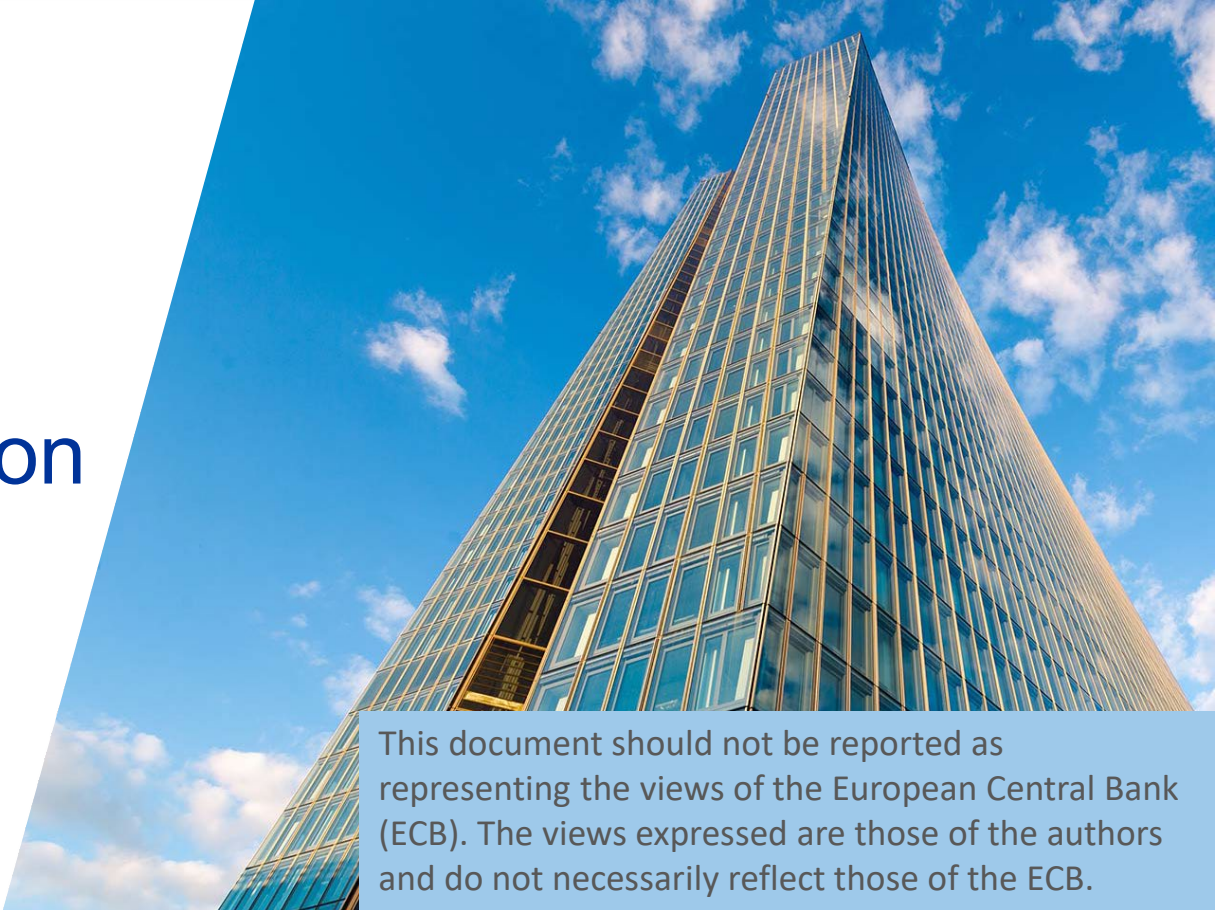# Compiling financial corporation sub-sectors

Workshop on Financial Accounts

9 to 11 October 2023 - Brussels

This document should not be reported as representing the views of the European Central Bank (ECB). The views expressed are those of the authors and do not necessarily reflect those of the ECB.

