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Nationality vs residency approach: measuring the impact of MNEs production structure on corporate financial statements statistics[1]

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[1] This presentation was prepared for the conference. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the event.

Nationality vs Residency Approach: Measuring the impact of MNEs production structure on corporate financial statement statistics*

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Abstract

The organisation of global value chains of multinational enterprise groups (MNEs) poses a challenge to official statistics and the underlying concepts of presenting economic reality. At least since the „Irish Case" the awareness of evaluating and addressing the effects of globalisation on generating official statistics has increased. Complex boundary crossing economic transactions and complex ownership structures contravene the concept of measuring national economic production. By combining information from individual and consolidated corporate financial statements and data about global group structures, we attempt to evaluate the impact and importance of globalisation on national statistics capturing economic activity of non-financial companies in selected European countries. We estimate the part of production that is attributed to the country of interest by applying traditional statistical concepts (residency approach based on country of incorporation) and compare it with the overall global production of MNEs (nationality approach based on country of control). Exploiting a newly established dataset that combines financial indicators (especially employment, value added, turnover, total assets) and information on national and international subsidiaries of European MNEs, we find differences in statistical key figures between the two approaches in all countries. We find that statistics based on nationality approach can enrich existing economic key figures but that there ongoing and consistent calculation would require harmonized microdatesets on an international level.

Keywords: globalisation; official statistics; corporate financial statements; nationality concept.

Disclaimer: The views expressed in this paper are those of the authors and do not necessarily represent those of the Deutsche Bundesbank, Banco de España, Banco de Portugal, Oesterreichische Nationalbank or the Eurosystem.

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Introduction

One of the most pertinent phenomena in statistics on non-financial companies is the increasing complexity of economic transactions in the context of globalisation. In particular, the complex global ownership structures and boundary crossing intragroup transactions of multinational enterprise groups (MNE) blur the picture of national production as measured by national statistics. Statistical concepts were developed for closed economies in order to measure production that happens within the domestic boundaries (Eurostat 2017).

In particular, because of the so-called Irish Case[1], official statistics have raised the awareness of effects resulting from globally active MNEs and has set up several initiatives to monitor the activities of MNEs and their impact on statistics[2]. In a vision paper of the committee on monetary, financial and balance of payment statistics (CMFB), the members of both systems, European Statistical System (ESS) and European System of Central Banks (ESCB), agreed on a common goal to measure and increase the visibility of MNE activities in statistics. One strategy to reach that goal is to enhance data collection, integration and usage of existing data sources. At the same time, the prevailing residency principle shall be complemented by the nationality approach as additional source of information in the statistical framework (CMFB 2020 p.7). Statistics based on the residency approach consider domestic enterprises with their individual financial statement. The nationality approach attributes the economic production and value added to the country of control rather than to the country of residence and is based on all enterprises controlled by domestic enterprises at the highest level of consolidation. Philipp Lane (2021) pinpointed it as the dichotomy between residency principle with national data collection and the global economic activities of MNEs.

Sturgeon (2013) identified in his report on measuring the global value chains the need to combine and integrate data sources to identify cross-border ownerships and the respective employment, investment and economic performance (Sturgeon 2013, p. 6) to differentiate MNE from domestic firms that do not operate globally. Although Europe hosts some of the biggest MNEs worldwide, an integrative and comprehensive database that combines the information on the group structure of MNE and the financial information of resident companies as well as of foreign subsidiaries does not exist. The data on MNEs is highly fragmented across different institutions and statistics. The divergent measurement of MNEs in these statistics can result in inconsistencies. An integration of the underlying microdata can help to understand and resolve these inconsistencies. Moreover, the overall effect of MNEs on several statistics in the area of non-financial companies has hardly been explored.

Following other initiatives that focus on understanding the statistical footprint of MNEs in national business statistics, the European Committee of Central Balance Sheet Data Offices (ECCBSO[3]) installed an international Task Force at the end of 2020[4]. The aim of the Task Force was to analyse the impact of globalised enterprise groups on national financial statements statistics of non-financial companies. Set up as feasibility study, the member countries (Portugal, Italy, Spain, Austria, Greece, and Germany) evaluated whether the approach can be applied to the existing data and how the different measurements concepts affect the results. The works of the Task Force were finalised in October 2021. This paper presents the results of the cross-country analyses and data description.

In a first step, it was necessary to integrate different data sources on MNEs and to estimate their impact as well as their economic integration in the national and global economy. The integration of data sources on the structure of MNEs, their subsidiaries as well as their economic performance allows us to calculate

[1] In the course of the reallocation of intellectual property within a multinational enterprise group from one economy to another, the Irish GDP has experienced a drastic shift upwards in 2016 that has attracted the attention of international economists and the press (Allafi et a. 2017).

[2] Setting up Large Cases Units that check for consistency in statistical reporting with regard to MNEs (Connolly 2011, Ahlborn et al. 2021) or analysing relevant cases for the calculation of National Accounts and setting up an Early Warning System (Alajääskö et al. 2018).

[3] European Committee of Central Balance Sheet Data Offices (www.eccbso.org)

[4] The Task Force acted as a subgroup of the European Records of IFRS Consolidated Accounts working group (ERICA WG) (https://www.eccbso.org/wba/working-groups/erica-working-group).

statistics based on the nationality approach and compare it to the status quo statistics based on the residency principle. We combine data on consolidated financial statements (FSs) with individual FSs and data on the group structure to identify all legal entities lying within the perimeter of the group. In doing so, we are able to analyse and remove several effects that MNE reporting has on the statistics in our study: the effect of intragroup flows (consolidated vs individual FSs), the effect of missing reporting on the level of the individual FSs as well as the pure economic effect of applying a different approach to capture and attribute economic performance (concept of residence vs concept of ownership).

We combine micro data sources from the ESCB, namely FDI statistics, statistics on consolidated and individual FSs of non-financial companies with data from commercial registries, national business registers and the Euro Groups Register (EGR) from the ESS. We analyse four selected economic indicators (employment, sales, total assets and value added) and compute them according to the nationality approach. We find that the net effect of applying the nationality principle in almost all indicators is positive for the majority of the participating countries. Thus, the economic performance of domestic MNEs abroad outweighs in most cases the contribution of foreign resident companies as well as effects of consolidation of intragroup flows. These findings go in hand with other globalisation indicators from official statistics. We infer that statistics based on the nationality approach can enrich existing economic key figures.

