Webinar on the Implementation of 2019 FSI Guide

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Meraj Allahrakha, Economist

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Overview

- The State of Play
- Factors behind the FSI Update
- FSI: Before and After
- Concentration and Distribution Measures
- Structure of new report forms
- The Migration
Stay of Play: Number of FSI reporters
Why a new FSI Guide?

The global financial crisis
- a recognition of the need to improve our tools to track macro-financial vulnerabilities

The crisis led to reforms in regulatory and accounting standards
- Regulation (Basel III Accord)
- Accounting (IFRS 9)
- And a recognition of the need for/to
  - indicators to better gauge DT buffers vs. expected and unexpected losses
  - develop new FSIs for Other Financial Corporations (shadow banking)
  - strengthen the FSIs for NonFinancial Corporations and Households
Why a new FSI Guide?

The G20 Data Gaps Initiative (DGI) => monitoring financial risks a priority.

- Recommendation #2:
  - called for a revision of the list of FSIs

- Recommendation #3:
  - called for the IMF to investigate CDM for selected FSIs
Main changes

- to facilitate cross-country comparability
- to assist users in their macro-financial surveillance efforts
- More prescriptive
  - Basel III
  - IFRS 9
- More forward looking
- Reflect advances in regulatory frameworks
  - better identification of tail risks; G20-DGI rec. #3
- Supplemented with CDMs
FSIs: Before and After
The Current List of FSIs:

- 12 core FSIs for DTs
- 13 additional FSIs for DTs
- 2 additional FSIs for OFCs
- 5 additional FSIs for NFCS
- 2 additional FSIs for Households
- 2 additional FSIs for Market liquidity
- 4 additional FSIs for Real Estate Markets
The Revised List of FSIs: 18 Core and 35 Additional

- 17 core FSIs for DTs
- 1 core FSI for Real Estate Markets
- 12 additional FSIs for DTs

- 10 additional FSIs for OFCs
  - 2 OFC sectors
  - 4 Insurance corporations
  - 2 Pension funds
  - 2 Money market funds

- 7 additional FSIs for NFCS
- 3 additional FSIs for Households
- 3 additional FSIs for Real Estate Markets
FSIs for DTs: Before and After

Core FSIs for DTs

Four new FSIs
- CET1 capital to risk-weighted assets
- Provisions to nonperforming loans
- Liquidity coverage ratio
- Net stable funding ratio

One FSI moved from the additional to the core set
- Capital to assets (renamed as Tier 1 capital to asset)
FSIs for DTs: Before and After

Additional FSIs for DTs

One additional
- Credit growth to the private sector

One deletion
- Net open position in equities to capital
A Closer Look
## Balance Sheet

14. Total assets (= 15 + 16 = 23 + 31)

15. Nonfinancial assets

16. Financial assets (= 17 through 22)

17. Currency and deposits

18. Loans (after specific provisions) (= 18.i – 18.ii)
   - Gross loans
     - Interbank loans
       - Resident
       - Nonresident
     - Noninterbank loans
       - Central bank
       - General government
     - Other financial corporations
     - Other domestic sectors
     - Nonresidents
     - Specific provisions

