NATIONAL BANK OF ROMANIA

Does firm size predict the residency status of the final investor? Evidence from Romanian FDI enterprises

Cătălina-Florentina Pricope
Statistics Department

State of knowledge

- The SARS-CoV-2 pandemic revealed the need to have more timely, frequent and accurate statistics to guide policy (Tissot & De Beer, 2020).

- Central banks are the forefront of both the production and use of economic and financial data → hold a unique viewpoint on official statistics (Rosolia, Stapel-Weber & Tissot, 2021).

- The acceleration of business and capital markets globalisation has increased demand for high-quality FDI statistics (OECD, 2020).

- As key-players in the globalization process, MNEs:
  - ➢ engage in production, trade, direct investment and technology transfer aimed at maximizing global profitability;
  - ➢ strategically distribute worldwide production among their cross-border affiliates (Ngoasong et al., 2021; Ahmed et al., 2020; Bankman, Kane & Sykes, 2018).

- Complex corporate structures enable MNEs to disguise their final investor. Traditional FDI datasets compiled based on the *Immediate Investor Country* (**IIC**) principle do not capture the ultimate source of investment.

- OECD's Benchmark Definition of FDI 4th ed. (BD4) recommends countries to compile and disclose inward FDI positions by *Ultimate Investing Country* (**UIC**), as this representation:
  - ➢ enables statisticians to identify the residence of the entity which ultimately controls the investment;
  - ➢ facilitates the production of more nuanced statistics that provide deeper insights into economic relationships;
  - ➢ can improve the traceability of funds (European Commission, 2019).

- It is reasonable to expect that MNEs with more complex chains of ownership are able to take better advantage of all the benefits associated to the channelling of funds through intermediary countries before allocating them to the ultimate host country.

- Final investors of such MNEs might be able to ultimately control larger entities than those who invest directly in the host economy.

Purpose of the study and research hypotheses

- **Purpose**: to investigate the extent to which firm-size characteristics differ between entities for which the UIC coincides with at least one IIC and entities for which the ultimate investor is not a resident of any IIC.

- **Contribution to prior literature**: use of a comparative analysis of firm-level characteristics based on the ultimate investors' residence.

- **Research hypotheses**:

FDI enterprises with higher

H1   H2   H3   H4

turnover levels   profit levels   employment levels   FDI positions
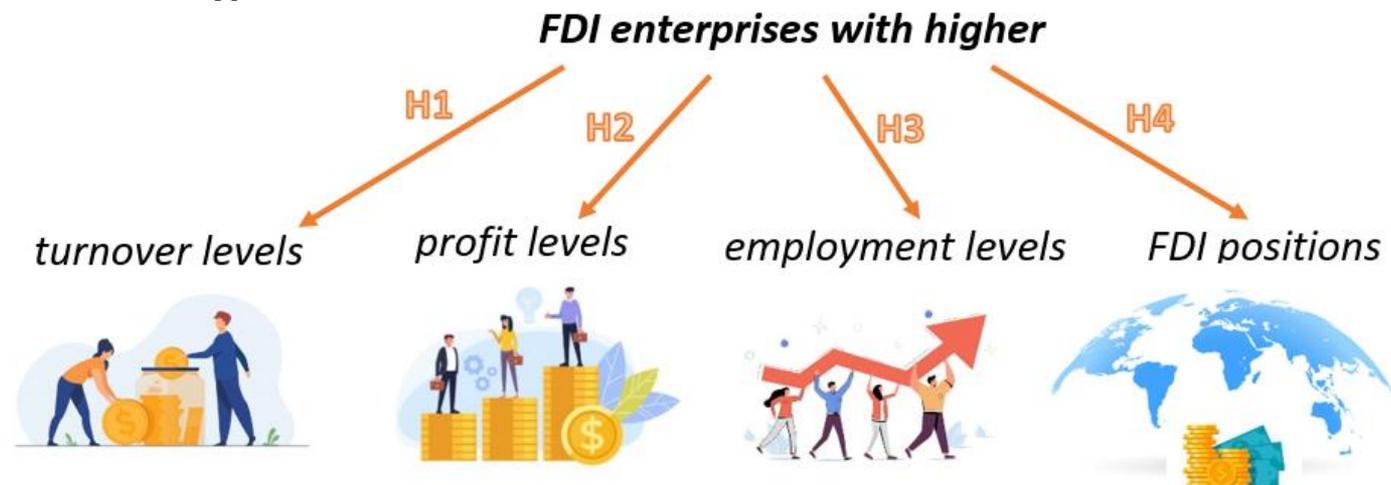
are more likely ultimately controlled by entities which are not residents in the IIC.

Data and research method

- The study was conducted on a sub-sample of 7,311 FDI enterprises that were subject to the National Bank of Romania (NBR) and the National Institute of Statistics (NIS) 2020 FDI survey.

- Out of the entire survey sample, only legal entities that submitted a complete set of survey forms or that allowed data imputation from administrative sources were kept in the sub-sample analysised.

- NBR employs the *winner takes it all* (WTA) approach to allocate FDI positions to the ultimate investor and ensures the voluntary transmission of the data to Eurostat

- A multivariate approach was employed for empirical testing of the research hypotheses:

$$\text{Logit (RSTAT)} = \alpha_0 + \alpha_1 \text{TURN} + \alpha_2 \text{PL} + \alpha_3 \text{EMPL} + \alpha_4 \text{FDI} + \varepsilon$$

Variables	Measures/concepts
Residency status (RSTAT)	dummy dependent variable; takes value 0 if, in 2020, the firms' ultimate investor was resident in (one of) the IIC and 1 otherwise
Turnover (TURN)	turnover (EUR thousand) in 2020
Profit/loss (PL)	profit or loss (EUR thousand) in 2020
Number of employees (EMPL)	average number of people employed on a full time basis in 2020
FDI position (FDI)	FDI position (EUR thousand) at end-2020

Romania's FDI figures - 2020

flows
€ 3 bln.

position
€ 91 bln.

