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The Blurring of Corporate Investor Nationality and Complex Ownership Structures

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The Blurring of Corporate Investor Nationality and Complex Ownership Structures

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Abstract

Recent years have seen a significant increase in complexity of multinational enterprises (MNEs) ownership structures. Complex corporate structures raise concerns on the effectiveness of national and international investment policies, based on the notion of investors' nationality. This motivates this research effort aimed at analysing the ownership structures of some 700 thousand foreign affiliates (FAs). A new methodology, the bottom-up approach, is introduced. The main objective is to empirically map the "shareholder space" of FAs, along the vertical dimension, from the direct shareholders to the ultimate owners. We find that FAs are often part of transnational investment chains; more than 40% of foreign affiliates have direct and ultimate shareholders in different jurisdictions ("double or multiple passports"). Based on shareholders' nationality, we then propose and empirically analyse the salient features of four main archetypes of FAs ownership structure: plain foreign, conduit structures, round-tripping and domestic hubs. Each poses specific challenges to the policy-maker.

Keywords: multinational enterprises, ownership structures, firm-level, investors' nationality

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1 Introduction: multinationals ownership structures

Recent years have seen a significant increase in complexity of multinational enterprises (MNEs) ownership structures. On the one hand, as the global economy is becoming more and more integrated, and industrial production processes increasingly fragmented across different countries, the enhanced complexity of corporate structures seems a natural outcome of a search for efficiency; see for example the World Investment Report (WIR, 2013), on the link between global value chains and MNEs activity as captured by foreign direct investment. On the other, there is a widespread sentiment that MNEs "artificially" add complexity mostly for tax- and financial-related purposes. Indeed, the WIR (2015) provides evidence that investment schemes involving offshore financial centres, special purpose entities and transit FDI are important tools in MNE tax minimization efforts.

This may result in increased depth of corporate structures, with affiliates ever further removed from corporate headquarters in chains of ownership, dispersed shareholdings of affiliates (with individual affiliates being owned indirectly through multiple shareholders), cross-shareholdings (with affiliates owning shares in each other), and shared ownerships (e.g. in joint ventures). Corporate structures becoming increasingly complex leads to important concerns on the effectiveness of national and international investment policies relying on the notion of investor's nationality.

La Porta et al. (1999) is one of the earliest attempts to describe ownership patterns of large corporations across countries. The study looks at the beneficial ownership of a sample of large corporations in rich countries, to assess how concentrated their ownership is, who exerts control and how. The authors document the presence of pyramidal structure of control and rare cases of cross-shareholding.

A later stream of academic research concentrated on specific factors influencing financial and investment choices of MNEs, which may in turn affect the structure of ownership chains. Many look at possible tax considerations: Altshuler and Grubert (2002) analyse how multinationals use affiliates to implement investment-repatriation strategies; Desai et al. (2003) look at ownership

chains to quantify the extent to which location of investment and reported profits are sensitive to tax rate differentials; Desai et al. (2006) explore tax avoidance strategies of multinational firms and report evidence suggesting that affiliates in tax havens are used to reallocate income and deferring home country taxation; Grubert (2012) estimates suggest that foreign tax differentials may have significantly raised the foreign share of multinationals worldwide income. Other factors were also considered, for example: Desai et al. (2004a) explore trends in joint ventures (JVs) formation looking at both tax changes and coordination incentives; Desai et al. (2004b) investigate how financing frictions and general local capital market conditions influence multinationals choices in capital structure; Desai et al. (2008) study how multinationals can overcome financial constraints using their internal capital market.

With the exception of the pioneer paper of La Porta et al. (1999), in all these studies the analysis of complexity in corporate ownership structures was incidental rather than the focus. Only recently an emerging stream of literature is looking specifically at links in global ownership chains of multinational corporations, to explore how ownership chains look like, how complex and heterogeneous these structures are and what factors drive this complexity. Mintz and Weichenrieder (2010) analyse ownership chains of German MNEs with particular focus on the role of conduit entities and holding companies. They first document the increasing relevance and complexity of both holding companies and indirectly owned subsidiaries in German FDI over the 1990s. The study further shows that factors influencing the existence of these complicated ownership structures are withholding taxes, the possibility of group consolidation and the type of credit system of the capital exporting country.