19. Debt securities

20. Equity and investment fund shares

21. Financial derivatives

22. Other financial assets

23. Liabilities (= 28 + 29 + 30)

24. Currency and deposits

25. Loans

26. Debt securities

27. Other liabilities

28. Debt (= 24 through 27)

29. Financial derivatives and employee stock options

30. General and other provisions

31. Capital and reserves

32. Balance sheet total (=23 + 31 = 14)
### FSIs for DTs: Before and After

<table>
<thead>
<tr>
<th>Memorandum Series</th>
<th>Other series required to calculate FSIs:</th>
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<tbody>
<tr>
<td>Supervisory-based series</td>
<td>Other supervisory deductions³</td>
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<tr>
<td>33. Tier 1 capital less corresponding supervisory deductions⁴</td>
<td>34. Common Equity Tier 1 (CET1) capital less corresponding supervisory deductions⁴</td>
</tr>
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<td>35. Additional Tier 1 (AT1) capital less corresponding supervisory deductions⁴</td>
<td>36. Tier 2 capital less corresponding supervisory deductions</td>
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<tr>
<td>37. Tier 3 capital</td>
<td>38. Other supervisory deductions³</td>
</tr>
<tr>
<td>39. Total regulatory capital (= 33 + 36+ 37- 38)</td>
<td>40. Risk-weighted assets</td>
</tr>
<tr>
<td>41. Basel III total exposure measure</td>
<td>43. Available amount of stable funding</td>
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<td>42. High-quality liquid assets</td>
<td>45. Required amount of stable funding</td>
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<tr>
<td>44. Total net cash outflows over the next 30 calendar days</td>
<td>46. Large exposures</td>
</tr>
<tr>
<td>47. Liquid assets</td>
<td>Series that provide a further analysis of the balance sheet:</td>
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<td>48. Short-term liabilities</td>
<td>49. Nonperforming loans</td>
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<tr>
<td>50. Residential real estate loans</td>
<td>51. Commercial real estate loans</td>
</tr>
<tr>
<td>52. Geographic distribution of loans⁵</td>
<td></td>
</tr>
<tr>
<td>(i) Domestic economy</td>
<td>(ii) Advanced economies</td>
</tr>
<tr>
<td>(iii) Emerging market and developing economies</td>
<td>(iii) Emerging market and developing economies</td>
</tr>
<tr>
<td>(ii.i. Emerging and developing Asia</td>
<td>(ii.ii. Emerging and developing Europe</td>
</tr>
<tr>
<td>ii.iii. Latin America and the Caribbean</td>
<td>(ii.iv. Middle East and Central Asia</td>
</tr>
<tr>
<td>ii.v. Sub-Saharan Africa</td>
<td>(ii.v. Sub-Saharan Africa</td>
</tr>
<tr>
<td>53. Foreign currency loans</td>
<td>54. Foreign currency liabilities</td>
</tr>
<tr>
<td>55. Net open position in foreign currency for on-balance-sheet items</td>
<td>56. Total net open position in foreign currency</td>
</tr>
<tr>
<td>57. Credit to the private sector</td>
<td>58. Loan concentration by economic activity</td>
</tr>
<tr>
<td>59. Reference lending rates</td>
<td>60. Reference deposit rates</td>
</tr>
<tr>
<td>61. Highest interbank rate</td>
<td>62. Lowest interbank rate</td>
</tr>
<tr>
<td>Data series for compiling FSIs: ROA and ROE</td>
<td></td>
</tr>
<tr>
<td>63. Annualized net income before taxes</td>
<td>64. Annualized net income after taxes</td>
</tr>
<tr>
<td>65. Average total assets</td>
<td>66. Average capital and reserves</td>
</tr>
</tbody>
</table>
FSIs for DTs: Before and After

**Capital Adequacy**

**Analytic value**: a gauge of the robustness of financial institutions to withstand shocks to their balance sheets

- **Basel**
  - Regulatory capital to RWAs: Measure the capacity of regulatory capital to withstand losses
  - Tier 1 capital to RWAs: Measure the capacity of Tier 1 capital to withstand losses
  - CET1 to RWAs*: Capacity of Common Equity to absorb loss.
  - Tier 1 Capital to Total Assets: Financial leverage and ability to absorb loss

- **Other**
  - Nonperforming loans net of provision to capital: Capacity of regulatory capital to withstand loss on NPLs

* New FSI
## FSIs for DTs: Before and After

<table>
<thead>
<tr>
<th>Core</th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
</table>
| Regulatory capital to risk-weighted assets | Regulatory capital to risk-weighted assets | • Numerator: No change  
• Denominator: No change |
| Regulatory Tier 1 capital to risk-weighted assets | Regulatory Tier 1 capital to risk-weighted assets | • Numerator: No change  
• Denominator: No change |
| CET-1 capital to risk-weighted assets | CET-1 capital to risk-weighted assets | • New FSI  
• Numerator: CET1  
• Denominator: Risk-weighted assets |
| Capital to assets | Tier-1 capital to assets | • Numerator: Tier 1 capital  
• Denominator: No change  
• For country implementing Basel III leverage ratio, denominator is total Basel III’s exposure measures |
| Nonperforming loans net of provisions to capital | Nonperforming loans net of provisions to capital | • Specific provisions are defined as provisions on NPLs.  
• Provision on performing loans should be reported in general and other provisions on the liability side of the balance sheet.  
• Numerator: No change  
• Denominator: Total regulatory capital |
FSIs for DTs: Before and After