FDI positions by top investing countries at end-2020 (bln. €)

Country	IIC	UIC
Austria	11	10
France	6	9
Germany	11	14
Italy	8	8
The Netherlands	20	4
United States	1	6
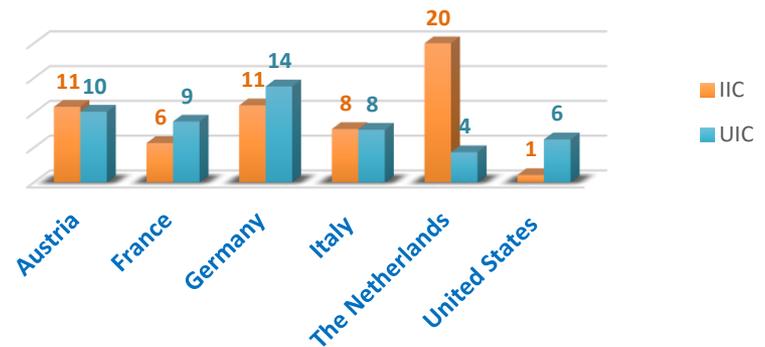
Data analysis

- ≈22% of the sampled entities UIC ≠ IIC (i.e. the immediate investor is not resident in the same country as the ultimate investor)

- the independent variables are not normally distributed and record extreme values → data were winsorized at the 10% and the 90% percentile.

Descriptive statistics

Variable	RSTAT = 1; UIC <> IIC			RSTAT = 0; UIC = IIC		
	Mean	Median	Standard deviation	Mean	Median	Standard deviation
TURN	10,776	4,824	12,519	7,849	2,593	10,994
PL	459	157	826	295	51	688
EMPL	92	42	109	80	37	97
FDI	6,631	2,395	8,079	4,259	1,256	6,685

On average, FDI entities that have their final investor resident in one of the IIC recorded on average lower turnover and profit levels, while also employing less people during 2020 than FDI entities for which the UIC and IIC differ.

- Central trend indicators also suggest that entities controlled by an IIC resident final investor exhibit smaller FDI positions at end-2020 than their counterparts.

- The t-test and Mann-Whitney test revealed that on average all indicators differ significantly between the two groups of observations (p-value = 0.0000).

- Pearson R and Spearman R coefficients suggest positive correlations between all the variables included in the analysis, ranging between 0.0245 and 0,7087.

Results

- The model revealed that all the independent variables of the study are predictive of the residency status of the final investor at a confidence level of 90%.

- Results of the Hosmer–Lemeshow test show that the overall model fit is 45.48 %.

- Key findings:
  - higher levels of turnover, profit and FDI increase the likelihood of an enterprise being controlled by an ultimate investor that is not resident in an IIC → H1 ✓ H2 ✓ H4 ✓
  - contrary to what central trend indicators initially suggested, the logit model revealed that the more people an entity employs, the more likely it is to be ultimately controlled by an investor resident in the IIC → H3 ✗

- These results may be of significant importance for:
  - private companies interested in becoming attractive investment avenues for certain MNEs, by informing them which firm-characteristics are of interest to the final business-conglomerate owner;
  - academia, by enabling researchers to better understand the dynamics of the business environment and the economic relationships that form between certain geographical regions.

Conclusions

- Findings **<u>suggest</u>** that **specific firm-size features are predictive of the residency status of their final investors**.

- The analysis focused exclusively on Romanian resident FDI entities and used firm level data collected via the 2020 NBR and NIS statistical survey.

- Limitations:

  ➤ results were obtained and are **statistically significant for Romania's particular case**;

  ➤ factors that may have a significant influence on whether an FDI entity is likely to be controlled by a final investor resident in an IIC have not been included in the model due to the difficulty to operationalise them at this stage;

  ➤ to date, no entities that meet the criteria stated in the SPE definition have been identified in Romanian economy;

  ➤ hypotheses were tested on NBR's FDI dataset for 2020. This particular year was marked by the outbreak SARS-CoV-2 pandemic that caused FDI flows to drop, determined FDI enterprises to suspend their business operations and prompted the government to implement financial aid schemes that may distort firm-level indicators. Expanding the analysis for a longer period of time might yield different results.
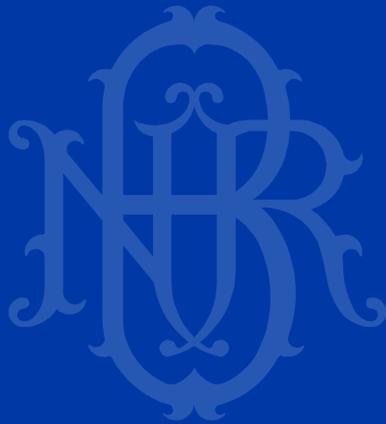
Thank you for your attention!

Cătălina-Florentina Pricope

Statistics Department

25 Lipscani street, Bucharest, Romania, postcode 030031
T: +4031 132 2154 E: catalina.pricope@bnro.ro
www.bnro.ro