STATISTICS

Financial Accounts Workshop

DATA SOURCES

Emmanuel Manolikakis

Outline

- ✓ **Overview of Monetary and Financial Statistics**

- ✓ **Non-financial Corporations**

- ✓ **Households + NPISH**

- ✓ **Government and Public Sector Statistics**

- ✓ **Rest of the World**

- ✓ **Security Databases**

Monetary and Financial Statistics

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Data Sources: Monetary and Financial Statistics
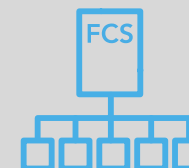
SOURCE DATA

- **Units** report **stock** and **flow data** in **accounting reports**
- Compilation and presentation is **based on** unit's **financial reporting** and **accounting standards and practices**

SECTORAL BALANCE SHEET

- **Central Bank** collects balance sheet (and flow) data through standardized report forms
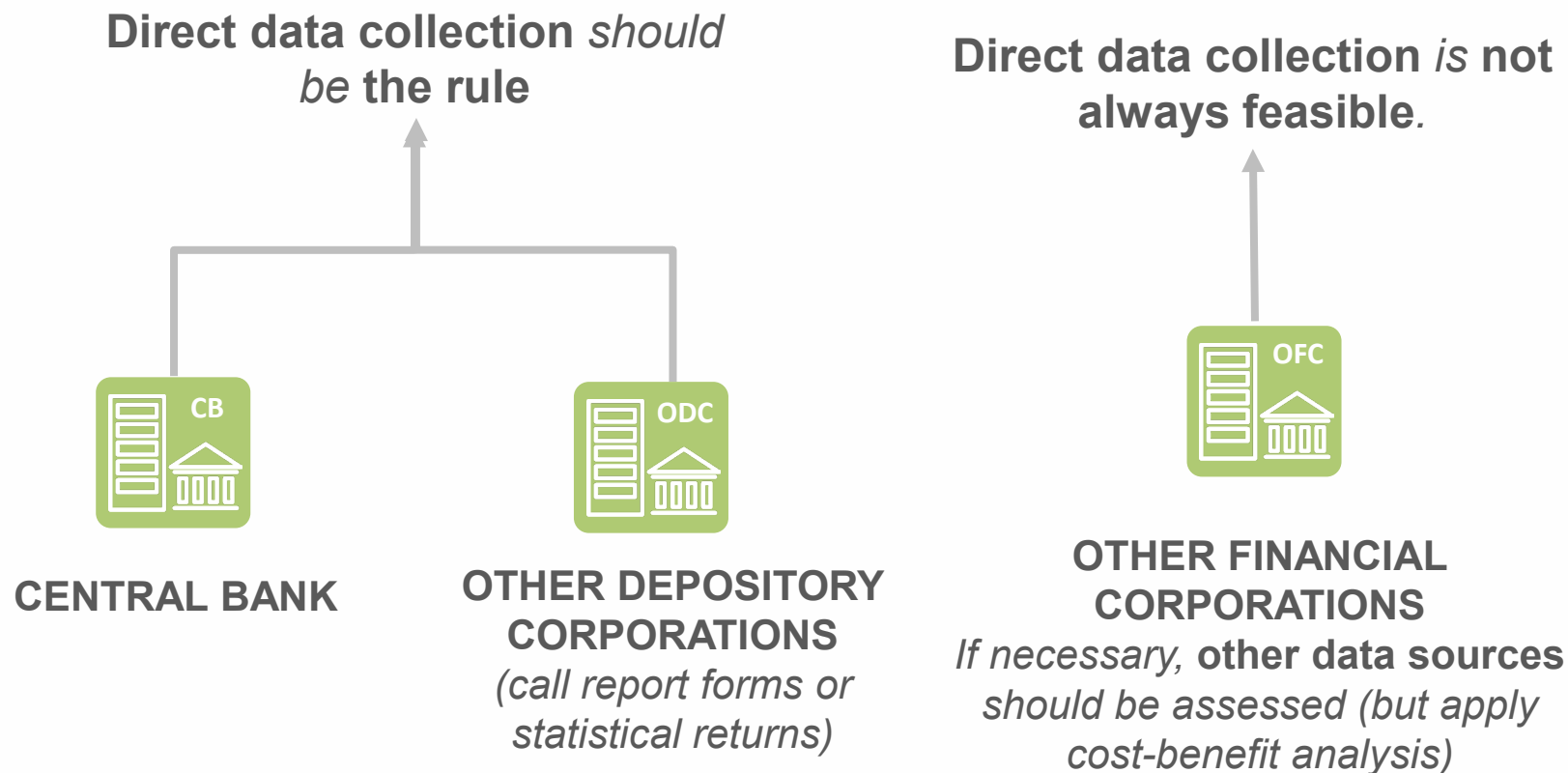- Accounting data is **mapped** to **statistical concepts**