The structure of the paper is as follows. The methodological section provides an overview on the transforming steps from the resident to the nationality approach. After describing the steps on data integration, we present the results and discuss them. The paper concludes with a summary, puts the results into a broader context, discusses limitations of the study and provides an outlook on further research avenues.

Methodology

Several institutions and different departments in the same institution prepare statistics that cover various aspects of an enterprise group. We understand enterprise groups according to the Council Regulation (EEC) 696/1993, as an association of enterprises bound together by legal and/ or financial links. A multinational enterprise group characterizes as an association of enterprises that spans the borders of more than one nation. As a result, each single statistic captures different characteristics of the enterprise group (EG). Moreover, there is neither a common unique company identifier nor a unique identifier for an enterprise group that connects all these datasets. This concept of group is thus wider than the concept of groups typically applied in generally accepted accounting principles and thus not for a every enterprise group a consolidated FS is prepared.

To gain a holistic view on enterprise groups and their effects on business statistics (here financial reporting), all relevant data sources have to be connected and compiled. To run the desired comparative analyses, the information on individual and consolidated balance sheets and income statements, on relationships between enterprises and their inclusion in the consolidated FSs need to be linked.

The participating countries face different starting conditions and heterogeneous data landscapes to conduct this study. While some countries could build on already integrated datasets with almost full coverage of the non-financial company sector (e.g., Portugal[5]), other countries had to access and integrate several formerly unlinked datasets (e.g., Germany).

Since there is no single European dataset that captures all aspects of MNEs, each member had to implement the analyses for their own country. Aggregates and indices were then compared given the heterogeneous data and the varying coverage. For group structures, the EuroGroupsRegister (EGR) from Eurostat was used as the only European harmonized source. Independently of the data situation in each country, merging datasets was still necessary in every case because data from the ESS had to be linked to the data already available in the participating central banks[6].

[5] See Pinto et al. (2018) for comprehensive description of the Portuguese database.
[6] Detailed information on matching quotas and quality can be provided upon request.

In this paper, we analyse a cross section of companies and combine the datasets for the reporting year 2018. This avoids time variations in the key financial indicators that are solely due to dynamic changes in the perimeter of the enterprise groups[7]. Our analytical framework covers the steps depicted in Table 1. Steps 1 to 4 will be addressed in section 2 while step 5 is covered in section 3.

Analytical steps

Table 1

1) Identify datasets	***2) Merge datasets***	***3) Classify enterprises***	***4) Calculate results***	***5) Compare approaches***
Access relevant datasets, as information is allocated in numerous datasets	Match datasets using common identifiers or, if not available, string based matching.	Identify enterprises that belong to a group and their country of control	Use all inputs to calculate the nationality approach.	Investigate the differences between nationality and residency approach.

Step 1: Identify datasets

Table 2 provides an overview over the relevant datasets used in every country for this study. It shows that several data sources had to be accessed and interlinked. The EGR contains multinational enterprise groups with at least one subsidiary abroad whereas the national business register covers all group companies with domestic residence. FDI data provides information on foreign controlled companies residing in the national territory and domestically controlled subsidiaries abroad. Analytical datasets used to calculate indicators according to the nationality approach are the data on consolidated financial FSs, that group heads[8] resident domestically are publishing. Financial information of the individual company is extracted from the statistics on individual financial FSs.

Relevant data used

Table 2

Country	Group data			Financial data		Other Sources
	FDI	National Business Register	EGR	Individual Financial Statements	Consolidated Financial Statements	
Austria			X	X	X	Internal dataset for group structure
Germany	X[9]	X[10]	X	X[11]	X[12]	Commercial data
Portugal	X	X	X	X	X	National groups database
Spain			X[13]	X	X	Internal dataset for group structure

[7] In the Portuguese case the consolidated FSs were corrected for temporal changes in the perimeter of the group.

[8] Also subgroup heads may publish a consolidated FS when they are active on a capital market. They were identified and excluded from the analyses.

[9] Microdatabase Direct investment (MiDi – "Mikrodatenbank Direktinvestitionen") | Deutsche Bundesbank (DOI:10.12757/BBk.MiDi.9919.07.08)

[10]

[11] We used an internal dataset. However, researchers can access a subpopulation of the data in anonymised form: https://www.bundesbank.de/resource/blob/882750/712ad07b1d840472cfef119b24fd977d/mL/2021-24-janis-data.pdf (DOI: 10.12757/Bbk.JANIS.9720.08.08).

[12] Dataset is not available to externals yet, ERICA database on microlevel available for participating NCBs.

[13] In the Spanish case EGR was used only for comparison as the own internal group structure dataset was prioritized. It is a process that is controlled and goes hand in hand with the consolidated and individual financial accounts received.

Step 2: Merge datasets

Even though there is no common unique company identifier across all datasets, the existence of national identifiers such as the number of the commercial register or the VAT or tax identification number facilitates merging as datasets from different sources. On this basis, it was feasible to link the EGR with balance sheet data from the central banks. In some cases, it was necessary to link the EGR to the national business register and then link it to the balance sheet data with the help of VAT number or number from the commercial register. Due to inconsistencies in the reported commercial register number, we use company-linking tables provided by the data labs as an additional source.[14] In case no common identifier was available, string-based matching was applied.

Step 3: Classify enterprises

After having identified and merged the relevant datasets, the various types of EGs had to be identified as a foundation for excluding economic activity stemming from foreign controlled MNEs and including activity from domestically controlled enterprises resident abroad. Table 3 shows the four types of EGs we use in this study. Each enterprise was allocated to one type.

Types of enterprise groups

Table 3

Non-group enterprise	**All resident EG**	**Domestic MNE**	**Foreign MNE**
Enterprise does not belong to any enterprise group	All group enterprises reside in the domestic country, including the group head	At least one subsidiary resides in a foreign country, but the group head is resident in domestic country	At least one subsidiary resides in domestic country, but the group head is resident in a foreign country

To classify enterprises into the group types, we applied a top-down approach starting from the consolidated FSs of the group head, enriched with either information from internal group structure databases, EGR and data from national business registers. These datasets include information on the residency of the global group head (GGH). Domestic MNEs are defined as EGs with a GGH resident in domestic country and foreign MNEs as EG with a GGH resident outside. EGs not covered by EGR, with no foreign GGH or not marked as non-group enterprise in the national business register are identified as all-resident EGs. Enterprises that have not matched with EGR and are not attributed to any group in the national business register or internal group database are labelled as non-group enterprises.

