



EUROPEAN CONFERENCE ON QUALITY IN OFFICIAL STATISTICS 2024 ESTORIL - PORTUGAL





EUROPEAN CONFERENCE ON
QUALITY IN OFFICIAL STATISTICS
2024 ESTORIL - PORTUGAL

Improving the quality of balance of payments statistics via granular bilateral analysis

Trilateral comparison: Austria, Italy, and Spain

Jorge Diz Dias (European Central Bank), Nadia Accoto (Banca di Italia), Erza Aruqaj (European Commission), María García del Riego (Banco de España), Milena Matteo (European Central Bank), Fausto Pastoris (European Central Bank)



eurostat 

The conference is partly
financed by the European Union

Session 5E



Outline

(1)

Motivation

(2)

Trilateral comparison of asymmetries

(3)

Framework and results

(4)

Suggested initiatives

(5)

Conclusions

1. Motivation

- Balance of payments and international investment position (BPS) **measure the economic and financial linkages** between economies
- **High quality BPS** is key to ensure adequate and reliable data feeds into policy making (monetary and fiscal, macro-imbalance procedure)
- Statistical authorities **collect data independently** from each other and from their resident units – **bilateral asymmetries** may occur
- Presence of bilateral asymmetries undermine the **credibility and usage of BPS**

1.1 Literature review and initiatives

- Timmermann B. (1997) analysed and reconciled bilateral data of Portugal and Germany
- Damgaard and Elkjaer (2017) and Angulo and Hierro (2017) discuss reasons for large global and bilateral asymmetries in the IMF's Coordinated Direct Investment Survey (CDIS)
- Jellema et al (2020) discusses the phenomenon of asymmetries in cross-border statistics, suggests some analytical tools, and lists existing studies
- Asymmetry Resolution Mechanism for FDI launched in 2019 to resolve the largest outstanding FDI bilateral asymmetries in the EU every quarter
- Asymmetry Resolution Mechanism for Trade in Services launched in 2022 addresses the largest asymmetries in goods and services in the EU
- Early Warning System established in 2017 and European Network of Multinational Enterprise Coordinators established in 2021 detect restructuring events of MNE groups and ensure their consistent statistical recording in European statistics.
- IMF's Balance of Payments Committee set up a Task Team to address global asymmetries (currently)

2. Trilateral comparison of asymmetries

- **Sizable bilateral asymmetries** have been a growing concern
 - Increased complexity of global economic relations have diffculted the measurement process for BPS
- **Austria, Italy and Spain** showed interest to improve their BPS
 - 3 years of data (2019, 2020, 2021) as of Oct.22 data vintage
- **Trilateral framework** for in-depth comparison and reconciliation
 - Trilateral setting better to detect systematic patterns on bilateral data
 - Prioritisation strategy of bilateral asymmetries
 - Devise practical setup to organise the comparison including safe sharing of microdata

3. Framework and results

1. **Qualitative analysis** on statistical methodology, methods and reporting systems
2. **Quantitative** data comparison and **prioritisation strategy**
3. **Investigation** of granular asymmetries and addressing **reconciliation** efforts

3.1 Qualitative analysis on statistical methodology, methods and reporting systems

Understand possible **structural causes** of bilateral asymmetries

Example of country overview table for qualitative analysis

| | Methodology | Data collection | | | | Compilation methods | | | | Responsible institution |
|------------|-------------|---------------------|------------------|--------|-------|-----------------------------|---------------------------------------|-------------------|--------------------------------|-------------------------|
| | Deviations | Administrative data | Direct reporting | Survey | Other | Adjustments to data sources | Statistical model based on indicators | Other estimations | Benchmarking to other datasets | NCB/NSI |
| FDI equity | | | | | | | | | | |

Methodology **mostly aligned** with the main deviations detected:

Italy: bank loans (assets) to non-banks (in FDI) no reclassification into other investment

Spain: trade credits and advances registered only in other investment (no recording in FDI)

3.2 Quantitative data comparison and prioritisation strategy

- Tables with asymmetries by pair of countries, category, and period
- Synthetic relevance asymmetry indicator (RELV*) of each category asymmetry in the overall asymmetries vis-à-vis the group of counterparties in the trilateral exercise

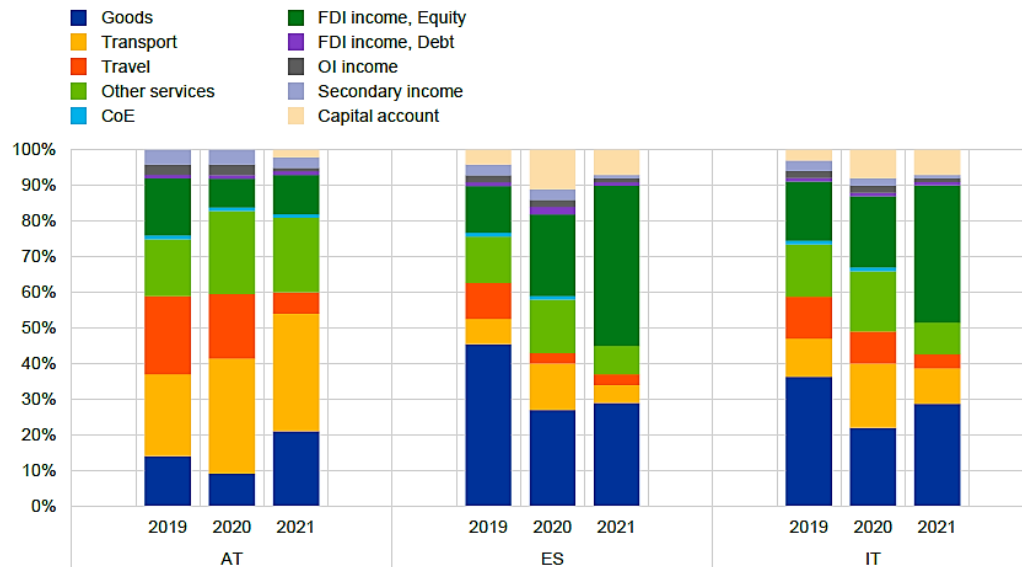
$$RELV^*_{i,x} = \frac{\sum_c |A_{i,c,x} - L_{c,i,x}| + \sum_c |L_{i,c,x} - A_{c,i,x}|}{\sum_x \sum_c |A_{i,c,x} - L_{c,i,x}| + \sum_x \sum_c |L_{i,c,x} - A_{c,i,x}|}$$

