THE OECD ANALYTICAL DATABASE ON INDIVIDUAL MULTINATIONALS AND AFFILIATES (ADIMA)

Measuring Multinationals

- **Multinational enterprises** (MNEs), driving the international fragmentation of production, **play an increasingly important role in national economies**...

- ...inducing a **growing demand for improved statistics** on the scale and scope of their activities, and **timely information on restructurings** they may undertake
  - Also in light of the statistical implications of these restructurings, e.g. Irish GDP

- However, **statistical information** on MNEs **remains at best patchy**, due to:
  - Complexity of MNE international activities (partly also by design),
  - Legal restrictions for NSOs and CBs on obtaining information outside their jurisdiction, and in sharing data (inter)nationally

- ...generating ample scope for inconsistencies and asymmetries in MNE data (and so, core macroeconomic statistics such as GDP) across countries

The OECD ADIMA database

The OECD ***Analytical Database on Individual Multinationals and their Affiliates (ADIMA)*** provides information on the scale and scope of international activities of MNEs, taking a 'whole of the MNE' view, to support analytical and policy work on MNEs and the improvement of national statistics

- ADIMA involves the development of:
  - a Register of MNE parent-affiliate structures;
  - a series of Economic Indicators at both the level of the MNE and the individual countries in which it operates;
  - and a Monitoring tool that aims to provide a timely flow of information on MNEs restructurings to aid the work of national compilers
- ADIMA explicitly aims to build on, and complement, existing national and international efforts in a collaborative fashion:
  - Eurostat's EuroGroups Register (EGR) and Early Warning System (EWS)
  - Global Legal Entity Identifier Foundation (GLEIF)
  - Aid profiling work of National statisticians, e.g. in Large Cases Units

Structure of ADIMA

Variables included in ADIMA: Register, Indicators and Monitor

Register	Indicators	Monitor
All enterprises (parents + affiliates):	Consolidated balance sheet	Changes in register variables, based on text analytics of unstructured big data sources (e.g. Open Street Map, GDELT, MNE IR and Jobs websites), classified by MNE, country and industry
Enterprise Identifiers (ISIN, LEI, CIK)	Assets (current; PPE; intangibles; ...)	
Address/country of operation	Liabilities (current; long-term)	
Industry (ISIC rev 4)	Equity	
Immediate and ultimate parent IDs	Consolidated income statement	
Demographic events + dates	Revenues/turnover	
Ultimate Parents only:	Expenses (COGS, SG&A, subcomponents)	
Consolidated industry	Profitability (EBIT, EBITDA, net income)	
Year of incorporation	Employment	
Country of global decision centre	Share of int'l sales, assets, employment, ...	
	Country-level sales, assets, employment, ...	
	Register-derived indicators (# affiliates, # countries, spread)	
	Entropy measures of internationalisation	

Methodological approach

- Combination of traditional data sources with newly emerging sources and innovative 'Big Data' analytics, e.g.
  - Traditional sources + innovative methods: XBRL-assisted scraping of company Annual Reports overcomes previous challenge of not being machine-readable
  - Emerging sources: Legal Entity Identifier (LEI)
  - Innovative sources + innovative methods: web-scraping MNE websites paired with NLP text analytics
- Careful validations and alignment with official statistical concepts
- Hence: results are timely, scalable, and can be publicly disseminated

ADIMA MNE Coverage

- Target for end-2020: **500** largest MNEs globally

- Target for end-2018: **100** largest MNEs globally

- Current 'proof of concept' sample: **37** US MNEs (from the 100 for 2018)

- Selection criteria:

  - *Revenues*. Companies were selected (top down) from the top largest enterprises globally, ranked by total revenues for 2016.

  - *Stock listing*. Publicly available Financial Reports and Accounts are a vital data source for ADIMA. Therefore, a listing on a stock exchange was considered a pre-requisite for enterprises to be included.

  - *Multinational*. Considering the focus of the project, only enterprises that met the internationally accepted definition of being a multinational were selected – i.e. to have an operating affiliate in at least one country outside the enterprise's home country.

Next steps

- Expand towards 100 MNEs end 2018 & 500 MNEs end 2020

- Refine existing methods /sources

- Continue exploration of new data sources to develop geographical breakdowns of additional indicators
  - assets and employment as first priorities
  - E.g. Social media, Open Street Map, news services such as GDELT (global news), job vacancy websites, MNE server security certification...

- Further validation of the data, including in collaboration with countries and Eurostat

- Development of the Monitoring Tool
  - In alignment with and complementary to Eurostat EWS
  - With pilot tests with interested countries

Thank you!

- For questions or comments, please contact
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