



Monitoring systemic institutions for the analysis of micro-macro linkages and network effects

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Abstract

In the aftermath of the Global Financial Crisis (GFC) of 2007-09, the G-20 endorsed the collection and sharing of data on global systemically important financial institutions (G-SIFIs). This initiative started with the collection of data on global systemically important banks (G-SIBs). It set in motion the first large-scale initiative to collect and regularly share among national jurisdictions – as well as with relevant international institutions to some extent – granular information on a selected panel of individual institutions that play a systemic role in global financial markets. This is a key initiative to better understand the various and complex linkages between micro, institution-level information and the macro, system-wide environment as well as network effects. This paper discusses the key objectives of this international exercise, the main features of the initiative that have been implemented thus far, the challenges faced and the related lessons that can be drawn.

Keywords: financial stability; systemic institution; data sharing; granular data.

1. Introduction: The need for sharing information on systemic financial institutions

The GFC clearly highlighted the lack of timely and accurate data to inform policy decisions during episodes of stress in the financial system. Information gaps, while not themselves the reason for the crisis, meant that policy makers had a limited set of tools at their disposal when several important firms failed. The result was large market-wide disruptions and sizeable output losses, while governments had to bail out a number of other weaker institutions. These elements contributed to higher unemployment and a sharp rise in public debt in advanced economies, from around 70% of GDP in 2007 to around 110% of GDP 10 years later.

A key challenge at the time of the GFC was the limited understanding of the functioning of the global financial network, which had by 2007 become highly complex and integrated across institutions and markets. This was particularly the case for the globally active financial institutions: their responses to episodes of financial stress quickly spilled over to other parts of the financial network. In this context, and reflecting the growing interconnectedness of the financial system, policy makers have realised that their actions go beyond national levels. The systemic nature of global institutions put a premium on collecting global information to assess the various inter-related risk dimensions they pose, namely concentration risk, market risk, funding risk, contagion/spill-over risk and sovereign risks. Improved data sharing has thus become part of the international response to better monitor global risks and prevent episodes of financial instability.

To address existing information gaps, in 2009 the G-20 called on the FSB to improve, in consultation with the IMF, the collection and sharing of data on G-SIFIs as part of the Data Gaps Initiative (DGI).²

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² See IMF and FSB (2009) for the launch of this initiative. Recommendations 8 & 9 of the DGI asked, respectively, “*The FSB to investigate the possibility of improved collection and sharing of information on linkages between individual financial institutions, including through supervisory college arrangements and the information exchange being considered for crisis management planning...*” and “*The FSB, in close consultation with the IMF, to convene relevant central banks, national supervisors, and other international financial institutions, to develop by end 2010 a common draft template for systemically important global financial institutions for the purpose of better understanding the exposures of these institutions to different financial sectors and national markets*”.



The key goals were to support financial stability analysis and to strengthen micro-prudential supervision, macro-prudential monitoring and oversight, and crisis management planning. To this end, the intention was to collect high-quality, consistent, frequent and timely data on financial linkages, concentrations of exposures as well as funding dependencies related to G-SIFIs. To take this forward, in 2010 the FSB set up a working group representing national authorities and international institutions. This group initially developed common data templates for systemically important banks (ie G-SIBs)³ to address the key data gaps identified during the crisis with respect to global systemic institutions (“G-SIFI data collection exercise” from this point onward). The aim was to provide the authorities and international financial institutions with a stronger framework for assessing potential systemic risks.

These efforts, facilitated by the Financial Stability Board (FSB), built on several exercises of international sharing of granular data that had existed before but in a more embryonic state. One was the Consolidated Banking Statistics (CBS) collected from a large group (31 today) of central banks and supervisory authorities and aggregated by the Bank for International Settlements (BIS); cf McGuire and Wooldridge (2005). These data cover the worldwide-consolidated positions of internationally active banking groups headquartered in reporting countries. Much of this information is shared publicly (eg the CBS statistics capture the aggregate exposures of (all the) banks headquartered in Country X vis-a-vis counterparts located in Country Y). Some non-public information is shared among reporting jurisdictions only, although always at an aggregate level. A key feature is that data are not shared at the level of individual banks.

Another existing data sharing exercise was related to the international community of financial supervisors, namely the Senior Supervisors Group (SSG).⁴ This long-standing forum allows senior representatives of supervisory authorities to engage in dialogue on risk management practices, governance, and other issues concerning complex, globally-active financial institutions. Its main purpose is to share information on supervisory approaches, not least to enhance home/host cooperation and for crisis-resolution purposes. Another goal is to engage with the financial services industry to better understand new challenges and emerging risks that systemically important institutions face. To support SSG work, participating jurisdictions initiated the collection of data on banks’ counterparty credit exposures, specifically, their largest twenty exposures to each of three distinct types of counterparties: banks, nonbank financial institutions, and nonbank corporate counterparties – the so-called “Top 20” Counterparty project that began in late 2008 and continued until March 2013 before being transferred to the more comprehensive program (the “Top 50 Counterparty report”) administered by the new International Data Hub (IDH) at the BIS; (Senior Supervisors Group (2014)). The data were granular, as they captured the exposure of a Bank X to Counterparty Y, and shared amongst supervisors in reporting jurisdictions in a limited manner respecting the confidentiality constraints.