Step 4: Calculate results

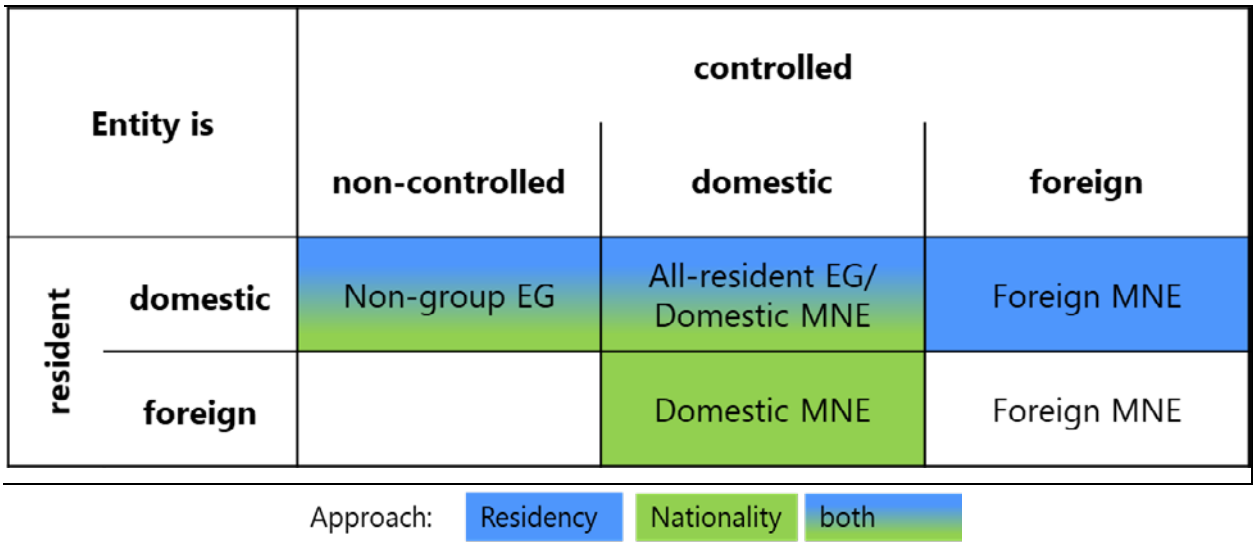
For the residency approach the sample comprises all enterprises which are resident domestically, i.e. all non-group EG, enterprises belonging to all-resident EG and the domestic subsidiaries of domestic MNEs and of foreign MNEs. We do not account for consolidation effects and consider each enterprise with its individual financial statement.

For the nationality approach the sample comprises all enterprises which are controlled domestically, i.e. all non-group EG, all resident EG and all domestic MNEs including their foreign group members. All enterprises are considered only once at the highest level of consolidation, i.e., sub-consolidated FSs and individual FSs of enterprises belonging to a consolidated group are not included.

[14] For instance, for Deutsche Bundesbank the linktables from the Data Service Centre were used. See Data Report on Record Linkage p.7.(https://www.bundesbank.de/resource/blob/624432/207c774d468e82d76ec19ef6bfa1c8a7/mL/2021-05-company-data.pdf)

Nationality and residency approach

Figure 1



Results

The aim of the study is to analyse the relevance of multinational enterprise groups on the statistics on corporate financial reports. Before drawing inferences on the impact of MNEs, it is necessary to explore the

The relevance of enterprise groups for individual financial accounts statistics per country

Table 4

Country	N° of companies	Employees	Turnover
Austria			
Domestic groups	14,0%	49,0%	49,0%
Foreign groups	7,0%	17,0%	27,0%
No group firms	79,0%	34,0%	24,0%
Germany			
Domestic groups	10,5%	46,7%	42,8%
Foreign groups	1,3%	4,1%	7,1%
No group firms	88,3%	49,3%	50,1%
Portugal			
Domestic groups	1.2%	15.5%	32.1%
Foreign groups	1.4%	13.6%	25.7%
No group firms	97.4%	70.9%	42.2%
Spain			
Domestic groups	5,9%	29.3%	37.2%
Foreign groups	2,3%	17.8%	28.6%
No group firms	91,8%	52.9%	34.2%

number and characteristics of the enterprises that are covered by the statistics on corporate financial reports[15]. Table 4 shows the relevance of enterprise groups for statistics based on individual FSs by summarizing the main economic variables such as employees, turnover and number of companies per group type. Across all countries, only a small proportion of FSs (3% to 21%) are prepared by enterprises belonging to a group. For all countries, enterprises belonging to domestically controlled groups make up a larger and more relevant part of the enterprise population as compared to enterprises belonging to foreign MNEs. However, enterprises belonging to groups account for more than half of the turnover and employees in each country. In Portugal and Austria, foreign MNEs generate 1/3 of the turnover indicated in the financial statements. Despite their small number, group enterprises play an important role for the national economies and their official statistical representation. In the case of Germany, the sample of the individual FSs data seems to be representative for the total population as the distribution of companies over group types is similar to the distribution in the national business register.

With a focus on coverage, Portugal and Spain have an almost complete sample, while Austria and Germany in comparison cover fewer companies. Table 5 shows the data coverage for each country with respect to employees and turnover (compared to the overall company population). However, the samples are upward biased as the relative number of included companies is low but they make up for a significant amount of value added (as measured by employees and turnover, 1/3 in the case of Austria and 1/3 of employees and more than 2/3 of the turnover in Germany). Due to this heterogeneity in the data coverage and access, the comparative analyses were carried out using indices instead of absolute numbers.

