FSB FINANCIAL STABILITY BOARD

Global Shadow Banking Monitoring Report 2014

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Executive summary

The shadow banking system can broadly be described as credit intermediation involving entities and activities outside of the regular banking system.[1] Intermediating credit through non-bank channels can have important advantages and contributes to the financing of the real economy; but such channels can also become a source of systemic risk, especially when they are structured to perform bank-like functions (e.g. maturity and liquidity transformation, and leverage) and when their interconnectedness with the regular banking system is strong. Therefore, appropriate monitoring of shadow banking helps to mitigate the build-up of such systemic risks.

This report presents the results of the fourth annual monitoring exercise using end-2013 data, following the approach set out in the FSB report to the G20 in October 2011.[2,3] The report includes data from 25 jurisdictions and the euro area as a whole, bringing the coverage of the monitoring exercise to about 80% of global GDP and 90% of global financial system assets.[4]

As in previous exercises, the primary focus of the monitoring is a "macro-mapping" based on balance sheet data of national financial accounts (hereafter Flow of Funds),[5] that looks at all non-bank financial intermediation.[6] This conservative estimate, referred to as the Monitoring Universe of Non-Bank Financial Intermediation (MUNFI), ensures that data gathering and surveillance cover the areas where shadow banking-related risks to the financial system might potentially arise. Sections 2 to 4 and Section 6 of the report present the results of the macro-mapping, including size and growth trends of the MUNFI estimate, cross-jurisdiction analysis, trends in sub-sectors and interconnectedness with the banking system.

In addition to the conservative MUNFI estimate based on all non-bank financial intermediation, which underpins the bulk of the analysis, this year's report also continues to refine the shadow banking measure by also reporting a narrower measure of the broad MUNFI estimate. Section 5 presents the narrower measure of shadow banking, which is constructed by filtering out non-bank financial activities that have no direct relation to credit intermediation (e.g. Equity Investment Funds) or that are already prudentially consolidated into banking groups. As a result, this narrower measure more accurately reflects the size and composition of the shadow banking sector. Additional granularity in jurisdictions' data

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1 Some authorities and market participants prefer to use other terms such as "market-based financing" instead of "shadow banking". The use of the term "shadow banking" is not intended to cast a pejorative tone on this system of credit intermediation. However, the FSB is using the term "shadow banking" as it is the most commonly employed and, in particular, has been used in earlier G20 communications.

2 Previous shadow banking monitoring reports can be found at: http://www.financialstabilityboard.org/publications/r_131114.pdf; http://www.financialstabilityboard.org/publications/r_121118c.pdf, and http://www.financialstabilityboard.org/publications/r_111027a.pdf.

3 The exercise was conducted by the FSB Analytical Group on Vulnerabilities (AGV), the technical working group of the FSB Standing Committee on Assessment of Vulnerabilities (SCAV), using quantitative and qualitative information.

4 These figures were calculated from the statistical appendix of the IMF's Global Financial Stability Review, October 2014.

5 Flow of Funds data are based on broadly consistent definitions and are available in many jurisdictions, which allows a global aggregated view of all non-bank financial intermediation.

6 Unless otherwise mentioned, non-bank financial intermediation (or intermediaries) excludes financial intermediation by insurance companies, pension funds, and public financial institutions.

submissions for this year's report allowed a further refinement of the narrowing down efforts compared to last year. In particular, equity Real Estate Investment Trusts (e-REITs) were excluded, as they are typically not part of the credit intermediation process.[7] The narrowing down approach is an important refinement that uses more granular data provided by some jurisdictions, but remains a work in progress and will improve over time with increased data availability and a deeper understanding of the shadow banking system.

In future monitoring reports, the narrowing down approach may leverage on the results of the information-sharing exercise on shadow banking entities and activities, which is being developed by the FSB's Workstream on Other Shadow Banking Entities (WS3) based on the forward-looking high-level *Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities.*[8] An initial information-sharing exercise was conducted by WS3, involving a subset of FSB member jurisdictions. It is envisioned that the scope of the exercise will be extended to cover the entire FSB membership in 2015 (see Annex 3).

This year's report also includes summaries of regional studies on shadow banking prepared by the FSB's Regional Consultative Groups (RCGs) for the Americas and for Asia, which were published on the FSB website in August 2014.[9] Once these regional initiatives are firmly established, greater synergies with the FSB's global monitoring exercise could be explored. In particular, the extension of the shadow banking monitoring approach to selected non-FSB member jurisdictions where shadow banking entities are domiciled (e.g. offshore financial centres) would help to fill a potentially large gap in the current global monitoring exercise, which results from the fact that shadow banking entities in offshore centres are currently not captured.

In addition to the global and regional studies, a number of national authorities have performed more detailed analyses of their shadow banking system in the form of case studies which were submitted to the FSB. An example from Switzerland is presented in Annex 2.[10]

The main findings from the 2014 exercise are as follows:

- According to the MUNFI estimate, based on assets of Other Financial Intermediaries (OFIs), non-bank financial intermediation grew by $5 trillion in 2013 to reach $75 trillion.[11] This provides a conservative proxy of the global shadow banking system, which can be further narrowed down.
- By absolute size, advanced economies remain the ones with the largest non-bank financial systems. Globally, MUNFI assets represent on average about 25% of total

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[7] E-REITs typically only invest in and own physical properties and are therefore usually not part of the credit intermediation process, as they neither lend directly to other financial entities nor do they hold fixed income products in any significant way in their investment portfolio (see Box 4-1).

[8] Available at http://www.financialstabilityboard.org/publications/r_130829c.pdf.

[9] Report on Shadow Banking in the Americas (http://www.financialstabilityboard.org/publications/r_140822b.pdf), and Report on Shadow Banking in Asia (http://www.financialstabilityboard.org/publications/r_140822c.pdf).

[10] Views expressed in the regional studies on shadow banking are those of the RCG for the Americas and for Asia and do not necessarily reflect those of the FSB. Also, national analyses do not necessarily represent the assessment of the FSB.

[11] Unless otherwise mentioned, the aggregates presented refer to 20 non-euro area jurisdictions plus the euro area as a whole. This sample is referred to as *20+EA-group*. As data for the 5 participating euro area jurisdictions (France, Italy, Germany, the Netherlands, and Spain) is more granular than for the Euro Area as a whole, more detailed analysis is based on data for 25 jurisdictions (5 Euro Area jurisdictions and 20 non-euro area jurisdictions) – i.e. the *25-group* sample.

financial assets, roughly half of banking system assets, and 120% of GDP. These patterns have been relatively stable since 2008.

- Adjusted for exchange rate effects, MUNFI assets grew by +7% in 2013, driven in part by a general increase in valuation of global financial markets,[12] while in contrast total bank assets were relatively stable. In the case of Investment Funds, adjusting for valuation effects reduced the 2013 FX-adjusted growth rate by about 10.3 percentage points (see Box 4-2). The global growth trend of MUNFI assets masks considerable differences across jurisdictions, with growth rates of OFIs ranging from -6% in Spain to +50% in Argentina.
- Emerging market jurisdictions showed the most rapid increases in OFIs. Nine emerging market jurisdictions had 2013 growth rates above 10%. However, this rapid growth is generally from a relatively small base. While the non-bank financial system may contribute to financial deepening in these jurisdictions, careful monitoring is still required to detect any increases in systemic risk factors (e.g. maturity and liquidity transformation, and leverage) that could arise from the rapid expansion of credit provided by the non-bank sector.
- Among the MUNFI sub-sectors that showed the most rapid growth in 2013 are Trust Companies and Other Investment Funds. Trust Companies experienced the fastest 2013 growth rate of 42%, which is in line with the sector's average growth over 2007-2012. Other Investment Funds, the largest MUNFI sub-sector, recorded 18% annual growth in 2013, which represents a sharp acceleration from the average growth rate in the preceding years. It should be noted that the Hedge Funds sub-sector remains significantly underestimated in the FSB's exercise due to the fact that offshore financial centres, where most Hedge Funds are domiciled, are currently not within the scope of the exercise. More frequent updates of the IOSCO Hedge Fund Survey and further refinement of the data presented in the survey, including the availability of time series, could provide important additions to the Global Shadow Banking Monitoring Report.[13]
- Using more granular data reported by 23 jurisdictions, the broad MUNFI estimate of non-bank financial intermediation was narrowed down by some $27 trillion (see Section 5). The narrowing down items considered in this year's report are comprised of assets related to self-securitisation, assets of OFIs prudentially consolidated into a banking group, and entities not directly involved in credit intermediation, including Equity Investment Funds, equity REITs, and OFIs which are part of a non-financial group and are created for the sole purpose of performing intra-group activities.[14] This reduced total OFI assets for the 23 jurisdictions that reported granular data from $62 trillion to $35 trillion. Using the narrowed down estimate, the growth rate of shadow

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[12] The valuation effect on the size and growth of the shadow banking system differs across national statistics. Box 4-2 presents the result of adjusting for valuation effects using the example of Other Investment Funds. Growth rates of non-bank financial intermediation were calculated from local currency time series to avoid capturing exchange rate movements.

[13] Last year's IOSCO report is available at: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD427.pdf.

[14] The narrowing down methodology presented in Section 5 is preliminary and subject to future reviews. The FSB will launch a peer review process on shadow banking next year and may on that occasion revise the categories for narrowing down.

banking in 2013 was +2.4%, instead of +6.6% using the MUNFI. The FSB will continue to refine the methodologies in narrowing down the estimate as well as encourage its member jurisdictions to collect the relevant data.

- The measures of the level of interconnectedness between the banking and the non-bank financial system were improved in this year's report by adjusting for bank's assets and liabilities to OFIs that are prudentially consolidated into banking groups.[15] Overall, the level of interconnectedness between the banking and the non-bank financial system declined in 2013. However, the relevance of the findings in this area is hampered by the absence of reporting of this data by a number of large jurisdictions.[16]

Going forward, the monitoring exercise will continue to benefit from further improvement and thorough follow-up by jurisdictions of identified gaps and data inconsistencies. In many jurisdictions, additional improvements in data availability and granularity will be essential for authorities to be able to adequately capture the magnitude and nature of risks in the shadow banking system. In particular, jurisdictions that lack official Flow of Fund statistics are encouraged to develop them. Jurisdictions are also encouraged to devote resources to the development of data on interconnectedness between the banking and the shadow banking system, and to the development of risk factor data (e.g. maturity and liquidity transformation, and leverage), within the framework proposed in by the FSB's Workstream on Other Shadow Banking Entities (WS3), which will be essential to judge risks of the shadow banking system as the monitoring exercise develops.

Introduction

This report offers a systematic account of the size, composition and trends of non-bank financial intermediation across the major global financial systems. It forms the basis for the efforts by the FSB to monitor the global shadow banking system, i.e. the system of credit intermediation that involves entities and activities fully or partially outside the regular banking system, or non-bank credit intermediation in short. To this end, the FSB coordinates an annual multi-jurisdiction exercise of data collection, aggregation and analysis. Based on its results, the FSB identifies areas for further data improvement and highlights financial entities or activities for which rapid growth or heightened risks could call for adjustments in regulation. This report is the fourth annual exercise by the FSB to identify the amount and sources of non-bank credit intermediation, building on the inaugural 2011 report which sets out the annual monitoring approach.[17]

The 2014 monitoring exercise covers 25 jurisdictions and the euro area as a whole. It uses data supplied by national jurisdictions based on the balance sheets of the financial system, as recorded in national financial accounts (i.e. "Flow of Funds"), and complements it with other supervisory data and private sector data sources.

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[15] Without making this adjustment, bank exposure to prudentially consolidated OFIs would have been incorporated into the interconnectedness measures.

[16] China, France, Germany, Japan, Korea, and the U.S.

[17] 'Shadow Banking: Strengthening Oversight and Regulation', FSB, October 2011, www.financialstabilityboard.org/publications/r_111027a.pdf.

The monitoring exercise was coordinated by the Analytical Group on Vulnerabilities (AGV), the technical working group of the Standing Committee on Assessment of Vulnerabilities (SCAV) in 2014 using data up to the end of 2013.

1. Methodology

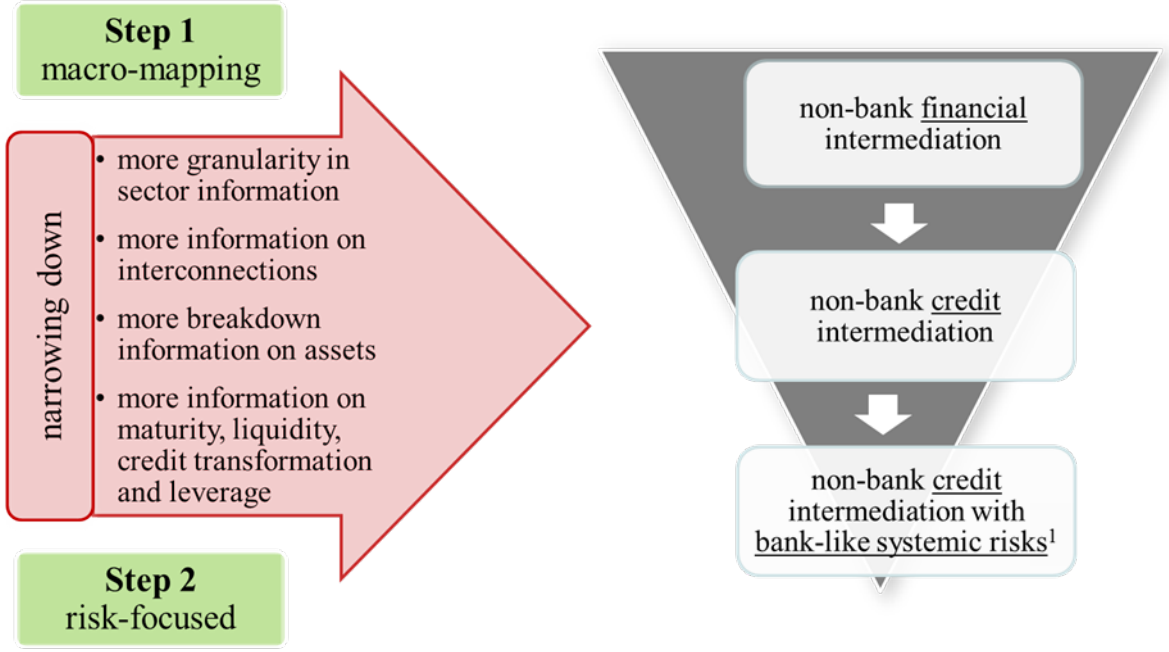
1.1 Conceptual framework

In line with the FSB's recommendations in the inaugural 2011 report to the G20, the shadow banking system monitoring and assessment exercise uses a two-step approach (Exhibit 1-1):

1. First, authorities cast the net wide, looking at all non-bank credit intermediation to ensure that data gathering and surveillance cover all areas where shadow banking-related risks to the financial system might potentially arise.
2. Second, authorities narrow the focus for policy purposes to the subset of non-bank credit intermediation where there are (i) developments that increase systemic risk (in particular maturity/liquidity transformation, imperfect credit risk transfer and leverage), and (ii) indications of regulatory arbitrage that is undermining the benefits of financial regulation.

Measuring the shadow banking system

Simplified conceptual image — Exhibit 1-1



[1] Bank-like systemic risks include maturity transformation, liquidity transformation, imperfect risk transfer, and leverage.

The 2014 report monitors the developments in non-bank financial intermediation up to the end of 2013. Non-bank financial intermediation is measured by total financial assets held by Other Financial Intermediaries (OFIs), which include all non-bank financial intermediaries

with the exception of insurance companies, pension funds and public financial institutions. This broad measure is referred to as the Monitoring Universe of Non-Bank Financial Intermediation (MUNFI). The MUNFI measure is then sub-divided into several sub-sectors, with a core reporting of 8 sub-sectors[18] and supplementary reporting of additional sub-sectors on a voluntary basis. There has been a notable improvement in the granularity of MUNFI sub-sectors in 2014 with an enhanced reporting of Real Estate Investment Trusts and Funds (REITs[19]) and Trust Companies. This year, a significantly higher number of jurisdictions reported data for these sub-sectors – 19 jurisdictions (73% of the sample, 93% of global financial system assets) reported data for REITs, up from 5 last year;[20] and 6 jurisdictions (23% of sample, 16% of global financial system assets) reported data for Trust Companies, up from 4 last year. Still, 9% of MUNFI sector assets remained unallocated to specific sectors in 2014, the same proportion as in the 2013 report, suggesting that further enhancements to data collection and reporting should be pursued.

In line with the second step of the outlined process, this year's report continues the efforts to refine the shadow banking measure, by narrowing down the broad estimate of the size of non-bank financial intermediation. To this end, additional templates designed to capture the information needed for this refinement were circulated to jurisdictions. Given that the FSB broadly defines shadow banking as "a system of credit intermediation that involves entities and activities outside the regular banking system",[21] the narrow measure focusses on the subset of non-bank credit intermediation which potentially poses systemic risks to the financial system. To accomplish this, the narrow measure filters out entities that are not part of a credit intermediation chain and those that are prudentially consolidated into a banking group (see Box 1-1).

Measures of the Shadow Banking System	**Size measured by** **Box 1-1**
Monitoring Universe of Non-Bank Financial Intermediation (MUNFI) *Broad measure*	Global financial assets of OFIs
Shadow banking system *Narrow measure*	Global financial assets of OFIs *minus* - Financial assets of non-bank financial entities not involved in bank-like credit intermediation. - Financial assets related to those non-bank financial entities that are prudentially consolidated into a banking group. - Financial entities whose activities do not exhibit risks associated with shadow banking including but not limited to maturity and liquidity transformation, and/or leverage.

[18] For 2014, these sub-sectors are Money Market Funds, Finance Companies, Structured Finance Vehicles, Hedge Funds, Other Investment Funds, Broker-Dealers, Real-Estate Investment Trusts and Funds. See the template in Annex 1 for more details.

[19] In some cases and jurisdictions, REITs can also be structured as funds rather than trusts. For example, in Germany the data submission for Real Estate Investment Trusts and Funds only includes open-ended Real Estate Investment Funds.

[20] Some of this increase includes additional reporting from data sources or categories not included in previous reports, but also includes in some cases greater granularity in the pre-existing data reporting.

[21] See http://www.financialstabilityboard.org/publications/r_110412a.pdf.

This narrowing down process resulted in the filtering out of (a) financial assets linked to self-securitisation,[22] (b) non-bank financial entities not involved in credit intermediation, such as Equity Investment Funds and equity REITs, and (c) those non-bank financial activities that are prudentially consolidated into a banking group, including Finance Companies and Broker-Dealers. Narrowing down those entities that do not engage in maturity or liquidity transformation or the use of leverage would have required information on risk factors, which is not available for the time being in a sufficiently consistent and granular way across jurisdictions. The information sharing exercise currently ongoing under the Workstream on Other Shadow Banking Entities (WS3) could help provide insights and possibly data for refining the narrowing down going forward.

Both measures –the broad conservative MUNFI estimate as well as the narrow measure of shadow banking– are important indicators of the size, composition and growth trends of non-bank financial intermediation, and it is therefore envisioned to continue and track both measures in future monitoring reports.

1.2 Data aggregation

As in past reports, the monitoring results are presented for two different samples of FSB jurisdictions[23] in an attempt to maximize both the scope and granularity of available data.