Pierre Sola
European Central Bank

Overview

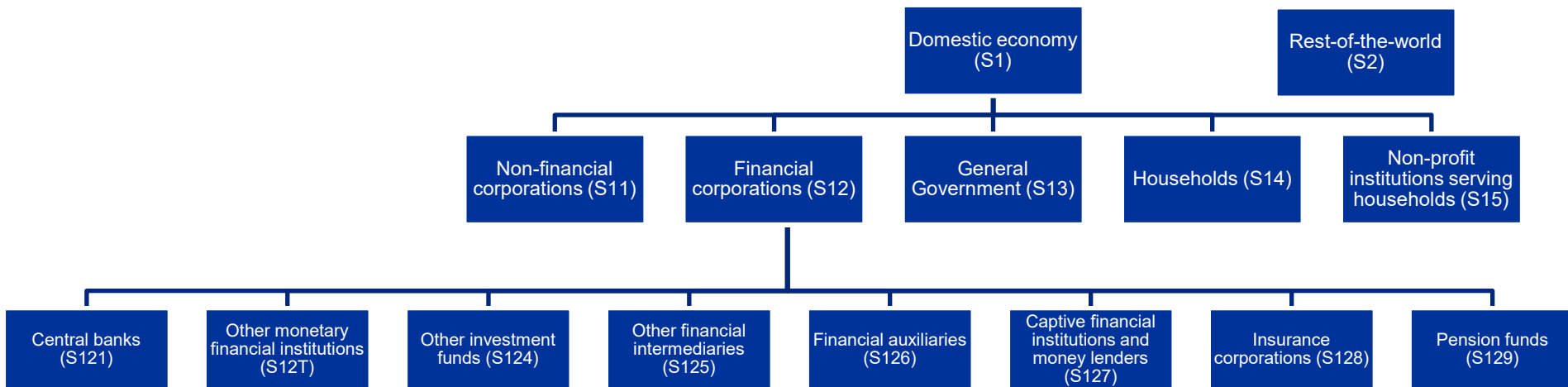|	
1	Selecting the available/most relevant sub-sectors
2	Output to be produced
3	Sources according to data type
4	Summary of typical sources for Financial Accounts
5	Integrating sources