Data Coverage

Table 5

Country	**Coverage** (Financial reports compared to overall population)	
	Employees (2018) in %	Turnover 2018 in %
Austria	19	27
Germany	34	68
Portugal	100	100
Spain	76	63

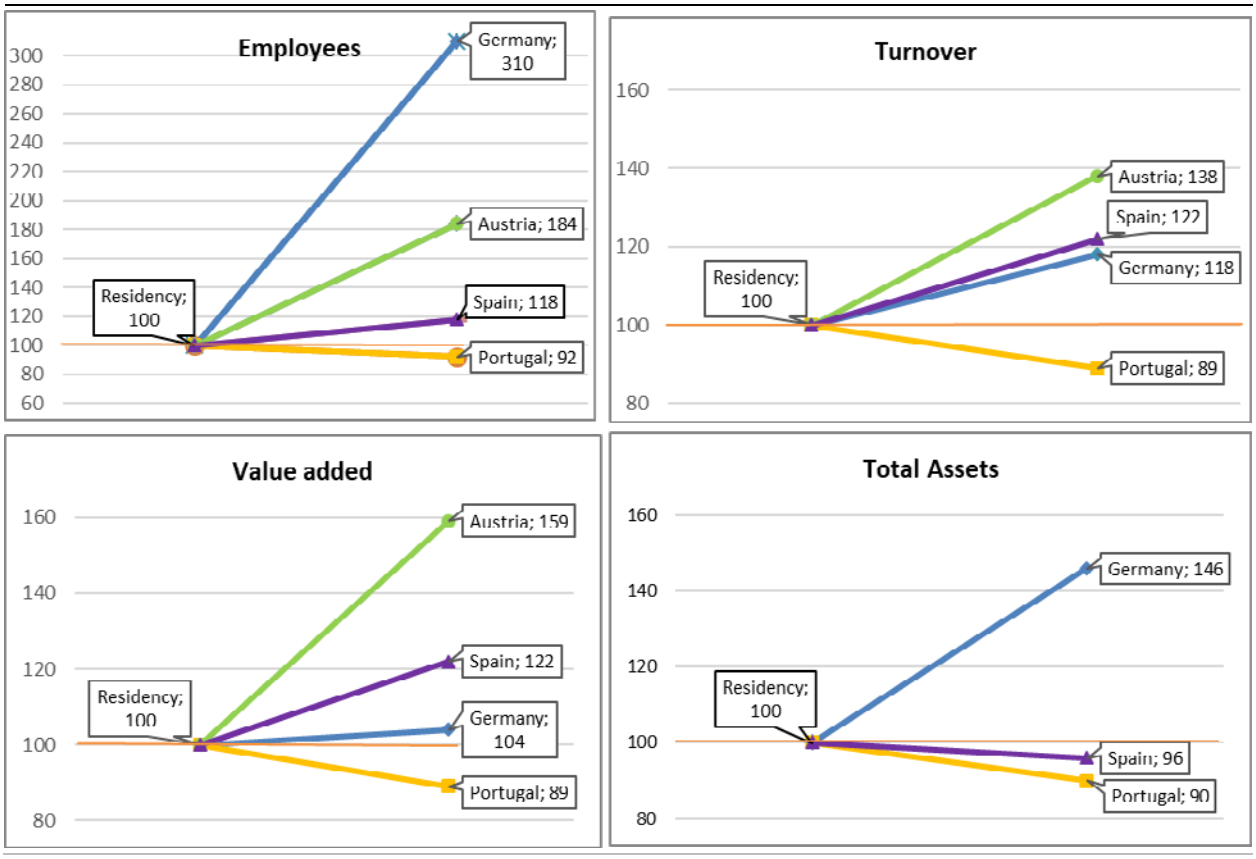
The comparison of the nationality and residency approach is done by an index representing the ratio between the nationality and the residency aggregate in percent. An index above 100 reveals that the global activity of domestic MNEs outweighs the activity measured by the residency statistics. Figure 2 shows the results for four main economic indicators based on the residency and the nationality approach. The number of FSs, the number of employees, the turnover, total assets and the value added[16] were chosen as these indicators are widely used (e.g. for size classifications) and were available in different dataset for comparison. The starting point on the left hand side is the residency approach, which is always 100 by definition. The right hand side shows the index value for each country under the nationality approach.

[15] The Bundesbank to this point only publishes statistics on yearly financial statements of individual companies as well as half-yearly consolidated financial reports of enterprise groups that are active on the capital market. The yearly consolidated FSs included in these analyses are so far not published by Bundesbank.

[16] Value added was not available in the FDI dataset. In case of missing data, value added was approximated by profit or loss.

Cross- Country Comparison of relevant economic aggregates calculated based on residency and nationality principle

Figure 2



Overall, for three countries (Spain, Austria and Germany) the net effect of applying the nationality approach is positive, indicating that residency statistics do not cover the full picture of the activity of MNEs. The observed effect was strongest for the number of employees, turnover and value added.

For Portugal, the estimates for total turnover, value added, assets and employees of non-financial corporations are lower when we compare the nationality approach with the residency approach. This dynamic applies to the four indicators that we have computed, which signals consistency. Statistics based on nationality approach have 88.6%-92.0% of the magnitude of the statistics in accordance with the residency approach. The main explanation for this outcome is that foreign MNEs invest more in Portugal than domestics MNEs invest in the rest of the world. This is a long-term feature of the Portuguese economy. An independent statistic that displays this characteristic is foreign direct investment, since foreign direct investment liabilities are systematically higher than foreign direct investment assets. In the nationality approach, we exclude domestic enterprises controlled by foreign MNEs. The foreign MNEs with the highest contribution to the statistics based on residency approach (excluded from the nationality approach) are domiciled in Spain and France. This is in line with foreign direct investment statistics, which indicate that the main ultimate investors in the Portuguese economy are from Spain and France. In addition, there is full coverage of Portuguese non-financial corporations, which ensures that the results are not affected by selection bias.

Compared to Portugal with the best coverage of the enterprise sample, the analyses in the other countries can only be interpreted against the background of the specific data availabilities and limitations.

The Austrian results do not cover all solo financial statements (FSs) nor do all consolidate FSs as well as not all (foreign) group structures. The results for all three indicators suggest that Austrian groups are more engaged abroad than foreign groups in Austria. However, given the data gaps (especially for subsidiaries of foreign groups in Austria); this effect might be overestimated (compared to Portugal and Spain).

For Germany, the number of employees triples in the nationality approach compared to the residency approach. Multiple effects drive this result: First, due to the legal publication obligation[17] the number of individual FSs is relatively low. The missing data could be imputed by consolidated FSs. The sharp increase in employees is also partially an artefact from the moderate share of missing data in employee numbers. However, the employee numbers were also corrected for double counting (in cases when an individual and a consolidated FS were existent) and employees of foreign controlled groups were deducted. Even so, the inclusion of consolidated FSs and the employees of domestic MNEs working in foreign subsidiaries outweighed this deduction of employees.

