



STATISTICS

# Financial Soundness Indicators – Compilation and Reporting Procedures

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# Outline

- What are FSIs?
- Why are FSIs needed?
- How are FSIs compiled and disseminated?
  - Legal framework
  - Data sources
  - Compilation methodology
  - Data reporting to IMF for dissemination
  - Data processing and dissemination by IMF
- FSIs metadata
- Main takeaways



# What are FSIs?

FSIs are indicators of the current health of a country's financial sector and its institutional units (financial, corporate, households, markets)

- Inspired by financial regulatory practices and CAMELS
  - ▶ Capital adequacy
  - ▶ Asset quality
  - ▶ Management
  - ▶ Earnings
  - ▶ Liquidity
  - ▶ Sensitivity to market risk



# List of FSIs

## Deposit Takers

- 17 core FSIs
- 12 additional FSIs

## Other Financial Corporations (OFCs)

- 2 additional FSIs for OFC's sector and subsectors (i.e., Insurance Corporations, Money Market Funds and Pension Funds)
- 4 additional FSIs for Insurance corporations (two of which split between life and non-life insurance corporations)
- 2 additional FSIs for Money Market Funds
- 2 additional FSIs for Pension Funds

**Nonfinancial Corporations**—7 additional FSIs

**Households**—3 additional FSIs

**Real estate**—one core and 3 additional FSIs

# FSIs for Deposit Takers (CAELS)

## Capital

### 5 Core FSIs

Regulatory capital to risk-weighted assets;  
Tier 1 capital to risk-weighted assets;  
Nonperforming loans net of provisions to capital;  
Common Equity Tier 1 capital to risk-weighted assets;  
Tier 1 capital to assets

## Asset

### 3 Core FSIs

Nonperforming loans to total gross loans;  
Loan concentration by economic Activity;  
Provisions to nonperforming loans

6 Additional FSIs

## Earning

### 4 Core FSIs

Return on assets;  
Return on equity;  
Interest margin to gross income;  
Noninterest expenses to gross income

3 Additional FSIs

## Liquidity

### 4 Core FSIs

Liquid assets to total assets;  
Liquid assets to short term liabilities,  
Liquidity Coverage Ratio (Basel III);  
Net Stable Funding Ratio (Basel III)

2 Additional FSIs

## Sensitivity to market risk

### One Core FSIs

Net open position in foreign exchange to capital

No Additional FSIs

# Why are FSIs needed?

- Address data gap on financial soundness
- Provide an essential input for macro-financial surveillance and analysis
- Serve as a tool to monitor underlying vulnerabilities of financial system
- Goals are to:
  - Protect depositors' interest
  - Ensure stability of the financial system
  - Contribute to economic growth

# How are FSIs compiled and disseminated?

# Legal Framework

- Responsibility for the FSIs compilation and dissemination
  - Central Bank or supervisory authorities of banks and other financial institutions
  - In case it is the Central Bank, the responsible unit can be bank supervision department or statistics department
- Obligation of banks and other financial institutions to report data
- Coordination among relevant national institutions
  - Data sharing
  - Consistent application of required statistical methodologies