Another relevant contribution comes from Lewellen and Robinson (2013). The paper analyses ownership structures of U.S. multinationals and explores the determinants of their complexity. It shows that complex structures are widespread, involving as many as half of the MNEs in the sample. At the same time, complexity seems to be polarizing. While there has been a steady reduction in the overall share of complex firms between 1994 and 2009, complex MNEs are becoming increasingly more complex. Lewellen and Robinson (2013) find that specific tax motives, including minimization of U.S. tax on income earned abroad,

as well as income withholding and capital taxes imposed abroad are prominent determinants of complex structures. In addition, concerns about political and expropriation risks, seek for investment protection through international agreements (bilateral investment treaties (BITs)), considerations on financial exposure, financing strategies and the broader institutional environment of the host country may also play a role.

Analysis on U.S. MNEs by Dyreng et al. (2015), confirm that both considerations about tax on equity distribution as well as other country characteristics such as corruption and foreign investment risk influence the structure of equity chains. A recent important research stream, lying at the intersection between international business, economics and computer science, applies the powerful analytical toolkit provided by network theory to the analysis of complexity in corporate structures, e.g. in an effort to identify trends and patterns in global corporate control (Vitali et al., 2011; Rungi et al., 2017). Recent work of Garcia-Bernardo et al. (2017) also uses network theory to identify the role of offshore financial centres (OFCs) in global corporate structures.

Generally, these studies have applied a "top-down" approach, looking at all possible ownership links in a given corporate group, i.e. starting from the parent company. To our knowledge, this paper is the first employing a "bottom-up" approach. Complexity here is seen from the perspective of the individual affiliate and the host country rather than the parent and the investor country. In line with this approach, immediate policy applications of this analysis concern primarily national investment policies in FDI host countries and, more specifically, the effectiveness of investment rules and regulation based on the notion of foreign ownership.