Asset Quality

Analytic value: a measure of risks to deposit takers’ solvency arising from asset quality impairment

Core

- NPLs to total gross loans
  Measure assets quality of loan portfolio

- Provisions to NPLs*
  Measure coverage of NPLs

- Loans concentration by economic activity*
  Measure concentration of risk in top 3 economic sectors

Additional

- Large exposures to Tier 1 capital
  Measure impact on capital from default of large counterparts' default

- Geographical Distribution loans to Total loans
  Measure credit risk arising from cross border loans

- Gross assets/liability derivatives positions to regulatory capital
  Measure the risk from derivatives operations on capital

- FC loans to total loans
  Measure the credit risk arising from FX loans

- FC currency liability to total liability
  Measure the relative importance of funding in fx currencies with total assets/liabilities

- Credit growth to private sector*
  Forward looking indicator that measure credit growth

* New FSI
## FSIs for DTs: Before and After

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<td><strong>Core</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Asset Quality</strong></td>
<td>Nonperforming loans to total gross loans</td>
<td>Nonperforming loans to total gross loans</td>
<td>• Numerator: No change&lt;br&gt;• Denominator: No change</td>
</tr>
<tr>
<td></td>
<td>Provisions to nonperforming loans</td>
<td></td>
<td>• New FSIs&lt;br&gt;• Specific provisions are defined as provisions on NPLs.&lt;br&gt;• Provisions on performing loans should be reported in general and other provisions on the liability side of the balance sheet.&lt;br&gt;• Numerator: Specific provisions&lt;br&gt;• Denominator: NPLs</td>
</tr>
<tr>
<td>Sectoral distribution of loans</td>
<td>Loan concentration by economic activity</td>
<td></td>
<td>• Replaced by FSI on loan concentration by economic activity&lt;br&gt;• Economic activity is defined as per United Nation’s International Standard Industrial Classification of All Economic Sector Activities (ISIC).&lt;br&gt;• Numerator: Loans to the top 3 economic sectors&lt;br&gt;• Denominator: Gross loans to nonfinancial corporations</td>
</tr>
</tbody>
</table>
# FSIs for DTs: Before and After

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<th>2019 FSI Guide</th>
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<tbody>
<tr>
<td><strong>Asset Quality</strong></td>
<td></td>
<td></td>
<td><strong>Additional</strong></td>
</tr>
</tbody>
</table>
| Large exposures to capital | Large exposures to capital | • Large exposures are defined as per BCBS’s framework  
• Numerator: All credit exposures to single or group of related borrowers after deduction of credit mitigants that exceed 10 percent of Tier 1 capital  
• Denominator: Tier 1 capital |
| Geographical distribution of loans | Geographical distribution of loans | • Numerator: WEO regional country classification  
• Denominator: No change |
| Gross asset position in financial derivatives to capital | Gross asset position in financial derivatives to capital | • Numerator: No change  
• Denominator: Total regulatory capital |
| Gross liability position in financial derivatives to capital | Gross liability position in financial derivatives to capital | • Numerator: No change  
• Denominator: Total regulatory capital |
## FSIs for DTs: Before and After

<table>
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<th>Asset Quality</th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
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</table>
|               | Customer deposits to total (noninterbank) loans | Customer deposits to total (noninterbank) loans | • Numerator: No change  
• Denominator: No change |
|               | Foreign-currency denominated loans to total loans | Foreign-currency denominated loans to total loans | • Numerator: No change  
• Denominator: No Change |
|               | Foreign-currency denominated liabilities to total liabilities | Foreign-currency denominated liabilities to total liabilities | • Numerator: No change  
• Denominator: No change |
|               | Credit growth to private sector | Credit growth to private sector | • New FSI  
• Credit to private sector is defined as loans and debt securities to nonfinancial corporations  
• Calculated as the 12 months growth in credit to private sector |
**FSIs for DTs: Before and After**

**Capital Adequacy**

Green indicates prescribed choice of denominator in 2019 FSI guide

Number refers to number of countries
FSIs for DTs: Before and After

Asset Quality

Green arrow indicates prescribed choice of denominator in 2019 FSI guide

Number refers to number of countries
FSIs for DTs: Before and After

Earnings and profitability

Analytic value: viability and efficiency of financial intermediation by DTs.