Sample composition Box 1-2

25-group	*20+EA-group*
Argentina	Argentina
Australia	Australia
Brazil	Brazil
Canada	Canada
Chile	Chile
China	China
Hong Kong	Hong Kong
Indonesia	Indonesia
India	India
Japan	Japan
Korea	Korea
Mexico	Mexico
Russia	Russia
Saudi Arabia	Saudi Arabia
Singapore	Singapore
Switzerland	Switzerland
Turkey	Turkey
United Kingdom	United Kingdom
United States	United States
South Africa	South Africa
Germany	Euro Area
France	
Italy	
Netherlands	
Spain	

The first sample with the greatest granularity of sub-sectors comprises 25 reporting individual jurisdictions, which for ease of reference we denote the *25-group*. The second sample is more comprehensive in terms of jurisdiction coverage but less granular in terms of sub-sectors. It comprises 20 individual jurisdictions plus the Euro Area (EA) aggregate, which we denote the *20+EA-group.* This latter measure excludes the country specific reporting from the five reporting individual EA members (France, Germany, Italy, the Netherlands and Spain) and instead uses European Central Bank (ECB) data at the aggregate EA level (see Box 1-2). Sections 2 and 3 present data for the *20+EA-group* which uses ECB data for the euro area as a whole based on harmonised financial account (Flow of Funds) and monetary statistics. As national data for the five participating euro area countries provide some additional granularity on MUNFI sub-sector sizes and composition, Section 4 focusses instead on the *25-group*. For comparison, MUNFI assets in 2013 for the *25-group* were $63.8 trillion and $75.2 trillion for the *20+EA-group*.

[22] Self-securitisation (retained securitisation) is defined as those securitisation transactions done solely for the purpose of using the securities created as collateral with the central bank in order to obtain funding, with no intent to sell them to third-party investors. All of the securities issued by the Structured Finance Vehicle for all tranches are owned by the originating bank and remain on its balance sheet.

[23] To be precise, 24 FSB jurisdictions and Chile. See Box 1-2 for the list of jurisdictions.

The report is based on the following data sources:

1. Balance sheets of national financial systems based on financial accounts, i.e. Flow of Funds, data up to the end of 2013 provided by jurisdictions following the template recommended in the October 2011 report with some refinements (see the first table in Annex 1). Jurisdictions were encouraged to report financial assets when available, otherwise total assets. In some cases, in order to complement the Flow of Funds data, other supervisory data and private sector sources were used;
2. Additional templates (see second and third tables in Annex 1) on self-securitisation and non-bank financial entities prudentially consolidated into a banking group were provided by those jurisdictions where such activity is significant;
3. Short analysis of national developments in shadow banking sector provided by national authorities;

Due to the improvements in national statistics and more granular reporting, results presented in this report are not strictly comparable to those in the last year's report. For example, the Netherlands made substantial revisions and reclassification of the OFI sector assets due to a revision of national accounts data which led to a significant upward revision of the OFI sector assets for the period 2002-2012 compared to the previous year's report. In addition, this year, U.S. bank holding companies with financial assets of $4.3 trillion in 2013 have been more accurately identified. As a result, they were moved from the OFI sector and placed within the deposit-taking institutions, recognising that they are subject to bank regulation, and resulting in a noticeable reduction in the size of the U.S. OFI sector as compared to the numbers published last year. Furthermore, the U.S. started reporting the assets of Finance Companies and Broker-Dealers which are prudentially consolidated into a banking group, allowing further narrowing down.

2. Overview of global macro-mapping results

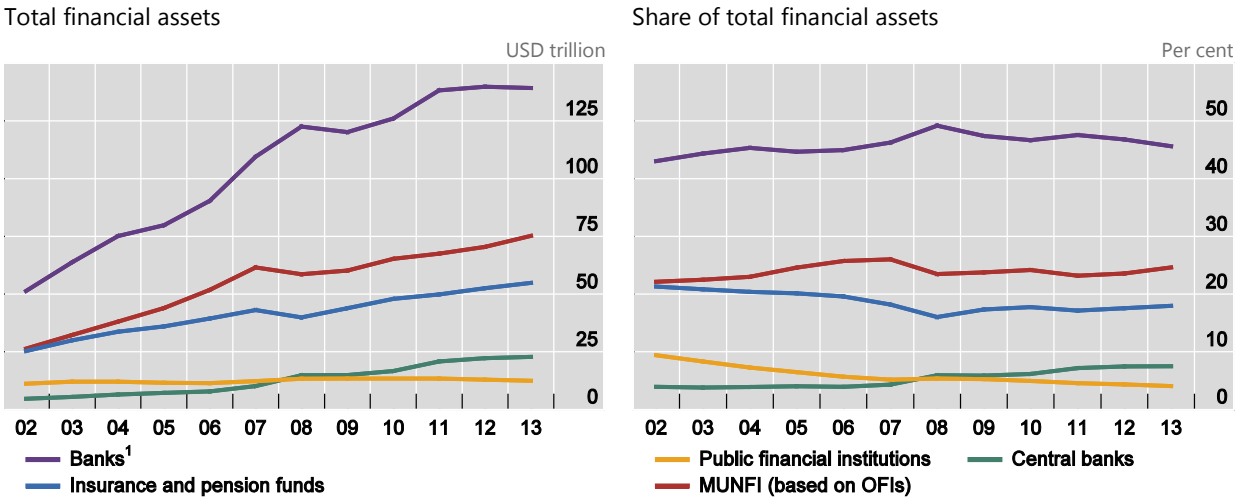
The Monitoring Universe of Non-Bank Financial Intermediation (MUNFI) comprising the financial assets of the Other Financial Intermediaries (OFIs)[24] continued to grow in 2013. MUNFI assets in the *20+EA-group* continued on an upward trend, increasing by $4.8 trillion in 2013 and reaching $75.2 trillion (left panel of Exhibit 2-1).

The growth in MUNFI assets globally in 2013 occurred against a backdrop of roughly stable banking system assets for the second year in a row. As a result, the share of MUNFI in total financial system assets (Exhibit 2-1, right panel) has increased slightly to 25% after hovering at around 24% for the previous five years. By contrast, the share of bank assets has declined for the second year in a row and currently stands at 46% of total financial system assets.

[24] 'Other Financial Intermediaries' comprise all financial institutions that are not classified as banks, insurance companies, pension funds, public financial institutions, central banks, or financial auxiliaries.

Assets of financial intermediaries

20 jurisdictions and euro area — Exhibit 2-1



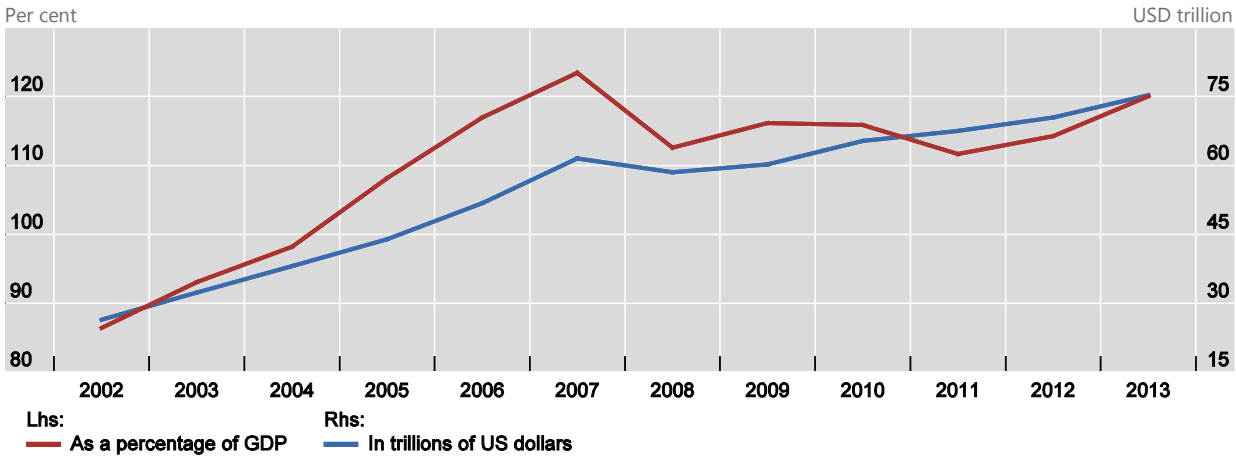
[1] Note that 'banks' refer to the broader category of 'deposit-taking institutions'.

Sources: National financial accounts data; other national sources.

MUNFI assets also grew relative to the size of the economy approaching their pre-crisis peak as a percent of GDP. Exhibit 2-2 illustrates that MUNFI assets as a share of GDP in the *20+EA-group* rose by 6 percentage points to 120% of GDP in 2013, approaching the peak of 124% of GDP in 2007. The share of MUNFI assets in GDP rose for the second year in a row recovering from the post-crisis low of 112% of GDP in 2011.

MUNFI assets

20 jurisdictions and euro area — Exhibit 2-2



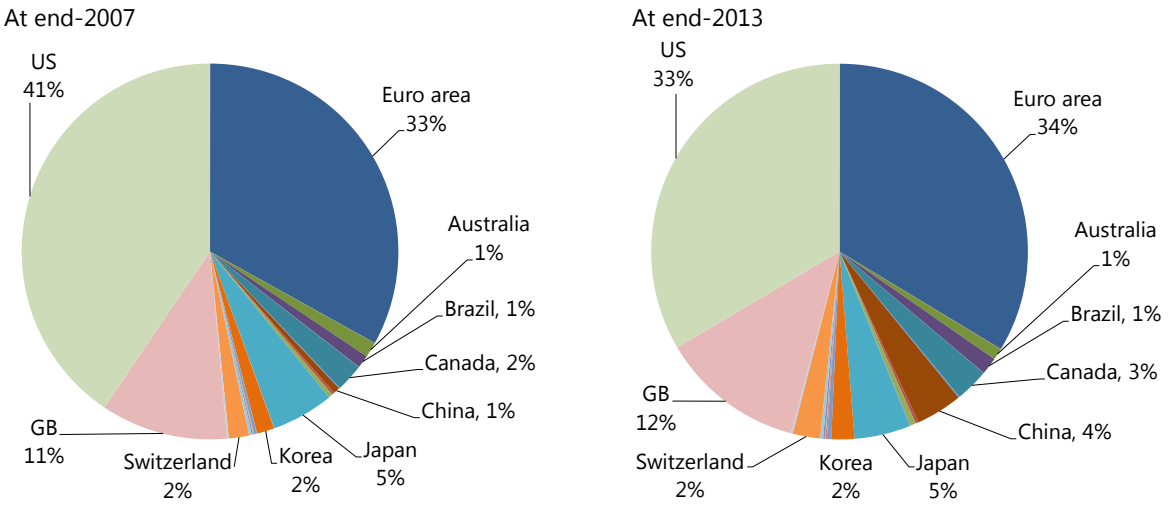
Sources: National financial accounts data; other national sources.

The euro area and the United States (U.S.) have the largest OFI sectors, each with just above $25 trillion in 2013, representing a third of global MUNFI assets (see Exhibit 2-3). The

United Kingdom has the third largest OFI sector amounting to $9.3 trillion in 2013, a 12% share of the *20+EA-group* total. Combined together, the euro area, U.S. and the United Kingdom represent 80% of total global MUNFI assets in 2013. This compares with their more modest share (53%) in terms of global bank assets. The relative size of national jurisdictions' OFI sectors has shifted somewhat since 2007, with a relative shrinkage of the U.S. OFI sector as a percent of the total, counterbalanced by a slight increase in the euro area and the United Kingdom, and most notably a clear increase in the share of emerging market jurisdictions, particularly China.

Share of MUNFI assets

20 jurisdictions and euro area Exhibit 2-3



Sources: National financial accounts data; other national sources.

2.1 Insurance Companies and Pension Funds

Insurance companies and pension funds (ICPFs) are not included in our MUNFI measure. However, this data is collected as part of the normal monitoring process and reveals a few key insights into the broader composition of the financial system. As insurance companies and pension funds are increasingly active in credit intermediation, sometimes by expanding lending activities traditionally performed by banks, this report includes for the first time a review of the trends in these sectors. In addition, ICPFs constitute a large portion of total financial system in the *20+EA-group* on aggregate, and in some individual jurisdictions in particular.

Global ICPFs sector assets reached $54.8 trillion in 2013, having grown continuously since 2008 (see left panel of Exhibit 2-1). The FX-adjusted growth of ICPFs in the *20+EA-group* in 2013 stood at 7%, somewhat below the 7.7% rate in 2012, but broadly in line with the average annual rate of 6.7% in 2009-12. Pension funds have grown faster than insurance companies since 2009 – the annual average growth reached 8% in pension funds and 6% in insurance companies over that period. At the end of 2013, ICPFs constituted 18% of total financial system assets and 88% of GDP in the *20+EA-group*. However, within the aggregate there is a

marked disparity between individual jurisdictions. For instance, in 2013, the ICPFs sector made up 41% of total financial system assets in South Africa, 36% in Chile and around 30% in Australia and the U.S., but only 3.6% in Russia and 3.7% in Turkey. The growth in the ICPFs sector (adjusted for exchange rate movements) in 2013 was the greatest in those jurisdictions where ICPFs sector is relatively small in comparison to the total financial system size, including jurisdictions such as Argentina, Turkey and Russia. However, some jurisdictions with already sizeable ICPFs sector also saw significant sector growth, e.g. in Australia and Italy the growth rate in 2013 was close to 15%.

3. Cross-jurisdiction analysis

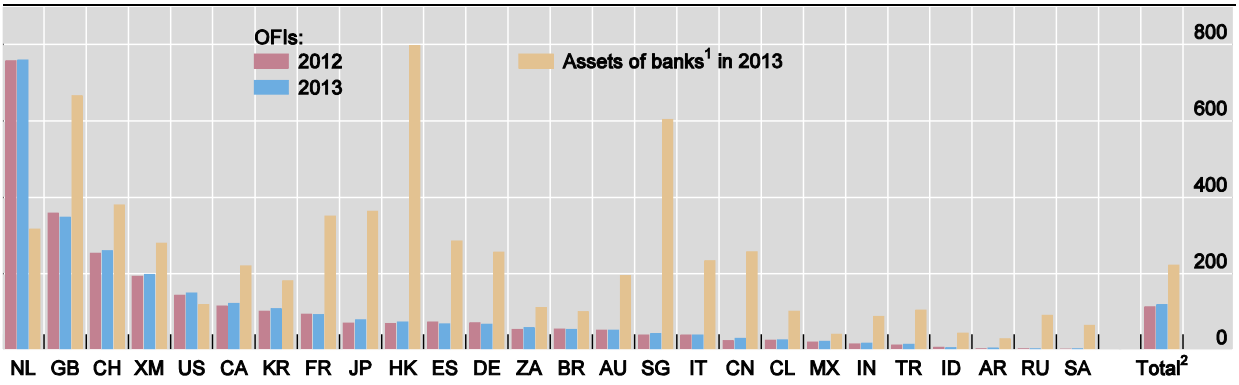
This section decomposes the aggregate results in order to examine the considerable heterogeneity that exists across and within individual jurisdictions.

3.1 Structure of financial systems

The relative size of the OFI sector varies widely among individual jurisdictions (Exhibit 3-1) and is closely linked to the degree of disintermediation and financial deepening of jurisdictions. In terms of share of GDP, OFIs in the Netherlands, United Kingdom and Switzerland stood at the high-end of the spectrum (760%, 348% and 261% of GDP, respectively).[25] On the other end, OFIs were below 10% of GDP in Russia, Saudi Arabia, Argentina and Indonesia.

Size of non-bank financial intermediaries

As a percentage of GDP, by jurisdiction — Exhibit 3-1



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; CL = Chile; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; HK = Hong Kong; ID = Indonesia; IN = India; IT = Italy; JP = Japan; KR = Korea; MX = Mexico; NL = Netherlands; RU = Russia; SA = Saudi Arabia; SG = Singapore; TR = Turkey; US = United States; XM = Euro Area; ZA = South Africa.

[1] Note that 'banks' refer to the broader category of 'deposit-taking institutions'. [2] 20 jurisdictions and euro area.

Please refer to the country case studies in the current and past publications of the Global Shadow Banking Monitoring Report for a detailed description of shadow banking in Canada, India, the Netherlands, Switzerland, South Africa, the United Kingdom, and the US.

Sources: National financial accounts data; other national sources; IMF.

[25] In the Netherlands, Special Financial Institutions (SFIs) comprise about two-thirds of the OFIs sector and thereby explain most of the size of the shadow banking sector. There are about 14 thousand SFIs, which are typically owned by foreign multinationals who use these entities to attract external funding and facilitate intra-group transactions. In the United Kingdom, around one third of the OFI sector constitutes assets of Broker Dealers, which are almost entirely prudentially consolidated into a banking group.

All but six jurisdictions saw the share of their OFI sector assets in GDP rise compared to 2012, reflecting a long-term trend towards more disintermediation and financial deepening.

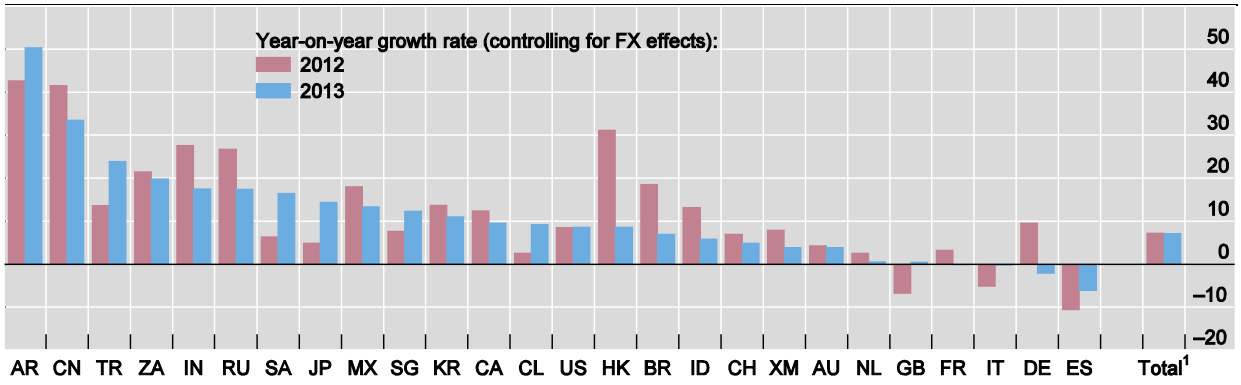
3.2 Growth trends of non-bank financial intermediation across jurisdictions

MUNFI assets in the *20+EA-group* rose by 7% in 2013, the same rate of increase as in 2012 (Exhibit 3-2).[26] The calculated growth rate is net of exchange rate effects but does not account for valuation effects which would likely dampen the growth figures given the overall appreciation of asset prices in 2012 and 2013 (see Box 4-2).

While the growth of OFI assets slowed in most jurisdictions compared to 2012, it accelerated markedly in Saudi Arabia, Japan and Chile, net of exchange rate effects. In most emerging market jurisdictions, the OFI sector continued to grow at a well above average pace, for instance, in Argentina, China, and Turkey the exchange-rate adjusted growth in 2013 exceeded 20%. While they still represent a small share of MUNFI assets globally, the rapid expansion of non-bank intermediation in these jurisdictions should be carefully monitored to account for any early indications of a build-up of systemic risk.

Annual growth of non-bank financial intermediaries

By jurisdiction, in per cent — Exhibit 3-2



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; CL = Chile; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; HK = Hong Kong[2]; ID = Indonesia; IN = India; IT = Italy; JP = Japan; KR = Korea; MX = Mexico; NL = Netherlands; RU = Russia; SA = Saudi Arabia; SG = Singapore; TR = Turkey; US = United States; XM = Euro Area; ZA = South Africa.

[1] Weighted average of 20 jurisdictions and euro area. [2] The basis of calculating 2012 growth rate of HK's OFIs is different from that of calculating 2013 growth rate, due to the data unavailability of HK's Finance Companies' assets.

Sources: National financial accounts data; other national sources.

[26] The aggregate growth rate for the *20+EA-group* is calculated as a weighted average of individual jurisdictions' growth rates measured in local currency. The weights are based on the amount of reported financial assets of the OFI sector measured in US dollars.

4. Composition of non-bank financial intermediation

This section looks at the composition of MUNFI in the *25-group* as a whole, given the higher granularity of sub-sectors available for this sample relative to the *20+EA-group*. The most striking development was the very rapid expansion of Other Investment Funds, which captures all Investment Funds (equity, fixed income and other), with the exception of Money Market Funds and Hedge Funds. The strong growth in Investment Funds, well above its 2007-12 average growth rate, is partly explained by the valuation effects amid rising asset prices in 2013 (see Box 4-2), but in addition may also indicate a changing financial system landscape and correspondingly the increased importance of these entities.

