its interconnectedness with other parts of the financial system.

Within this assessment methodology, different indicators are used for G-SIIs, compared with G-SIBs, reflecting differences between the business models of insurance and banking. In particular, traditional insurance does not involve activities in the payments system, credit intermediation or investment banking.

<sup>5</sup> The contrast in weights for ‘size’ between the G-SIB and G-SII methodologies is even more stark if the focus is just on ‘total assets’ as an indicator. Within the G-SII size category, which has an overall 5 per cent weighting, ‘total assets’ only has a 2.5 per cent weight (with another 2.5 per cent accounted for by ‘total revenue’). This compares with ‘total assets’ (or more technically ‘total exposures’) accounting fully for the 20 per cent size category in the G-SIB methodology.

Moreover, different or additional indicators are necessary across the insurance industry to capture the differing insurer types (e.g. general insurers and life insurers), as well as the need to capture traditional insurance business, non-traditional insurance activities and non-insurance activities.

Another difference is that supervisory judgement played a much more significant role in the G-SII assessment process than was the case with G-SIBs. The G-SIB assessment process was largely quantitative, reflecting the relatively high degree of homogeneity of banks, at least in comparison with insurers. For G-SIIs, the process involved greater interaction with the supervisors of selected insurers to enhance the understanding of: the data on the various indicators; the extent and nature of risks associated with a particular type of non-traditional insurance activity and its systemic relevance; and the nature and extent of the firm’s interconnections with other financial counterparties.

### Non-bank non-insurer (NBNI) G-SIFIs

The final set of G-SIFI methodologies relates to NBNI financial institutions. While generally much smaller than the banking and insurance sectors, the NBNI sector still accounts for a sizeable share of the financial systems in many countries, and there could be financial institutions in the NBNI sector with the potential to pose global systemic risk. Another motivation for the development of NBNI methodologies was the need to prevent banks and insurers avoiding the policy measures for G-SIBs and G-SIIs by changing their legal status or business models to become an NBNI financial institution.

Unlike the G-SIB and G-SII methodologies, which have been largely completed and already used to designate G-SIFIs, the NBNI methodologies remain under development. The FSB proposed a methodology for identifying globally systemic finance companies, while IOSCO proposed methodologies for identifying globally systemic market intermediaries (i.e. securities broker-dealers) and investment funds. These three entity types were

selected because of their relatively large size in the NBNI sector, as well as past examples of financial stress or failures in these three sectors that had an impact on the global financial system.

These three methodologies are similar to those for G-SIBs and G-SIIs in that they are indicator-based approaches to determining global systemic importance based on the expected impact of a NBNI entity's failure or distress on the financial system and the economy. Appendix A details the specific indicators that are used, with the indicators for finance companies similar to the G-SIB methodology, which is to be expected given their similar business models to traditional banks. There are, however, several differences between the G-SIB/G-SII approaches and the NBNI methodologies.

- The G-SIB and G-SII assessments are conducted by central bodies (the BCBS for banks and the IAIS for insurers), while the NBNI G-SIFI assessments would be conducted largely by national authorities. Given the substantial role to be played by national authorities, the FSB and IOSCO plan to establish an international oversight group that will be involved *during* the assessment process, to ensure a degree of consistency across countries.
- While weights are specified for the broad categories and the indicators in the G-SIB and G-SII methodologies, this is not the case with the NBNI methodologies. This may enhance flexibility for authorities to take into account particular national circumstances or entity-specific factors, but it may also lead to differences in the implementation of these methodologies across countries.
- The G-SIB/G-SII approaches rank banks/insurers according to their *degree* of global systemic importance. However, with the NBNI G-SIFI methodologies, the absence of a central body pooling data across countries and ranking entities accordingly, means that NBNI entities will likely be judged as either being globally systemic or not.

In their consultation paper, the FSB and IOSCO made two key proposals regarding the scope of application for the NBNI G-SIFI methodologies (FSB and IOSCO 2014).