Core
- Return on assets: Measure efficiency in using assets
- Return on equity: Measure efficiency in using capital
- Interest margin/Gross income: Measure share of net interest income in gross income
- Noninterest expense/Gross income: Measure administrative expenses in gross income

Additional
- Trading income/Total income: Measure reliance on market-related activity
- Personal expenses/Non-interest expenses: Measure efficiency of operating business
- Spread between reference lending and deposit rates: Measure intermediation margin
- Spread between highest and lowest interbank rate: Gauge the perceived risk of lending among deposit takers
### Income and Expense Statement*

1. Interest income
   - i. Gross interest income
   - ii. Less provisions for accrued interest on nonperforming assets
2. Interest expense
3. Net interest income (= 1 – 2)
4. Noninterest income
   - i. Fees and commissions receivable
   - ii. Gains or losses on financial instruments
   - iii. Prorated earnings
   - iv. Other income
5. Gross income (= 3 + 4)
6. Noninterest expenses
   - i. Personnel costs
   - ii. Other expenses
7. Provisions (net)
   - i. Loan loss provisions
   - ii. Other financial asset provisions
8. Net income before taxes (= 5 – (6 + 7))
9. Income tax
10. Net income after taxes (= 8 – 9)
11. Other comprehensive income (loss) net of tax
12. Dividends payable
13. Retained earnings (= 10 – 12)

*Income and expense statement is reported from beginning of the calendar year to the end of the reporting period.*
## FSIs for DTs: Before and After

<table>
<thead>
<tr>
<th>Earnings and profitability</th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
</table>
| Return on assets           | Return on assets | • Extraordinary items have been phased out in the income and expense statement  
• Numerator: Net profit before tax (Annualized)  
• Denominator: No change - Average total assets |
| Return on equity           | Return on equity | • Extraordinary items have been phased out in the income and expense statement  
• Numerator: Net profit after tax (Annualized)  
• Denominator: Average capital and reserves |
| Interest margin to gross income | Interest margin to gross income | • Gross Income and expense statement needs to be reported on a cumulative basis from beginning of the calendar year to end of the reporting period  
• Numerator: No change  
• Denominator: include extraordinary profits, if any |
| Non-interest expenses to gross income | Non-interest expenses to gross income | • Gross income is adjusted for extraordinary item if positive while noninterest expenses is adjusted for extraordinary item if negative  
• Income and expense statement needs to be reported on a cumulative basis from beginning of the calendar year to end of the reporting period  
• Numerator: include extraordinary losses, if any  
• Denominator: include extraordinary profits, if any |
## FSIs for DTs: Before and After

<table>
<thead>
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<th>2019 FSI Guide</th>
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<tr>
<td><strong>Earnings and profitability</strong></td>
<td><strong>Earnings and profitability</strong></td>
<td><strong>Main Changes</strong></td>
</tr>
</tbody>
</table>
| Trading income to total income | Trading income to total income | • Income and expense statement needs to be reported on a cumulative basis from the beginning of the calendar year to the reporting period  
• Numerator: No change  
• Denominator: include extraordinary profits, if any |
| Personnel expenses to non-interest expenses | Personnel expenses to non-interest expenses | • Income and expense statement needs to be reported on a cumulative basis from the beginning of the calendar year to the reporting period  
• Numerator: No change  
• Denominator: include extraordinary losses, if any |
| Spread between reference lending and deposit rates | Spread between reference lending and deposit rates | • No change but numerator and denominator need to be reported separately |
| Spread between highest and lowest interbank rate | Spread between highest and lowest interbank rate | • No change but numerator and denominator need to be reported separately |
FSIs for DTs: Before and After