SURVEYS

- **Central Bank / IMF** compile and publish **surveys**
- Data is **reorganized** into **analytical presentations**

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Data Sources: Monetary and Financial Statistics

DATA COLLECTION

All financial information should ideally be collected directly from individual financial institutions, but this is in practice associated with challenges for some units:

Direct data collection *should be* **the rule**

Direct data collection *is* **not always feasible**.

CENTRAL BANK

OTHER DEPOSITORY CORPORATIONS
(call report forms or statistical returns)

OTHER FINANCIAL CORPORATIONS
If necessary, **other data sources** *should be assessed (but apply cost-benefit analysis)*

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Data Sources: Monetary and Financial Statistics

Data Sources: Central Bank

Reporting is comparatively easy, as the central bank forms a single institutional unit and there is direct access to underlying data

Other Depository Corporations

Reporting format should allow full mapping to sectoral balance sheets

Elements of the Reporting System

- Reporting Forms
- Reporting instructions and other documentation
- Training sessions
- Technical support

Other Financial Corporations

Challenges for data collection from other financial corporations:

- Diversity of OFCs: Non-uniform accounting presentation
- Different supervisory authorities (or none): Collaboration between compilers and supervisory agencies required
- Frequency and timeliness: Monthly data not always available - at a minimum: quarterly data
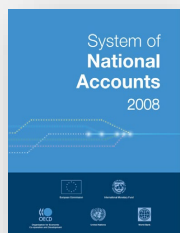
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SNA AND MONETARY STATISTICS

SYSTEM OF NATIONAL ACCOUNTS

Differences / Exceptions

- Other depository corporations (ODCs) include money market funds and only off-shore banks with broad money liabilities

- Other financial corporations combine FCs subsectors separately identified in the 2008 SNA, except MMFs – **3 subsectors are recorded in the MFS whereas 9 is recorded in the SNA**

- Provisions for losses on assets recorded as liabilities in monetary statistics – **Not recorded in SNA except in certain cases (those on non-performing loans, should be recorded as memorandum items)**

- Equity liability recorded at book value in monetary statistics

MONETARY AND FINANCIAL STATISTICS

Non-Financial Corporations

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Nonfinancial Corporations (NFC) Data sources

The size, structure and variation of NFCs affect the data sources available to compile financial accounts and balance sheets.

- Four primary data sources:

  - Survey statistics

  - Taxation statistics

  - Publicly available corporate financial statements

  - Counterpart (indirect) data

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NFC Data sources

Sources of data for non-financial corporations

Data source/ characteristics	Publicly available corporate balance sheets	Taxation statistics	Survey statistics	Counterpart (indirect) data
Frequency	Typically annual although with the increase in private sector databases, sub-annual information is becoming increasingly common on the Internet	Annual	Can be designed to be quarterly	Typically, quarterly
Timeliness	Varying lags, from medium to long lag (typically in excess of one year). with the increase in private sector databases, select information is becoming more timely	Long lag (often in excess of 1-2 years)	Can be designed to have an adequate lag	Typically, a short lag
Detail	Aggregated, such that only limited details may be available	Aggregated, such that only limited details may be available	Can be quite detailed, by design (taking into account response burden issues)	Instrument specific details
Consolidation	• Typically, global for complex MNEs • Domestic for others, based on legal entities	Domestic based on legal entities	• Domestically consolidated enterprises • Domestic legal entities	Reflection of domestically consolidated entities
Universe coverage	Typically, not universe coverage	Yes, for legal entities	• No, if sample survey only • Yes, if other data (e.g. tax data) are used to estimate	Typically, yes

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NFC Data sources - Surveys

Survey data sources typically cover income statements and balance sheets, which implies deriving transactions from positions and other sources. The survey design can allow for the configuration of corporate financial statements into SNA 2008 categories. Some considerations:

- The existence of a corporate survey for NFCs is not that common among countries, even among developed economies. The survey can be focused on companies (legal entities) or on statistical enterprises (consolidation of related legal entities, allocated to the dominant industry).