2 Analytical perspective

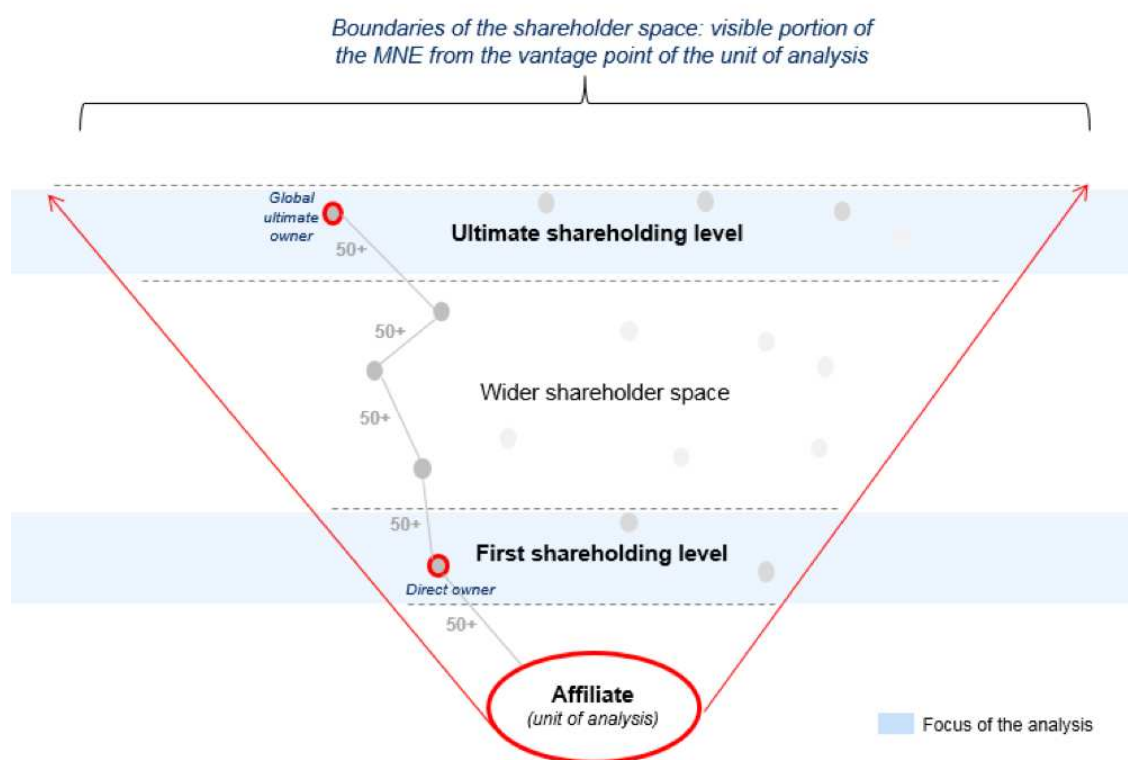
2.1 The bottom-up approach

A parent entity is connected to its subsidiaries through layers of equity ownership links which determine its direct or indirect level of control. Affiliates can have one or more direct shareholders and numerous indirect shareholders in

addition to their ultimate owner, all potentially located in different countries. Looking at the depth and the transnationality of these ownership chains is crucial to understand elements of complexity of multinationals most relevant to investment policy.

This work empirically analyses FAs ownership scenarios based on the nationality of its shareholders. To this purpose, a new "bottom-up" approach looking at the ownership chain starting from the foreign affiliate is introduced and applied to the analysis of a large database of FAs extracted from Bureau van Dijk's Orbis database.

Figure 1: A "bottom-up" perspective on MNE ownership structures: the view from the host country



Compared to the previous literature, the bottom-up approach (Figure 1) shifts the focus from the parent to the single affiliate company and analyses its shareholder space all the way up to the parent entity. While this space consists of all companies that directly or indirectly own a stake in the target unit, this anal-

ysis specifically focuses on the two main shareholders: the direct owner and the ultimate owner (i.e. global ultimate owner or GUO, as defined in Orbis). The direct owner is the direct shareholder holding a majority stake; the ultimate owner is the last corporate entity connected to the direct owner through a chain of majority shares. In principle the direct and the ultimate owner may not exist when the shareholder structure is fragmented; however, previous UNCTAD research (see for example WIR (2016)) has proven that the vast majority of FAs, up to 90%, do have a majority shareholder (that may or may not coincide with the GUO depending on the vertical complexity of the ownership chain). In addition to the mapping of direct and ultimate owners, this methodology also allows to derive auxiliary indicators of ownership complexity, e.g. number of links from the affiliate to its GUO (hierarchical distance or HD) or the number of jurisdictions crossed by the majority ownership chain.

This approach is not meant to explore the full complexity of a corporate group. Yet, it is helpful to describe the salient features of the shareholder space for individual affiliates, to map the main ownership chain from the direct shareholder level to the ultimate owner, and to assess complexity, mainly in terms of "depth" and "transnationality", of ownership networks for aggregates of companies (e.g. by country, by region or by industry).

2.2 Data extraction

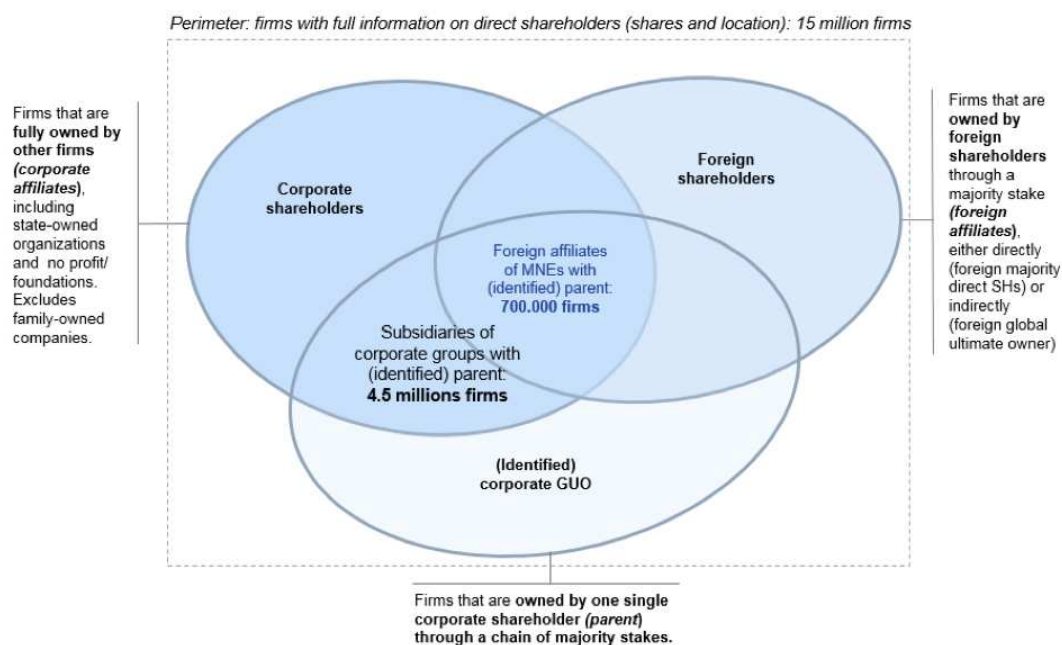
The bottom-up analysis requires a massive extraction of firm-level ownership information from Bureau van Dijk's Orbis database.