4.1 Breakdown by sub-sectors of Monitoring Universe of Non-Bank Financial Intermediation (MUNFI)

The granularity of data submissions for OFI sub-sectors varied across jurisdictions. Most jurisdictions submitted data for at least six OFI sub-sectors. In this year's exercise, the data template was refined with two more OFI sub-sectors – Trust Companies and Real Estate Investment Funds and Trusts (REITs) – 19 out of 25 jurisdictions submitted data for either or both of the two sectors.[27]

Other Investment Funds were the largest MUNFI sub-sector with assets in excess of $24 trillion in the *25-group*, which accounted for 38% of MUNFI assets in 2013 (left side of Exhibit 4-1), up from 34% in 2012. Jurisdictions were asked to allocate assets of the Other Investment Funds into the following categories: Equity Funds, Fixed Income Funds and Other Funds (those which could not be identified either as Equity or Fixed Income Funds). The right side of Exhibit 4-1 shows that Equity Funds accounted for more than half of all the reported Other Investment Funds assets in 2013 amounting to $12.4 trillion, while Fixed Income Funds totalled $7.6 trillion (32%), and $4.1 trillion (17%) were held in Other Funds.

The second largest identified MUNFI sub-sector at the end of 2013, just like at end-2012, was Broker-Dealers. Their assets amounted to $9.3 trillion, accounting for 15% of MUNFI assets in the *25-group*.

The third largest MUNFI sub-sector in 2013 was Structured Finance Vehicles. Their total financial assets reached almost $5 trillion, 8% of MUNFI assets, down from 9% in 2012.

Finance Companies' assets were $4.1 trillion in 2013, 6% of MUNFI assets. Money Market Funds' assets totalled $3.8 trillion (6% of MUNFI). REITs and Trust Companies' assets were around $2.0 trillion in 2013, both accounting for 3% of MUNFI in the *25-group*.

Hedge Fund assets amounted only to $0.1 trillion in 2013, according to jurisdictions' submissions for the macro-mapping exercise. However, the size of the sector in the FSB's exercise is significantly underestimated primarily due to two factors. First, off-shore financial centres, where most Hedge Funds are domiciled, are not included in the current scope of the

[27] The following OFI sub-sectors (template columns) were considered: Money Market Funds, Finance Companies, Structured Finance Vehicles, Hedge Funds, Equity funds, Fixed Income Funds, Other Investment Funds, Broker-Dealers, REITs and Trust Companies. The set of jurisdictions that was able to submit at least 75% of the OFI sub-sectors is comprised of Argentina, Australia, Brazil, Canada, Chile, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, Korea, Mexico, Netherlands, Russia, Spain, the United Kingdom, and the US. Countries submitting 50% or less of the OFI sub-sectors include Saudi Arabia, South Africa and Switzerland.

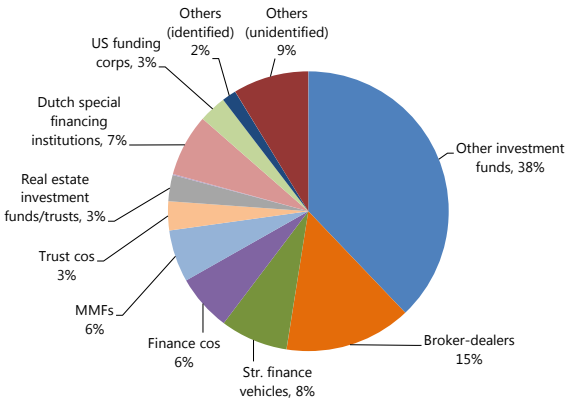
exercise. Second, the Flow of Funds statistics are not granular enough in many jurisdictions to allow a separation between Hedge Funds and other sectors.[28] Last year's report referenced results from IOSCO's Hedge Fund survey which provided a more representative picture of the sector. Updated estimates for 2014 are currently not available, but the IOSCO has launched a new survey which should provide an overview of the global Hedge Fund industry. Information is expected to be available in the first half of 2015. However, data from a private sector source (Hedge Fund Research) show that globally assets under management in this industry amounted to $2.6 trillion at the end of 2013.[29] The U.S. and the United Kingdom, which hold the great majority of global Hedge Fund assets, published results from national Hedge Fund surveys in 2014. In the case of the United Kingdom, the Financial Conduct Authority's report shows that approximately $470 billion of Hedge Fund assets were managed in the United Kingdom.[30] While data collected by the US Securities and Exchange Commission (SEC) show that registered investment advisors managed $5 trillion of Hedge Fund assets.[31] Note that these numbers are from different sources with generally different methodologies and survey coverage, and are therefore not necessarily comparable.

Dutch Special Financing Institutions (SFIs) and U.S. Funding Corporations are the two large jurisdiction-specific MUNFI sub-sectors which held assets of $4.6 trillion and $2.0 trillion in 2013, respectively. Around 2% of total MUNFI assets were held in other types of jurisdiction-specific sub-sectors. Remaining 9% of assets were held in unidentified entities, roughly the same share as in the previous year's report.

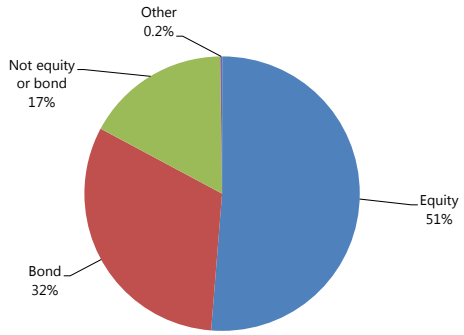
Sub-sectors of MUNFI

25 jurisdictions, at end-2013 Exhibit 4-1

Decomposition by sub-sector



Other investment funds by type



Sources: National financial accounts data; other national sources.

[28] For example, in the Financial Accounts of the United States, Hedge Funds are included in the household sector.

[29] Hedge Fund Research (HFR), https://www.hedgefundresearch.com.

[30] See http://www.fca.org.uk/static/documents/hedge-fund-survey.pdf.

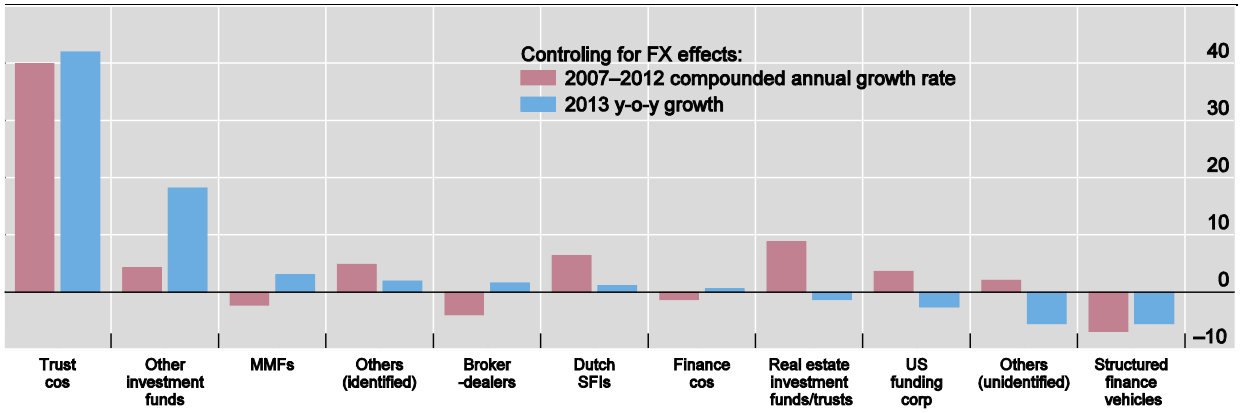
[31] This number captures the gross assets of Hedge Funds advised by SEC-registered investment advisers with private fund assets under management of at least $150 million. The SEC report relating to the Use of Data Collected from Private Fund Systemic Risk Report is available at http://www.sec.gov/reportspubs/special-studies/im-private-fund-annual-report-081514.pdf.

4.2 Recent trends in sub-sectors

Exhibit 4-2 compares the exchange-rate adjusted growth rates of MUNFI sub-sectors in 2013 and over the 2007-12 period in the *25-group*.

Annual growth of MUNFI sub-sectors

25 jurisdictions, in per cent Exhibit 4-2



Sources: National financial accounts data; other national sources.

Trust Companies experienced the fastest growth rate of above 40% in 2013, but in line with the sector's annual average growth over 2007-12[32] and from a low base compared to other MUNFI sub-sectors. The assets of Other Investment Funds, the largest MUNFI sub-sector (see Exhibit 4-1), recorded close to 20% annual growth in 2013 – a sharp acceleration compared to their average growth over 2007-12 period.[33] Money Market Funds and Broker-Dealers' financial assets rose by 3.0% and 1.6% in 2013, respectively. REITs' assets, on the other hand, contracted by 1.3% in 2013 having expanded by close to 9% on average over the 2007-12 period (see Box 4-1). The assets of mortgage REITs in the 4 jurisdictions which provided the data shrank by 20% in 2013 (dominated by 21% decline in the U.S.), while the assets of equity REITs increased by 4.5%. Structured Finance Vehicles continued to contract in 2013, in line with their recent negative growth trend (2007-12). Dutch SFIs' assets increased slightly in 2013 while US Funding Corporations' assets shrank by 2.6%.

Real Estate Investment Trusts and Funds (REITs) **Box 4-1**

REITs are financial intermediaries that invest primarily in income producing physical real-estate project, mortgage derivatives, liens and mortgage-backed securities (MBS). On the liabilities side, REITs are usually funded primarily through both an equity issuance process

[32] In this year's exercise, a column for Trust Companies was added among the OFI sub-sectors in the template for data submissions (see first table in the Annex 1). As a result, the number of reporting jurisdictions increased to 19 from 5 last year.

[33] Consistent with the focus on residence in Flow of Funds statistics and to avoid double counting, this report excludes assets that are managed in participating jurisdictions but incorporated in a country not covered by this monitoring exercise.

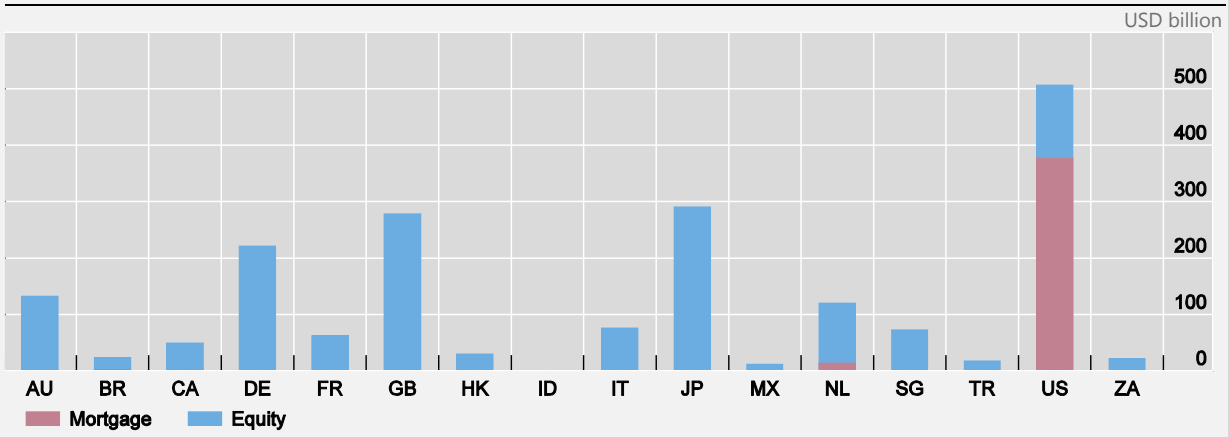
and the use of debt finance (typical leverage of a REIT is a debt/total assets ratio of between 40 and 60%). REITs receive special tax considerations and therefore typically offer investors a high yielding and liquid method of investing in real estate.

There is a subgroup of REITs that only invests in and owns physical properties and whose revenues therefore come principally from its properties' rents – these are called equity REITs (e-REITs), as they are responsible for the equity or value of their real estate assets. So-called mortgage REITs (m-REITs), on the other hand, do not invest in physical real-estate but derive most of their income from investment and ownership of debt instruments, such as property mortgages or MBS that support real-estate investments. E-REITs are typically not part of the credit intermediation process, as they neither lend directly to other financial entities nor do they hold fixed income products in any significant way in their investment portfolio, while m-REITs are clearly part of the credit intermediation process. In addition, m-REITs also fit several risk characteristics of shadow banking, given their typically relatively high reliance on short-term repo funding to achieve leverage.

REITs have diverse characteristics across jurisdictions in terms of assets purchased, legal form, use of leverage and maturity transformation.[34] Often they are considered as non-financial corporations and therefore not necessarily reported as OFIs in some jurisdictions, which led to under-reporting in previous global shadow banking monitoring reports. The templates used to collect data for this year's report have been enhanced and participating jurisdictions were explicitly asked to report data on REITs as a separate item. As a result, response levels for this particular entity type improved significantly, increasing from five reporting jurisdictions in last year's report to 19 this year. Participating jurisdictions were also asked to provide the split between e-REITs and m-REITs, where available (see Exhibit 4-3).

Real Estate Investment Trusts and Funds

At end-2013 Exhibit 4-3



AU = Australia; BR = Brazil; CA = Canada; DE = Germany; FR = France; GB = United Kingdom; HK = Hong Kong; ID = Indonesia; IT = Italy; JP = Japan; MX = Mexico; NL = Netherlands; SG = Singapore; TR = Turkey; US = United States, ZA=South Africa.

Note: REITs assets in Indonesia are small. Data for Germany only includes open-ended Real Estate Investment Funds.

Source: National financial accounts data.

[34] See Annex 2 of the 2013 Global Shadow Banking Monitoring Report, published on 13 November 2013 for an assessment of U.S. mortgages REITs (http://www.financialstabilityboard.org/publications/r_131114.pdf).

In nominal terms, the size of the REITs sector was biggest in the US with just above $500 billion followed by Japan with close to $300 billion assets. Indonesia reported smallest REITs sector of $37 million. These more comprehensive data show that financial assets of all REITs (e-REITs and m-REITs) contracted by 1.3% in 2013 –controlling for exchange rate movements–, after increasing by close to 6.6% per year on average over the 2007-2012 period. However, these aggregated numbers mask considerable heterogeneity between the types of REITs and across jurisdictions. In particular, m-REITs contracted by 20% in 2013 which stands in stark contrast to their 27% average annual growth rate in 2009-12. The decline in 2013 was driven by developments in the U.S., where the sector contracted by 21%. On the other hand, e-REITs grew by 4.5% in 2013, driven by Mexico, Singapore, and the U.S.

Despite the decline of m-REITs in 2013, authorities should monitor the developments in this sector carefully to detect any increases in risk factors and possible build-ups of systemic risk pockets as the sector might resume the high growth path of post-2008 years.

It is important to keep in mind that the growth rates of financial assets presented in this report are not adjusted for valuation effects and therefore only approximately reflect the evolution of financial transactions from one year to another. In particular, national jurisdictions report data to the FSB converted to US Dollars using the end-of-year market exchange rates. Using these exchange rates, FSB calculates the exchange-rate adjusted growth rates of MUNFI in order to eliminate the effect of exchange rate movements on the value of financial assets. However, another source of potential movements in the value of financial assets is asset price changes. Results reported in this section do not take these valuation effects into account.

Adjustment for valuation effects **Box 4-2**

An increase in the nominal value of assets can be driven (a) by an increase in the quantity of assets valued at a given price, and (b) by an increase in the price of a fixed quantity of assets.[35] FX-adjusted growth rates presented in this report filter out the price effects related to the exchange rate movements, but still include the valuation effects. In order to demonstrate the effect of valuations, we deflate the annual growth rates of Other Investment Funds assets by a sector-specific asset price index. We choose this sector because of its large size and available proxies for their asset prices. In particular, we use the *MSCI World Index* to deflate the growth rates of financial assets of Equity Funds, *Barclays Capital Aggregate Bond Index* to correct the growth rates of Fixed Income Funds assets, and an equally weighted average of the two above-mentioned asset price indices to deflate the Other Funds.[36]

Exhibit 4-4 shows that valuation adjustment played a much bigger role in 2013 compared to 2012. In 2012, valuation effects positively contributed to growth rates for all fund types, and

[35] Another factor which may affect nominal values are statistical reclassifications. This is particularly relevant for euro area countries in the 2014 Global Shadow Banking Monitoring Report due to the introduction of new statistical standards during 2014.

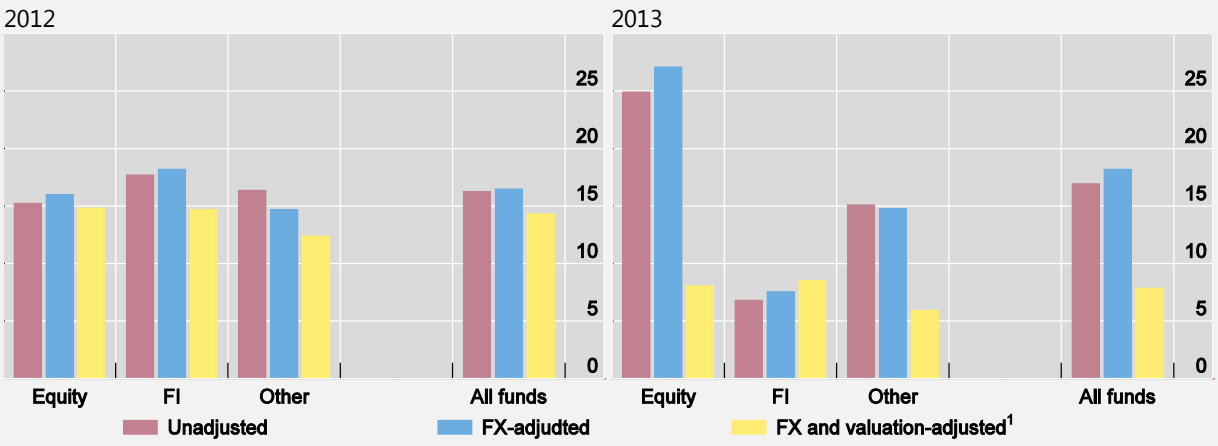
[36] This analysis ignores country-specific valuation effects and focusses only on global figures. It also abstracts from foreign exchange effects embedded in the asset price indices.

in particular more for Fixed Income Funds than Equity Funds (left panel). The FX and valuation-adjusted growth rate of aggregate Other Investment Funds stood at 14.3% compared to 16.5% rate in FX-adjusted terms only. Interestingly, only adjusting for FX effects led to a downward revision of growth rates in all cases except for Other Funds in 2012 (likely a result of the FX-adjustment being country-specific and therefore a particularly large exchange rate movement in a country reporting a relatively large Other Funds sector is driving these results). In 2013, valuation effects also positively contributed to growth rates for Equity Funds and Other Funds, but affected negatively the growth rate of Fixed Income Funds (result of global bond index showing a year-on-year decline in 2013). The growth rate of Equity Funds in 2013 is reduced from 27.1% in FX-adjusted terms to 8.1% in FX and valuation-adjusted terms as a result of the 17.6% increase in the *MSCI World Index*. The growth rate of Other Funds, too, is less than half as big in FX and valuation-adjusted terms. On the other hand, the FX and valuation-adjusted Fixed Income Funds growth rate slightly increased as the bond index experienced 0.9% decline in 2013. As a result, the growth rate of aggregate Other Investment Funds assets roughly halved when both FX and valuation adjustments were taken into account.

Annual growth rate of sub-sectors of investment funds

25 jurisdictions, in per cent

Exhibit 4-4



[1] Valuation-adjustment: we use the MSCI World Index to deflate the growth of Equity Funds; Barclays Capital Aggregate Bond Index to deflate Fixed Income (FI) Funds, and equally-weighted average of MSCI World and Barclays Capital Aggregate Bond Index to deflate Other funds.