- NBNI subsidiaries of banks and insurers assessed under the G-SIB and G-SII methodologies will be excluded from the scope of the NBNI methodologies, basically because the global systemic risk of such subsidiaries was already adequately assessed by the G-SIB and G-SII methodologies. This will be particularly relevant for securities broker-dealers, as many are owned by banks. However, this exclusion does not apply to investment funds, which will still be assessed even if they are the subsidiary/affiliate of a bank or insurer assessed under the G-SIB/G-SII approaches, since they are not normally prudentially consolidated with their parent bank/insurer.
- Regarding the asset management industry, the proposal is to focus on the individual fund. Economic exposures are created at the fund level as they arise from the underlying assets held by the fund. As such, it is the portfolio of assets that creates the exposures to the financial system and there is also a practical advantage given the availability of data at the fund level. However, the FSB and IOSCO recognise that it could also be appropriate to focus more broadly on the asset manager as well. Asset managers themselves may be of systemic importance because of their securities lending and repo activity, for example. Additionally, asset managers are exposed to operational and reputational risks.

Following feedback received on the proposals, the FSB and IOSCO plan to release a second consultation paper around the end of 2014. This will include near-final methodologies for finance companies and market intermediaries and a revised proposal on methodologies for asset management entities. Once the methodologies are finalised, the FSB and IOSCO propose to work on developing policy measures for NBNI G-SIFIs, which are likely to follow the comprehensive SIFI policy framework

developed by the FSB and endorsed by the G20, such as enhanced resolution regimes and more intensive supervision.<sup>6</sup>

### Domestic SIFIs

The methodologies developed for identifying global SIFIs have been built upon by international and national efforts to identify domestic SIFIs, particularly banks, to partly address the risks posed by such institutions. The BCBS has issued high-level principles to guide the development of national domestic systemically important bank (D-SIB) frameworks, which are modelled to a large extent on its G-SIB methodology (excluding the ‘global activity’ category) (BCBS 2012). However, a major difference between the BCBS’ G-SIB and D-SIB approaches is that the latter focuses on the impact of failure of a bank using the domestic economy as the point of reference, rather than the global economy. Another difference is that, in contrast to the G-SIB methodology which is based on fixed equal weightings for its indicators, the D-SIB methodology provides for appropriate national discretion to determine the factors used to assess the impact of a bank’s failure on the domestic economy and the appropriate relative weights given to each factor, depending on national circumstances.

While identifying global SIFIs required broad international agreement on how to define such entities, there is greater scope for flexibility at the domestic level. As a result, definitions of, and methodologies for identifying, domestic SIFIs vary across different jurisdictions, and across different financial sectors.

- *Banks.* Several national D-SIB methodologies have been developed in recent years, with some based on the BCBS’ principles noted earlier, while other authorities have developed their own, more country-specific, methodologies. Many share elements with the G-SIB approach, including a focus on the impact of failure/distress (as opposed to the probability of failure),

and the use of key impact factors such as size and interconnectedness to determine systemic importance. In this context, the Australian Prudential Regulation Authority released its framework for dealing with D-SIBs in December 2013, and identified the four major domestic banks as D-SIBs (APRA 2013). These four banks will be subject to additional capital requirements.

- *Non-bank financial institutions (NBFIs).* Progress in identifying domestically systemic NBFIs is not as advanced as it is for D-SIBs, undoubtedly in part because banks are the dominant institutions in the financial systems of many countries and were the main entities receiving assistance during the crisis.

However, the United States has been a notable ‘early mover’ in this area. The US Financial Stability Oversight Council (FSOC) has identified three ‘non-bank financial companies’ (two insurers and one finance company) as being of systemic importance, based on factors similar to those used in the BCBS G-SIB/D-SIB frameworks (such as size and interconnectedness), though without specific reference to complexity and cross-border activity. The assessments also focused on the transmission channels through which companies posed a risk to the broader US financial system (such as the ‘asset liquidation’ channel), as well as considering the company’s resolvability and existing supervision and regulation. FSOC designated entities are subject to consolidated supervision by the Federal Reserve as well as enhanced prudential standards. The US Treasury’s Office of Financial Research has also examined the asset management industry, analysing how asset management firms and their activities can introduce vulnerabilities that could pose, amplify or transmit threats to financial stability. This work sought to better inform FSOC’s analysis of whether – and how – to consider such asset management firms for enhanced prudential standards and supervision.