- Coverage is often an issue. Some countries may only survey or sample large corporations.
    - Under-estimation of the sector is quite common in these situations.
    - A business list approach may lead to biases.
    - Sampling errors can be an issue if the universe is not known, since a representative sample cannot be drawn

- In these situations, statisticians must rely on other sources, often a mixture of sources, to complete the coverage.

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Administrative Tax Data

OPPORTUNITIES

- **Reliable Data Source**

- **Can be used in Conjunction with Corporate Balance Sheets (survey data)**

- **Great Source for Benchmarking Estimates and Improving Coverage for NFCs**

CHALLENGES

- **May Require an MOU to Access Data**

- **Annual Frequency (with lags)**

- **No Detailed Breakdown and Mapping with Required SNA Categories**

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NFC Data sources – Financial Statements

Annual (and sometimes less detailed sub-annual) reports for large corporations, especially listed corporations, are increasingly available and increasingly timely and frequent. Some financial firms (third party providers) specialize in providing such information to the markets.

- Challenges:

    - For MNEs, may not reflect domestic consolidation of the enterprise

    - Coverage of large entities only

    - Data generally aggregated over financial instruments

- Main use:

    - Supplementary information on new funds raised, mergers and acquisitions, etc. … volume changes…

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NFC statistical challenges

Summary

- This sector is a challenge in many countries, with various approaches to generating estimates based on the source data available

- Direct source data is often not available or imperfect

- Compilation challenges will be evident in both annual and quarterly spaces

- The estimates for this sector will rely to the extent possible on counterpart entries for financial assets and liabilities

- Transactions may have to largely be derived from positions

Households

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Data sources – Households

- This sector also presents a challenge in many countries, as there is little recourse to using survey data for the complete sequence of sector accounts

- SURVEY: For the financial account and balance sheet account, household asset and debt surveys, where these exist, are infrequent and require a sufficient sample size to be representative and an adjustment to obtain a universe estimate. The estimates are better for asset composition than for control totals.

- Administrative data
  - For certain categories, administrative data may exist – property assessment records, land registry data, financial data….

- OTHER METHODS:
  - This leaves two basic approaches for these accounts:
    - Counterpart entry source data for the most important components, which do not typically supply transactions' estimates
    - Residual derivation for certain components, which relies on data quality of these items in the other sectors

- Given this situation, balancing the sector and the matrix can be challenging

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Data sources – Households and NPISHs

- **NPISHs**
    - This sector mainly relies on counter-part entries (deposits and loans) and securities data (bonds of some private hospitals and universities). The sector is relatively small, and therefore the data gaps present less of an issue

    - Sometimes, in certain countries, the Financial Account and Balance Sheet are included in households

- **Small businesses included in the sector (no separate set of financial statements)**

    - Unincorporated businesses (associated with mixed income estimates) in this sector may be captured with counterpart data on deposit and loans. Challenges may arise in identifying the individual from the business activity

    - Informal activities may or may not be covered. To the extent that they generate saving (covered in non-financial accounts), there is likely no way of generating the corresponding financial statistics and an imputation would be required to balance the sector.

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Data sources – Households

Indirect Data

Indirect source data plays an important role in generating the estimates for this sector. For households, financial assets are typically much larger than liabilities. Counterpart data data can provide up to 70-90% of the financial assets (depending on asset composition) and from 70-90% of liabilities (depending on liability composition)

- Data sources and approaches:
    - Counterpart data from financial corporations: Deposit assets; Loan liabilities: Life insurance assets and pension assets; investment fund assets; and, sometimes, financial derivatives. Typically, stock data.

    - Securities' databases: Can provide flow and stock data for debt securities (sometimes assets available or derived) corporate shares (sometimes assets available or derived)