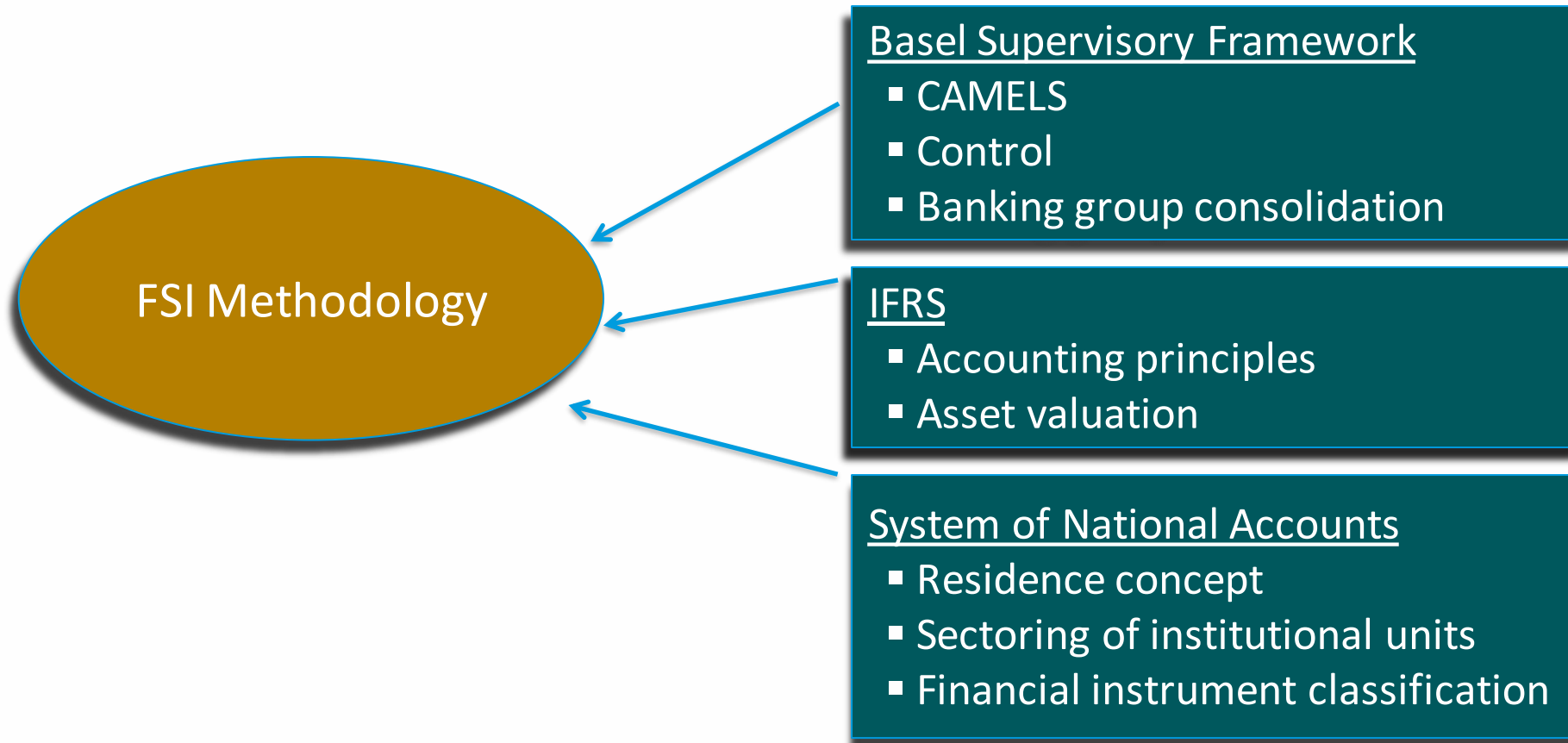
# Source Data

- Balance sheet, income statement, and supervisory series reported by banks and other institutions
  - Required details/breakdowns
  - Preferred data frequency and timeliness
- Reporting entities: deposit takers, other financial institutions (OFCs) and its subsectors, nonfinancial corporations (NFCs), and households (HHs)
- Collection and validation of source data:
  - Supervisory authorities collect data on assets and liabilities (balance sheet), income and expenses, and other required data series (such as supervisory data series)
  - Data are validated before they are used to compile FSIs

# 2019 FSIs Compilation Guide

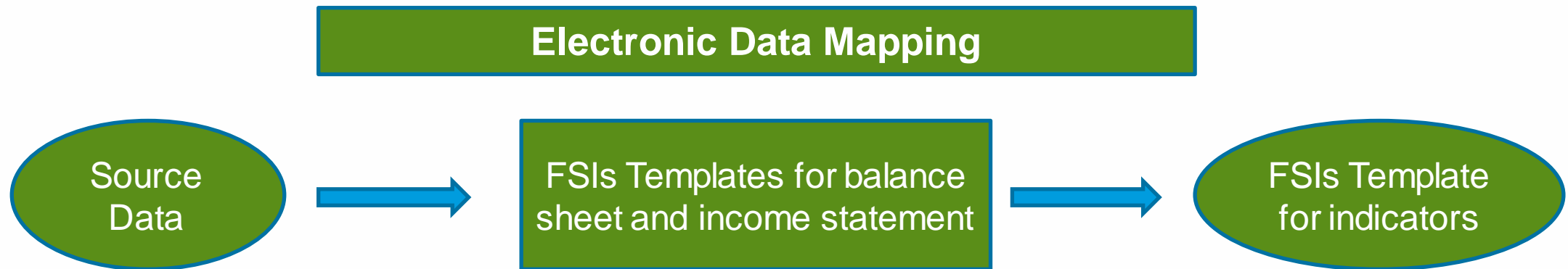
Guidance on the concepts and definitions, data sources and methods for the FSIs compilation and dissemination

FSI methodology is drawn on three international standards



# Data Processing by National Compilers

- Review and validate source data
- Map source data to the FSIs templates to derive FSIs and their underlying series (numerators and denominators)
  - By type of financial instruments for balance sheet data
  - By type of income and expenses
- Compilation spreadsheets are designed to electronically derive FSIs from source data:
- STA stands ready to provide TA as needed.