Overall, German data faces similar limitations as Austrian data. However, the results of this study are in line with a case study conducted by the authors for the 30 largest enterprise groups active on the capital market. The financial reports of the companies were analysed to explore the integration of MNE into the German economy. On average 30% of the activity of the MNEs (with respect to employee share, number of subsidiaries, turnover) took place on the German territory, while the remaining 70% was undertaken abroad. The net effect for total assets, turnover and value added was also positive, even though to a lesser extent. One explanation for a lower outcome regarding these variables is that these numbers are non-additive, meaning that inter-group transactions are not included while the number of employees is additive. Overall, the results point to the same direction similar to other published indicators on the global integration of the German economy: the German business structure is characterised by a small share of MNEs that are of critical importance for national statistics and that are only partially integrated in the national economy and generate an enormous amount of production globally.

In Spain employing the nationality approach leads to an increase in employees, turnover and value added. These findings correspond with the fact that there are very important Spanish MNE with subsidiaries abroad (particularly relevant on the American continent). The importance of foreign subsidiaries of domestic MNEs outweighs the economic contribution of domestic subsidiaries of foreign MNEs. However, the amount of total assets drops in the Spanish case when the nationality approach is applied. This is because eliminations (particularly in investment-equity and intercompany transactions) have taken place during the consolidation process in the nationality approach. The Spanish results need to be interpreted with respect to the limitations of the Spanish data sample. The data are not a representation of the full population and might be biased. In particular, the sample may not be representative of the breakdown of all the sectors of the population.

Conclusion

The aim of this study was to shed light on the rarely explored effect of measuring the impact of MNEs production structure on corporate financial statement statistics. This project brings together numerous official initiatives that strive to understand and depict the impact of globalisation on statistics that are mainly rooted in residency-based concepts. By combining heterogeneous datasets that, we calculated primary economic aggregates based on the nationality principle that attributes economic outcomes to the country of control rather than the country of residence while also considering consolidation effects. We compared the effects of applying this alternative approach to the currently used residency approach which is based on individual FSs of domestically resident enterprises.

We find that the overall net effect of calculating the figures according to the nationality principle is positive for countries that are highly embedded in global transactions and negative for countries with a more inward oriented economy. It becomes apparent that for the majority of countries in this study a non-negligible amount of economic activity of domestically controlled enterprise groups is carried out outside the national borders and not captured by statistics using only data from domestically resident enterprises. Thus, the residency approach leads to an underestimation of economic activity in those countries as domestic MNEs are generating a high proportion of value added abroad.

[17] Companies that are already included in a published consolidated FS and/or fall below certain size thresholds are generally exempted from the obligation to publish their individual FS.

However, both approaches have their legitimation, and the usefulness of their application depends highly on the desired purpose and claims of the statistics under exploration. As statistics based on the nationality approach are not widely published by official authorities[18], the users of statistical products could benefit from expanding the published indicators by alternative indicators calculated based on nationality principles (as proposed by the CMFB 2020).

The results of this study represent a first step towards capturing the impact of complex globally structured enterprise groups. As a starting point for further research, a repetition of our analysis with a more comprehensive data sample and thus higher or full coverage of companies of FSs might underpin the findings in this paper. Next, a generalization of our results (to other years, countries, indicators) could be explored by further studies. Furthermore, there is a whole set of business statistics, especially trade statistics and statistics in ESS, that might be combined with group data in an equal fashion to link information on ownership with patterns of international trade.

Besides the analytical lessons learned, our study also revealed room for improvement in the European organisation of microdata on MNEs. The accessible data is very heterogeneous among member countries in terms of coverage (population and variables), application of reporting standards and definition of variables and concepts. Furthermore, the cross-country comparison has revealed that the full data integration required substantial effort to conduct analyses with sufficient quality. Throughout the study important differences between EGR and the internal group data bases became apparent. These caveats limit the interpretability and reliability our results.

A successful application of the nationality approach depends strongly on the available data, especially individual FSs. A harmonized European micro dataset that combines comprehensive financial information of companies and groups with the respective information on the group structure would help reducing inconsistencies and keeping better track of the overall footprint of MNEs. A shared methodology to make datasets more coherent (harmonized) among all the directories/datasets (groups, companies and group structure) could tackle this problem. Also, the quality of the group structure's depiction would benefit if all groups reported the direct control of one company over another on a digital basis. Furthermore, a common unique international company and enterprise group identifier would allow to also connect this harmonized microdatabase with other databases necessary for specific analytical goals and would reduce the effort of interlinking datasets that contain the same entities. Additionally, initiatives for connecting registers (like BRIS) and data sharing (G20 DGI) increase the potential to grasp the overall footprint of multinationals in European/ global statistics and to reduce inconsistencies in data.

[18] The BIS is one of the institutions that publishes statistics based on the nationality approach.

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ERICA Working Group

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European Committee of Central Balance Sheet Data Offices

Nationality vs. Residency Approach

Measuring the impact of MNEs production structure on corporate financial statements statistics

25th August 2022

BIS – IFC 11th biennial conference

Motivation

- The “Irish Case” has raised **awareness** on the “**dichotomy**” of the **residency principle** of national statistics and the **global economic activities** of mutinational enterprise groups (MNEs).
- Numerous initiatives have been set up to **measure globalisation effects** and the footprint of MNEs in Official Statistics.
- The committee on monetary, financial and balance of payment statistics (CMFB) has emphasized that **traditional statistics** (country of location) can be **complemented by the Nationality approach** (country of control) as additional source of information.
- An international task force was created to conduct a **feasibility study** to **integrate microdata** on corporate financial statements and group structures from ESCB and ESS (European Statistical System), to generate statistics according to the nationality approach and compare it with traditional statistics (residency approach)