    - Non-data approach: The vertical and horizontal rules of the Capital Account, Financial Account and Balance Sheet Account can permit the residual derivation of some financial instruments. The most problematic one (in terms of size) can be F5.1 (listed and unlisted equity)
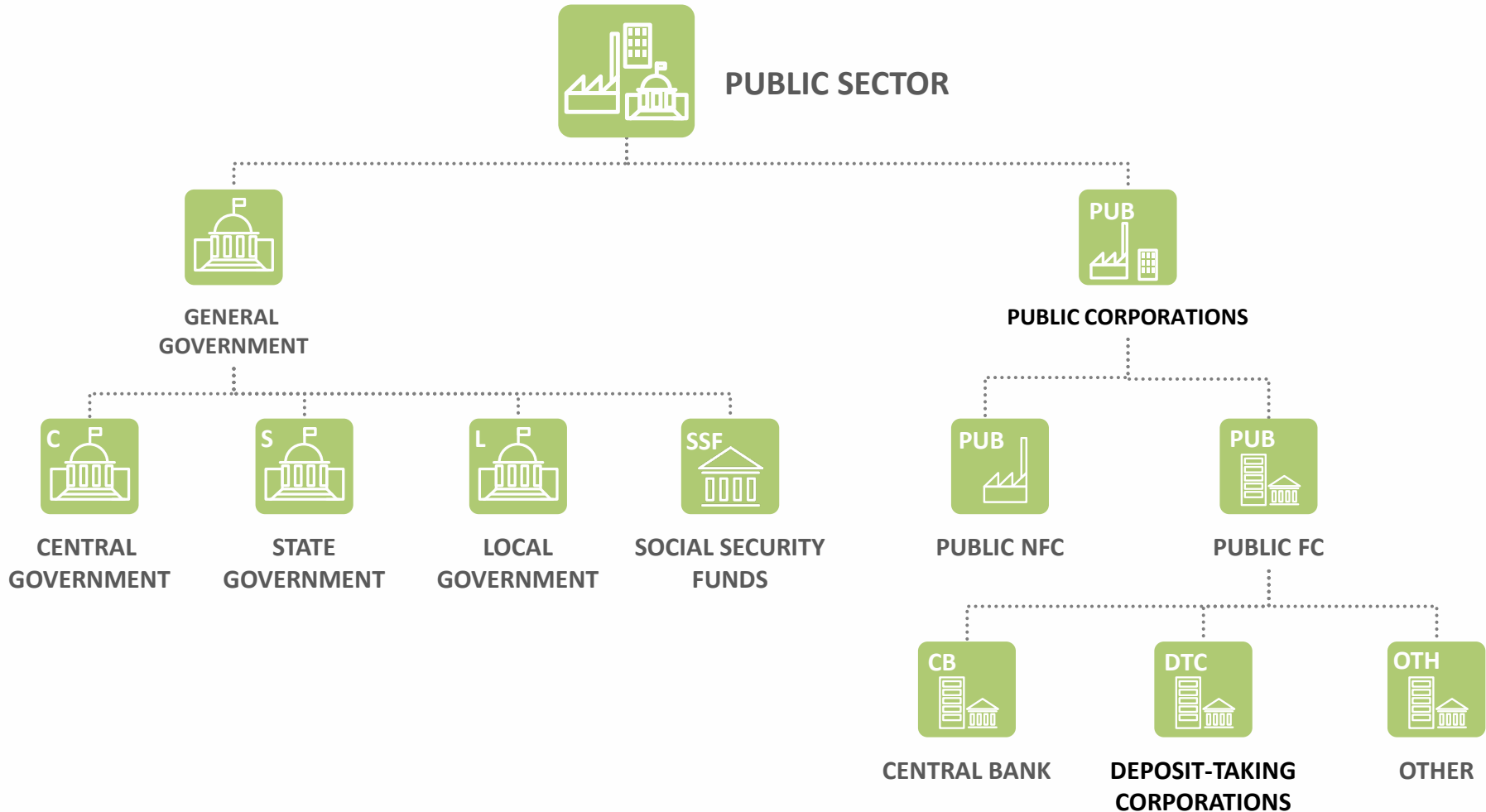
Government and Public Sector Statistics

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Data Sources: Government and Public Sector Statistics