6	Challenges
7	Filling the gaps

1. Selecting the available/most relevant sub-sectors

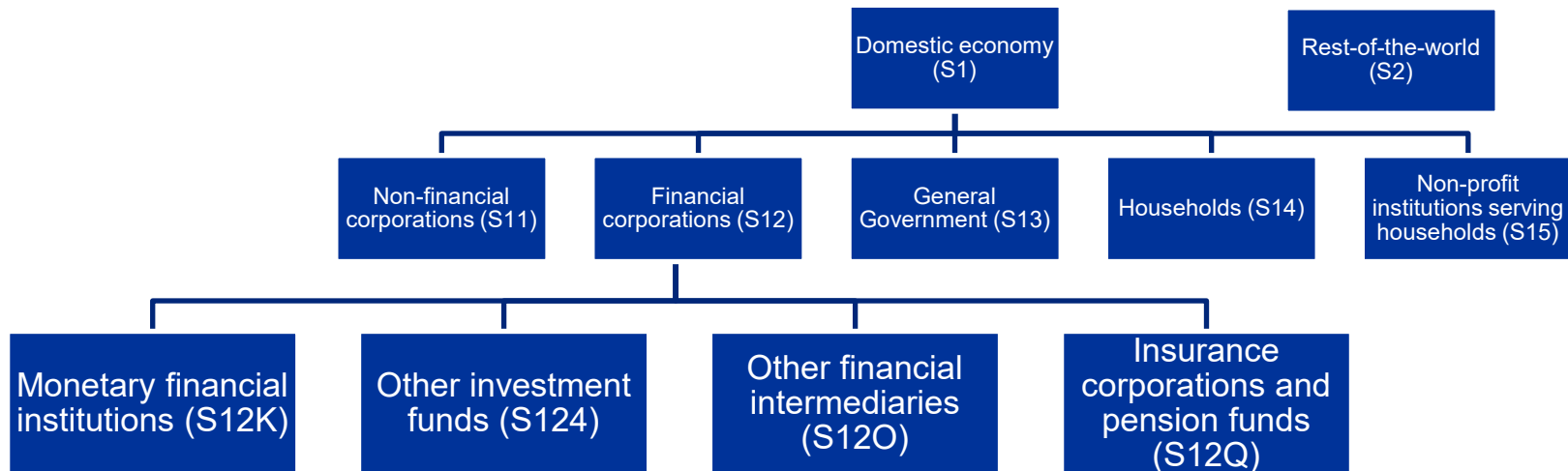Sub-sectors of financial corporations according to the Statistical Standards (SNA/ESA)
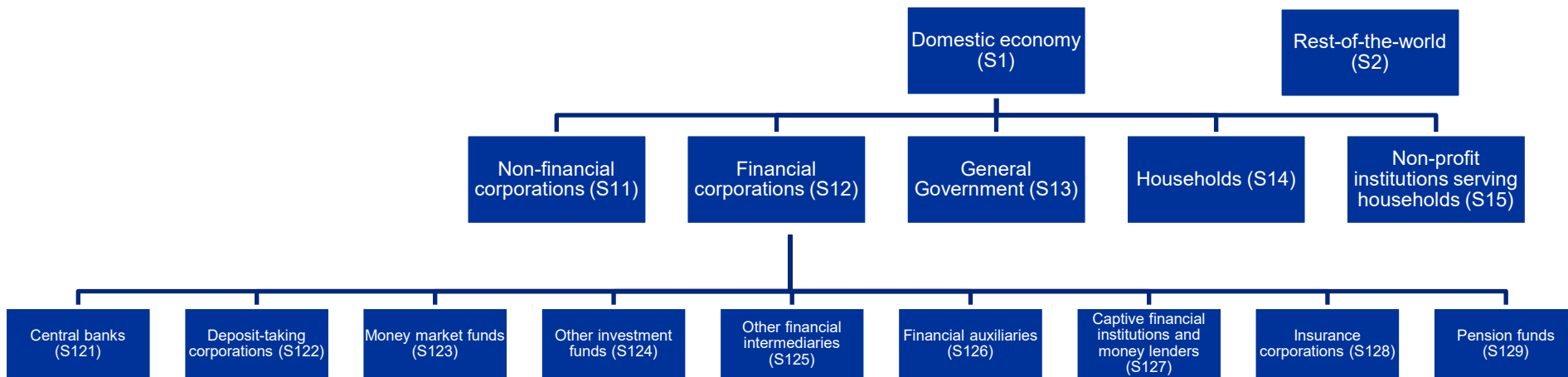
www.ecb.europa.eu ©