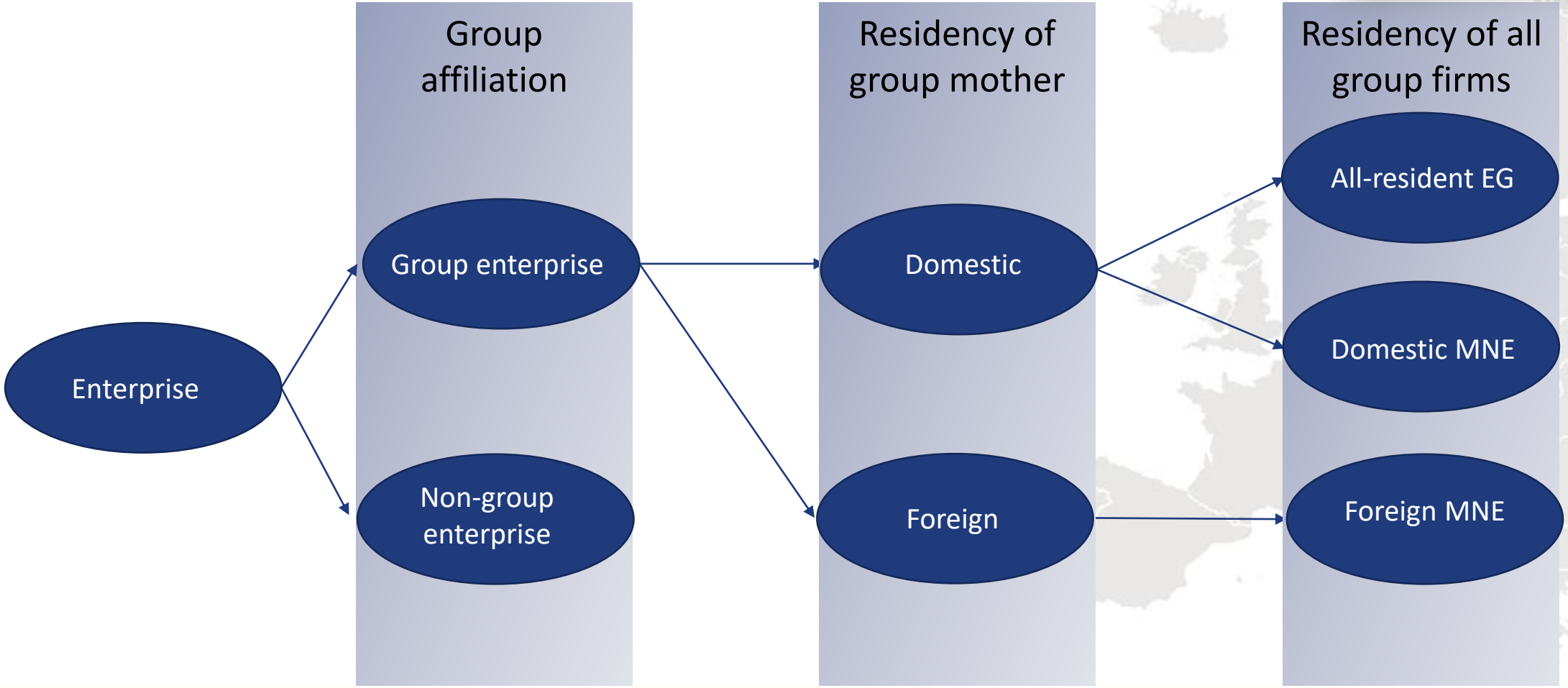
Concepts

- **Residency approach:**
  - Comprises domestic entities with their individual financial statement
  - This approach does not consider whether an entity is under foreign control or part of a group.
- **Nationality approach:**
  - Comprises all entities controlled by resident entities at the highest level of consolidation
  - Differences compared to the residency approach may arise from consolidation effects and from foreign control.

Nationality vs. Residency Approach

Entities

Control ≠ Consolidation



Nationality vs. Residency Approach

Concepts

Entity is		controlled		
		domestic	foreign	non - controlled
resident	domestic	All-resident EG/ Domestic MNE	Foreign MNE	
	foreign	Domestic MNE	Foreign MNE	

Residency approach:

Comprises domestic legal entities with their individual financial statement

Nationality approach:

Comprises all entities controlled by resident legal entities at the highest level of consolidation (no double counting)

Differences:

May arise from consolidation effects and from foreign control

Method

(1) **Identify** relevant **datasets**

(2) **Merge** them

(3) **Identify** enterprises that belong to a **group** and their **country of control**

(4) **Correct for double counting** (consider an entity only once) and remove sub-consolidated accounts

(5) **Calculate** nationality approach

(6) **Compare** to residency approach

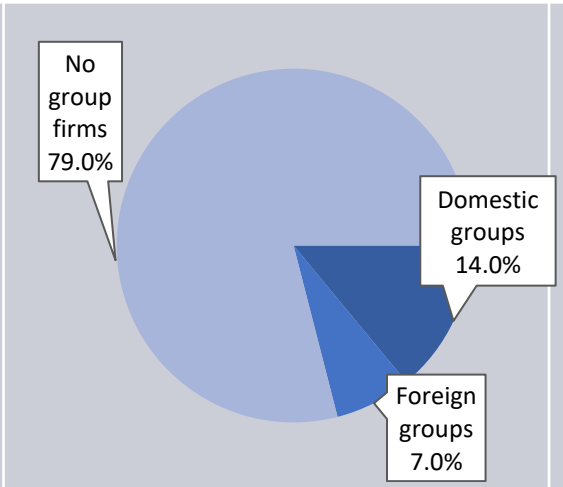
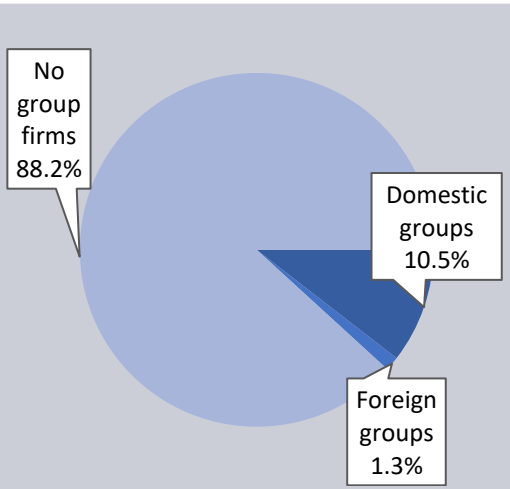
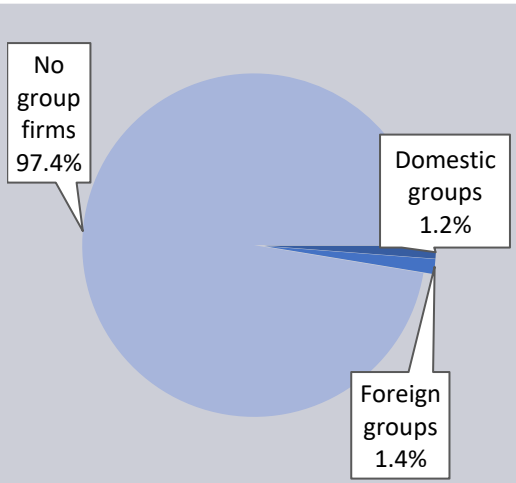
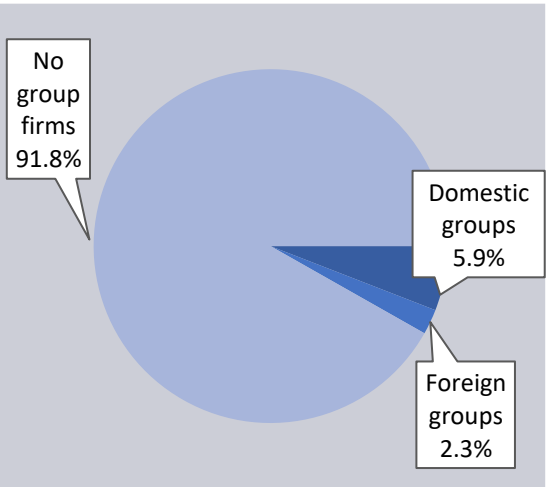
Nationality vs. Residency Approach