COVERAGE AND SUB-SECTORS OF GFS

Government Finance Statistics (GFS) can be applied to the whole Public Sector:
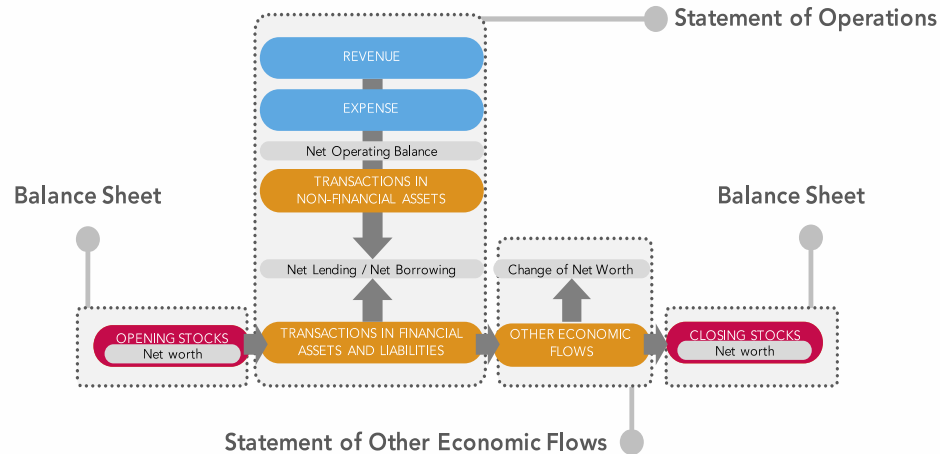
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Data Sources: Government and Public Sector Statistics

GFSM 2014 STATEMENTS

The GFSM 2014 framework comprises four core statements:

- **Statement of Operations**
- **Statement of Sources and Uses of Cash**
- **Statement of Other Economic Flows**
- **Balance Sheet Statement**

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Data Sources: Government and Public Sector Statistics

GFSM 2014 STATEMENTS – BALANCE SHEET

While government (and public sector) **balance sheets** offer **rich data** for analysis, there are **some** (typical) **challenges** associated with their compilation

- Due to major investment required, currently **only few countries record** their stock of **non-financial assets**

- **Valuation** and **interpretation** of government **non-financial assets** raises **special difficulties** (e.g. existence sector-specific assets that by definition do not have a market)

While these challenges exist, **partial balance sheets** can still **provide** highly **relevant information:**

- Setting up a balance sheet for financial assets and liabilities is typically easier → allows the analysis of **net financial worth** the stock equivalent to NLB (financial assets –liabilities) which is referred to as net financial worth in GFS.

- For **non-financial assets** sometimes **registries can be compiled**, and even those can be prioritized for assets above a value threshold and where information can be sensibly used for decision making. **Valuation** of those assets **can** then **be prioritized for areas**, **where value-added** of data **is** the **highest**.

Rest of the World

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Data Sources: External Sector Statistics

INTRODUCTION: THE REST OF THE WORLD ACCOUNT (S.2)

The Rest of the World Sector (National Accounts - S.2)

- consists of non-resident units insofar as they are engaged in transactions with resident institutional units, or have other economic links with resident units

Balance of Payments

- Summarizes transactions (flows) between residents and nonresidents during a period.

- Consists of the goods and services account, the primary income account, the secondary income account, the capital account, and the financial account

(BPM6 - §2.12)

International Investment Position

The IIP is a statistical statement that shows at a point in time the value of (stocks):

- financial assets of residents of an economy that are claims on nonresidents or are gold bullion held as reserve assets; and

- the liabilities of residents of an economy to nonresidents

(BPM6 - §2.8)

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Data Sources: External Sector Statistics