1. Selecting the available/most relevant sub-sectors

Sub-sectors separately identified in euro area countries

```
                              Domestic economy                    Rest-of-the-world
                                    (S1)                                (S2)

        Non-financial      Financial        General        Households (S14)    Non-profit
        corporations      corporations     Government                          institutions serving
           (S11)            (S12)            (S13)                              households (S15)

Central banks   Other monetary    Other investment    Other financial    Financial auxiliaries    Captive financial    Insurance    Pension funds
   (S121)       financial         funds (S124)        intermediaries     (S126)                   institutions and     corporations  (S129)
                institutions                          (S125)                                       money lenders        (S128)
                (S12T)                                                                             (S127)
```

1. Selecting the available/most relevant sub-sectors

Sub-sectors separately identified in euro area countries in initial releases

a. Main tables

Assets and liabilities of the main institutional sectors

| | | EA.W2 | F | 22Q4 | | | | | | | | | | | | | | | | | |
	N S	A S	A S11	A S12K	A S124	A S12O	A S128	A S129	A S13	A S1M	A S2	L S	L S11	L S12K	L S124	L S12O	L S128	L S129	L S13	L S1M	L S2
A7																					
F2M	0.0	-2,431.0	81.9	-1,960.0	-67.4	-159.2	-24.7	-3.3	-143.1	70.8	-225.8	-2,431.0	3.3	-2,187.2	0.0	0.0	0.0	0.0	-32.9	0.0	-214.3
F31	0.0	84.5	0.0	95.0	14.6	-30.5	19.2	3.4	-11.8	19.3	-24.6	84.5	-9.9	31.6	0.0	2.8	-0.1	0.0	0.8	0.0	59.2
F32	0.0	125.4	-1.2	32.1	39.2	-21.0	-11.1	23.0	19.2	40.4	4.8	125.4	5.6	47.0	0.0	5.0	-0.6	0.0	29.6	0.0	38.7
F41	0.0	-322.7	-20.2	-157.1	-2.6	-66.7	-0.7	8.5	25.0	-0.9	-107.9	-322.7	-45.3	0.0	-52.2	-134.3	-14.5	-6.8	20.4	-2.5	-87.5
F42	0.0	-63.1	-2.0	61.8	-7.8	-47.9	0.5	0.6	6.6	0.1	-74.9	-63.1	49.1	0.0	3.9	-29.2	1.0	0.1	7.3	35.5	-130.7
F511	0.0	97.1	24.9	2.2	-102.5	99.4	-2.8	78.9	-5.8	0.1	2.7	97.1	-7.2	2.1	0.0	-5.2	-0.6	0.0	0.0	0.0	108.1
F512	0.0	-806.3	-82.8	3.9	-12.4	-442.3	-2.1	-0.1	0.8	12.9	-284.3	-806.3	-17.2	12.3	0.0	-413.4	0.5	0.0	0.2	0.0	-388.7
F519	0.0	24.1	42.2	0.6	-1.7	7.4	9.5	0.1	0.8	-1.3	-33.5	24.1	10.2	6.7	0.0	-6.7	-0.1	0.0	1.0	0.0	13.1
F521	0.0	170.0	12.3	2.6	7.9	8.6	4.7	6.1	-0.9	3.7	125.0	170.0	0.0	164.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
F522	0.0	-105.8	-5.4	0.6	-6.2	-39.3	-3.0	-83.7	8.4	20.8	2.0	-105.8	0.0	0.0	-84.8	0.0	0.0	0.0	0.0	0.0	-21.0
F6O	0.0	-17.1	-5.8	0.1	0.0	0.1	-8.6	1.7	-0.3	-9.2	4.9	-17.1	0.0	0.0	0.0	-0.1	-15.1	-0.1	0.2	0.0	-2.1
F62	0.0	15.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	15.7	-0.2	15.7	0.0	0.0	0.0	0.0	15.6	0.0	0.0	0.0	0.0
F6M	0.0	22.4	-0.1	0.0	0.0	0.0	0.0	0.5	0.0	24.7	-2.7	22.4	2.0	-0.4	0.0	0.4	-3.0	23.2	0.0	0.1	0.0
F7	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	4.1	5.1	1.9	0.3	-2.5	-2.5	2.4	-0.3	-8.6
F81	0.0	108.0	99.1	-0.1	0.0	4.2	-0.2	0.1	18.7	12.4	-26.2	108.0	62.5	0.5	0.0	0.0	0.5	0.0	22.7	19.8	2.1
F89	0.0	-176.6	8.3	-33.1	-66.2	-20.8	9.1	-1.8	13.4	-47.6	-37.9	-176.6	23.5	-122.5	-66.2	-35.5	-2.0	-2.8	22.8	23.6	-17.5
Vertical	0.0												-20.4	8.0					0.0	-17.6	29.9

The level of detail of the sectors and instruments has to be decided by Financial Accounts compilers

Impact on sources: for each instrument, one sector can in theory be computed as residual.

2. Output to be produced

a. Main tables

### Assets and liabilities of the main institutional sectors

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
	Assets					Liabilities				
F1										
F2										
F3										
F4										
F5										
F6										
F7										
F8										

S11: Non-financial corporations
S12: Financial corporations
S13: General government
S1M: Households and non-profit institutions serving households
S2: Rest-of-the-World

F1 to F8: financial instruments

2. Output to be produced

Flows and positions are needed for all components of these tables
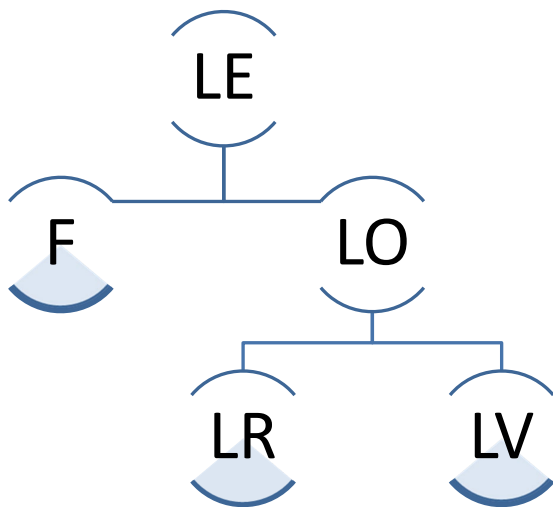
LE: positions
F: transactions
LO: other changes
    LR: revaluations
    LV: other changes in volume