Earnings and profitability

Green arrow is consistent with the 2019 FSI Guide

Number refers to number of countries
FSIs for DTs: Before and After

Liquidity

Analytic value: a gauge of deposit takers’ ability to meet expected and unexpected demands for cash

**Core**

- **Liquid assets/Total assets**
  - Measure financial assets available to meet demand for cash

- **Liquid assets/Short term liabilities**
  - Measure liquidity mismatch between assets and liabilities

- **Basel: Liquidity coverage ratio**
  - Measure the capacity to withstand 30 days net cash outflow

- **Basel: Net stable funding ratio**
  - Measure stable funding over required funding

**Additional**

- **Customer deposits/Total deposits**
  - Measure use of “stable” funding for lending

* New FSI
# FSIs for DTs: Before and After

## Core

<table>
<thead>
<tr>
<th></th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
</table>
| **Liquidity**          | Liquid assets to total assets                                                 | Liquid assets to total assets for all DTs                                     | • Apply for all deposit-takers  
  • The 2019 FSI Guide does not differentiate between core and broad measure of liquidity  
  • Numerator: Broad measure of liquidity assets  
  • Denominator: No change |
|                        | Liquid assets to short term liabilities                                       | Liquid assets to short term liabilities for all DTs                          | • Apply for all deposit-takers  
  • The 2019 FSI Guide does not differentiate between core and broad measure of liquidity  
  • Numerator: Broad measure of liquid assets  
  • Denominator: Short term liabilities are defined as all liabilities with a maturity of not more than 90 days |
|                        | **Liquidity Coverage Ratio**                                                  |                                                                                | • New indicator for DTs under Basel III  
  • Numerator: HQLA  
  • Denominator: Net cash outflows |
|                        | **Net Stable funding Ratio**                                                  |                                                                                | • New indicator for DTs under Basel III  
  • Numerator: Available amount of stable funding  
  • Denominator: Available amount of required funding |
| Customer deposits total deposits |                                                                                |                                                                                | • Numerator: No change  
  • Denominator: No change |
FSIs for DTs: Before and After

Liquidity indicators

LIQUID ASSETS/TOTAL ASSETS

LIQUID ASSETS/SHORT TERM LIABILITIES

AVAILABLE DATA

Number refers to number of countries
FSIs for DTs: Before and After

Sensitivity to Market Risk

Analytic value: a measure of exposures to market risk

Core

Net open position in foreign currency to total regulatory capital

Gauge vulnerability to foreign exchange risk

Green indicates prescribed choice of denominator in 2019 FSI guide

• Deleted from the list of additional FSIs:
  Net open position in equity to capital

Net open position in foreign exchange to capital

Number refers to number of countries
## FSIs for DTs: Before and After

|-----------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------|
| Core                        | Net open position in foreign exchange to capital          | Net open position in foreign exchange to capital          | • Numerator: No change, but the preferred approach is to use on- and off-balance measure.  
• Denominator: Total regulatory capital                                                                 |
| Additional                  | Net open position in equities to capital                  |                                                          | • Deleted                                                                    |

**Core**

- **Numerator:** No change, but the preferred approach is to use on- and off-balance measure.
- **Denominator:** Total regulatory capital

**Additional**

- **Deleted**
Concentration and Distribution Measure
Background: Motivation

- Sectoral FSIs are weighted averages of bank by bank FSIs.

- Average FSIs may hide variations that could endanger the entire financial system.

- Data for highly capitalized deposit takers could offset the data for undercapitalized deposit takers.
CDMs

- **Recommendation II-3 of the Data Gaps Initiative**
  - The IMF to investigate the possibility of regular collection of CDMs for FSIs. G-20 economies to support the work of the IMF.

- **Background**
  - 2014 pilot project: confirmed feasibility of data collection
  - 2017 FSI Workshop: confirmed usefulness and countries’ support to the data provision, as additional costs are minimal assuming…
  - FI developed a data compilation tool, in response to countries’ request
  - 2017 meeting of the FSI Reference Group provided insights to the selection of FSIs for which CDMs would be reported, with an emphasis on preserving confidentiality of individual reporters
CDMs for Selected Core FSIs for DTs

- For Concentration, the Guide recommends
  - The Herfindahl Index

- Various ways to measure dispersion, including variance, standard deviation and quartiles.