Bureau van Dijk's Orbis database is widely recognized as the most comprehensive firm-level database of its kind. At the time of the extraction (November 2015) it provided information on 136 million active companies across over 200 countries merged from different sources (e.g. official administrative registries). Starting from the full sample of ORBIS, we progressively refine the perimeter of interest, to finally target 4.5 million companies, of which 700 thousand foreign affiliates, the main focus of this study (see appendix A for a description of the steps for the construction of the database).

The final sample results from the combination of three main criteria (Figure 2).

(1) Corporate shareholding confines the analysis to corporate entities. (2) Identified corporate GUOs focuses the scope to majority-owned links. (3) Foreign shareholding further zooms on foreign affiliates, i.e. companies with a foreign ownership component, either at the level of the direct or of the ultimate owner.

Figure 2: **Perimeter of interest**



Few caveats should be kept in mind. First, even though the cases of cross-shareholdings, preferential shares and voting blocs should not be common, restraining the sample to majority ownership chains inflate the share of simpler ownership structures. Second, the focus on corporate boundaries excludes de facto beneficial ownership from the scope of the analysis.¹ Third, selected entities with more complete data may bias the sample coverage toward bigger and potentially more complex firms. Finally, but crucially, coverage of companies' information in ORBIS is highly heterogeneous across countries, significantly higher for developed countries than for developing ones.²

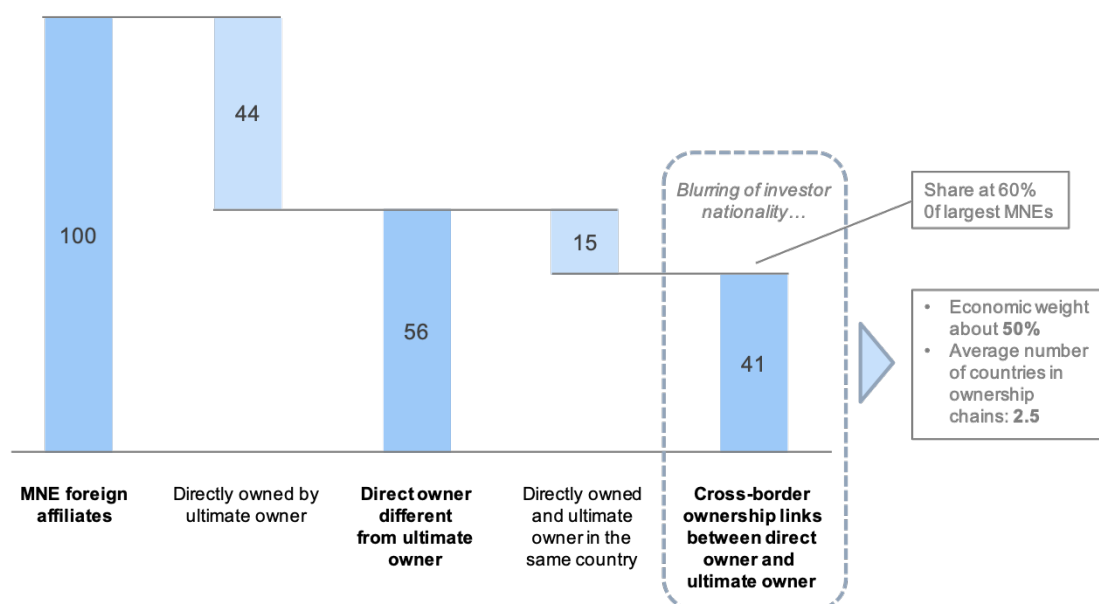
¹However, companies with corporate shareholders have better information than those with individual or family-shareholders. For example, 95 per cent of the corporate-owned companies (with known shareholders) also report information on shares and location of the shareholders while the share decreases to 60 per cent for family-owned companies.