<sup>6</sup> For further details on the specific SIFI policy measures, see FSB (2011).

- *Financial market infrastructures (FMIs)*. In their consultation paper, the FSB and IOSCO explicitly state that the NBNI G-SIFI methodologies exclude FMIs such as central counterparties as these are already dealt with under a separate framework. Under the *Principles for Financial Market Infrastructures*, issued by IOSCO and the Committee on Payment and Settlement Systems (now the Committee on Payments and Market Infrastructures), there is a presumption that FMIs, as defined in the Principles, are systemically important, at least in the jurisdiction where they are located, typically because of their critical roles in the markets they serve. The United States has gone further, however, with FSOC designating eight 'financial market utilities' in July 2012 as being systemically important.

## Future Work

The methodologies for identifying G-SIFIs are not fixed permanently. For example, the BCBS has committed to review the G-SIB approach every three years to capture changes in banking systems and progress in measuring systemic importance. And in July 2013, the BCBS released an updated version of its G-SIB methodology, which included several changes to better reflect the lessons learnt from applying the assessment methodology using data submitted by banks between 2009 and 2011 (BCBS 2013). These changes are nonetheless modest, suggesting that the G-SIB methodology is, in broad terms, relatively stable. This is likely to be the case also with the G-SII methodology. The IAIS has stated that its assessment methodology may be revised at least every three years. While changing the methodology too often would potentially disturb the business planning of insurers, the IAIS took the view that changes in the overall economy and insurance markets should be reflected in the assessment methodology. Also, it was noted in the 2014 G-SII list that the IAIS will further develop its identification methodology, ahead of a decision on the G-SII status of reinsurers.

More broadly, work remains ongoing to address the 'too-big-to-fail' problem associated with global SIFIs, with identified G-SIBs and G-SIIs being required to meet more stringent standards and subject to more intensive supervision. There is also considerable effort being made to improve the resolvability of G-SIBs. Most recently at the G20 Summit in November, leaders endorsed a proposal for a common international standard on the total loss-absorbing capacity for G-SIBs, as well as an industry agreement to prevent cross-border derivative contracts being terminated disruptively should a G-SIB enter resolution.

## Conclusion

The global financial crisis showed that the failure of large complex cross-border financial institutions can have severe detrimental effects on the financial system and the economy, both domestically and globally. This prompted a major effort by international regulatory bodies to address the risks posed by such institutions. The global reach of these institutions necessitated international debate and agreement regarding how such institutions could, for the first time, be explicitly identified using commonly accepted methodologies. These methodologies typically have size, complexity and interconnectedness as key determinants of global systemic importance, notwithstanding other differences between specific G-SIFI methodologies. Once G-SIFIs are identified, regulators can apply additional policy measures to them, with the aim of reducing the risks they pose to the global financial system and wider economy. ✖

Appendix A

Table A1: Indicators for Identifying Global Systemically Important Financial Institutions (continued next page)