2. Output to be produced

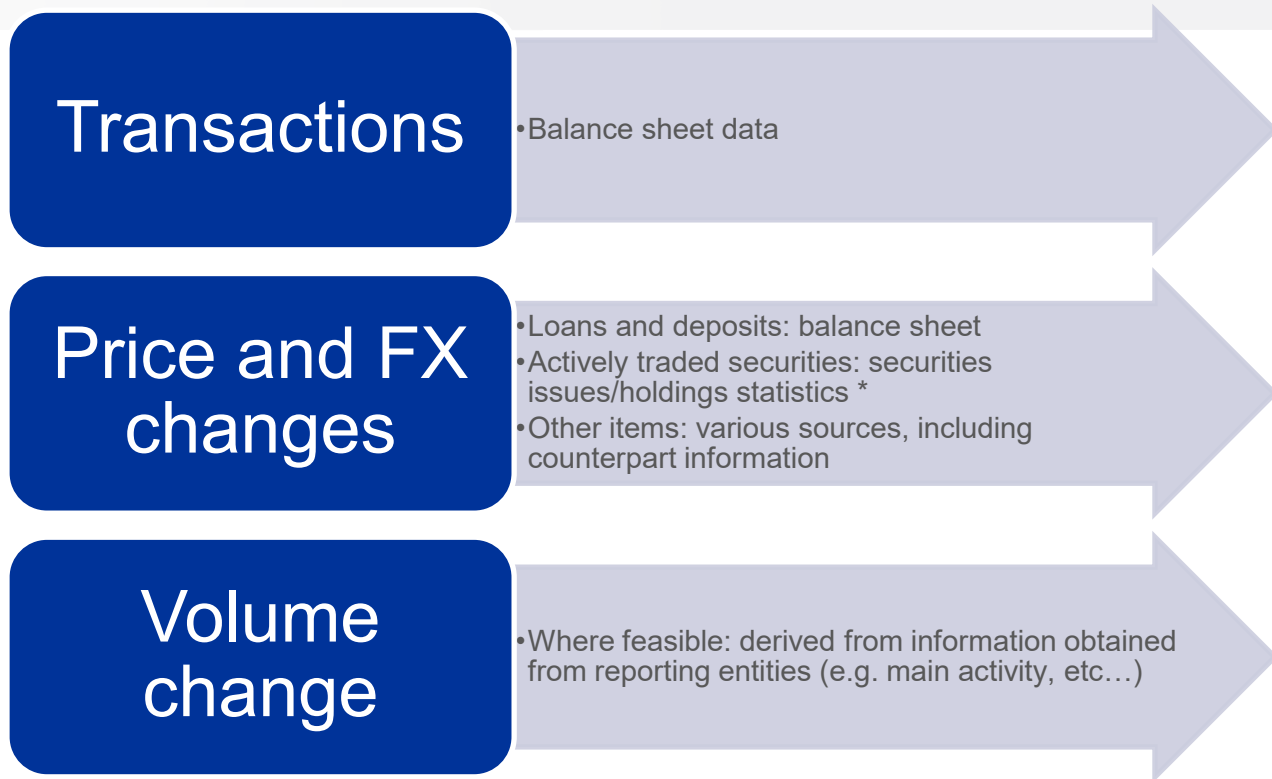## b. Who-to-whom tables

Who to whom tables for selected instruments

	EA.W2												
	F.F4												
	A7												
	22Q4												
		S	S11	S12K	S124	S12O	S128	S129	S13	S1M	S2	SX	S121	S12T
S			3.9	0.0	-48.3	-163.6	-13.6	-6.7	27.7	32.9	-218.2	-385.8	0.0	0.0
S11		-22.3	20.5	0.0	-0.3	-16.1	-0.6	0.0	-1.6	0.1	-24.3	0.0	0.0	0.0
S12K		-95.2	0.1	0.0	-0.7	-16.3	-17.3	-7.0	-12.9	29.0	-70.1	0.0	0.0	0.0
S124		-10.5	-0.7	0.0	0.2	-12.1	0.0	0.0	0.8	1.4	0.0	0.0	0.0	0.0
S12O		-114.6	5.2	0.0	-0.9	-3.0	-4.0	-0.7	0.4	8.9	-120.4	0.0	0.0	0.0
S128		-0.2	-0.9	0.0	0.0	-1.3	7.5	0.1	-1.2	-2.1	-2.3	0.0	0.0	0.0
S129		9.1	0.0	0.0	-0.2	8.8	0.0	0.0	0.0	0.5	-0.1	0.0	0.0	0.0
S13		31.6	3.9	0.0	0.9	-0.4	0.9	1.0	31.3	-4.8	-0.9	0.0	0.0	0.0
S1M		-0.8	0.1	0.0	0.0	-1.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
S2		-182.8	-24.2	0.0	-47.3	-122.3	0.0	0.0	11.0	0.0		0.0	0.0	0.0
SX		-385.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S121		-22.9	-0.2	-3.7	0.0	-7.3	0.0	0.0	0.0	0.0	-11.7	0.0	0.0	-3.7
S12T		-72.3	0.2	3.7	-0.7	-9.0	-17.3	-7.0	-12.9	28.9	-58.4	0.0	0.0	3.7