# FSIs Template for Deposit Takers' Sectoral Income Statement

<b>Income and Expense Statement*</b>
1. Interest income <sup>1</sup>
i. Gross interest income
ii. Less provisions for accrued interest on nonperforming assets
2. Interest expense <sup>1</sup>
3. Net interest income (= 1 – 2)
4. Noninterest income
i. Fees and commissions receivable <sup>1</sup>
ii. Gains or losses on financial instruments
iii. Prorated earnings
iv. Other income <sup>1</sup>
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)

# FSIs Template for Deposit Takers' Sectoral Balance Sheet

Balance Sheet	
14. <b>Total assets</b> (= 15 + 16 = 23 + 31)	23. Liabilities (= 28 + 29 + 30)
15. Nonfinancial assets	24. Currency and deposits
16. Financial assets (= 17 through 22)	i. Customer deposits
17. Currency and deposits <sup>1</sup>	ii. Interbank deposits <sup>2</sup>
18. Loans (after specific provisions) (= 18.i – 18.ii)	ii.i. Resident
i. Gross loans <sup>1</sup>	ii.ii. Nonresident
i.i. Interbank loans <sup>2</sup>	iii. Other currency and deposits
i.i.i. Resident	25. Loans
i.i.ii. Nonresident	26. Debt securities
i.ii. Noninterbank loans	27. Other liabilities
i.ii.i. Central bank	28. Debt (= 24 through 27)
i.ii.ii. General government	29. Financial derivatives and employee stock options
i.ii.iii. Other financial corporations	30. General and other provisions
i.ii.iv. Nonfinancial corporations	31. Capital and reserves
i.ii.v. Other domestic sectors	32. <b>Balance sheet total</b> (=23 + 31 = 14)
i.ii.vi. Nonresidents	
ii. Specific provisions <sup>3</sup>	
19. Debt securities <sup>1</sup>	
20. Equity and investment fund shares	
21. Financial derivatives <sup>1</sup>	
22. Other financial assets <sup>1</sup>	

# FSIs Template for Sectoral Memorandum Series

Memorandum Series
<b>Other series required to calculate FSIs:</b>
Supervisory-based series
33. Tier 1 capital less corresponding supervisory deductions <sup>4</sup>
34. Common Equity Tier 1 (CET1) capital less corresponding supervisory deductions <sup>4</sup>
35. Additional Tier 1 (AT1) capital less corresponding supervisory deductions <sup>4</sup>
36. Tier 2 capital less corresponding supervisory deductions
37. Tier 3 capital
38. Other supervisory deductions <sup>5</sup>
39. Total regulatory capital (= 33 + 36+ 37- 38)
40. Risk-weighted assets
41. Basel III total exposure measure
42. High-quality liquid assets
43. Total net cash outflows over the next 30 calendar days
44. Available amount of stable funding
45. Required amount of stable funding
46. Large exposures
<b>Series that provide a further analysis of the balance sheet:</b>
47. Liquid assets
48. Short-term liabilities
49. Nonperforming loans
50. Residential real estate loans
51. Commercial real estate loans

52. Geographic distribution of loans <sup>6</sup>
(i) Domestic economy
(ii) Advanced economies
(iii) Emerging market and developing economies
iii.i. Emerging and developing Asia
iii.ii. Emerging and developing Europe
iii.iii. Latin America and the Caribbean
iii.iv. Middle East and Central Asia
ii.v. Sub-Saharan Africa
53. Foreign currency loans
54. Foreign currency liabilities
55. Net open position in foreign currency for on-balance-sheet items
56. Total net open position in foreign currency
57. Credit to the private sector
58. Loan concentration by economic activity
59. Reference lending rates
60. Reference deposit rates
61. Highest interbank rate
62. Lowest interbank rate

# Data reporting to IMF for dissemination

- National compilers submit the FSIs templates, including balance sheet, income statement, and other data series as applicable
- Preferred frequency and timeliness
- Through Integrated Collection System (ICS)—IMF online data collection platform

# Data processing by IMF STA

- Reported data in the FSIs templates are electronically linked to a template to derive FSIs and underlying series based on the established calculation rules
- The calculated FSIs and underlying series are validated before sign off for dissemination
  - STA contact national compilers to address identified issues