- The Guide recommends

- Weighted Quartiles
  - First Quartile (weighted)
  - Second Quartile (weighted)
  - Third Quartile (weighted)

- Weighted Standard Deviation

- Weighted Skewness

- Weighted Kurtosis
CDMs for Selected Core FSIs for DTs

- **Solvency Indicator (capital adequacy)**
  - Tier 1 capital to risk-weighted assets
  - NPLs net of specific provisions to capital

- **Asset Quality**
  - NPLs to total gross loans
  - Provisions to NPLs

- **Profitability**
  - Return on assets (ROA)
  - Return on equity (ROE)

- **Leverage**
  - Tier 1 capital to total assets
CDMs: An Example

Figure 12.3 Weighted Quartiles for Selected French Banks’ Capital Adequacy Ratios (2006–2016)

Source: Fitch Connect and IMF staff calculations.
FSIs for OFC, NFC and household sectors and real estate market: Before and after
Additional FSIs for OFCs

- OFCs’ assets to total financial assets
- OFCs’ assets to gross domestic products
- OFC breakdown:
  - Money market funds (2 new indicators),
  - Insurance Corporations (4 new indicators),
  - Pension Funds (2 new indicators), and

Modification to the existing FSIs for OFCs:

- “OFC assets as percent of total financial system assets”:
  This indicator will be produced for the OFC sector as a whole and for each defined subsector: (i) MMFs; (ii) ICs; and (iii) PFs.

- “OFC assets as percent of GDP”:
  This indicator will be produced for the OFC sector as a whole and for each defined subsector: (i) MMFs; (ii) ICs; and (iii) PFs.
Additional FSIs for OFCs: MMFs

- **Sectoral distribution of investments**
  - Indicates the risk-profile of MMF investments by identifying different types of debtors, provides information on the exposure of these debtors to MMFs as a funding source, and captures a financial link between MMFs and DTs.
  - Moreover, changes in the distribution would also capture MMFs’ asset reallocations based on yields and/or risk perception.

- **Maturity distribution of investments**
  - Aims at assessing the level of liquidity by monitoring the asset maturity of the following time intervals: 1-30 days; 31-90 days; and more than 90 days
The following new indicators for ICs will be added as additional FSIs:

- **Shareholders’ equity to invested assets**
  - Measures the level of capital that is available to meet actual or potential losses from ICs’ investments. This is provided separately for life and non-life insurance.

- **Combined ratio (non-life insurance only)**
  - Measures the profitability of a given year’s insurance underwriting, calculated as the sum of net incurred losses and underwriting expenses divided by net earned premiums. For non-life insurers operating in a healthy market this ratio should be less than 100.

- **Return on equity (ROE—life and non-life) and Return on assets (ROA—life only)**:
  - Leading indicators for solvency problems,
  - The ROE measures ICs’ efficiency in using their capital,
  - The ROA measures ICs’ efficiency in using their assets.
The following new indicators for PFs will be added as additional FSIs:

- **Liquid assets to estimated pension payments in the next year**
  - This liquidity indicator assesses the adequacy of liquid assets to cover future pension payments.

- **Return on Assets**
  - This earning and profitability indicator measures the efficiency of PFs in using their assets.
Additional FSIs for NFCs

- **Additions**
  - External debt to equity
  - Foreign currency debt to equity
  - Total NFC debt-to-GDP
  - Earnings to interest expenses

- **Deletions**
  - Net foreign exchange exposure to equity
  - Number of bankruptcy proceedings initiated
### Additional FSIs for Households

#### The Rationale:
- The household sector is another key counterpart sector of the financial sector.

#### Addition
- Households debt to gross disposable income

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<thead>
<tr>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
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<tbody>
<tr>
<td>Household debt to GDP</td>
<td>Household debt to GDP</td>
<td>• No change</td>
</tr>
<tr>
<td>Household debt service and principal payments to income</td>
<td>Household debt service and principal payments to income</td>
<td>• No change</td>
</tr>
<tr>
<td></td>
<td>Household debt to household disposable income</td>
<td>• New FSI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Numerator: House debt</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Denominator: Household disposable income</td>
</tr>
</tbody>
</table>
FSIs for Real Estate Markets

- **The Rationale:**
  - Real estate assets are a major element of the wealth of the private sector. To support monitoring the direct exposure to risks arising from real-estate-related lending.