Data

Country	Group data			Financial data		Other sources	Coverage	
	FDI	National Business Register	EGR	Individual Financial Statements	Consolidated Financial Statements		Employees (2018) In %	Turnover (2018) In %
Austria			X	X	X	Internal dataset for group structure	19	27
Germany	X	X	X	X	X	Commercial data	34	68
Portugal	X	X	X	X	X	National groups database	100	100
Spain	X (EGR – FATS)		X	X	X	Internal dataset for group structure	76	63

Nationality vs. Residency Approach

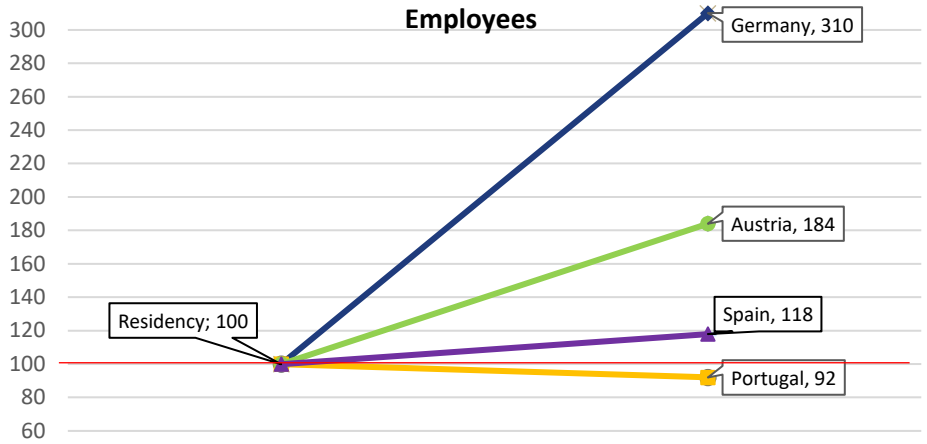
Results

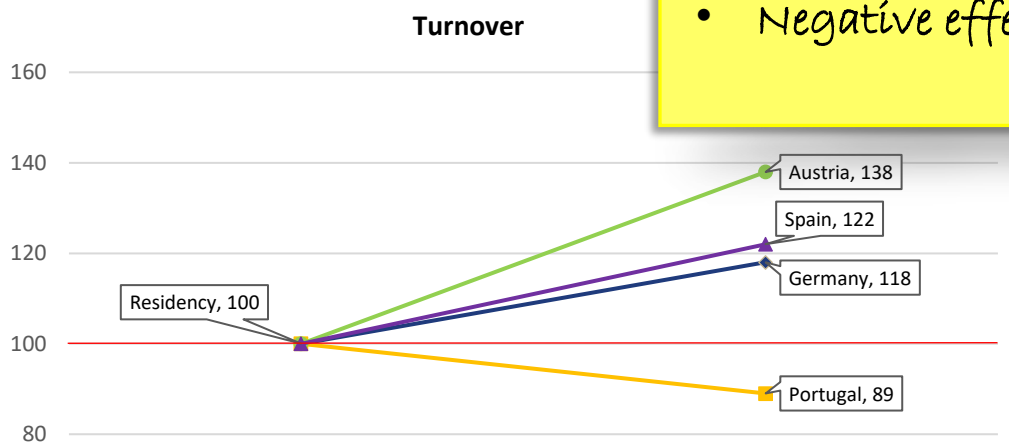
Country	Austria			Germany			Portugal			Spain		
No. of companies												
Group Type	Domestic groups	Foreign groups	No group firms	Domestic groups	Foreign groups	No group firms	Domestic groups	Foreign groups	No group firms	Domestic groups	Foreign groups	No group firms
Employees	49.0%	17.0%	34.0%	46.7%	4.1%	49.3%	15.5%	13.6%	70.9%	29.3%	17.8%	52.9%
Turnover	49.0%	27.0%	24.0%	42.8%	7.1%	50.1%	32.1%	25.7%	42.2%	37.2%	28.6%	34.2%

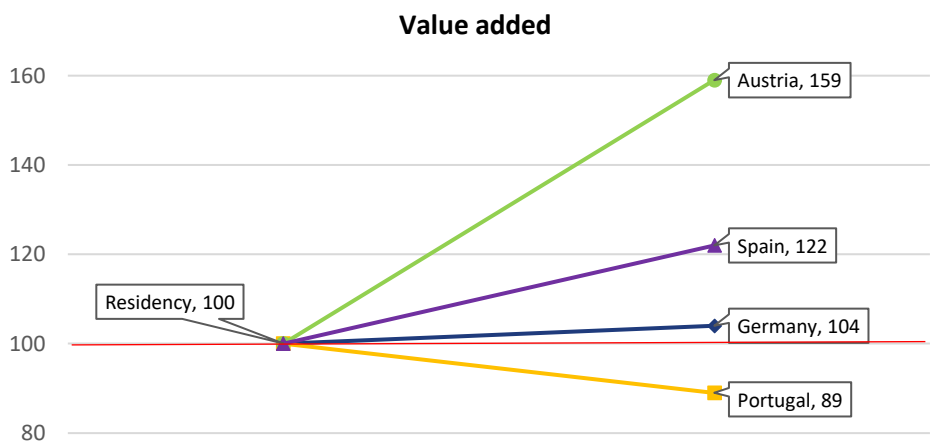
- Group Firms: Few entities, although highly relevant
- Country peculiarities