Where i = reporting country; x = b.o.p. (or i.i.p.) item; c = counterparty country; A =Assets (or credits); L =Liabilities (or debits). The indicator ranges from 0 to 1 with higher values corresponding to a higher relevance of asymmetries of item x for country i .

- Gravity model to add additional benchmark information about each category and country to help with prioritisation

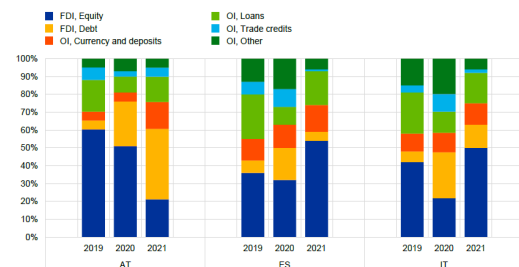
3.2 Quantitative data comparison and prioritisation strategy

Results on RELV* indicator for the main items of the current and capital account



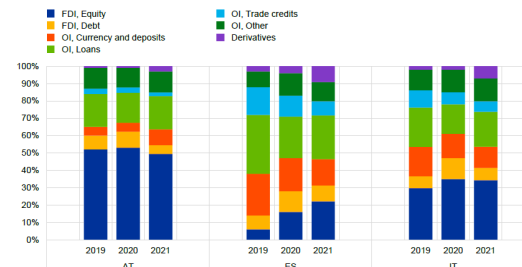
Notes: CoE refers to cross-border compensation of employees.

Results on RELV* indicator for the main items of the financial account



Notes: "OI Other" includes the remaining items from other investment, e.g. accounts/receivable payable.

Results on RELV* indicator for the main items of the international investment position



Notes: "OI Other" includes the remaining items from other investment, e.g. accounts/receivable payable.

Prioritised categories

| | |
|-------------------|--|
| Current account | Goods |
| | Transport |
| | FDI income |
| Financial account | FDI equity |
| | FDI debt |
| | Other investment |
| i.i.p. | <i>AT-IT only: FDI equity</i> |
| | <i>IT-AT, ES-AT only: PI liabilities</i> |

3.3 Investigation of granular asymmetries and addressing reconciliation efforts

- Goods and transport
 - Goods with similar data sources (ITGS); transport diverse
 - Estimations to adjustment data sources for BPS
 - E.g. IT-ES bilateral asymmetries 70% due to differences in data source and 30% due to differences in adjustments
 - Challenging to directly map the exact bilateral asymmetry as some adjustments are made without a detailed geographical allocation (e.g. illegal trade estimates)
- Other investment
 - bilateral discrepancies in deposits and loans were mainly due to differences in benchmarking (methods) to other datasets used
 - Comparing the two datasets directly, we were able to identify and reconcile discrepancies in loans

3.3 Investigation of granular asymmetries and addressing reconciliation efforts

| FDI | IT - ES | | | IT - AT | | | AT - ES | | |
|---------------------------------|---------|-----------------------|----------------------|---------|-----------------------|----------------------|---------|-----------------------|----------------------------|
| | Item | Number of enterprises | Weight on asymmetry* | Item | Number of enterprises | Weight on asymmetry* | Item | Number of enterprises | Weight on asymmetry* |
| Mistakes or missing information | Equity | 1 | 80% | Debt | 1 | 100% | Equity | 2 | 80% |
| Valuation | | | | Flow | 1 | 100% | | | |
| | | | | Stock | 1 | 100% | | | |
| Dividends | - | 1 | 100% | - | 1 | 100% | | | |
| MNE financial restructure | Equity | 1 | 100% | Equity | 1 | 75% | Equity | 1 | Pending of deeper analysis |
| Special case of trade credits | | | | | | | | | |

**on average over the periods involved*

4. Suggested initiatives

1. EU **bilateral data sharing**

- Ensuring confidential treatment of data
- Allowing countries to access counterparties' bilateral data
- Provide a feedback system (ECB Quarterly Asymmetries Reports)

2. Structural reconciliation exercises for **large MNEs**

- To understand the different information basis
- Integration with European business registers and existing networks
- Few units with large impact

3. Organise **further trilateral exercises**

5. Conclusions

- **Useful exercise** to challenge status quo and encourage revising data reporting/compilation methods **to improve BPS data quality**
- When available, **exchange of micro level data is key** – confidential treatment of data to be ensured
- Sometimes discrepancies due to **reporting mistakes**, sometimes **there is an explanation**
- **International discussions/operational agreements are needed** to overcome causes for major discrepancies (FDI equity valuation, super-dividends, corporate restructuring)
- For smaller countries **in-depth analysis on a bilateral basis** is useful as almost no single operation qualifies/attracts attention in the FDI Asymmetry Resolution Mechanism
- A **small number of MNEs** (2 to 3 per country pair) responsible for most of the discrepancies (in FDI)
- Corrections of data not always immediately possible (super-dividends, MNEs restructuring)



EUROPEAN CONFERENCE ON QUALITY IN OFFICIAL STATISTICS 2024 ESTORIL - PORTUGAL