Sources: National financial accounts data; other national sources, Bloomberg.

Adjusting the total MUNFI growth (of which Other Investment Funds is only one sector) for valuation effects is difficult as it would require the use of sector-specific proxies for the different MUNFI sub-sectors which are not always available.

5. Narrowing down

The broad examination of non-bank financial intermediation as captured in the MUNFI measure is useful in monitoring trends outside of the banking, insurance and pension fund domain. However, it also captures elements that do not strictly meet all the characteristics of the shadow banking definition laid out by the FSB. As part of the two-step approach presented by the FSB in its 2011 report to the G20, this year's report continues to refine the estimate of the narrower measure of the shadow banking sector.[37]

The determination of which entities are retained in the narrower measure is based on the entities meeting *all* of the following criteria:

i) The entity must be part of a credit intermediation chain;[38]

ii) It must not be consolidated into a banking group for the purposes of prudential regulation;[39]

iii) It must exhibit risks associated with shadow banking including but not limited to maturity and liquidity transformation, and/or leverage.[40]

Using these criteria for the 23 jurisdictions that provided sufficiently granular data, the preliminary narrow measure in this year's report excludes assets related to self-securitisation, assets of OFIs prudentially consolidated into a banking group, and entities not directly involved in credit intermediation, including Equity Investment Funds, equity REITs, and OFIs which are part of a non-financial group and are created for the sole purpose of performing intra-group activities. Going forward, the narrowing down will be further refined through, for example, the insights gained from the results of the initial information-sharing exercise on shadow banking (see Annex 3).

5.1 Self-securitisation

Sections 2, 3 and 4 included financial assets of Structured Finance Vehicles in the MUNFI measure, without regard to the ownership of the Structured Finance Vehicles. However, in a number of jurisdictions, certain types or part of these products are retained on the balance sheet of the bank that originally provided the asset to be securitised. In particular, self-securitisation transactions are done with the sole purpose of creating securities eligible as collateral for central bank operations. All tranches of these securities are retained on the balance sheet of the originating bank, without the intent of making them available for sale to third-party investors. Assets related to self-securitisation, or retained securitisation, are not

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[37] The narrowing down methodology presented in this section is preliminary and subject to future reviews. The FSB will launch a peer review process on shadow banking next year and may on that occasion revise the categories for narrowing down.

[38] A chain in this instance is defined as having at least two links between the issuer and the end-holder. For instance, a corporate bond issued to investors is not considered part of a credit intermediation chain as it forms a direct bilateral link. A corporate bond that is owned through a mutual fund on the other hand is a form of credit intermediation and would be accounted for as part of the assets under management of the investment fund.

[39] Ideally, the criteria should be the strictness of regulation of the consolidated entity. However, because of data constraints, this year's report only considers the fact that the entity is prudentially consolidated.

[40] The initial information-sharing exercise on shadow banking entities currently conducted by the FSB Workstream on Other Shadow Banking Entities (WS3) may also help refine the approaches in narrowing down the measures. See Annex 3.

included in the narrow shadow banking measure, as prudential consolidation rules consider them as banks' own assets and as such subject to consolidated supervision and capital requirements.

Self-securitisation is significant only in a fraction of reporting jurisdictions. Identical to last year, six jurisdictions reported data on retained securitisation (Australia, Canada, Italy, the Netherlands, Spain, and the United Kingdom). The stock of financial assets related to self-securitisation amounted to $1.1 trillion in 2013 (3.1% of banks' assets on average in those six jurisdictions), slightly less than the $1.2 trillion in 2012 (3.0%).[41]

5.2 Other Financial Intermediaries (OFIs) prudentially consolidated into a banking group

This report uses data from the Flow of Funds statistics which are entity-based. As consolidation rules in Flow of Funds statistics differ from consolidation rules for prudential purposes, some financial entities are reported in MUNFI despite the fact that they form part of a consolidated banking group for prudential purposes. The assets of OFIs prudentially consolidated into a banking group are subject to the Basel III capital and liquidity regulatory framework (see Annex 3). We therefore exclude the assets of OFIs which are prudentially consolidated into a banking group from the shadow banking estimate.[42] The amount of prudentially consolidated assets in this year's report was $8.2 trillion.

This figure is notably lower than the $9.7 trillion in last year's report. The amounts, however, are not strictly comparable as improvements in data have allowed for a more accurate adjustment related to the treatment of U.S. Bank Holding Companies. In last year's report, U.S. Bank Holding Companies were included in the OFI sector but removed as part of the narrowing down process. In contrast, this year, U.S. Bank Holding Companies have been more accurately identified and have been removed from the OFI sector from the on-set (and placed within the deposit-taking institutions). Therefore, they do not fall within the category of OFIs prudentially consolidated in the banking group. This refinement has important implications not only for the narrowing down process, but also the aggregate size of the MUNFI measure and the relative size of the banking sector.

Another important factor was additional reporting of the assets of OFIs prudentially consolidated into a banking group by the U.S. (which was not available in previous reports). This year, the U.S. reported the assets of Finance Companies and Broker-Dealers which are prudentially consolidated into a banking group.

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[41] Note, some jurisdictions reported banks' holding of debt securities issued by Structured Finance Vehicles, some of which may be the result of self-securitisation. However, they were not able to precisely identify the amount of self-securitisation and were therefore not included in the narrowing down adjustment.

[42] OFIs prudentially consolidated into a banking group only cover Finance Companies and Broker-Dealers. Structured Finance Vehicles' assets prudentially consolidated are in most jurisdictions already captured as part of the self-securitisation narrowing down component (see Section 5.1). In a few cases, prudentially consolidated assets of Structured Finance Vehicles exceed assets related to self-securitisation. However, these cases have been ignored, given the possibility of overestimating the total narrowing down adjustment as a result of existing uncertainty regarding the accounting rules applied in the case of a bank's partial ownership of a Structured Finance Vehicle.

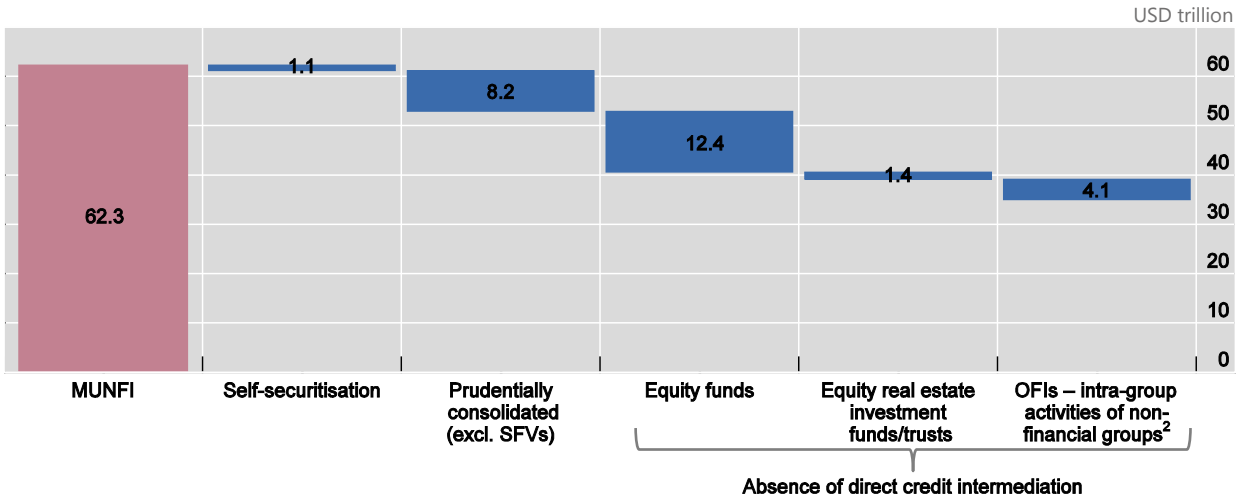
5.3 Absence of direct credit intermediation role

The FSB definition of shadow banking focuses on those parts of the non-bank financial system that are involved in credit intermediation. Some of the MUNFI sub-sectors in the macro-mapping exercise are not directly engaged in credit intermediation activities such as Equity Investment Funds. The financial assets of this sector in the *25-group* rose by $1.3 trillion in 2012 and $2.5 trillion in 2013. Additionally, this year's version of the narrow measure benefits from an important improvement in the treatment of REITs. In particular, owing to them falling outside the credit intermediation chain, we exclude equity REITs[43] from the narrow measure of shadow banking system. We however include mortgage REITs in the narrow measure as they clearly form part of the credit intermediation process (see Box 4-1).

The total financial assets of Equity Investment Funds across the 20 jurisdictions which provided relevant data amounted to $12.4 trillion. Total assets of equity REITs in the 16 jurisdictions that provided a differentiation between equity and mortgage REITs were $1.5 trillion in 2013.[44] Among these jurisdictions, Japan, the United Kingdom, Germany and Australia had the largest equity Real Estate Trusts and/or Funds in 2013.

Narrowing down shadow banking

23 jurisdictions[1]; at end-2013 Exhibit 5-1



[1] 23 jurisdictions reported more granular data for narrowing down. [2] OFIs which are part of a non-financial group and are created for the sole purpose of performing intra-group activities. This year, only Dutch non-financial SFIs are included in this narrowing down component.

Sources: National financial accounts data; other national sources.

This year, OFIs which are part of a non-financial group and are created for the sole purpose of performing intra-group activities were also excluded from the narrow shadow banking measure. In the case of the Netherlands, Special Financial Institutions (SFIs) dominate the

[43] E-REITs are investment structures with investment mandates focused on income producing physical real-estate projects.

[44] The 16 jurisdictions which provided data differentiating between the equity and mortgage Real Estate Investment Trust and/or Funds are Australia, Brazil, Canada, France, Germany, Hong Kong, Indonesia, Italy, Japan, Mexico, the Netherlands, Singapore, Turkey, the United Kingdom, the United States, and South Africa.

OFI sector (they accounted for 68% of the OFI assets in 2013). About 80% of the Dutch SFIs are part of non-financial groups which are not involved in credit intermediation outside of the group. These non-financial SFIs therefore do not fall within the FSB's shadow banking definition and were excluded in the narrow measure of shadow banking.[45]

Taking all the components of the narrowing down together (i.e., assets related to self-securitisation, OFI assets prudentially consolidated into a banking group, and entities not directly involved in credit intermediation, including Equity Investment Funds, equity REITs, and OFIs which are part of a non-financial group and are created for the sole purpose of performing intra-group activities), we arrive at the amount of adjustment which needs to be applied to the MUNFI to get the shadow banking system estimate (see Exhibit 5-1).

Based on the submission from 23 jurisdictions which provided sufficiently granular data to allow narrowing down, these components summed up to $27.4 trillion in 2013.[46] Exhibit 5-2 illustrates that the narrowing down component varied considerably across jurisdictions.

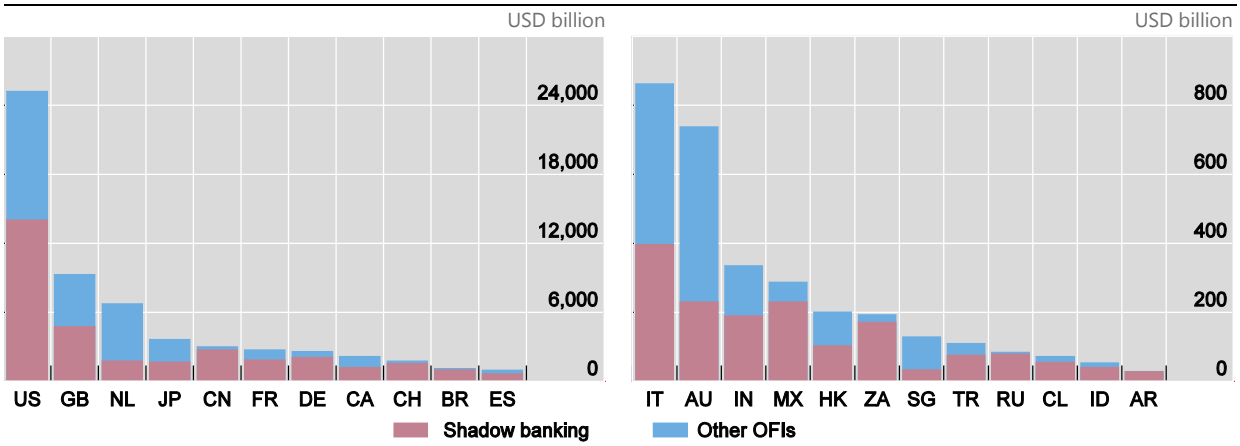
This year's shadow banking estimate for end-2013 for the 23 jurisdictions that reported granular data (calculated as the size of MUNFI minus the sum of narrowing down components) stood at $34.9 trillion in 2013, up from $34.0 trillion in 2012. Based on the narrow measure (see bars for 'shadow banking' in Exhibit 5-2), the U.S. had by far the largest shadow banking sector in USD terms, followed by the United Kingdom and China (see Exhibit 5-2). On the other hand, Argentina, Singapore and Indonesia had the smallest shadow banking systems among the 23 jurisdictions which provided granular enough data to allow the narrowing down.

[45] See the Case Study 1 in the FSB's Global Shadow Banking Monitoring Report 2012: http://www.financialstabilityboard.org/publications/r_121118c.pdf

[46] Regarding the assets of REITs which were not identified as either equity REITs or mortgage REITs by jurisdictions, the FSB made a conservative assumption to classify them as mortgage REITs and therefore they remain included in the shadow banking measure.

Narrowing down shadow banking[1]

By jurisdictions[2]; at end-2013 Exhibit 5-2



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; CL = Chile; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; HK = Hong Kong; ID = Indonesia; IN = India; IT = Italy; JP = Japan; MX = Mexico; NL = Netherlands; RU = Russia; SG = Singapore; TR = Turkey; US = United States, ZA=South Africa.

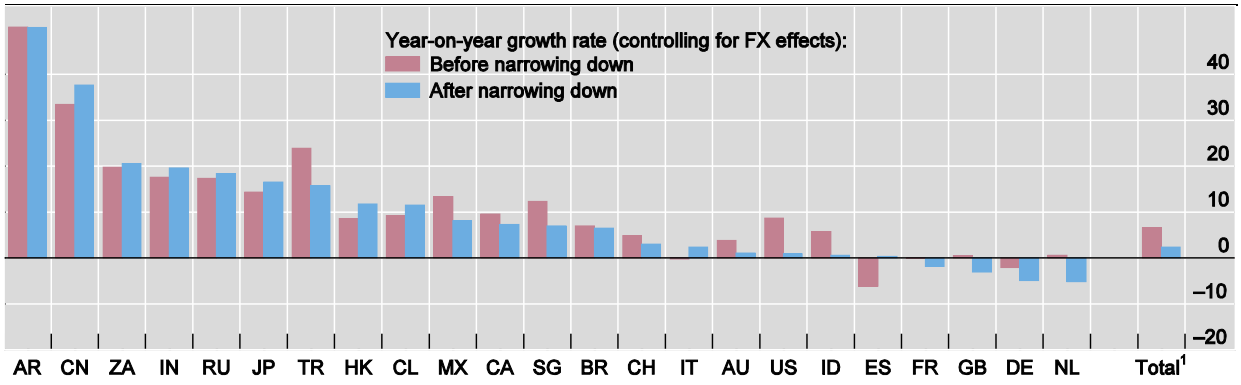
[1] The sum of the two bars gives the size of the MUNFI measure. [2] 23 jurisdictions reported more granular data for narrowing down.

Sources: National financial accounts data; other national sources.

The annual growth of the narrow shadow banking system, calculated as a weighted average for the 23 jurisdictions which provided granular enough data to allow narrowing down was 2.4% in 2013. It compares to the growth rate of the broad MUNFI measure (calculated for the same sample of 23 jurisdictions) of 6.6% in 2013 (see Exhibit 5-3).

Growth of shadow banking sector versus MUNFI estimate in 2013

By jurisdiction, in per cent Exhibit 5-3



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; CL = Chile; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; HK = Hong Kong; ID = Indonesia; IN = India; IT = Italy; JP = Japan; MX = Mexico; NL = Netherlands; RU = Russia; SG = Singapore; TR = Turkey; US = United States, ZA=South Africa.

[1] Weighted average of the jurisdictions shown.

Sources: National financial accounts data; other national sources.

Several important caveats should be kept in mind regarding the narrowing down process employed above. First, some of the assets related to the self-securitisation might at some point be sold to third parties when financial conditions improve. Second, the 'pure' Equity Investment Funds might also engage indirectly in some credit intermediation activities, for example if they lend securities against cash collateral to gain additional revenues. Third, some

equity REITs exhibit risk characteristics of shadow banking such as vulnerability to runs, liquidity mis-matches, leverage, and maturity transformation, which suggests that monitoring is warranted regardless of their formal classification. Fourth, a number of jurisdictions do not provide granular enough data to allow the narrowing down. In implementing our two-step monitoring approach, we will continue to monitor both the broad MUNFI measure which provides an upper-bound estimate of the size of non-bank credit intermediation as well as the narrower measure which more accurately reflects the size and composition of the shadow banking sector that potentially poses systemic risks.

6. Interconnectedness between banks and non-bank financial entities

Systemic risks can spill over from shadow banking entities to the banking sector. This interconnectedness can take many forms, including direct and indirect linkages. For example, direct linkages are created when shadow banking entities form part of the bank credit intermediation chain, are directly owned by banks, or benefit directly from bank support, (either explicit or implicit). Funding interdependence is yet another form of direct linkage, as is the holding of each other's assets such as debt securities. In addition, indirect linkages also exist through a market channel, as the two sectors may invest in similar assets, or be exposed to a number of common counterparties. These connections create a contagion channel through which stress in one sector can be transmitted to the other, and can be amplified back through feedback loops.

It is therefore essential to compile measures of interconnectedness between banks and shadow bank entities. Building on previous reports, direct measures of credit exposure and funding dependence are calculated using the methodology as shown in Exhibit 6-1. The methodology is based on the aggregate balance sheet bilateral exposure between the two sectors (assets and liabilities of banks to OFIs and OFIs to banks). These interconnectedness measures have been refined further in this year's report by identifying and subsequently making adjustments for assets and liabilities of shadow banks that are prudentially consolidated into banking groups. More specifically, banks' exposures to their own consolidated OFIs were excluded in the interconnectedness measures whenever jurisdictions were able to provide the required granularity in their data submissions.[47,48]

At the moment, data constraints prevent a further improvement of these measures to differentiate for instance the interconnectedness between banks and different types of shadow banking entities, which remains an important gap. Different shadow banking entity types are associated with different risk factors, such as credit intermediation, maturity- and liquidity transformation, and leverage. Going forward, the establishment of a network analysis that includes banks and the different shadow banking entities on an aggregate basis could lead to further refinement and would allow an assessment of other factors that can contribute to interconnectedness risks.