²This is a very well-known limit of any firm-level analysis based on ORBIS, partially mitigated in this study by two considerations. First, foreign affiliates, the main focus of this anal-

3 Investor nationality mismatch

Comparison of the nationalities of the direct and the ultimate owner for the 700 thousand foreign affiliates in the sample reveals that in 40% of the cases they are from different countries, resulting in investor nationality mismatches (Figure 3). The mismatch index represents the share of cases of nationality mismatch between the direct and the ultimate owner in a group of affiliates and it is an indicator of transnationality of the ownership chain.

Figure 3: **Investor nationality: the big picture**

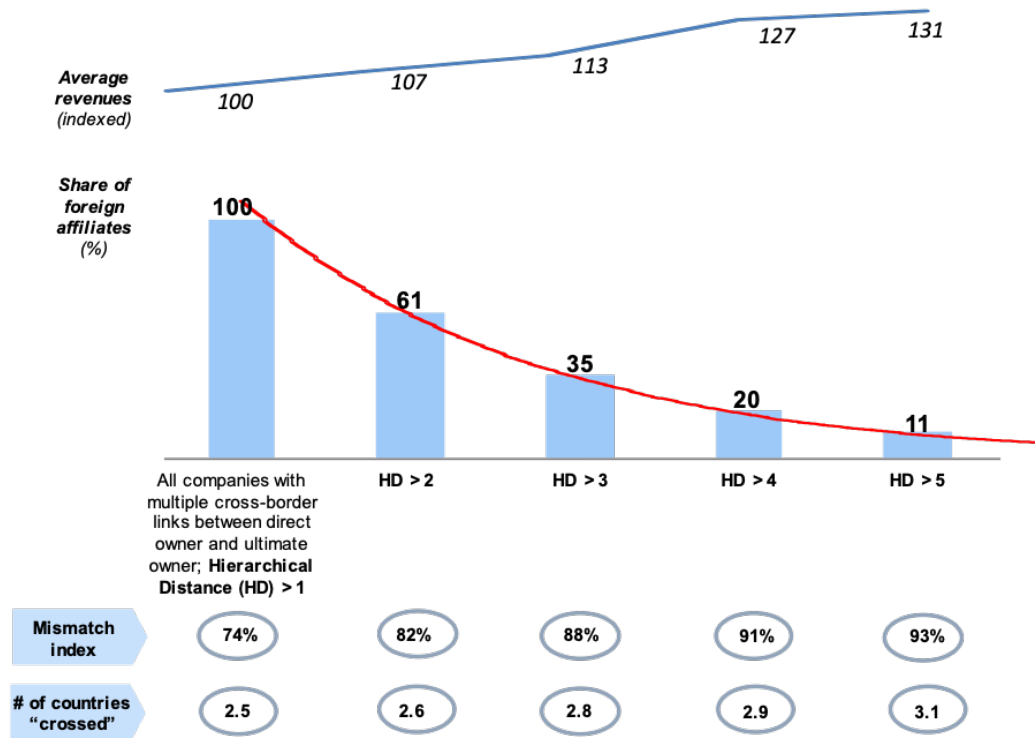


Nationality mismatches are linked to vertical complexity. The mismatch index and the transnationality of the ownership chain (number of countries involved) increases with the depth and complexity of the ownership chain, as measured by the hierarchical distance (HD), i.e. the number of ownership steps between the ultimate owner and the target affiliate (Figure 4). While in the main sample the mismatch index is at 41% (see Figure 1), FAs part of multi-step chains (HD>1) exhibit a share of mismatch cases over 70%. Highly complex and transnational

ysis, are less exposed to sample heterogeneity because they are generally larger and subject to more stringent reporting standards compared to domestic firms. Second, coverage of ownership information in ORBIS is significantly better than financial information, even in developing economies.