COMPARISON OF ROW AND ESS – DIFFERENT PERSPECTIVES

NONRESIDENT UNITS

TOTAL ECONOMY

REST OF THE WORLD (ROW)
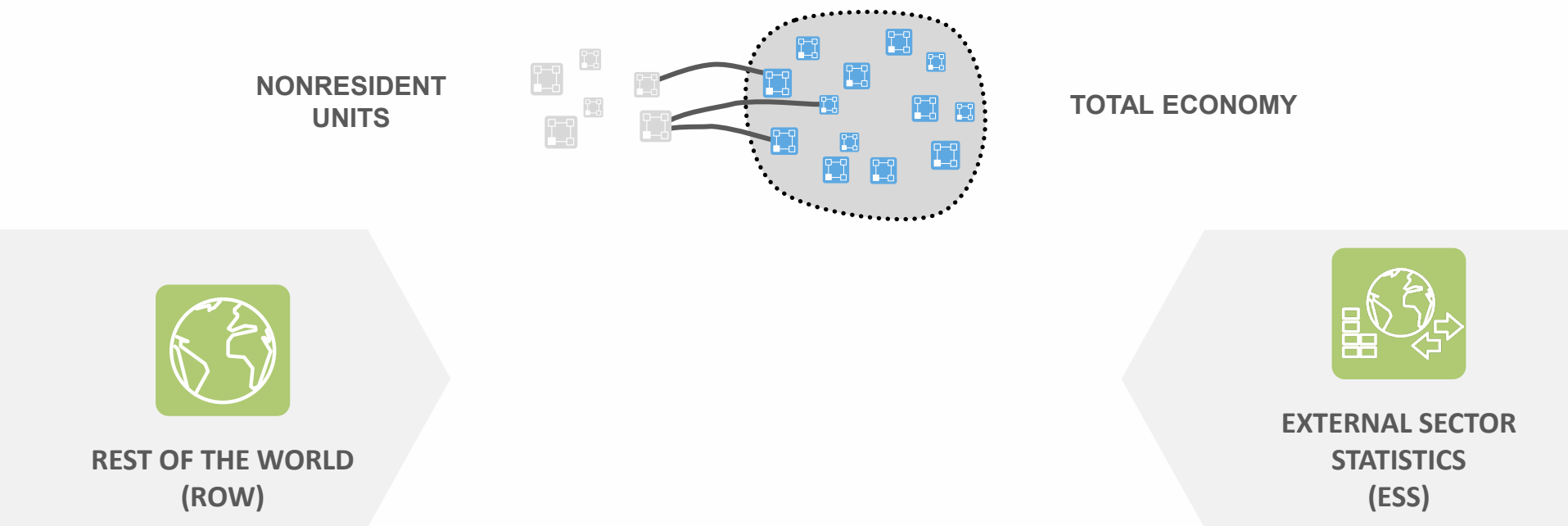
EXTERNAL SECTOR STATISTICS (ESS)
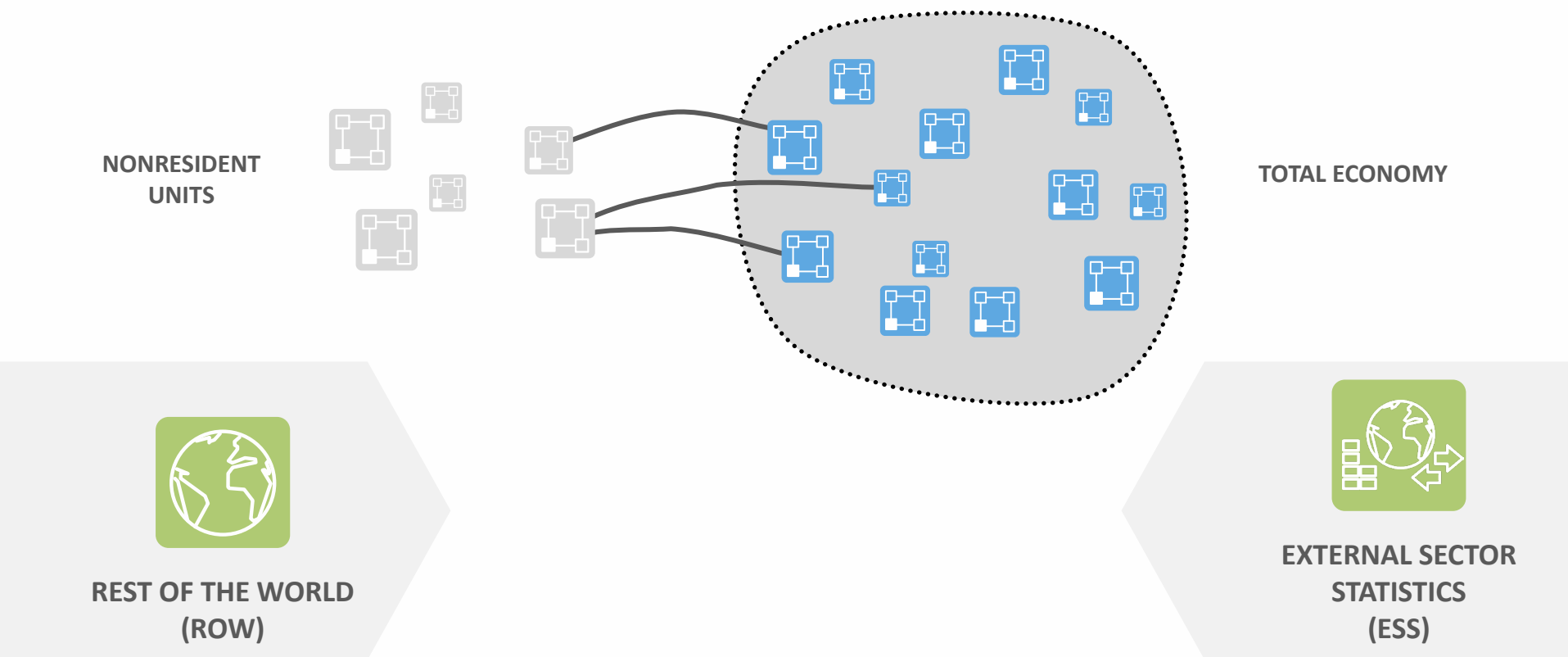
ROW is recorded from the **perspective** of **non-residents** (with the counterparty in the domestic economy)