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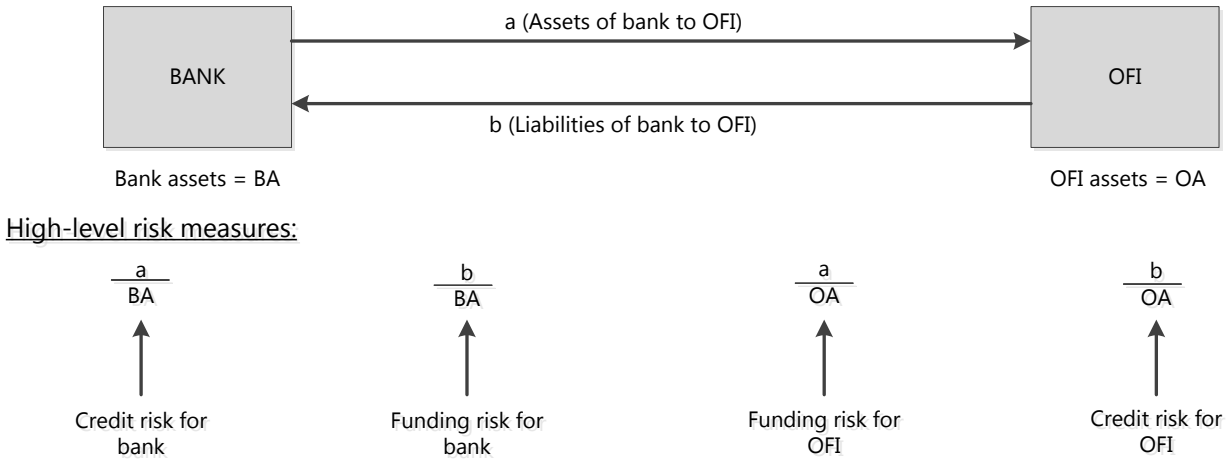
[47] In some cases, jurisdictions provided data on both items: (a) banks' assets to OFIs prudentially consolidated into banking groups; and (b) banks' assets to Structured Finance Vehicles which are related to retained securitisation. In that case, (a) and (b) were compared and bank's assets to OFIs adjusted using the larger of the two items.

[48] Significant challenges remain with regard to the treatment of banks' partial ownership of an OFI entity. Most jurisdictions have followed their respective accounting rules and brought the full amount of an entity's assets back onto the bank's balance sheet, even in the case of partial ownership.

A risk analysis framework of interconnectedness between banks and shadow banking entities

Exhibit 6-1



Some high-level observations of interconnectedness are as follows:

- In comparison to last year's data submissions, the sample of jurisdictions reporting interconnectedness data increased in terms of the total number of respondents. In particular, two additional jurisdictions were able to provide data on one or both of the interconnectedness measures. However, a number of jurisdictions were still not able to report the relevant data for the interconnectedness analysis, which prevents a comprehensive assessment of interconnectedness risks.[49]
- The methodological refinement introduced in this year's report by adjusting for banks' assets and liabilities to OFIs that are prudentially consolidated into banking groups has resulted in significant downward revisions of the interconnectedness measures for a number of jurisdictions that were able to provide this extra granularity. Without making this adjustment, bank exposure to prudentially consolidated OFIs would have been incorporated into the interconnectedness measures. This adjustment has a significant impact on bank credit and funding exposures to OFIs relative to last year's exercise.[50]
- This year's results show that the level of interconnectedness exposures across jurisdictions declined on a year-on-year basis. Aggregated across jurisdictions, banks' assets to OFIs declined from $4.3 trillion at the end of 2012 to $3.9 trillion a year later, while banks' liabilities to OFIs declined from $4.7 trillion to $4.4 trillion.

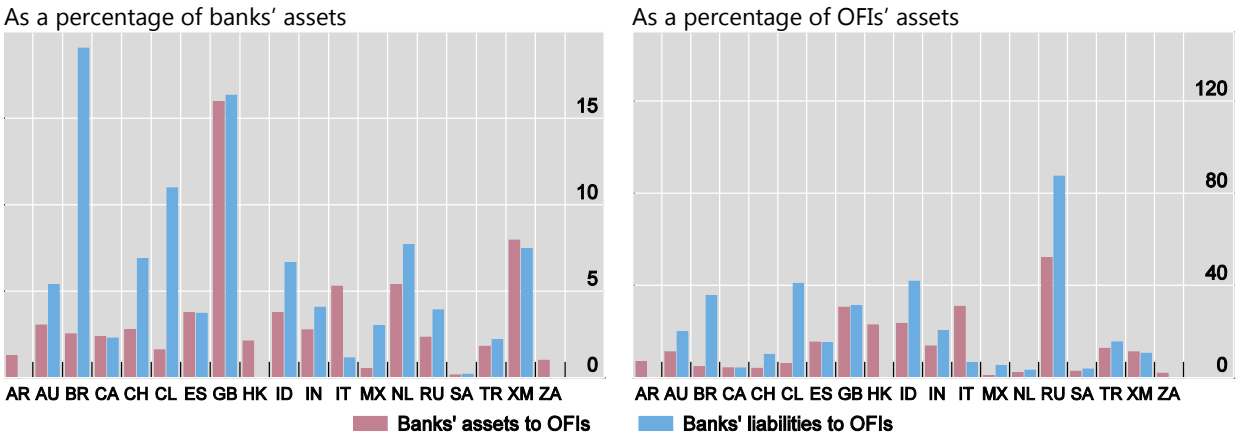
[49] In contrast to last year, two jurisdictions were able to report additional data on interconnectedness for 2013: Canada (banks' liabilities to OFIs) and Russia (banks' assets and liabilities to OFIs). No interconnectedness data was reported by China, Germany, France, Japan, Korea, and U.S.

[50] In last year's report, banks' assets to OFIs were only adjusted for retained securitisation, which represents a subset of the adjustment implemented this year. The following jurisdictions were able to provide the required granularity in their data submissions: Australia, Canada, Chile, Euro Area, Indonesia, India, Mexico, Netherlands, South Africa, Spain, and United Kingdom.

- Credit risk for banks, measured by banks' assets to OFIs as a share of bank assets, declined in most jurisdictions during 2013.[51] Australia and Chile experienced the most marked decreases in the exposure of their banking system to non-bank financial entities, although from a relatively small base. However, credit risk for banks also increased in some jurisdictions in 2013, most notably in the Netherlands, and Spain.[52] Banks' assets to OFIs ranged between 1% and 5% of bank assets in most jurisdictions. Yet in some jurisdictions, credit risks for banks appear to be relatively elevated, for instance in the United Kingdom.[53]

Banks' assets and liabilities to non-bank financial intermediaries[1]

At end-2013 Exhibit 6-2



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CL = Chile; ES = Spain; GB = United Kingdom; HK = Hong Kong; ID = Indonesia; IN = India; IT = Italy; MX = Mexico; NL = Netherlands; RU = Russia; SA = Saudi Arabia; TR = Turkey; XM = Euro Area.

[1] Net of assets and liabilities prudentially consolidated into a banking group where the relevant data are available. Some of the figures may therefore not be directly comparable. Note that 'banks' refer to the broader category of 'deposit-taking institutions'.

Sources: National financial accounts data; other national sources; ECB.

- Funding risk for banks, or the extent that banks are reliant on shadow banking entities for funding, showed the greatest increase in 2013 in Indonesia, India, Italy, and Spain. Brazil and the United Kingdom showed a more modest increase in banks' liabilities to OFIs as a share of bank assets, but from a significantly higher base.[54]

[51] Note, increases or decreases in banks' assets and liabilities to OFIs as a share of bank assets can be driven by variations in the numerator and/or in the denominator of this ratio. The same applies to banks' assets and liabilities to OFIs as a share of OFI assets. Changes in these interconnectedness measures should therefore be interpreted with caution, as, for example, a comparable increase in credit risk for banks may in one case be driven by a surge in banks' assets to OFIs, while in another case by a decrease in bank assets. In that case, an increase in this ratio should not be interpreted in the same way in both cases.

[52] In Spain, the relatively large increase in banks' credit risk as a result of their exposure to OFIs was mainly due to a sharp decline in banks assets in 2013. The same applies to the increase in funding risk for banks. The increase in banks' assets to OFIs as a share of OFI assets was partly driven by a fall in OFI assets in 2013. The level of banks' assets to OFIs stood below 4% of bank assets in 2013.

[53] In the United Kingdom, a significant amount of banks' assets and liabilities to OFIs constitutes derivatives assets and liabilities. Depending on the treatment of these derivate assets and liabilities in other jurisdictions' data submission, the interconnectedness measures may not be comparable.

[54] In Brazil, fixed-income investment funds comprise the majority of the OFI sector, and their AUM are mainly composed of federal government bonds (31.9%) and repurchase agreements with the banking system backed up by federal

- Funding risk posed to non-bank financial entities due to their reliance on the banking sector as a source of funding declined the most in 2013 in Argentina, Australia, Chile, Indonesia, and the euro area as a whole.[55] For those jurisdictions that were able to submit the corresponding data for the interconnectedness analysis, banks' assets to OFIs as a share of OFI assets grew strongest in 2013 in Hong Kong, Mexico, Russia, Spain, and Switzerland.[56] Policy makers and supervisors should therefore ensure that the contagion risks between these sectors of the financial system are fully accounted for in their analysis.
- Credit risk for non-bank financial entities due to their exposure to the banking sector declined in most jurisdictions during the course of 2013, with the notable exception of Brazil, Indonesia, and Spain, where banks' liabilities to OFIs as a share of OFI assets not only grew most in 2013 but also increased from a relatively high base. Policy makers should again be attentive, given the combination of a strong increase from an already high level.
- The risk associated with interconnectedness between the two sectors remains larger for non-bank financial entities in relative terms than for banks in most jurisdictions. As can be seen from the differences in the scales in the two panels of Exhibit 6-2, the credit and funding risk for OFIs from their reliance on the banking sector is much higher than the risk posed to banks from their connection with OFIs.

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government bonds, accounting for an additional 27.5% share of AUM. As for these repos that represent a relevant share of banks' liabilities to OFIs, credit and liquidity risk are less of an issue due to sovereign bonds used as collateral.

[55] Some of these declines in the ratio of banks' assets to OFIs as a share of OFI assets are driven by relatively large increases in OFIs during 2013 (i.e. in the denominator), which applies in particular to Argentina.

[56] As a reference, banks' assets to OFIs as a share of OFI assets were 23.0% in Hong Kong, 0.9% in Mexico, 52.1% in Russia, 15.4% in Spain, and 4% in Switzerland.

Annex 1: Template used for the data collection exercise

Main template for the macro-mapping - from Flow of Funds / sector balance sheet data*

Please fill in the template with figures in USD millions, converted at the exchange rate at the end of the period (and insert exchange rate used in column 36)

(USD mil)

STOCK of financial assets as of end-year	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15	Col 16	Col 17	Col 18
	Financial Institutions =(col2+col3+col13+col14+col15+col19+col35)	Central Bank	Deposit-Taking Institutions =(col4+col7+col10)	Banks	Assets to OFIs	Liabilities to OFIs	XX (Note 1)	Assets to OFIs	Liabilities to OFIs	Others	Assets to OFIs	Liabilities to OFIs	Insurance Companies (Note 2, 3)	Pension Funds (Note 2,3)	Public Financial Institutions =(col16+col17+col18)	Public Financial Institutions (Note 3,4)	XX (Note 1,4)	Others
2002																		
2003																		
⋮																		
2013																		
Source (Description, confidentiality, URL) (Note 11)																		
Note (Detailed definition etc.)																		

STOCK of financial assets as of end-year	Col 19	Col 20	Col 21	Col 22	Col 23	Col 24	Col 25	Col 26	Col 27	Col 28	Col 29	Col 30	Col 31	Col 32	Col 33	Col 34	Col 35	Col 36
	Other Financial Intermediaries (OFIs) =sum of col20 to col34	MMFs - of which constant NAV or equivalent (Note 5)	Other MMFs (Note 5)	Finance Companies	Structured Finance Vehicles	Hedge Funds (Note 6,8)	Other Investment Funds - equity funds (Note 7,8)	Other Investment Funds - fixed income funds (Note 7,8)	Other Investment Funds - other funds (Note 7,8)	Broker-dealers	Real Estate Investment Funds and Trusts	Trust Companies	XX (Note 1)	XX (Note 1)	XX (Note 1)	Others	Financial Auxiliaries (Note 9)	Exchange rate at end of the period (Note 10)
2002																		
2003																		
⋮																		
2013																		
Source (Description, confidentiality, URL) (Note 11)																		
Note (Detailed definition etc.)																		

*: Members may complement the Flow of Funds / sector balance sheet data with other information. If data is unavailable, please fill in "N/A" or keep it blank. If end-2013 data is not available, please provide the most recent available data point in 2013 and indicate the reference date.

Note 1: For XX, please fill in subcategories as relevant.

Note 2: If data for Insurance Companies and Pension Funds cannot be separated, please fill the aggregated number in the insurance companies' cells and explain that in the Note cell.

Note 3: If data for Insurance Companies, Pension Funds and Public Financial Institutions are included in Other Financial Intermediaries, please clarify that in the Note cell.

Note 4: If data for government-owned deposit-taking institutions are included in the Public Financial Institutions, please separate that out in XX cells or clarify as such in the Note cell.

Note 5: If data for MMFs cannot be separated between CNAV and Others, please fill the aggregated number in the Other MMFs cells and explain that in the Note cell.

Note 6: If data for hedge funds cannot be separated from Other Investment Funds, please fill the aggregated number in the Other Investment Funds cells and explain that in the Note cell.

Note 7: If data for Other Investment Funds cannot be separated between Equity Funds, Fixed Income Funds and Other Funds, please fill in the aggregate number in the Other Funds' cells and explain that in the Note cell.

Note 8: Please provide data for funds that are domiciled in your jurisdiction. For jurisdictions that are host to fund managers managing funds domiciled offshore, please provide financial assets under management by fund managers registered/licenced in your jurisdiction but domiciled offshore at the end of 2013 in the Note cell. If possible, please also provide the name of the jurisdiction in which funds these funds are domiciled.

Note 9: If your Flow of Funds / sectoral accounts distinguish financial auxiliaries, please describe what they are and provide examples.

Note 10: USD per local currency unit.

Note 11: Please indicate the sources used to fill in this template (e.g. supervisory data, market data, other…).

Supplementary template related to OFIs prudentially consolidated into a banking group

To be filled in if a significant part of an OFI sub-sector is prudentially consolidated into a banking group

STOCK of financial assets as of end-year	*Col 1*	*Col 2*	*Col 3*	*Col 4*	*Col 5*	*Col 6*	*Col 13*	*Col 14*	*Col 15*	*Col 16*
							Interconnectedness data			
	Total Finance companies *=main template col22*	of which prudentially consolidated into banking group	Structured Finance Vehicles *=main template col23*	of which prudentially consolidated into banking group	Broker-dealers *=main template col28*	of which prudentially consolidated into banking group	Banks' assets to OFIs *=main template col5*	of which prudentially consolidated into banking group	Banks' liabilities to OFIs *=main template col6*	of which prudentially consolidated into banking group
2002										
2003										
⋮										
2013										
Source (Description, confidentiality, URL) (Note 2)										
Note (Detailed definition etc.)										

Proxies/Estimates are acceptable if hard data is not available.

Note 1: Please use this column to add any other OFI sub-sector for which is a significant part is prudentially consolidated into a banking group.

Note 2: Please indicate the sources used to fill in this template (e.g. supervisory data, market data, other…).

Supplementary templates related to self/retained-securitisation[1]

To be filled in for those countries where self-securitisation is significant (Note 1)

(USD mil)

STOCK of financial assets as of end-year	*Col 1*	*Col 2*	*Col 3*	*Col 4*	*Col 5*	*Col 6*
			Interconnectedness data			
	Assets related to securitisation at nominal value *=main template col23*	of which banks' retained securitisations, at nominal value (Note 2)	Bank assets to SFVs *=sub-component of main template col5*	of which retained securitisation	Bank liabilities to SFVs *=sub-component of main template col6*	of which retained securitisation
2002						
2003						
⋮						
2013						
Source (Description, confidentiality, URL)						
Note (Detailed definition etc.)						

Prudential information, market information or data from monetary policy operations with the central bank may be used to fill in this template.

Note 1: Self-securitisation/retained securitisation is defined as those securitisation transactions done solely for the purpose of using the securities created as collateral with the central bank in order to obtain refinancing, with no intent to sell them to third-party investors. All of the securities issued by the SFV for all tranches are bought by the originating bank and remain on its balance sheet (i.e. third-party investors do not own any of the securities issued by the SFV).

Note 2: Generally derived from supervisory information or from information on use as collateral for central bank operations.

Annex 2: Country case study

Shadow banking in Switzerland[57]

Summary

This case study assesses the importance of the Swiss Other Financial Intermediaries (OFIs) sector, with a view to identifying what is shadow banking in Switzerland. As a starting point, the Global Shadow Banking Monitoring Report (GSBMR) uses the assets held by the OFI sector as a very conservative proxy for the size of the shadow banking system. Measured relative to GDP, the Swiss OFI sector is the third largest worldwide, with CHF 1,502 billion in financial assets.[58] By applying the narrowing down methodology currently used in the GSBMR, we arrive at a figure of CHF 1,339 billion for the Swiss shadow banking sector. Making use of data that do not readily fit into the global shadow banking monitoring exercise, this study attempts to identify which parts of this "narrowed-down" shadow banking measure actually exhibit bank-like systemic risks.

The study concludes that the size of the Swiss shadow banking sector is just under CHF 500 billion (Exhibit A2-1). This conservative estimate is considerably smaller than the size of the OFI sector might suggest. Moreover, this entire amount stems from entities considered to exhibit low to moderate bank-like systemic risks. An alternative activity-based approach leads to similar conclusions on the size and potential riskiness of the Swiss shadow banking sector. While the results of this study suggest that the risk to financial stability emanating from shadow banks in Switzerland is limited, the Swiss authorities will continue to carefully monitor the shadow banking sector and its interconnectedness with the regular banking system, with a view to detecting early any build-up of systemic risks and adopting appropriate policy measures if needed.

Measuring shadow banking according to the narrowing down methodology currently used in the GSBMR

The starting point is the Swiss OFI sector, which consists of six sub-sectors (Exhibit A2-1): (i) money market funds with variable net asset value (MMFs VNAV), (ii) bond funds, (iii) equity funds, (iv) other investment funds, (v) central mortgage bond institutions, and (vi) a large residual sub-sector labelled "Others". Total financial assets of these OFI sub-sectors amount to CHF 1,502 billion (first column of Exhibit A2-1). In a first step, in line with the narrowing down methodology applied in the GSBMR, assets held by equity funds can be

[57] This case study has been contributed by Dorothe Bonjour and Dan Wunderli (Financial Stability, Swiss National Bank) in collaboration with the SNB's Statistics and International Monetary Relations units, as well as the Federal Department of Finance and the Swiss Financial Market Supervisory Authority, FINMA. The study is part of a broader project on shadow banking in Switzerland being conducted jointly by the three institutions.

[58] See Exhibit 3-1 in Global Shadow Banking Monitoring Report 2014, FSB.

filtered out.[59] Hence, according to this methodology, "narrowed-down" shadow banking in Switzerland amounts to CHF 1,339 billion (second column of Exhibit A2-1).

Measuring Swiss shadow banking

Financial assets, in CHF billions, end-2012[1] Exhibit A2-1

	OFI sub-sectors:	All OFIs (before narrowing down)	OFIs after narrowing down[2]	**Shadow banking** (i.e. non-bank credit intermediation with bank-like systemic risks)	Extent of bank-like systemic risks
(i)	MMFs VNAV	34	34	**-**	Nil
(ii)	Bond funds	159	159	**159**	Low to moderate
(iii)	Equity funds	163	-	**-**	Nil
(iv)	Other investment funds	130	130	**130**	Low to moderate
(v)	Central mortgage bond institutions	82	82	**-**	Nil
(vi)	"Others" (residual OFI sub-sector)[3]	934	934	**192**	Low
Total		1,502	1,339	**481**	Low

[1] The analysis in this case study is based on end-2012 data, whereas the Swiss data submission in the FSB's Global Shadow Banking Monitoring Report 2014 is based on end-2013 data. [2] According to the narrowing down methodology currently used in the GSBMR. [3] For details on "Others", see Exhibit A2-2.

Source: Swiss National Bank.

Identifying Swiss shadow banking by further narrowing down the focus on bank-like systemic risk

These CHF 1,339 billion are still a very broad measure of shadow banking in Switzerland. To obtain a more precise measure of shadow banking, the five remaining OFI sub-sectors (i.e. excluding equity funds) are analysed for the *extent* to which their financial intermediation carries bank-like systemic risks, such as maturity transformation, liquidity transformation, incomplete risk transfer, and leverage. If the extent of bank-like systemic risks in a given sub-sector is assessed to be nil, it is filtered out, in line with the narrowing down methodology proposed in the GSBMR.[60] This analysis yields the following results (last column of Exhibit A2-1).