Developed by: Category	Banks (G-SIBs) BCBS Indicator <sup>(b)</sup>	Weight %	Insurers (G-SIIs) IAIS Indicator <sup>(b)</sup>	Weight %	Finance companies FSB Indicator	Market intermediaries IOSCO Indicator	Investment funds IOSCO Indicator
Size	Total exposures as defined for use in the Basel III leverage ratio	20	1. Total assets (2.5%) 2. Total revenues (2.5%)	5	1. Total globally consolidated balance sheet assets 2. Total globally consolidated off-balance sheet exposures	1. Total globally consolidated balance sheet assets 2. Total globally consolidated off-balance sheet exposures 3. Client assets outstanding	1. Net assets under management (AUM) or net asset value (NAV) for the fund 2. For hedge funds, gross notional exposures (GNE) as an alternative indicator
Interconnectedness	1. Intra-financial system assets (6.67%) 2. Intra-financial system liabilities (6.67%) 3. Securities outstanding (6.67%)	20	1. Intra-financial assets (5.7%) 2. Intra-financial liabilities (5.7%) 3. Reinsurance (5.7%) 4. Derivatives (5.7%) 5. Large exposures (5.7%) 6. Turnover (5.7%) 7. Level 3 assets (5.7%)	40	1. Intra-financial system assets 2. Intra-financial system liabilities 3. Borrowings, split by type 4. Leverage ratio	1. Intra-financial system assets 2. Intra-financial system liabilities 3. Leverage ratio 4. Short-term debt ratio 5. OTC derivatives assets and liabilities 6. Amount of margin required at clearing houses or central counterparties	1. Leverage ratio 2. Counterparty exposure ratio 3. Intra-financial system liabilities
Substitutability/ financial institution infrastructure (banks)  Substitutability (insurers, NBNIs <sup>(b)</sup> )	1. Assets under custody (6.67%) 2. Payments activity (6.67%) 3. Underwritten transactions in debt and equity markets (6.67%)	20	Premiums for specific business lines	5	Qualitative assessment of 'substitutability', which takes into account the firm's market share in various financing markets and ease of substitutability by other provider(s) of funding	1. Qualitative assessment of reliance of the market on the services of the intermediary (for a critical function or service) 2. Market share, measured by (i) trading as a percentage of daily market volume on domestic exchanges, and (ii) if available, global market transaction volume in securities (including equities, bonds and futures)	1. Turnover of the fund related to a specific asset/daily volume traded regarding the same asset 2. Total fund turnover vs total turnover of funds in the same category/classification 3. Investment strategies (or asset classes) with less than 10 market players globally



**Table A1: Indicators for Identifying Global Systemically Important Financial Institutions (continued)**

Developed by: Category	Banks (G-SIBs) BCBS Indicator <sup>(a)</sup>	Weight %	Insurers (G-SIIs) IAIS Indicator <sup>(a)</sup>	Weight %	Finance companies FSB Indicator	Market intermediaries IOSCO Indicator	Investment funds IOSCO Indicator
Complexity (banks, NBNI <sup>(b)</sup> )  Non-traditional insurance and non-insurance activities (insurers)	1. Notional amount of over-the-counter (OTC) derivatives (6.67%) 2. Level 3 assets (6.67%) 3. Trading and available-for-sale securities (6.67%)	20	1. Non-policyholder liabilities and non-insurance revenues (6.4%) 2. Derivatives trading (6.4%) 3. Short-term funding (6.4%) 4. Financial guarantees (6.4%) 5. Minimum guarantee on variable insurance products (6.4%) 6. Intragroup commitments (6.4%) 7. Liability liquidity (6.4%)	45	1. OTC derivatives notional amount 2. Difficulty in resolving a firm	1. Structural complexity, measured by number of legal entities that are consolidated 2. Operational complexity, measured by Level 3 assets	1. OTC derivatives trade volumes at the fund/ total trade volumes at the fund 2. Ratio (%) of collateral posted by counterparties that has been re-hypothecated by the fund 3. Ratio (%) of NAV managed using high frequency trading strategies 4. Weighted-average portfolio liquidity (in days)/weighted- average investor liquidity (in days) 5. Ratio of unencumbered cash to gross notional exposure (or gross AUM)
Cross-jurisdictional activity (banks)  Global activity (insurers)  Cross-jurisdictional presence (NBNI <sup>(b)</sup> )	1. Cross-jurisdictional claims (10%) 2. Cross-jurisdictional liabilities (10%)	20	1. Revenues derived outside of home country (2.5%) 2. Number of countries (2.5%)	5	1. Size of cross-jurisdictional claims 2. Size of cross-jurisdictional liabilities 3. Number of jurisdictions in which the finance company conducts operations 4. Assets or revenues in foreign jurisdictions	1. Number of jurisdictions in which the market intermediary and/or its affiliates conduct operations 2. Cross-jurisdictional claims and liabilities	1. Number of jurisdictions in which a fund invests 2. Number of jurisdictions in which the fund is sold/listed 3. Counterparties established in different jurisdictions

(a) Individual weighting in brackets  
(b) Non-bank non-insurer (NBNI) entities  
Sources: BCBS; FSB; IAIS; IOSCO

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