- **Additions:**
  - Residential real estate prices (upgraded to core)
  - Commercial real estate prices (No change)

<table>
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<tr>
<td>Residential real estate prices</td>
<td>Residential real estate prices</td>
<td>• Upgraded to the list of core FSIs</td>
</tr>
<tr>
<td><strong>Commercial real estate prices</strong></td>
<td>Commercial real estate prices</td>
<td>• No change</td>
</tr>
<tr>
<td>Residential real estate loans to total loans</td>
<td>Residential real estate loans to total loans</td>
<td>• No change</td>
</tr>
<tr>
<td>Commercial real estate loans to total loans</td>
<td>Commercial real estate loans to total loans</td>
<td>• No change</td>
</tr>
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Additional FSIs for Market Liquidity: Before and After

<table>
<thead>
<tr>
<th>Current List of FSIs</th>
<th>Updated List of FSIs</th>
<th>Changes</th>
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<tbody>
<tr>
<td>Average bid-ask spread in the securities market</td>
<td></td>
<td>Deleted</td>
</tr>
<tr>
<td>Average daily turnover ratio in the securities market</td>
<td></td>
<td>Deleted</td>
</tr>
</tbody>
</table>

*The Rationale:*

These two indicators on market liquidity are readily available from commercial sources in most countries on high frequency.
FSI Reporting: Before and After
Current FSI report forms

- **FS1** (Institutional coverage)
- **FSM** (Metadata)
- **FS2** (Sectoral financial statements + Memorandum items)
- **FSD** (Financial Soundness Indicators)
New FSI report forms

The objective is to derive the FSIs from underlying financial statements (FSIs) for all countries

New FS1
(Institutional coverage)

New FSM
(Metadata)

New FS2
(Sectoral financial statements + Memorandum items)

New CDM
report form for deposit-takers

New FSD
(Financial Soundness Indicators)
THE MIGRATION
Migration of historical data to the new report forms

Countries reporting in new FS2

New FS2

New FSD

Old FS2 + Old FSD

Use mapping

Historic data

Use mapping

Countries reporting in old FS2 & FSD
Migration of historical data to the new report forms

- There are currently 25 countries that report only FSD template
- The objective is to derive the FSIs from the underlying financial statements (FS2) for all countries
- A transition period will be provided to the FSD reporters to upgrade their reporting to new FS2.
Migration of old metadata to the new metadata

Countries reporting in new FSM

New FSM

Old FSM

Use mapping
The way forward

Implementation of the new templates is expected to be completed in 2021/2022

Implementation of new templates is expected to start in 2021
Appendix
# Additional FSIs for OFCs: Before and After

<table>
<thead>
<tr>
<th>OFC and subsectors</th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
</table>
| OFCs’ assets to total financial assets | OFCs’ assets to total financial assets and subsectors | • Modified  
• Numerator: Total assets of OFC and subsectors: MMF, IC and PC  
• Denominator: Total financial system assets comprising DTs, MMF, IC, PF and other OFC subsectors (that is excluding total assets of central banks) | |
| OFCs’ assets to gross domestic products | OFCs’ assets to total financial assets and subsectors | • Modified  
• Numerator: Total assets of OFC and subsectors: MMF, IC and PC  
• Denominator: GDP (No change) | |
| Money Market Funds | Sectoral distribution of investments | • New FSI  
• Numerator: sectoral distribution of investment  
• Denominator: Total investments | |
| | Maturity distribution of investments | • New FSI  
• Numerator: Maturity of investments  
• Denominator: Total investments | |
## Additional FSIs for OFCs: Before and After