BOP / IIP (ESS) is recorded from the **perspective of** the **resident sectors** (with the counterparty abroad)

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Data Sources: External Sector Statistics

COMPARISON OF ROW AND ESS – DIFFERENT PERSPECTIVES

NONRESIDENT UNITS

TOTAL ECONOMY

REST OF THE WORLD (ROW)

EXTERNAL SECTOR STATISTICS (ESS)

A **resource** for ROW ⟶ is a **use** for the resident Economy

An **asset** for ROW ⟶ is a **liability** for the resident Economy

A ROW **deficit** ⟶ is a **surplus** for the resident Economy

...and vice versa

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Data Sources: External Sector Statistics
ESS FUNCTIONAL CATEGORIES AND ROW FINANCIAL INSTRUMENTS

Category (ESS)	Covered Financial Instruments (ROW)
Direct Investment	• Equity (listed, unlisted, other equity) • Debt: can be all debt instruments but usually mainly loans, other accounts receivable/payable (including trade credit)
Portfolio Investment	• Equity: usually only listed but may have some unlisted • Debt securities: long-term and short-term
Financial Derivatives/ ESO	• Forward-type financial derivatives • Options • SEOs
Other Investment	• Other equity (non-tradable) • Currency and deposits • Loans • Other account receivable/payable (including trade credit)
Reserve Assets	• Usually monetary gold, SDRs, currency and deposits, debt securities but can also include equities and loans (but liquidity essential). • May include financial derivatives if used as part of management of reserve position

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Data Sources: External Sector Statistics

ESS FUNCTIONAL CATEGORIES AND ROW FINANCIAL INSTRUMENTS

ESS Functional Categories

ROW Financial Instruments	Direct Investment	Portfolio Investment	Financial Derivatives/ESO	Other Investment	Reserve Assets
Monetary Gold / SDR (F1)				X	X
Currency and Deposits (F2)	X			X	X
Debt Securities (F3)	X	X			X
Loans (F4)	X			X	X
Equity and Investment Fund Shares (F5)	X	X		X	X
Insurance/Pension/Std. Guarantees (F6)	X			X	
Financial Derivatives and ESO (F7)			X		X
Other Accounts Receivable/Payable (F8)	X			X	

Security Database

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Data Sources: External Sector Statistics

SECURITY-BY-SECURITY DATABASE - OVERVIEW

DEBT

SECURITY-BY-SECURITY DATABASE

Coverage
Database with information on each individual security
- Reporting FCs provide granular data on securities
- Compilers calculate balance sheet totals and breakdowns

Benefits
- Common methodology for statistical classification
- Valuation adjustments and transactions harmonized
- Flexible options for data aggregation
- Simplification of reporting

Challenges
Large up-front investment for system set-up
- Decision on IT
- Costs for compiling institution/agency

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Data Sources: External Sector Statistics

SECURITY-BY-SECURITY DATABASE - CONTENT

Reference information

Security ID
- International Securities Identification Number (ISIN)
- Short name
- Other codes

Security classification
- Asset classification (ESA2010, CSDB, etc.)
- Location
- Fund type

Security features
- Currency
- Issue date
- Maturity date
- Coupon info

SECURITY-BY-SECURITY DATABASE

Reference information

Quantitative information
- Amount outstanding
- Market capitalization
- Issue price
- Market price

Issuer ID
- Data provider codes
- Issuer name
- Legal entity identifier (LEI)

Issuer classification
- Economic sector (2008 SNA, ESA 2010, NACE)
- Country of residence

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Data Sources: External Sector Statistics

SECURITY-BY-SECURITY DATABASE

Features of s-b-s database development process:

- Iterative incremental approach
- Technical guidance
- Integration of several data sources
- Data quality management

Main Data Processes

Database Population

Enrichment
Filling gaps / missing data

Grouping
Data from different providers for same security

Unification

Data Capturing