MMFs VNAV and central mortgage bond institutions are assessed as carrying no bank-like systemic risks. The reasons for filtering out MMFs VNAV are: (i) they are not involved in considerable maturity transformation, (ii) regulatory restrictions mean that they can only invest in highly liquid assets, and (iii) they do not promise fixed returns like MMFs with constant net asset value (CNAV).[61] The reason for filtering out central mortgage bond institutions is twofold. First, their activity does not entail any material risk transfer or maturity

[59] The other three sets of entities (i.e. their financial assets) filtered out in the currently used narrowing down methodology – structured finance vehicle assets related to self-securitisation, equity real estate investment funds/trusts, and financial assets of OFIs that are prudentially consolidated into a banking group – cannot be identified in the Swiss case due to the low granularity of available data.

[60] See, for example, Exhibit 1-1 or Chapter 5, GSBMR 2014.

[61] There are no CNAV MMFs in Switzerland, as they are not allowed by law (Collective Investment Schemes Act).

transformation. On the assets side, Swiss central mortgage bond institutions provide long-term loans to banks against a pledge of mortgage loans. On the liabilities side, they issue long-term "Pfandbriefe", highly standardised and regulated refinancing instruments. The credit risk of the pledged mortgage loans remains with the bank that issued these loans. Second, central mortgage bond institutions are prudentially supervised by the Swiss Financial Market Supervisory Authority (FINMA) in a similar way to banks.

By contrast, bond funds are assessed as providing some maturity transformation. Large-scale redemption requests from their investors can destabilise illiquid bond markets by fire sales of bond fund assets. Since bond funds also invest, to varying degrees, in liquid markets, they are assessed as carrying low to moderate bank-like systemic risks. To be on the conservative side, all other investment funds – real estate funds, alternative investment funds, investment target funds, and other funds – are also assessed as exhibiting low or – in the case of alternative investment funds – moderate bank-like systemic risks. Not filtering out *any* bond funds and other investment funds represents a conservative stance. Moreover, these funds are prudentially supervised by FINMA.

The last OFI sub-sector to be assessed for the extent of its bank-like systemic risk is the large residual sub-sector "Others" (i.e. other OFIs). In Switzerland, these other OFIs make up nearly two-thirds of overall OFI assets. Exploiting the statistics underlying the Swiss flow of funds statistics allows five different types of other OFIs and their individual balance sheet items to be distinguished (Exhibit A2-2). These are: 'finance companies', holding companies, consumer credit to households, loans to cantons and municipalities, and a residual item. [62] The financial assets held by these five types of OFIs are divided into eight balance sheet items: currency and deposits, debt securities, domestic credit, cross-border credit, cross-border intragroup credit, shares and other equity, units in collective investment vehicles (CIVs), and structured products. These eight balance sheet items are now assessed for the extent to which they represent credit intermediation and carry bank-like systemic risks and, therefore, represent shadow banking.

[62] Unfortunately, these statistics cannot be used for the FSB's global shadow banking monitoring exercise because some of the data are incomplete and because the definition of one type of other OFI – finance companies – is different from the FSB's definition. Therefore, Swiss 'finance companies' are flagged with single inverted commas throughout this case study.

Financial assets of other OFIs ("Others"), by balance sheet items

In CHF billion, end-2012 Exhibit A2-2

	Currency and deposits	Debt securities	**Domestic credit**	**Cross-border credit**	Cross-border intragroup credit	Shares and other equity	Units in CIVs	Structured products	Total
Other OFIs ("Others"):	75	31	**35**	**157**	117	425	89	5	934
'Finance companies'	†	†	**…**	**149***	.	4	†	†	153
Holding companies	†	†	**…**	**8**	117	348	†	†	473
Consumer credit to households	.	.	**7**	**.**	.	.	.	.	7
Loans to cantons and municipalities	.	.	**28**	**.**	.	.	.	.	28
Residual	75	31	–	–	–	73	89	5	273
Shadow banking content in other OFIs	–	–	**35**	**157**	–	–	**–**	–	**192**

Conventions: '–' indicates value negligible; '…' indicates data not available; '.' indicates balance sheet item not applicable; and '†' indicates data unidentifiable but contained in Residual.

* Including cross-border intragroup credit

Source: Swiss National Bank.

The following balance sheet items of other OFIs are considered not to represent shadow banking: cross-border intragroup credit (of holding companies), shares and other equity, currency and deposits, debt securities, units in CIVs, and structured products. The reasons are as follows. Cross-border intragroup credit of holding companies to their corporate subsidiaries represents mere intragroup financing – common to any large corporate structures – rather than credit intermediation. Currency and deposits as well as shares and other equity do not represent credit intermediation either. This leaves debt securities, units in CIVs, and structured products, all of which might represent credit intermediation if the entity is part of a credit intermediation chain.[63] Note that all of these remaining balance sheet items are only observed for the residual item. The residual item contains varied entities such as non-mandatory pension plans, vested benefits foundations, and the remaining balance sheet items of 'finance companies' and holding companies. These exhibit hardly any risk associated with shadow banking, such as maturity and liquidity transformation, and/or leverage.

The only two balance sheet items identified as potentially carrying bank-like systemic risks are domestic credit and cross-border credit.[64] To be conservative, both domestic credit and cross-border credit are considered to be shadow banking, as it is not possible to assess to what extent there is maturity or liquidity transformation involved in this credit-granting activity. Overall, CHF 192 billion of other OFI assets are considered to represent shadow banking.

63 See GSBMR 2014, p. 19.

64 For finance companies and holding companies, domestic credit is not known for data availability reasons, hence the '…' in Exhibit A2-2. However, there is some indirect evidence suggesting that this data gap does not change the big picture.

Conclusions

This case study identifies which parts of the "narrowed-down" measure of Swiss shadow banking presented in the GSBMR (CHF 1,339 billion, see Exhibit CH-1) actually exhibit bank-like systemic risks. Making use of data that do not readily fit into the global shadow banking monitoring exercise, the study further narrows down the "narrowed-down" measure and finds the Swiss shadow banking sector to have a size of CHF 481 billion, corresponding to 81% of GDP. Using an alternative approach, an activity-based measure has also been calculated. It is based on the five economic functions of shadow banking, as defined by the FSB.[65] With this alternative approach based on additional data sources, assets worth CHF 315 billion are assessed to have shadow banking content and exhibit bank-like systemic risks.[66] This amount corresponds to 53% of GDP and corroborates the findings obtained using OFI data.

Overall, the risks to financial stability emanating from the shadow banking sector are considered to be low in Switzerland – for three reasons: First, compared to the country's banking sector, the size of Swiss shadow banking is considerably smaller – by more than five times according to this study. Second, all the shadow banking assets are considered to carry low to moderate bank-like systemic risks. Third, bond funds and other investment funds, which make up 60% of shadow banking assets, are prudentially supervised by FINMA. That said, the Swiss authorities will continue to carefully monitor the shadow banking sector and its interconnectedness with the regular banking system.

[65] These five activities are: (i) management of collective investment vehicles, (ii) loan provision that is dependent on short-term funding, (iii) intermediation of market activities that is dependent on short-term funding or on secured funding of client assets, (iv) facilitation of credit creation, and (v) securitisation and securitisation-based credit intermediation and funding of financial activities (FSB Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities, 2013).

[66] This estimate is based on end-2013 data from different sources. The main reason for the lower figure is that cross-border credit of 'holding and finance companies' was not captured by this approach.

Annex 3: WS3 shadow banking information-sharing exercise

The FSB's initial shadow banking information-sharing process with regard to its high-level policy framework for shadow banking entities

In response to the G20 request, the FSB published a report on a forward-looking high-level policy framework for shadow banking entities other than MMFs in August 2013.[67] The framework comprises: (i) an assessment of non-bank financial entity types based on five economic functions;[68] (ii) the adoption of appropriate policy tools where necessary to mitigate financial stability risks; and (iii) information-sharing among member authorities through the FSB process to maintain international consistency in applying the framework, minimise gaps in regulation and detect new adaptations. It also sets forth key principles by which authorities can identify, monitor and address financial stability risks by applying appropriate policy tools from a menu of optional policies for each economic function.

Based on the framework, the FSB, through its workstream on other shadow banking entities (WS3), launched in May 2014 an initial information-sharing exercise to exchange information on the status of national authorities' implementation of the framework and to adjust the detailed information-sharing process in preparation for future exercises which will cover all FSB member jurisdictions. The key steps include: (i) classification of non-bank financial entities into one or more of the five economic functions; (ii) collection of risk metrics associated with these functions (e.g. liquidity and maturity transformation, and leverage); and (iii) identification of relevant authorities with oversight of such entities, and review of availability of policy tools to address the identified risks.

Fourteen jurisdictions, representing over 80% of the non-bank financial assets of FSB member jurisdictions, participated in the initial exercise.[69] They shared the relevant information and data using common templates, and exchanged information through two workshops that enabled participating authorities to better understand each other's approach in identifying entities according to the economic functions and available policy tools to address risks posed by these entities.

Classification into Economic Functions

The FSB's policy framework acknowledges that shadow banking may take different forms across jurisdictions due to different legal and regulatory settings as well as the constant innovation and dynamic nature of the non-bank financial sectors. By focusing on the underlying economic functions (i.e. activities) rather than legal forms, this framework allows authorities to assess shadow banking activity in non-bank financial entities in a consistent manner and be forward-looking and capture additional types of entities, including new structures and innovations within these economic functions.

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67 http://www.financialstabilityboard.org/publications/r_130829a.pdf

68 Each of the five economic functions involves non-bank credit intermediation that poses bank-like systemic risks (e.g. maturity/liquidity transformation and leverage).

69 These are Australia, Brazil, Canada, China, France, Germany, Hong Kong, Italy, Japan, Korea, Mexico, Switzerland, the United Kingdom, and the United States.

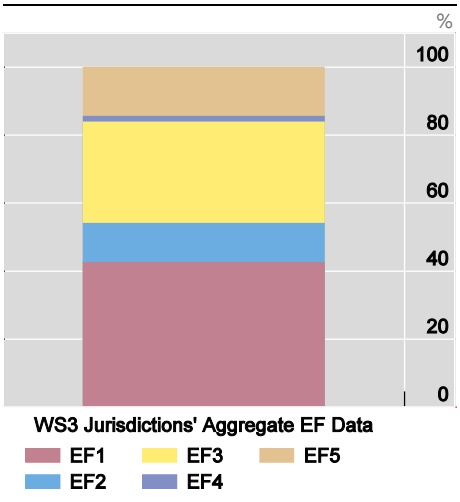
WS3: Classification by Economic Functions Exhibit A3-1

Economic Function	Definitions	Examples of Classified Entity Types
EF1	Management of collective investment vehicles with features that make them susceptible to runs	Credit hedge funds, fixed income mutual funds, trust companies
EF2	Loan provision that is dependent on short-term funding	Finance companies, leasing companies
EF3	Intermediation of market activities that is dependent on short-term funding or on secured funding of client assets	Broker-dealers
EF4	Facilitation of credit creation	Mortgage insurers, financial guarantors, insurers that write credit protection
EF5	Securitisation-based credit intermediation and funding of financial entities	CLOs, ABCP, SIVs

The five economic functions include credit-intermediation with relevant shadow banking risks to ensure that such risks are captured across jurisdictions irrespective of the legal forms of the non-bank financial entities in which they occur. The table below sets out these five economic functions in detail. They include certain activities susceptible to run risks, dependent on short-term funding, certain types of market intermediation, facilitation of credit creation, and securitisation-based credit intermediation.

The entity types most frequently classified by participating jurisdictions included broker-dealers, finance companies, securitisation vehicles, certain hedge funds and fixed income mutual funds. Other entity types that were classified included mortgage and financial guarantee insurers, money market broker-dealers, factoring companies, real estate credit companies, and trust companies. The exercise also captured entity types that were not classified into any of on the five economic functions. Those entities that were not classified tend to not directly engage in credit intermediation not exhibit shadow banking risks, such as equity mutual funds and unlevered equity REITs.

Classification by Economic Functions



The preliminary summation of all the non-bank financial entities classified into the five economic functions amounted to about $35 trillion in terms of financial assets.[70] This represents around 35% reduction from the aggregate broad MUNFI measure of shadow banking activities ($54.8 trillion) in the 2014 Global Shadow Banking Monitoring Report for the WS3 member jurisdictions participating in the initial information-sharing process.[71] The first economic function, i.e. collective

[70] This aggregate result is subject to additional minor revisions by several jurisdictions.

[71] The authorities' assessment also covered the insurance sector, which is not included in the broad MUNFI measure, to capture shadow banking activities and risks associated with the facilitation of credit intermediation.

investment vehicles that can be susceptible to runs, captures over 40% of all identified shadow banking activities. It comprises mainly of fixed income and mixed-asset mutual funds, certain hedge funds, leveraged real estate funds, trusts and money market funds.

Collection of Risk Metrics

With regard to the initial data collection of risk metrics including leverage, liquidity/maturity transformation, and imperfect credit risk transfer, WS3's efforts yielded several preliminary observations:

- While some authorities have access to detailed data corresponding to the risk metrics and share such data with other authorities, some authorities continue to face challenges to varying degrees due to the lack of regulatory or publicly available data from which to identify and assess risks.
- Where data exists, authorities found evidence of risk-taking through non-bank credit intermediation, though the ranges of leverage and maturity/liquidity transformation vary widely across entity types and jurisdictions.
- Several reported levels of risk conform to members' general understanding of entities' business and funding models. For example, broker-dealers' and certain hedge funds' leverage was generally higher than other investment funds' leverage, and finance companies stand out for both leverage and active maturity transformation.
- WS3 members defined a set of common reference indicators for shadow banking risks with the aim of improving the consistency of international monitoring.

Policy Tools

The overarching principles aim to ensure that appropriate policy tools are adopted where necessary to mitigate financial stability risks. To this end, WS3 held a workshop to review authorities' availability of relevant policy tools and share experiences in the application of these tools. The preliminary assessment by WS3 showed that most non-bank financial entities that authorities judged to be potentially involved in shadow banking activities have relevant authorities responsible for their oversight and a range of policy tools is available to address the respective risks. WS3 is undertaking a more in-depth analysis and also plans to further refine the templates to improve comparability and assessment.

Looking Forward

Based on the results of the initial information sharing exercise, the FSB plans to refine the information-sharing process as necessary and will launch a more comprehensive exercise next year that covers all FSB member jurisdictions. The results of the information-sharing exercise will provide the basis for a peer review regarding member jurisdictions' implementation of the policy framework. The FSB will also evaluate the case for developing further policy recommendations for relevant shadow banking entities based on the findings of the peer review and will report the results to the G20 Finance Ministers and Central Bank Governors in 2015. Furthermore, the policy framework will potentially provide a structured process to further enhance the FSB's annual global shadow banking monitoring exercise.

Annex 4: IMF report on shadow banking around the globe[72]

How Large? How Risky?

Shadow banking has grown considerably since the early 2000s. According to the IMF's October 2014 Global Financial Stability Report (GFSR), some of the key drivers are common across advanced and emerging market economies. In advanced economies, shadow banking is likely to grow further as a result of stricter regulation on banks and their balance sheet repair efforts, as well as the low interest rate environment. A thorough assessment of the effects on systemic risk is hampered by large data gaps. Therefore, the GFSR stresses the need for authorities to collect and provide more granular data on shadow banking activities. The report further supports an encompassing approach to regulation and supervision focused on both activities and entities, with an emphasis on systemic risk and on policy coordination.

Comparison of different measures

The comparison of several measures of shadow banking and the size dispersion across them suggests that it is useful to monitor various indicators simultaneously as each may represent different developments and risks. For the euro area, for example, the broad FSB measures indicate that shadow banking rebounded after the financial crisis (Exhibit A4-1, top-left), but alternative measures excluding non-money-market mutual funds[73] have stagnated.

What drives growth of shadow banking?

An econometric analysis finds that the growth of shadow banking is associated with a number of common factors. In particular, shadow banking tends to take off when strict banking regulations are in place, when real interest rates and yield spreads are low and investors search for higher returns, and when there is a large institutional demand for assets, for example from insurance companies and pension funds (Exhibit A4-1, top-right). Hence, the current environment in advanced economies seems conducive to further growth of shadow banking.

Benefits

Shadow banking can be a boon for the financial system. Country evidence in the GFSR suggests that shadow banking in emerging market economies broadens access to credit, because traditional banking networks often face capacity or regulatory constraints, such as restrictions on lending or deposit rates.

In advanced markets, various types of funds have been stepping in to provide long-term credit to the private sector as banks have been lending less. In fact, lending by shadow banks contributes significantly to total lending in the United States and is rising in the euro area, (Exhibit A4-1, bottom-left; note that this partly reflects intra-financial sector lending). Shadow banks also can improve the efficiency of the financial system by deepening market

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[72] Summary of Chapter 2 of the IMF Global Financial Stability Report, October 2014, http://www.imf.org/external/pubs/ft/gfsr/2014/02/pdf/text.pdf

[73] The flow of funds measure excludes non-MMF investment funds because these typically do not directly undertake credit intermediation. The noncore liabilities measure is an activities-based definition, comprising non-traditional funding sources for banks and other financial corporations that fall outside core deposit liabilities (such as securitization).

liquidity and risk sharing. In this context, the GFSR calls for the expansion of safe securitization in Europe to aid the credit transmission mechanism.

Risks

The risk analysis in the GFSR highlights the importance of data limitations. The report develops balance sheet metrics for maturity and liquidity transformation risk, leverage, credit risk, interconnectedness, and size for some countries. In line with the results of the FSB work stream 3, there is a wide variation in balance sheet risk metrics. The analysis shows that activities traditionally considered less risky, including bond funds, mixed funds, and other funds, have been growing the fastest over the past 5 years in the euro area and United States, and pose some liquidity and maturity transformation risk. In Japan, broker/dealers have been growing and are relatively more exposed to credit risk and have higher leverage, although this mainly pertains to higher repo holdings related to JGB market making activity. Data limitations prevented computing risk metrics for shadow banking entities in most other countries. For new forms of shadow banking, such as peer-to-peer lending, only a qualitative assessment is possible. Among emerging markets, the size and rapid growth of shadow banking in China warrants particular attention.

Alternatively, shadow banking risks can be inferred from asset price data. The GFSR finds that in the United States, shadow banking accounts for at least a third of total systemic risk, (measured as extreme, low-probability losses to the financial system), similar to that of banks (Exhibit A4-1, bottom-right). This contribution to systemic risk has been growing since the global financial crisis. In the euro area and the United Kingdom, this contribution is much smaller relative to the risks arising from their banking system. This largely reflects the fact that these areas have more bank-based financial systems.

Policy recommendations

The current regulatory reform agenda, led by the FSB, has yielded important progress. However, many of the agreed principles have not yet been implemented nationally. The GFSR suggests a number of areas where policy action is needed, largely complementing recommendations made by the various FSB shadow banking work streams. The challenge for policymakers is to strike the right balance between containing systemic vulnerabilities related to shadow banking risks and preserving the benefits of shadow banks. A macroprudential monitoring framework is likely to be best suited for this purpose, since it puts risks in a systemic stability context. Such a framework could build on recent progress in this area.

Policymakers will have to better integrate the entity and activity dimensions of shadow banking regulation (as recognized by the FSB). Monitoring and risk identification should focus primarily on economic functions and activities, to overcome the boundary problem. However, regulators also need to consider the characteristics of the entities pursuing the activities to be regulated. For example, highly leveraged entities engaged in a certain activity may need stricter rules than entities that are less leveraged.

To achieve this comprehensive approach, the report lays out a concrete framework for collaboration and task sharing among microprudential, macroprudential, and business conduct regulators.