A third data sharing exercise developed initially in the course of the early 2000s (and significantly expanded after the GFC) relates to the so-called Quantitative Impact Studies/Analyses (QIS/QIA) developed by international standard-setters – such as the Basel Committee on Banking Supervision (BCBS; see BCBS (2017)), the International Association of Insurance Supervisors (IAIS; see IAIS (2016)), the FSB (see BIS, IMF and FSB (2015)) and the International Organization of Securities

³ The G-SIFI data collection exercise initially focused on G-SIBs during the first phase of the DGI, reflecting the systemic characteristics of banks. A key step was in particular to release the first list of G-SIBs. However, with the launch of the second phase of the DGI (DGI-2) in September 2015, it was agreed to consider the possibility of expanding the exercise to systemically important non-bank financial institutions, starting with the insurance companies (see IMF and FSB (2015), (2016)). In particular, Recommendation II.4 calls for “*the G20 economies to support the IDH at the BIS to ensure the regular collection and appropriate sharing of data about G-SIBs and asks the FSB, in close consultation with the IMF and relevant supervisory and standard setting bodies, to investigate the possibility of a common data template for global systemically important non-bank financial institutions starting with insurance companies*”.

⁴ The SSG comprises senior executives from the bank supervisory authorities of globally active financial institutions’ home jurisdictions (FSB (2010)). Its Secretariat is hosted at the Financial Institution Supervision Group of the Federal Reserve Bank of New York.



Commissions (IOSCO; see BSBS and IOSCO (2015))). These exercises are based on the collection of granular information for a panel of selected institutions (around 250 commercial banks for recent BCBS QIS). The information is used to design, implement, assess and (if need be) refine financial regulatory measures (Tissot (2017)). However, sharing of QIS data is typically limited to anonymized/aggregated results and is communicated only to the members of the respective Standard Setting Bodies (although aggregated results are regularly published in some form).

2. Identification of G-SIBs

The G-SIFIs data collection exercise built on the CBS and SSG data collections described above. The identification of G-SIBs is based on the review by the BCBS of the largest 75 banks with a specific methodology (see BCCS (2013a)). The key purpose of this assessment is the identification of those banks that will be subject to additional loss absorbency requirements. It draws on the data collected through a particular regular QIS exercise, the outcome of which is the G-SIBs' list updated on a yearly basis as part of the BCBS's ongoing work.⁵ The methodology for identifying G-SIBs is based on five indicators: size, interconnectedness, degree of substitutability, global activity and complexity.

However, the list of those banks actually requested to report data in the context of the G-SIFI data collection exercise is slightly different from the BCBS G-SIB list (see FSB (2016a)). In particular, a number of G-SIBs are located outside the jurisdictions that participate in the G-SIFI project and are de facto excluded from the reporting obligations. In addition, a few entities considered as particularly important in their domestic financial systems (eg domestic systemically important banks (D-SIBs)) have been included in the G-SIFI data collection/sharing exercise. While the G-SIFI data collection exercise covers, initially, systemically important banks (ie G-SIBs) other SIFIs (eg insurance companies) could be potentially considered.⁶

3. Design of the common G-SIB templates and the setup of the International Data Hub

The common data templates that have been set up for the G-SIFI data collection exercise include funding/credit exposures on a bilateral basis (institution-to-institution (I-I), building on SSG data collection), and their aggregate exposures to/funding dependencies on countries and sectors (institution to aggregate (I-A), relying initially on the CBS and then on a more granular template). Hence, the information collected can be very granular, including for instance information on exposure of Bank X vis-a-vis an individual Counterparty Y (I-I data) or of Bank X vis-a-vis all the counterparties in a specific sector in Country Y (I-A data). The data capture a variety of indicators to monitor banks' assets (exposures), liabilities (funding) and off-balance sheet figures (contingent positions). They are aimed at assessing (a) interlinkages among the institutions surveyed as well as with their key counterparties ("network effects") and (b) the concentration of these institutions in other national financial systems, specific sectors and markets ("size effects"). Data are already collected based on common data templates, starting with bilateral credit exposure data. The implementation of data collection based on the full set of templates is expected to start after the second half of 2017 (Graph 1).