Also for who-to-whom, data are needed for positions, transactions and other flows

Who-to-whom source data play an essential role in compiling results

3. Sources according to data type

Main data sources used in euro area countries to compile Financial Corporations data:

Transactions
- Balance sheet data

Price and FX changes
- Loans and deposits: balance sheet
- Actively traded securities: securities issues/holdings statistics *
- Other items: various sources, including counterpart information

Volume change
- Where feasible: derived from information obtained from reporting entities (e.g. main activity, etc…)

* Alternative: applying market indices.

4. Typical sources of Financial Accounts

Sector/instrument	Typical source	Timeliness in euro area (days)
Banking sector	Banking balance sheet	T+28
Rest of the World	Balance of payments/International Investment Position	T+85
General government	Government finance statistics	T+85
Investment funds	Investment fund statistics	T+28
Insurance corporations	Prudential or statistical balance sheet	T+60
Issuance of securities	Securities issues statistics	T+15
Holdings of securities	Securities holdings statistics	T+60
Pension funds	Prudential or statistical balance sheet	T+75

4. Typical sources of Financial Accounts

Sector/instrument	Typical source
Other financial intermediaries: - Financial vehicle corporations engaged in securitization transactions (FVCs) - Security and derivative dealers - Financial corporations engaged in lending (e.g. leasing companies) - Specialised financial institutions (e.g. venture capital companies)	Balance sheet
Financial auxiliaries, e.g.: - Securities and loans broker - Managers of pension funds	Balance sheet
Captive financial institutions and money lenders	Balance sheet

4. Typical sources of Financial Accounts

Example of who-to-whom source: loan data reported by banks provide:

- Assets of banks
- Liabilities of other sectors

	S11	S12	S13	S1M	S2
Banks	200	260	30	120	80

Important: collect necessary granularity from financial institutions (instrument and sectors)

5. Integrating sources

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
			Assets					Liabilities		
F1										
F2										
F3										
F4										
F5										
F6										
F7										
F8										

S12: financial corporations
Sub-sectors to be covered depending on local financial system
In general: at least banks and insurance corporations
In the EU: also investment funds and pension funds
=> Balance sheet data to be collected

S13: general government
=> Data available from government finance statistics

S2: Rest-of-the-World
=> Data available from BoP/IIP

5. Integrating sources

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
		Assets					Liabilities			
F1										
F21										
F2M										
F3										
F4										
F5										
F6										
F7										
F8										

Monetary gold and SDRs:
=>available via central bank

Currency:
=>liabilities available via central bank

F1: monetary gold and IMF's Special Drawing Rights
F21: currency, i.e. banknotes and coins

5. Integrating sources

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
	Assets					Liabilities				
F1										
F21										
F2M										
F3										
F4										
F5										
F6										
F7										
F8										

Loans and deposits can be obtained to a large extent via who-to-whom data from banks

F21: banknotes
F2M: deposits
F4: loans

5. Integrating sources

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
	Assets					Liabilities				
F1										
F2										
F3										
F4										
F511										
F51M										
F52										
F6										
F7										
F8										

Actively traded securities: => data may be obtained from securities holdings statistics (based on collection from custodians and some investors)
and securities issues statistics (based on public sources or commercial databases)

F3: debt securities
F511: listed shares
F51M: unlisted shares and other equity
F52: investment fund shares