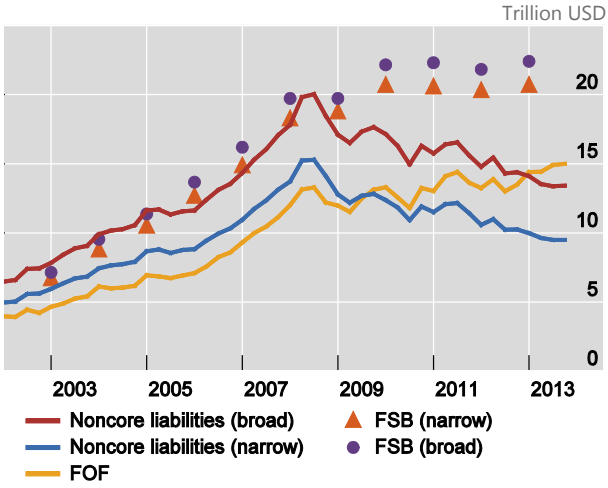
Further international policy cooperation is also necessary to prevent cross-border regulatory arbitrage and address risks to global financial stability.

Finally, data gaps remain challenging and need to be addressed. Ideally, granular data on individual entities would allow for detailed monitoring. A first step forward would be for all country authorities to construct sectoral and flow of funds accounts building on their system of national accounts with sufficient details to assess maturity and liquidity risks, as well as interconnectedness. Expanding the reporting of monetary data would also aid in obtaining a macro view of shadow banking. All this would further the understanding and monitoring of different aspects of shadow banking.

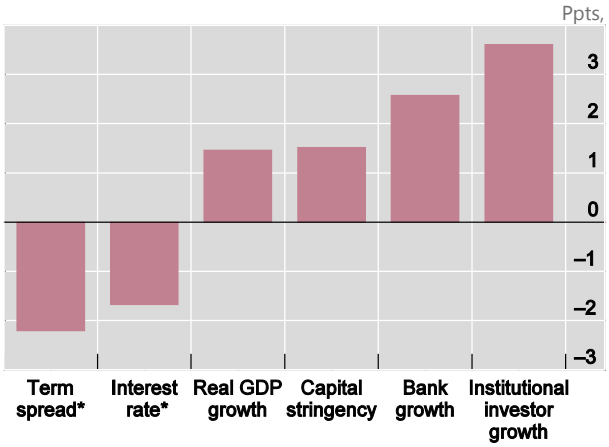
Shadow banking around the globe

Exhibit A4-1

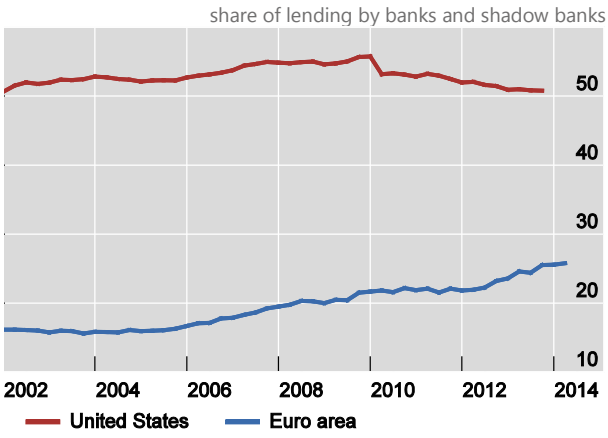
Euro area shadow banking size estimates[1]



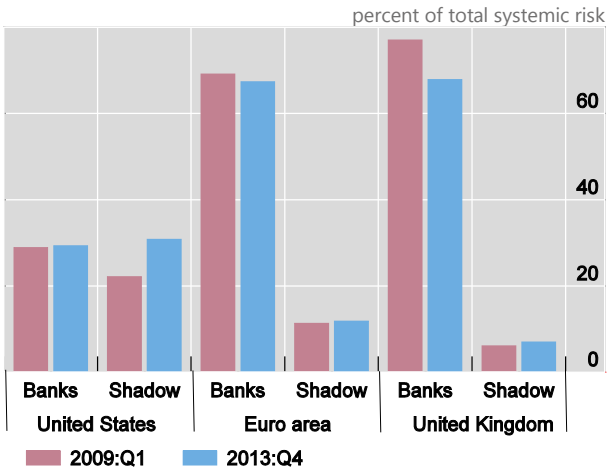
Drivers of shadow banking growth, 1990-2013[2]



Shadow bank lending



Shadow banks and systemic risk[3]



Note: FOF = flow of funds. [1] the FSB narrow measure excludes only equity funds, but not entities prudentially consolidated with banks. The broad (narrow) noncore liabilities measure includes (excludes) intra-financial-sector liabilities. For the definition of euro area FOF shadow bank entities, see ECB Occasional Paper 133. [2] shows the impact on shadow banking (FOF measure) growth of a one standard deviation shock in each of the shown dependent variables (* : post-2008). [3] shows the marginal contribution to systemic risk, defined as the percentage contribution to the expected systemic shortfall, following Tarashev, Borio, and Tsatsaronis (2010). Shadow = the sum of contributions by mutual funds (money market, bond, equity) and hedge funds. See GFSR (October 2014) for additional information.

Sources: European Central Bank; FSB; Haver Analytics; and IMF staff estimates.

Annex 5: FSB Regional Consultative Group reports on shadow banking[74]

Report on Shadow Banking in the Americas[75]

1. Introduction

In December 2012, the FSB Regional Consultative Group for the Americas (RCGA) decided to conduct a shadow banking monitoring exercise similar to that of the FSB at the regional level to achieve a better understanding of the shadow banking in these jurisdictions and identify specific characteristics of the shadow banking sector in the Americas. For this purpose, the RCGA set up a working group (WGSB) to design and conduct the exercise based on the AGV methodology.[76]

The WGSB prepared a report for the RCGA meeting in December 2013 and then presented it to the FSB Plenary in April 2014. The report documented the WGSB's work on the following tasks:

- Design a shadow banking monitoring exercise for jurisdictions in the RCGA based on the AGV exercise to ensure comparability;
- Provide a "macro-mapping" monitoring component, combined with jurisdiction-specific analysis of the nature of shadow banking, its connections to the rest of the financial sector, and especially to the traditional banking sector, and potential risks from these connections; and
- Propose recommendations to improve the oversight of the shadow banking sector in the region.

To carry out these tasks, the WGSB reviewed data definition and collection issues with non-AGV members and developed a data monitoring template. The standard AGV template was modified to better reflect the financial sector in the Americas; in particular, the role of public sector financial institutions was identified and investment funds were split into money market mutual funds, private investment funds and public investment funds.

A second template was developed to capture offshore shadow banking activities in international financial centers (IFCs) and their relationship with the onshore financial system. Several jurisdictions in the RCGA provide significant offshore financial services as IFCs.[77] The lack of data on IFCs represents an important gap in the FSB's global shadow banking

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[74] This Annex has been prepared by the FSB's Regional Consultative Groups (RCGs) for the Americas and Asia. The views expressed in the Annex are those of the RCGs for the Americas and Asia and do not necessarily reflect those of the FSB.

[75] This is a summary of the main report with the same name, which can be found here: http://www.financialstabilityboard.org/publications/r_140822b.pdf. The full report includes as annexes the terms of reference and membership list of the working group, as well as the data templates.

[76] All RCGA members and some other jurisdictions in the region were invited to join the WGSB.

[77] These would include: Bahamas, Barbados, Bermuda, British Virgin Islands, Cayman Islands, Panama and Uruguay. Cayman Islands, Panama and Uruguay were WGSB members and completed the IFC data template.

monitoring exercise because large volumes of bank and non-bank credit intermediation activities flow through these jurisdictions.

2. Methodological Issues

There are three differences between the WGSB template and the AGV template. First, investment funds are split into money market, public, and private funds. This contrasts with the AGV template that divides investment funds into money market, hedge funds and other funds categories. The WGSB believed that the private funds category reflected the characteristics of hedge funds while capturing other funds with very similar characteristics that are not labelled as "hedge funds" in participating jurisdictions. Second, the WGSB template seeks information on the role of the public sector in financial markets in the Americas by including a specific column for development banks, and by asking jurisdictions to report the share of public sector ownership in commercial banks. Although not part of the shadow banking system, the WGSB considered that these data could prove useful for understanding the size and dynamics of the OFI sector in the region. Third the template explicitly asks for information on assets in non-bank credit card companies because they are important in several jurisdictions.

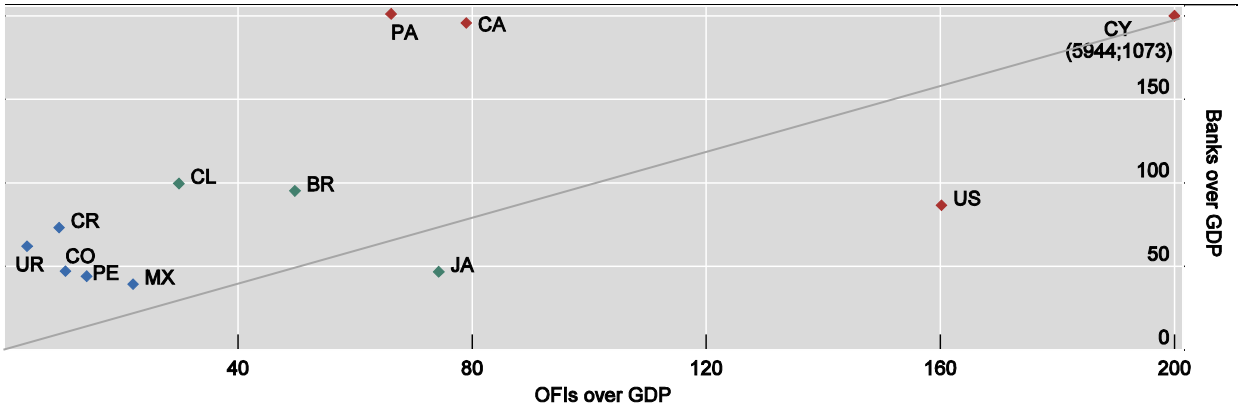
Monitoring shadow banking activities in IFCs merits special attention as they represent a material data gap in the AGV monitoring exercise. For these jurisdictions, financial assets registered with domestic authorities are split into those held by local and offshore institutions. Offshore institutions are defined on a *de jure* basis as those that by regulation are precluded from participating in local financial markets or are restricted from offering financial services to domestic residents. One example is class B banks in Panama and Cayman Islands, which cannot take on deposits from residents. The WGSB is aware that this approach to separating offshore and onshore financial institutions and activities has limitations, because market contacts suggest that even in the absence of regulatory prohibitions many IFC institutions *de facto* focus exclusively on providing services to non-resident clients. However, the current lack of sufficiently granular data makes it difficult to implement a *de facto* separation.

3. Principal Empirical Results

Across WGSB jurisdictions, banks dominate financial activities, as they hold close to 40% of financial assets. This share has been declining over the period 2005-2012 due to higher growth in Other Financial Intermediaries (OFI). The larger economies, such as the United States, Canada, Brazil and Mexico, have the largest OFI sectors (Exhibit A5-1). The Cayman Islands has the fifth largest OFI sector measured by domestic assets, totalling USD 127 billion. Including offshore assets the total increases to USD 1,963 billion.

Relative Sizes of Banking and OFI Sectors

12 jurisdictions, at end 2012 Exhibit A5-1



BR=Brazil, CA=Canada, CY=Cayman Islands, CL=Chile, CO=Colombia, CR=Costa Rica, JA=Jamaica, MX=Mexico, PA=Panama, PE=Peru, US=United States, UR=Uruguay.

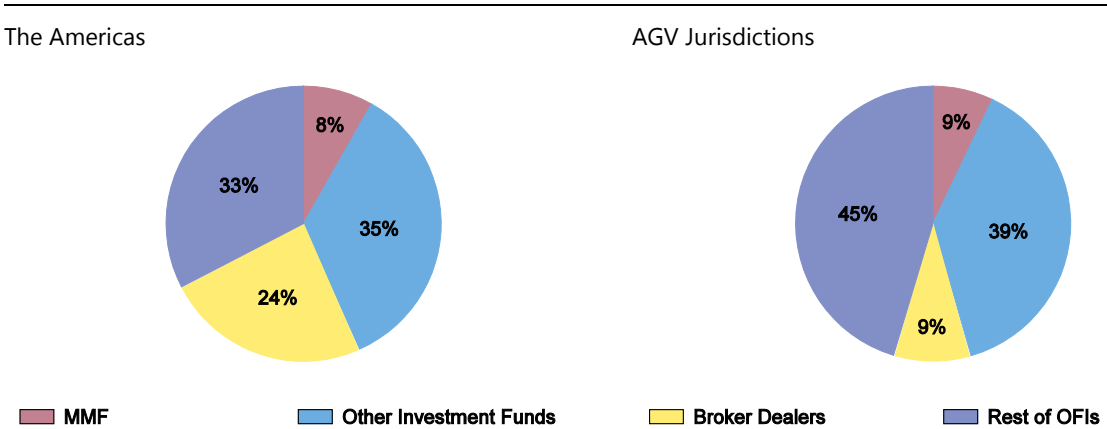
Sources: National financial accounts data, other national sources.

The average composition of the OFI category in the Americas jurisdictions is similar to that of AGV jurisdictions (Exhibit A5-2), but with broker dealers playing a much larger role in several jurisdictions, in particular, Panama, Jamaica, and Peru.

In several jurisdictions, links between OFIs and domestic banks are important. In Canada exposures to OFI are close 10% of bank assets. In Brazil, Cayman Islands and Chile banks rely on OFIs for funding –usually through investment funds. Balance sheet inter-connections between banks and the OFI sector in the remaining jurisdictions of the WGSB are low.

Composition of OFIs: Comparison with AGV

At end 2012 Exhibit A5-2



Source: National financial accounts data, other national sources.

The three IFC jurisdictions in the WGSB − Cayman Islands, Panama and Uruguay − completed a separate IFC template to identify the nature of their international financial

activities. In Panama and Uruguay the reported offshore assets correspond to banks that operate with special licenses.

In the Cayman Islands offshore assets are composed of special license banks, captive insurance companies, and catastrophe bonds.[78]

In the Cayman Islands offshore assets are USD 3.3 trillion, equivalent to almost 1600 times GDP and 21 times total domestic assets. In Panama offshore assets are USD 16.6 billion (45% of GDP). In Uruguay the IFC activities are much smaller and have been falling continuously since 2004, following the banking crisis. Because of the size of its offshore activities, the Cayman Islands are the most important IFC in the WGSB. Almost 56% of the offshore assets are held in investment funds,[79] with the remaining 44% held by special license banks.

From the macro-mapping exercise and individual jurisdiction reports, the WGSB identified four areas in which shadow banking was both significant and could pose a risk to financial stability because of its connections to the banking sector or its role in markets that are important for banking sector funding or liquid assets.

(i) Open ended investment funds

Investment funds make up a large part of the OFI sector in several jurisdictions in the region. Direct connections to the banking sector are sizable in Brazil, Chile and the United States, where they play a relevant role in bank funding. In Chile and the United States, MMFs, in particular, provide a large share of bank funding.

The risk associated with other investment funds may be important. Large changes in portfolio decisions of funds could affect the valuation and liquidity of assets. Moreover, if valuations are endogenous to fund decisions, then "runs" on funds can occur, even in the absence of fixed NAVs. For example, despite the fact that in Mexico funds are floating NAV by law, there was evidence of runs occurring at the beginning of the crisis in 2008.

(ii) Broker-dealers

In some WGSB jurisdictions, broker dealers are sizeable, highly leveraged and conduct maturity transformation. In Jamaica (and to a lesser extent in Panama) this is done by offering short repo products to households and firms to finance the purchase of long-term public debt. More broadly, risks arise because of the large presence of lightly regulated broker-dealers in retail public debt markets, the imperfect legal protection of the collateral in the secured financing operations and the lack of awareness of the risks by retail clients.

(iii) Non-bank deposit-taking institutions

Non-bank deposit-taking institutions (DTIs) are significant in many of the WGSB jurisdictions, and they perform similar roles to banks, intermediating credit and providing maturity transformation. In most jurisdictions they have access to some form of deposit

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[78] Catastrophe bonds are fixed duration bonds that repay investors if the stated peril does not occur during the duration of the bond.

[79] These are hedge funds with different investment strategies: multi-strategy funds, commodities funds, index tracking funds, global macro funds, emerging markets funds and funds that invest in distressed securities. The assets held by private funds reached a peak in 2007, totalling USD 2.2 trillion. In 2012 they held USD 1.8 trillion in assets and were 11,000 funds.

guarantee, and in some cases, access to central bank liquidity, so that the usual concerns regarding moral hazard in banking apply to these institutions. All jurisdictions prudentially regulate non-bank DTIs – although the prudential requirements and intensity of supervision varies across jurisdictions. The gaps between prudential regulation between bank and non-bank DTIs may be growing as authorities implement the new more stringent Basel III standards for capital, liquidity and leverage on banks and hence may be a source of regulatory arbitrage.

(iv) Finance companies

Finance companies and non-bank credit card issuers are a concern as potential sources of risk in Chile, Mexico and Uruguay. Sources of vulnerability vary across jurisdictions. In Chile and Mexico there is a potential risk that households may leverage up through credit from these entities, or that they become significant in banks loan portfolios. In Mexico some of these lenders have been forced by bank competition into riskier credit segments. Regulation of the sector is very heterogeneous.

4. Key Findings and Recommendations

The key findings for the WGSB's macro-mapping exercise are the following. First, the exercise has collected valuable data on non-bank credit intermediation in the Americas. Second, it has been a useful vehicle for disseminating the AGV methodology to non-FSB members. Third, it is a first step towards identifying the role of IFCs in global non-bank credit intermediation. Fourth, it identifies the aforementioned four types of shadow banking entities in the region that may merit further attention because of the potential risk their activities pose to financial stability in specific jurisdictions.

Recommendation #1. The work of the WGSB should continue and the shadow banking monitoring exercise should be conducted on an annual basis in the RCGA.

Recommendation #2. Future work on shadow banking in the RCGA should place particular attention on the four areas that were identified as posing potential risks to financial stability in the region.

Recommendation #3. Broader participation in the RCGA shadow banking monitoring exercise should be encouraged, in particular by jurisdictions that are engaged in significant IFC activities.

Recommendation #4. The FSB should encourage other RCGs to conduct similar exercises to map non-bank credit intermediation in their regions, including for international financial centers.

5. Postscript

Recommendations #1 to #3 are being addressed as the Central Bank of Chile and the Bank of Canada have agreed to continue the work of WGSB as its co-chairs until the end of 2015. The Bahamas, Bermuda, and the British Virgin Islands have joined the WGSB, and the IFC template will be modified to reflect their offshore activities.

Report on Shadow Banking in Asia[80]

1. Overview

The Working Group on Shadow Banking[81] of the FSB Regional Consultative Group for Asia (RCGA) conducted a study on shadow banking in Asia, in collaboration with IOSCO's Asia-Pacific Regional Committee (APRC). The Working Group conducted a survey[82] among RCGA members to examine the profile of non-bank financial intermediaries (NBFIs), the regulations governing these entities, the definition of shadow banking applied by members, the distinction between shadow banking and NBFIs, the potential risks emanating from NBFIs and the applicability of FSB's recommendations on shadow banking to Asia.

In the Global Shadow Banking Monitoring Report, the term "Other Financial Intermediaries" (OFIs) which include NBFIs except insurance companies, pension funds or public sector financial entities, was used as a conservative proxy for the size of shadow banking. The Working Group did not adopt the same definition, given that the survey was intended to identify how RCGA members themselves define "shadow banking". Accordingly, the terms "shadow banking", "NBFIs" and "OFIs" have been used where appropriate.

RCGA members welcome a shadow banking policy framework which strikes a balance between ensuring financial stability and promoting economic and financial development in Asia. NBFIs play a significant role in economic development in the region, largely by filling a credit void, broadening access to finance, deepening financial markets and promoting financial inclusion. Regional dimension should be considered in future global shadow banking work, taking into account the roles played by NBFIs in Asia.