⁵ BCBS work on G-SIBs is set up in the broader regulatory Basel III Framework that, in particular, focusses on setting up additional loss absorbency requirements for G-SIBs. From this perspective, it is independent of the G-SIFI data collection exercise, which is focusing on the ongoing monitoring of systemic institutions for supervisory purposes.

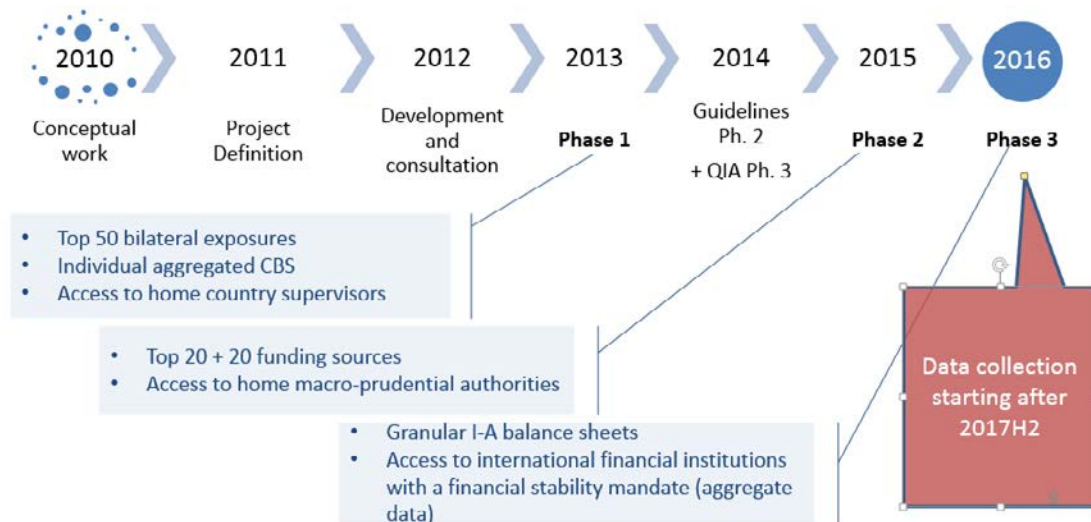
⁶ As regards non-banks, a parallel IAIS/FSB process has been set up for identifying Global Systemically Important Insurers (G-SIIs; cf FSB (2016b) for the list based on the 2016 G-SII assessment exercise). Note that the IAIS has decided to develop an activities-based approach to systemic risk assessment in the insurance sector (see www.iaisweb.org/page/news/press-releases/file/65229/iais-press-release-systemic-risk-assessment-workplan). In addition, and as noted above, none of these institutions has been included in the G-SIFI data collection exercise so far. Similar processes for identifying other types of systemically important institutions can also be conducted on an ad-hoc basis, for instance for Central Counterparties (CCPs; BCBS (2013b)).



The G-SIFI data collection exercise has been promoted by the FSB and the IMF and is being conducted with the operational support of the IDH set up and hosted by the BIS (see FSB (2011) and Tracy (2016) for an overview of this project). Bank-level information is stored within the IDH and analysed on behalf of a limited number of participating supervisory authorities. The analysis supports participating supervisors in their engagement with G-SIBs by enriching the dialogue between supervisors across jurisdictions. The collection of the G-SIBs’ data through the IDH was organised along three phases, involving in particular a close consultation with the industry (cf Graph 1):

- Phase I, completed in 2013, covered banks’ credit exposures. It involved the collection of simple I-I bilateral data to measure the G-SIBs’ exposures to their major counterparties; for instance, the claims of Bank X on Bank Y. It also comprised I-A data to assess banks exposures to specific countries, sectors and markets; for instance the claims of Bank X on the resident non-financial sector in Russia. These latter I-A data are in fact the institution-level data underlying the CBS collected by the BIS; for instance, the data reported by Bank X in the example above will be a subset of the CBS data for the claims of all banks headquartered in Bank X’s country on the non-financial sector in Russia. The I-A data collected by the IDH have progressively become more detailed, in parallel with the implementation of the enhancements of the CBS. In particular, more granular information has been made available in terms of instrument and counterparty sector breakdowns (see BIS (2015)).
- Phase II, launched in 2014, covered reporting banks funding dependencies. It focused on I-I liabilities, ie information about a reporting bank’s largest funding providers (bank and non-banks), as well as on its funding structure (eg use of wholesale funding).
- With the decision to start implementing Phase III in 2015, additional I-A information covering reporting banks’ consolidated balance sheet will be provided after 2017, with cross-breakdowns by counterparty country and sector, and by instrument, currency and maturity (FSB (2015)).⁷

Graph 1. The three phases of the G-SIB data collection exercise



Source: FSB.