5. Integrating sources

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
	Assets					Liabilities				
F1										
F21										
F2M										
F3										
F4										
F5										
F6										
F7										
F8										

Insurance and pension entitlements:
=> Liabilities data can be collected from insurance corporations and pension funds

F6: insurance and pension entitlements

5. Integrating sources

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
	Assets					Liabilities				
F1										
F21										
F2M										
F3										
F4										
F5										
F6										
F7										
F8										

Trade credits :
=> Data can be collected from large companies (or larger collections from enterprises)

Other accounts receivable/payable:
=> Mostly from balancing entries

F8: trade credits and other accounts receivable/payable

5. Integrating sources

	S11	S12	S13	S1M	S2
	Net: assets-liabilities				
F1					
F2					
F3					
F4					
F5					
F6					
F7					
F8					
B9F					
B9					

Where non-financial accounts are available:

Vertical consistency can be used to better estimate where to close or reduce some gaps

(i.e. net lending B9 from non-financial transactions = B9 from financial transactions)

6. Challenges
a. Inconsistencies across sources

- Some sources have **different components** than QSA instruments: for example, functional categories in financial institutions' balance sheets (e.g. "other assets")

- Some **methodological differences** tend to affect the data,
  e.g. treatment of accrued interest,
  netting of own holdings of securities,
  issuance of securities against financing other than cash, etc.

- **Market valuation** is required (except loans and deposits), but is not available in all sources (mostly affecting stocks): need for estimations or additional sources
  => Particularly delicate for unlisted shares and other equity
                                    financial derivatives?

6. Challenges
a. Inconsistencies across sources

- Collecting not only transactions but also other flows including **volume changes** is often not easy

    => Example: identifying a move of one entity from one sector to another

    -> some countries have databases with all entities (ideally integrated into one database)

- Ensuring consistency between **flows and positions data for all items** is also generally not easy

6. Challenges
b. Conflicts between sources

- In a number of cases, several sources are available for a given cell (e.g. holdings of debt securities by banks).

  => Develop a strategy on which source to use in such cases

  e.g. define sources to be used in priority
       adjust depending on imbalances

6. Challenges
c. Specific issues

- **Annual sources** are usually available only with a long lag.
  Quarterly estimates based on previous annual data tend to have limited reliability

- Data **derived as residuals** tend to be revised frequently, and might show implausible results

- Financial Accounts should in theory reflect all financial transactions of the period, whereas **transactions are often indirectly estimated** from stocks and adjustments in many EA statistics

7. Filling the gaps

	S11	S12	S13	S1M	S2	S11	S12	S13	S1M	S2
			Assets				Liabilities			
F1	N.A		N.A	N.A	N.A	N.A		N.A	N.A	N.A
F21									N.A	
F2M										
F3										
F4										
F511 F52										
F51M										
F6									N.A	
F7	G.S			G.S		G.S			N.A	
F8										

Most cells are covered, but in a number of cases, they are not complete

N.A.: Not Applicable

G.S: Generally Small size

7. Filling gaps

- Coverage of trade credits, other accounts receivable/payable and holdings of unlisted shares and other equity

- Coverage of other financial institutions (and distinction with non-financial institutions), e.g. holding corporations, financial auxiliaries, other financial intermediaries, etc…

  In financial centres, many entities are created for short periods, and are difficult to capture and monitor

- Within Financial corporations (S12), one approach is to derive as residual S127 captive financial institutions and money lenders, as this is a category that can be very sizeable, while often not being well covered by data collection schemes

7. Filling gaps – New: OFIs by sub-sector

Combination of data sources enabled the publication of OFIs by subsector in 2022:

Euro area counterpart sources, for some financial instruments:

- MFI deposits and loans by OFI sub-sector (ECB Reg. 2021/379, ECB Guideline 2021/11)

- <u>Securities issues</u> statistics - OFI sub-sectors - market values (ECB GL 2022/25)

Partial euro area data source for S125:

- Securitisation vehicles (<u>FVCs</u>), part of S125 (ECB Reg. 2013/40)

- <u>Systemic investment firms</u> (part of Securities and Derivatives Dealers), S125 (included in ECB Reg. 2021/379)

Country specific data sources complete the coverage:
- Supervisory data, national surveys and corporate balance sheet databases

- Security holdings statistics (SHS) and BoP with OFI split available in some countries

Questions and comments are very welcome !!!