RCGA members identify shadow banking broadly consistent with the FSB approach while at the same time exercising a large degree of national discretion. Given the peculiarities in identifying shadow banking, there may be a scope for improvement in the methodology of identifying shadow banking, such as flexibility in taking account national/regional circumstances and stronger focus on systemic risk implications.

2. Key findings

Majority of RCGA members are emerging or developing economies, which calls for a balanced and flexible approach in the policy response to shadow banking, taking into account national circumstances and systemic implications

- Ten of the 16 RCGA members are emerging or developing economies based on international benchmarks. Members recognize that NBFIs offer financial services to

[80] The full report can be found here: http://www.financialstabilityboard.org/publications/r_140822c.pdf.

[81] The Working Group, co-chaired by Mr. Ashley Ian Alder, Chief Executive Officer of the Securities and Futures Commission of Hong Kong and Mr. Muhammad bin Ibrahim, Deputy Governor of Bank Negara Malaysia, was established in February 2013 by the RCGA.

[82] The survey is wholly founded on a "bottom up" approach, constituting a compilation of responses from Asian jurisdictions. This, together with data limitations associated with non-bank financial intermediaries (NBFIs), has meant that the contributions to the report have not been subject to a "top down" qualitative, comparative or quantitative assessment by the Working Group.

individuals and firms that may lack access to "traditional" sources of funding. NBFIs promote financial inclusion and sustain growth in developing markets where further deepening of financial markets is a priority. Since the activities of NBFIs are predominantly domestic, cross-border risks are minimal. RCGA members welcome a shadow banking policy framework which strikes a balance between ensuring financial stability and promoting economic and financial development in Asia, taking into consideration national circumstances and systemic importance of NBFIs.

Financial systems in RCGA economies remain bank dominant, with NBFIs comprising only one third of the total financial systems' assets of reporting RCGA members as a group while OFIs account for less than 15 percent of total financial system assets

- Banks comprise at least half of the total assets in the financial system of RCGA members. NBFIs account for approximately one third while OFIs account for less than 15 percent, which is below the global average of approximately 25 percent. OFI sectors within RCGA economies vary considerably. Japan's OFIs, the largest sector in Asia, account for nearly 50 percent of RCGA reported OFI assets, but accounts for only seven percent of global OFIs. Meanwhile, the OFI sectors in Hong Kong and Singapore are the largest relative to the size of their economies. This is mainly attributable to their roles as financial centres in Asia. Consistent with global trends, the Asian OFIs grew strongly in the lead up to the crisis, dropped off somewhat in 2008, and continued to grow at a slower pace thereafter. The OFI sector's share of total financial system assets decreased slightly in Asia from 2002 to 2011, while it has increased globally.

RCGA members generally adopt the FSB's definition of shadow banking in practice, exercising a large degree of national discretion

- The survey shows that none of the reporting RCGA members have formally defined the term "shadow banking". In practice, however, members' approach to shadow banking appears to be consistent with FSB's approach, while at the same time exercising a large degree of national discretion. Some members cast the net wide, while others use a narrower approach focusing on typical risk indicators including maturity or liquidity transformation, credit risks transfer and leverage. More developed economies in Asia tend to view the FSB's definition of shadow banking as high level enough for general applicability, while emerging economies tend to view the FSB's definition as too wide and that "shadow banking" should have a stronger nexus with systemic risks. Some members believe the definition of shadow banking should be flexible enough to take into account national circumstances.

Distinction between shadow banking and NBFIs – the same type of NBFIs in different jurisdictions in Asia may not be consistently characterised as shadow banking (even when they may appear to pose similar risks) because of the domestic interpretation of the term "shadow banking". Jurisdictions consider different characteristics when categorizing shadow banking activity, including existing regulatory regimes and potential systemic risks

- The survey was the first effort to apply the FSB's systemic risk indicators and the "economic functions" developed by the FSB shadow banking Workstream 3 (or WS3) in categorising shadow banking in Asia. The survey results show that members' application of these risk indicators and economic functions criteria may not result in consistent

outcomes. Similar types of NBFI may not be consistently identified as shadow banking despite bearing similar shadow banking risk indicators.

For example, 11 members with collective investment schemes (CIS) in their jurisdictions reported similar shadow banking risks indicators for these entities. However, five members did not categorise CIS as shadow banking for various reasons. They argued that CIS are subject to adequate regulatory regimes, not directly involved in lending and deposit-taking activities, mitigate risks in the financial system as loss absorbers since CIS investors bear the risks of potential loss. Some jurisdictions have a large number of CISs that are domiciled offshore, for which the home supervisors are expected to exercise supervisory oversight and as such, are not regarded as part of the shadow banking sector in these jurisdictions.

- The survey outcomes also reflect a high degree of heterogeneity and diversity in the business model of NBFIs and even within the same type of NBFIs.

Regulatory regimes – nearly all members consider that NBFIs in their jurisdictions are subject to adequate regulatory oversight, but acknowledge that further enhancement of current measures may be beneficial

- Surveyed members consider that the NBFIs identified in their jurisdictions are, by and large, already subject to adequate regulatory oversight consistent with the FSB's "General Principles for Regulatory Measures Related to Shadow Banking". Members reported a range of regulatory measures in their jurisdictions which are applied to different NBFIs, including registration and licensing requirements, conduct regulations, prudential regulations and, consumer protection measures. The adoption of these measures varies in intensity among jurisdictions as well as among NBFIs which reflects the application of the concept of proportionality. Most members reported having the powers to collect data from and supervise NBFIs while many surveyed members reported having powers to take enforcement actions against NBFIs where required.
- Members are cognizant of the importance of regular review, assessment and improvement of the regulatory measures applicable to NBFIs in their jurisdiction. Members have identified a number of regulatory enhancements currently taking place, including making legislative changes, improving intra-agency information sharing arrangements, enhancing prudential requirements, corporate governance, solvency requirements, implementing additional safeguards to address specific risks arising from NBFIs and promoting stability oversight. This "tool box" of regulatory enhancements could be a useful reference for members, particularly for NBFIs undertaking similar functions. RCGA members may benefit from closer collaboration and experience sharing in the regulation of NBFIs.
- There is a degree of regulatory variation in the oversight of NBFIs in Asia which may potentially result in inconsistent regulatory approaches towards NBFIs providing similar services. Further, the NBFIs identified in Asia are predominantly domestic with little or no cross-border activities or systemic risk implications within the region. Consequently, risks arising from regulatory variability appear insignificant at present.

Risks emanating from shadow banking – leverage and maturity/liquidity mismatch risks were identified as the key potential risks by members, however, no or negligible cross-border risks were identified

- Most members identified leverage risk and maturity and liquidity mismatch as the key potential risks of shadow banking in their jurisdictions. Excess leverage can amplify pro-cyclicality. Maturity and liquidity mismatch can expose entities to liquidity and funding risks. Some members identified indirect risks stemming from interconnectedness of the banking and the non-bank sectors, and regulatory arbitrage in the domestic context as key potential risks in their jurisdiction.
- Surveyed members believe that the potential cross-border effect of the risks identified is none or negligible. None of the members consider that Asia faces the same shadow banking risks as other jurisdictions such as the US or EU. This is primarily because Asia has relatively less developed financial markets, offers less complex financial products and the scale of the non-bank sector remains small in size and non-systemic in nature.

Applicability of the FSB policy recommendations in Asia – most recommendations are applicable in a manner appropriate to national circumstances and regulatory measures proportionate to risks are largely already in place

- Most members consider the policy recommendations covering money market funds (MMFs) (developed by Workstream 2 or WS2) and securitisation (by WS4) to be generally applicable in Asia. However, members recognize that MMFs do not have the same characteristics or scale across jurisdictions. Accordingly, the specific structure and scale of a jurisdiction's MMF market must be taken into account when considering implementation. Similar views were expressed in respect of securitisation whose structure is believed to be less complex with lower potential systemic risks in Asia. Some developing economies are in the process of creating an enabling environment for their securitisation markets. They would welcome a policy balance between maintaining financial stability and allowing sufficient scope for sound market development.
- With regard to the FSB's final policy framework to address shadow banking risks posed by non-bank financial entities other than MMFs, developed by WS3, most members confirmed that they would review the final recommendations and the relevant policy tools in the light of the nature and scale of the shadow banking activities in their jurisdictions, existing regulations and the effectiveness and relevance of the final recommendations.
- The applicability of the policy recommendations regarding securities lending and repos, developed by WS5, is limited to RCGA members with securities financing activities in their jurisdictions or which are otherwise involved in them. Some members consider that not all the recommendations are relevant to them given the current size of markets in their jurisdictions, the composition of their securities financing markets and stringent regulatory frameworks already in place. Some members are concerned about possible unintended consequences of implementation, such as reducing market activities or impeding the ability of market participants to further develop markets. The recommendation that authorities should evaluate, with a view to mitigate systemic risk, the costs and benefits of proposals to introduce central counterparty (CCPs) in their inter-dealer repo markets, is generally welcome. Members were concerned about cost effectiveness and practicability, given the domestic nature of these activities in their jurisdictions. The proposed regulatory framework for haircuts, which are still undergoing

consultation,[83] remain an area of concern for certain members and is perceived by them to be counterproductive. There are concerns that these recommendations, if adopted, may result in over-regulation of local sovereign bond repo markets, causing unintended consequences and defeating the original objectives of these policies.

- Fundamentally, it is important for RCGA members to have the flexibility to exercise national discretion in applying the FSB's recommendations in a manner consistent with their domestic settings, existing regulatory frameworks and the extent of risks posed. This is balanced with the recognition that individual jurisdictions should appropriately manage the shadow banking risks in their financial systems. Some members are also concerned that FSB's shadow banking policy framework and specific policy recommendations do not place enough emphasis on the need to focus on systemic risks and the danger of inhibiting economic development in Asia.

2. Recommendations

Regional dimension in future global shadow banking work

- The RCGA shadow banking study found that NBFIs play a significant role in economic development in the region, especially in developing economies, where they perform important socio-economic functions largely by filling a credit void, broadening access to finance, deepening financial markets and promoting financial inclusion. RCGA members welcome a regional dimension in future surveys on global shadow banking monitoring work, including assessing the contribution of NBFIs in Asia in promoting access to finance, taking into account different stages of economic development in the region. RCGA members believe that a regional dimension will enrich global shadow banking monitoring work. Members consider that policy measures on shadow banking should aim at ensuring financial stability and promoting sound market development. A holistic view of NBFIs will better inform policy considerations and complement the FSB's monitoring framework and policy measures on shadow banking.

Scope for improvement in the methodology for identifying shadow banking

- RCGA members recognise that national discretion plays an important role in identifying NBFIs that require special policy attention, by taking into account local circumstances, including the domestic regulatory framework, market characteristics, stage of economic development, the degree of inter-linkages within the financial system and the systemic risks posed by the NBFIs in question. However, the survey shows that the concept of "shadow banking" is interpreted differently. Given the different approaches to identifying "shadow banking", there may be scope for improvement in the FSB's methodology, in particular that the identification of shadow banking should refer to jurisdiction/regional-specific features and systemic risks.

Closer regional collaboration

- RCGA members should consider enhancing coordination between domestic agencies

[83] As of October 2013 when this report was finalized by the Working Group.

within their jurisdictions to ensure that the regulations applicable to NBFIs are regularly reviewed and prioritized as appropriate. In the regional context, members may consider making use of the RCGA platform for closer collaboration through information exchange and experience sharing. Closer regional collaboration will enable members to share information on regulatory developments and policy measures and discuss emerging risks arising from NBFIs.

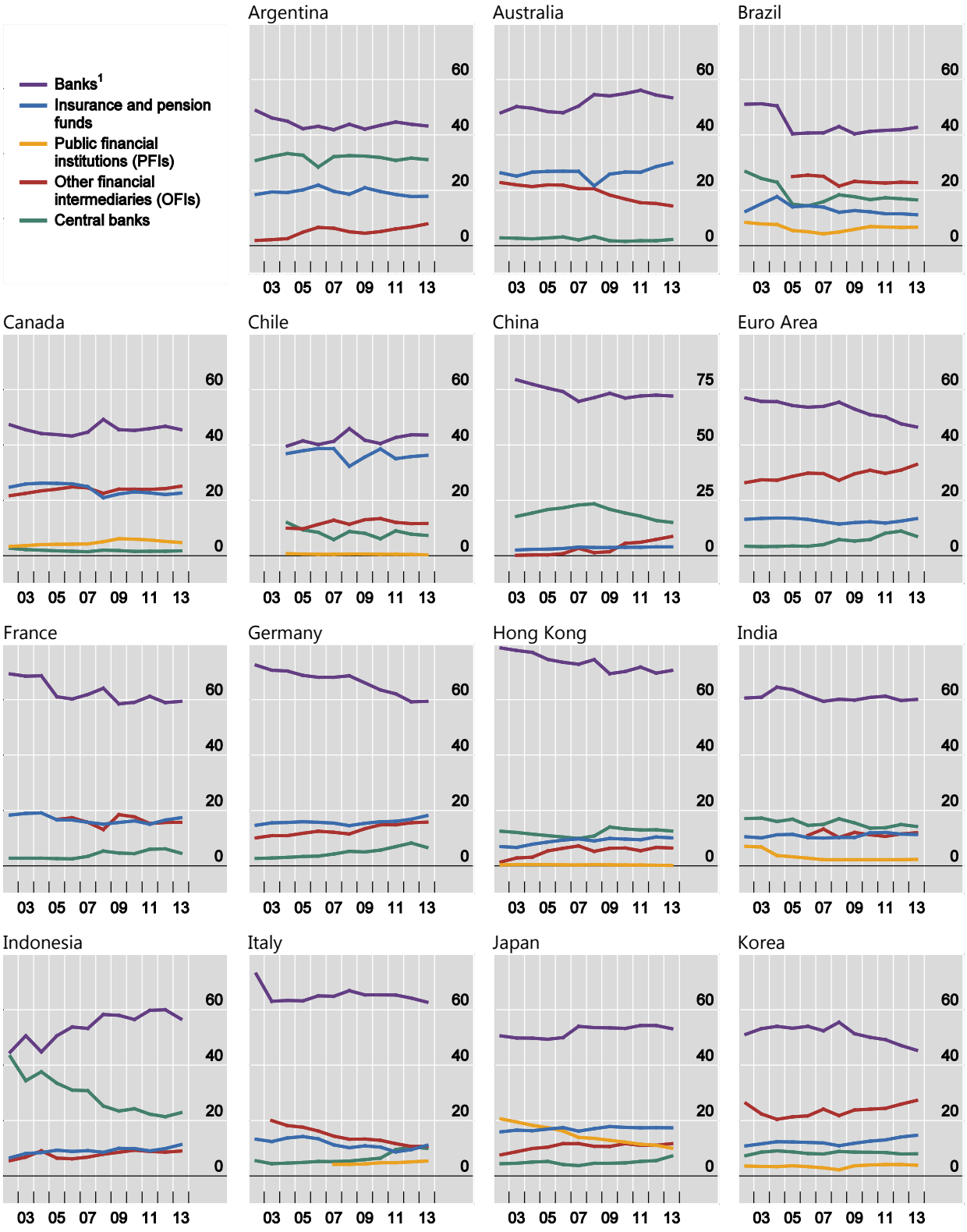
- RCGA members should explore the possibility of closer collaboration with IOSCO's APRC in future shadow banking or similar projects. Under the FSB's Coordinated Framework for Implementation Monitoring (CFIM), the FSB coordinates closely with international standard setting bodies for the securities, banking and insurance sectors namely, IOSCO, the Basel Committee and the IAIS, to coordinate policy development in priority reform areas including shadow banking. Closer regional collaboration between the RCGA and the APRC will integrate regional regulatory expertise on shadow banking and is consistent with the overall CFIM framework.

Annex 6: Share of total financial assets by jurisdiction

Share of total financial assets by jurisdiction

In per cent

Exhibit A6-1



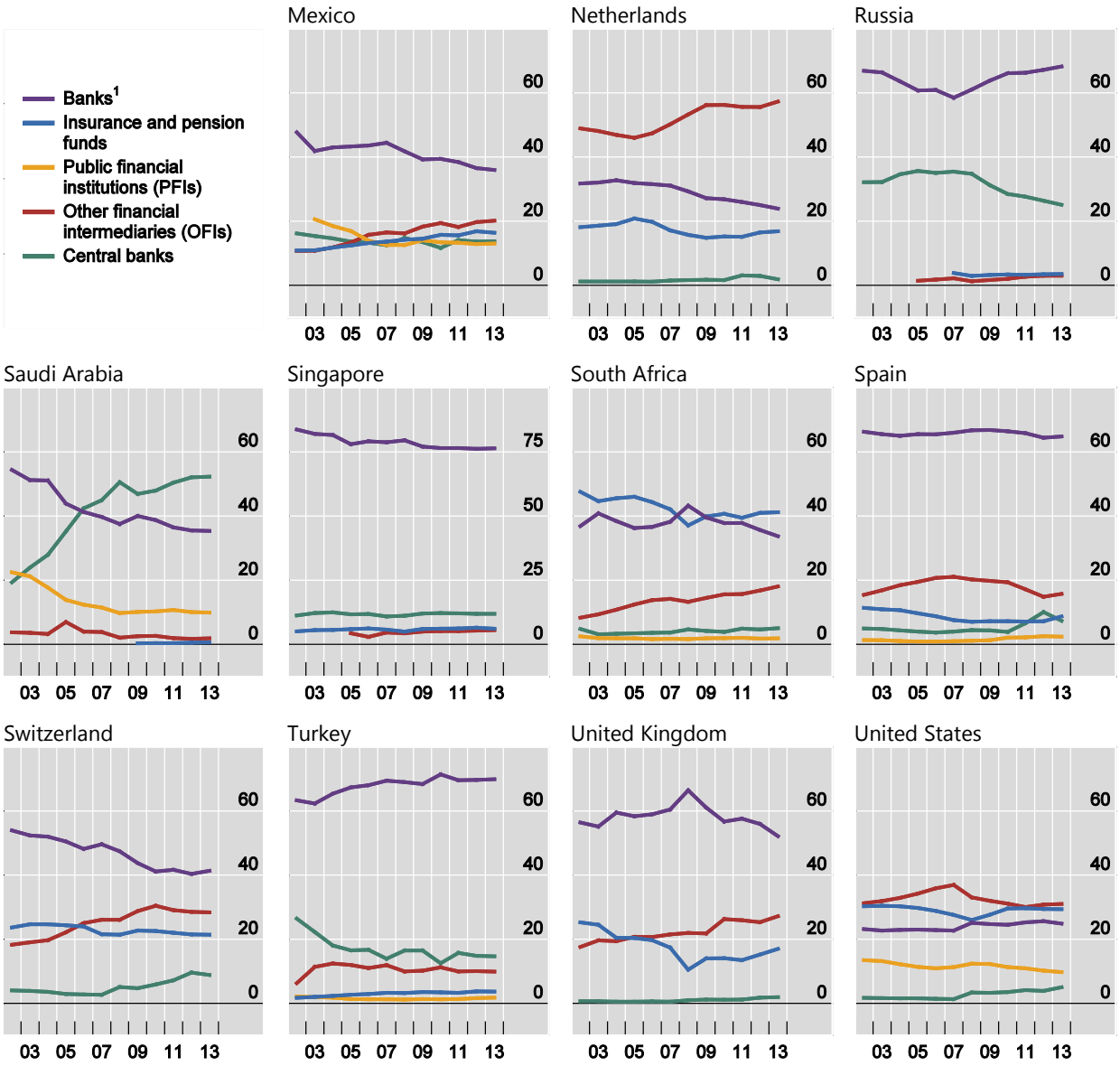
[1] Note that 'banks' refer to the broader category of 'deposit-taking institutions'.

Sources: National financial accounts data; other national sources.

Share of total financial assets by jurisdiction (cont.)

In per cent

Exhibit A6-1



[1] Note that 'banks' refer to the broader category of 'deposit-taking institutions'.

Sources: National financial accounts data; other national sources.