4. Governance and Sharing of G-SIFIs’ Data

The G-SIFI dataset collected by the IDH represents the first time that granular, institution-level supervisory data has been regularly shared across jurisdictions to support policy analysis. This data

⁷ For an example of industry comments on the proposed Phase 3 templates, see IIF (2015).



collection delivers unique information, especially about reporting firms' largest bilateral counterparties (I-I data for credit exposures and funding) and the composition of their full balance sheets (forthcoming I-A data with breakdowns on currency, instrument, maturity, counterparty jurisdiction and sector). The data collection and sharing arrangements are governed by the Hub Governance Group (HGG), comprised of the supervisory authorities in data reporting jurisdictions. A multilateral memorandum of understanding (Multilateral Framework) governs the arrangements for the collection and sharing of information through the IDH. Given the sensitivity of the dataset, strict procedures have been set up to ensure accuracy, confidentiality, completeness and timeliness of these statistics. And particular efforts have been made to coordinate banks' compliance with reporting guidelines so as to achieve international comparability.

The bilateral data (I-I data) are shared among reporting jurisdictions. Information based on I-A data is to be shared more widely, taking into account sharing restrictions and measures to ensure confidentiality (eg only data aggregates are shared). In particular, a key objective at the launch of the project was to share data with those IFIs with a financial stability mandate (ie the BIS, the FSB and the IMF).

G-SIFIs' data have been collected by home authorities (data providers) in a harmonised way and stored in the IDH. In turn, the IDH distributes reports based on these data to participating authorities (data receivers). The HGG also agreed to share some information with a number of IFIs with a financial stability mandate through tailored reports as well as on an ad-hoc basis to support policy work. The intention is to allow for sharing analytically useful information while also not revealing the identity of reporting institutions. The HGG and the IFIs are still finalising the related practical details and further refinements could be envisaged going forward.

The analytical usefulness of different combinations of these granular data obviously depends on circumstances, eg the need to monitor a specific institution or the aggregate exposures of all reporting institutions to a particular counterparty or risk factor. Making sense of the data and presenting them in a coherent way requires the development of ad hoc analytical tools and metrics to capture "micro specific" situations that are of system-wide relevance. For instance, the purpose is not to simply consolidate the micro data collected and analyse the aggregated situation of all G-SIFIs taken together; it is rather to filter the data to extract the specific information deemed important for macro financial stability analyses at a specific point of time.

5. Challenges

The G-SIFI data collection exercise, being the first of its kind, revealed challenges related to the sharing of data on systemic financial institutions. The granularity of the data is both its strength and the factor that makes the sharing of information difficult from a legal perspective.

A key challenge relates to confidentiality. The dataset may include highly market-sensitive information, given the large size of the reporting entities and the granularity and relatively high frequency of the data. In addition, the dataset includes information provided by the reporting firms that, in turn, could lead to the identification of individual (non-reporting) counterparties, which are not supervised by the same authorities as those that participate in the G-SIFI exercise. Different confidentiality rules across jurisdictions adds another layer of complexity to the handling of the data: for instance, much of the current I-A data are publicly available in the US, while other jurisdictions have stricter disclosure rules.

A second type of challenge relates to the related practical arrangements. The sharing of data on G-SIFIs has required specific, tailored measures. The work is indeed still in progress, as not all G-SIBs currently report. Operational arrangements have been implemented that relate to statistical issues (eg common data templates), IT infrastructure and security protections (eg need for information access rights to be properly identified and controlled). Another important area relates to the legal infrastructure: well-established rules on confidentiality should be followed as well as trust in applying these rules. To this end, participating jurisdictions have conducted a mutual assessment of confidentiality regimes before



joining the Multilateral Framework governing the IDH. Strict controls within those institutions that have access to information on G-SIFIs (eg internal procedures for access, relevant IT infrastructure) were also established to ensure that necessary confidentiality requirements are in place.

A final challenge relates to access to the G-SIFIs' data. The collected information could be of potential interest for various users involved in financial stability work – including supervisors, macro-prudential authorities, other IFIs and even possibly the general public.

6. Conclusions

What are the key lessons regarding data sharing from the G-SIFI data collection exercise? A first is the importance of political support: the explicit request by the G-20 provided the political impetus needed to organise the data collection and sharing arrangements. A second is that information arrangements are data-dependent: solutions agreed in the context of the G-SIFI data collection underline that specific sharing arrangements should be tailored to the precise characteristics of the data collected. In particular, it is critical to clarify *ex ante* precisely what is meant by “data sharing”, a multi-faceted concept that can vary over time and across sectors and countries. A third lesson is that sharing is a trust-building exercise: the success of each intermediate step is key before any decision about expanding the initiative.

Future steps in international data sharing will greatly depend on the actual implementation of the G-SIFI data collection/sharing exercise, its operational success and its proven relevance in financial stability analysis. A reasonable assumption, however, is that as the remaining challenges are progressively overcome, the benefits of data sharing among relevant users will become increasingly apparent.

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