## Template of Indicators and Underlying Series (FSD Form)

Indicator	Indicator
Core FSIs for Deposit takers	Return on equity
Regulatory capital to risk-weighted assets	Net income after taxes
Total regulatory capital	Capital
Risk-weighted assets	Interest margin to gross income
Tier 1 capital to risk-weighted assets	Interest margin
Tier 1 capital	Gross income
Risk-weighted assets	Noninterest expenses to gross income
Nonperforming loans net of provisions to capital	Noninterest expenses
Nonperforming loans net of provisions	Gross income
Total regulatory capital	Liquid assets to total assets
Common Equity Tier 1 capital to risk-weighted assets	Liquid assets
Common Equity Tier 1 capital	Total assets
Risk-weighted assets	Liquid assets to short-term liabilities
Tier 1 capital to assets	Liquid assets
Tier 1 capital	Short-term liabilities
Total assets	Liquidity coverage ratio
Nonperforming loans to total gross loans	High-quality liquid assets
Nonperforming loans	Total net cash outflows
Total gross loans	Net stable funding ratio
Loan concentration by economic activity	Available amount of stable funding
Loan concentration by economic activity	Required amount of stable funding
Total gross loans to nonfinancial corporations	Net open position in foreign exchange to capital
Provisions to nonperforming loans	Net open position in foreign exchange
Specific provisions	Total regulatory capital
Nonperforming loans	Residential real estate prices (Percentage change last 12 months)
Return on assets	Additional FSIs
Net income before taxes	Deposit takers
Total assets	Large exposures to capital
	Value of large exposures
	Tier 1 capital



# FSIs for Sustainable Development Goals

- Seven FSIs
  - Regulatory Tier 1 capital to assets
  - Regulatory Tier 1 capital to risk-weighted assets
  - Nonperforming loans net of provisions to capital
  - Nonperforming loans to total gross loans
  - Return on assets
  - Liquid assets to short-term liabilities
  - Net open position in foreign exchange to capital
- Machine to machine transmission from IMF to UN SDG database
- All FSIs reported by countries available at <http://data.imf.org/FSI>
- Currently, there are 147 reporting countries

# FSIs Metadata

- What is metadata?
  - It is a document describing:
    - Content and coverage of FSIs
    - Accounting and other national guidelines reflected in the data
- Why is it needed?
  - Helps data users to properly interpret the FSIs
    - Given diversity of standards and compilation practices between countries
- Metadata should be publicly available along with FSI data

**Table 2. FSI Metadata**

Indicators and Underlying Series	Definition	Consolidation Basis	Intra-Group Adjustments	Accounting Standards
	1	2	3	4
<b>Core FSIs for deposit takers</b>				
<b>Regulatory capital to risk-weighted assets</b>				
Total regulatory capital				
Risk-weighted assets				
<b>Tier 1 capital to risk-weighted assets</b>				
Tier 1 capital				
Risk-weighted assets				
<b>Nonperforming loans net of provisions to capital</b>				
Nonperforming loans net of provisions				
Total regulatory capital				
<b>Common Equity Tier 1 capital to risk-weighted assets</b>				
Common Equity Tier 1 capital				
Risk-weighted assets				

**Table 3. Metadata: Additional Relevant Information**

Deposit-takers		Response	Comments
<b>Accounting Framework</b>			
Consolidation Basis	Please indicate any deviation from the approach presented in the 2019 FSI Guide for the consolidation of income and expense statement, balance sheet and memorandum series. [See FSI Guide Chapter 6]		
Intra-Group Adjustments	For countries that have specified 'partial adjustment' in Table 2, please explain the adjustments. [See FSI Guide Chapter 6] For countries that have specified 'no adjustment' in Table 2, please explain (i.e., no subsidiaries, etc.). [See FSI Guide Chapter 6]		
Accrual accounting	Please indicate whether accrued interest has been incorporated in the outstanding amount of the underlying financial instrument. Choose from dropdown list. [See FSI Guide, Paragraphs 4.10, 4.12]	Yes	

# Main takeaways

- FSIs are an essential input for financial stability analysis
  - Outcomes help identify areas or concerns for policy response
- Agree on which unit or institution responsible for work on FSIs
- Focus on availability and adequacy of source data
  - Identify areas for improvement
  - Identify areas that require technical assistance (TA)
- Focus on both compilation and dissemination
- Need a well-established data sharing among relevant agencies
- Strengthen capacity to collect and process data
- Reach out to the IMF Statistics Department if TA is needed

**THANK YOU**