|------------------------|----------------|----------------|--------------|
|                        | Shareholder equity to total invested assets | • New FSI  
• Numerator: Capital and reserves  
• Denominator: Total invested assets | |
|                        | Combined ratio, for non-life insurance | • New FSI  
• Numerator: Net claims and underwriting expenses  
• Denominator: Net premium earned | |
| Return on assets, for life insurance | • New FSI  
• Numerator: Annualized Profit before tax  
• Denominator: Average total assets | |
| Return on equity, for life and non-life insurance | • New FSI  
• Numerator: Annualized Profit after tax  
• Denominator: Average capital and reserves | |
## Additional FSIs for OFCs: Before and After

<table>
<thead>
<tr>
<th></th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pension funds</strong></td>
<td>Liquid assets to estimated pension payments in the next year</td>
<td>• New FSI</td>
<td>• Numerator: Liquid assets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Denominator: Estimated pension payments in the next year</td>
<td></td>
</tr>
<tr>
<td><strong>Return on assets</strong></td>
<td>Return on assets</td>
<td>• New FSI</td>
<td>• Numerator: Annualized Profit before tax</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: Average total assets</td>
</tr>
</tbody>
</table>
## Additional FSIs for NFCs: Before and After

<table>
<thead>
<tr>
<th>NFCs</th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total debt to equity</td>
<td>Total debt to equity</td>
<td></td>
<td>• Numerator: No change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: No change</td>
</tr>
<tr>
<td></td>
<td>Total external debt to</td>
<td></td>
<td>• New FSI</td>
</tr>
<tr>
<td></td>
<td>equity</td>
<td></td>
<td>• Numerator: Total debt to nonresident</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: Equity (Capital and reserves)</td>
</tr>
<tr>
<td></td>
<td>Total foreign currency</td>
<td></td>
<td>• New FSI</td>
</tr>
<tr>
<td></td>
<td>debt to equity</td>
<td></td>
<td>• Numerator: Total foreign currency debt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: Equity (Capital and reserves)</td>
</tr>
<tr>
<td>Return on equity</td>
<td>Return on equity</td>
<td></td>
<td>• Numerator: Profit after tax</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: No change</td>
</tr>
<tr>
<td>Earnings to interest</td>
<td>Earnings to interest</td>
<td></td>
<td>• Numerator: No change</td>
</tr>
<tr>
<td>and principal expenses</td>
<td>and principal expenses</td>
<td></td>
<td>• Denominator: No change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• New FSI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Numerator: Earnings before interest and tax (EBIT)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: Interest expenses</td>
</tr>
<tr>
<td>Net foreign exchange</td>
<td></td>
<td></td>
<td>• Deleted</td>
</tr>
<tr>
<td>exposure to equity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**2019 FSI Guide**  
- **Total debt to equity**: N/A  
- **Total external debt to equity**  
  - Numerator: Total debt to nonresident  
  - Denominator: Equity (Capital and reserves)  
- **Total foreign currency debt to equity**  
  - Numerator: Total foreign currency debt  
  - Denominator: Equity (Capital and reserves)  
- **Return on equity**  
  - Numerator: Profit after tax  
  - Denominator: No change  
- **Earnings to interest and principal expenses**  
- **Earnings to interest expenses**  
  - Numerator: Earnings before interest and tax (EBIT)  
  - Denominator: Interest expenses  
- **Net foreign exchange exposure to equity**: N/A
### Additional FSIs for NFCs: Before and After

<table>
<thead>
<tr>
<th>NFCs</th>
<th>2006 FSI Guide</th>
<th>2019 FSI Guide</th>
<th>Main Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net foreign exchange exposure to equity</td>
<td></td>
<td>• Deleted</td>
</tr>
<tr>
<td></td>
<td>Number of applications for protection from creditors</td>
<td></td>
<td>• Deleted</td>
</tr>
<tr>
<td></td>
<td><strong>NFC debt to GDP</strong></td>
<td></td>
<td>• New FSI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Numerator: Total debt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Denominator: GDP</td>
</tr>
</tbody>
</table>

- **NFC debt to GDP**
  - numerator: Total debt
  - denominator: GDP