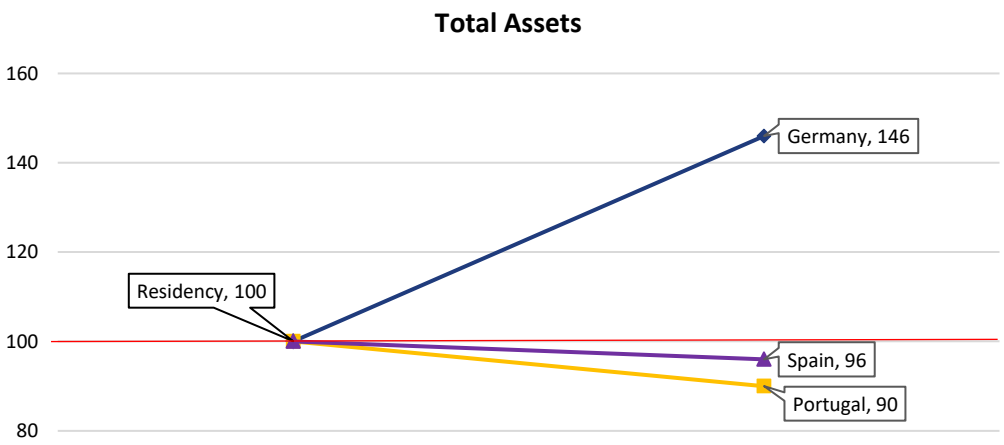
Results

- Positive effect for Austria, Spain and Germany
- Negative effect for Portugal









Conclusion

- The Nationality and Residency Approach have their legitimation. The usefulness of application depends on the purpose.
- Prerequisites for the calculation are **interconnected standardized micro datasets and a harmonized methodology** to obtain a comprehensive picture of MNEs‘ activities.
- A full data integration requires **substantial efforts** to conduct analyses with sufficient quality.
- **Globalised MNEs** are small in number (as compared to overall population) but **highly relevant for statistical aggregates**.
- **Users** of statistical products could **benefit** from expanding the published indicators by **alternative indicators** calculated based on the nationality approach.

ERICA Working Group

eccbso

European Committee of Central Balance Sheet Data Offices

Nationality vs. Residency Approach

Nationality vs. Residency Approach

THANK YOU FOR YOUR ATTENTION

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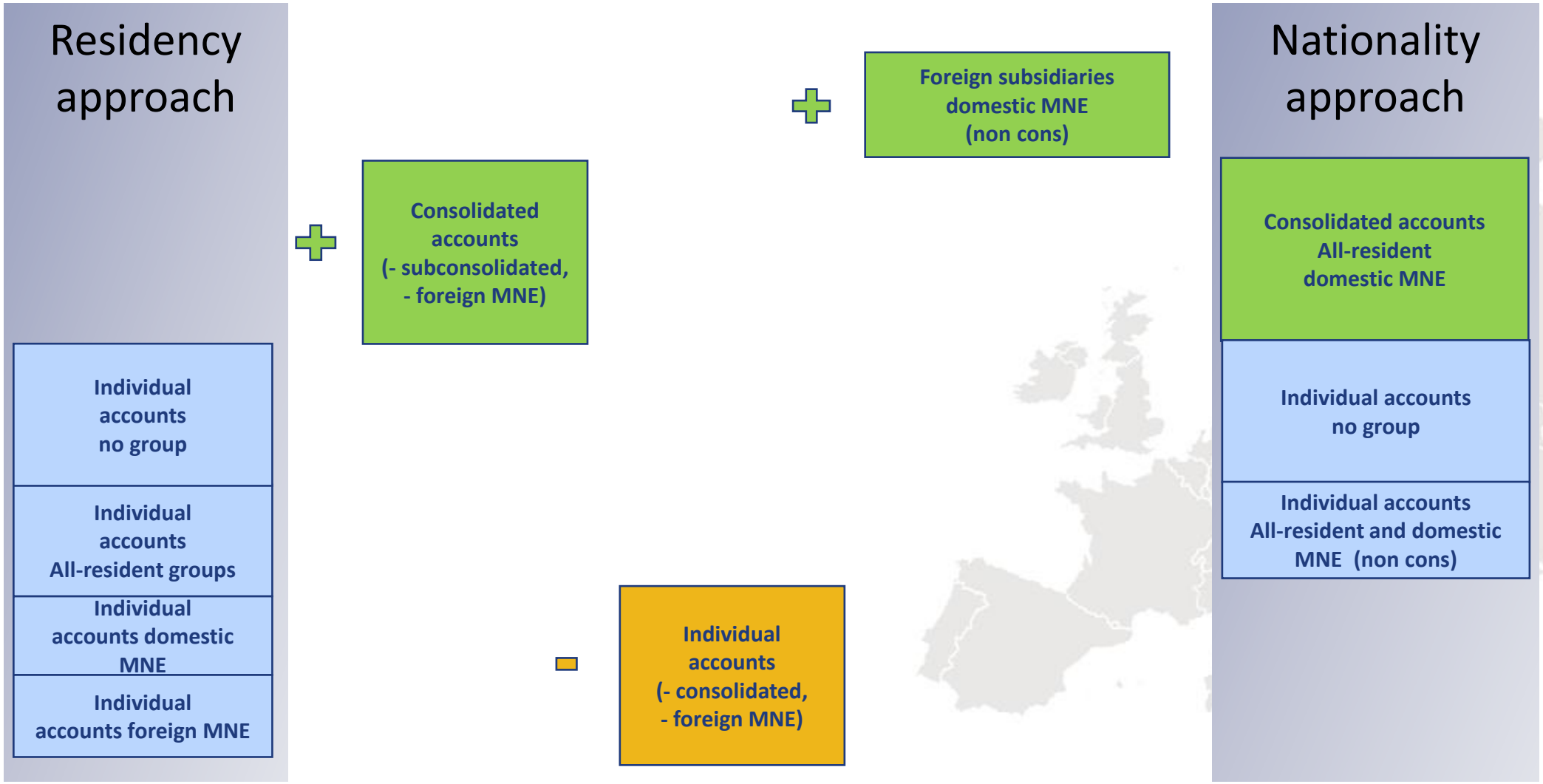
BIS – IFC 11th biennial conference

Backup

Nationality vs. Residency Approach

Method