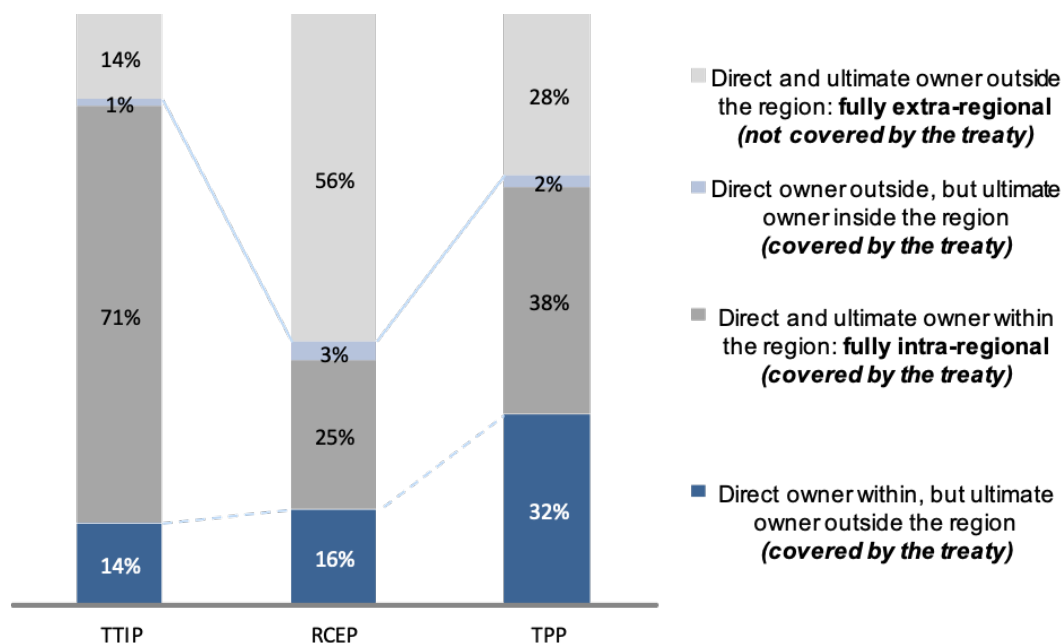
ownership chains however are not so common, involving a relatively limited number of large foreign affiliates.

Figure 4: Nationality mismatches and MNE complexity



Policy implications of investor nationality mismatches are discussed in great detail in the WIR (2016). For international investment policies, at the core of the policy discussion lies the multilateralizing effect of complex structures. The possibility of designing ever more "inclusive" corporate structures expands de facto the coverage of multilateral treaties way beyond the original scope. Investors can even engage in treaty shopping to deliberately chase the most convenient treatment. Up to a third of apparently intra-regional parent-FA relationships in major prospective mega-regional areas are in reality controlled by ultimate owners outside the region (Figure 5). This clearly raises concerns about ultimate beneficiaries of these treaties and negotiations. National investment policies too can be affected by mismatch in investor nationality. The specific implications depend on the particular schemes generating the nationality mismatch; they will be discussed in the next section introducing ownership archetypes.

Figure 5: **Ownership of foreign affiliates in some mega-regional areas** (under discussion at the time of the analysis)



4 The ownership matrix and archetypes

In addition to high-level mapping of FA investors' nationality, the bottom-up approach allows also a closer look at the most relevant shareholding schemes. Comparing the location of the direct and the ultimate owners of all 4.5 million companies in the perimeter (i.e. including domestic ones) yields a two-by-two matrix, the ownership matrix, summarizing the relevant investor-nationality scenarios by means of four main archetypes (Figure 6). Excluding then domestic companies (bottom left quadrant in the matrix), the resulting ownership archetypes for FAs are: i. Plain Foreign; ii. Conduit Structure; iii. Round tripping; and iv. Domestic Hubs.

(i) Plain Foreign

This is the simplest case with both the direct and the ultimate owner from the same (foreign) country (Figure 6). Numerically it is the most frequent scheme, covering almost 60% of the FAs in the sample. However, in operational terms, the average size of both FAs and MNEs involved is significantly smaller than

Figure 6: The ownership matrix and archetypes

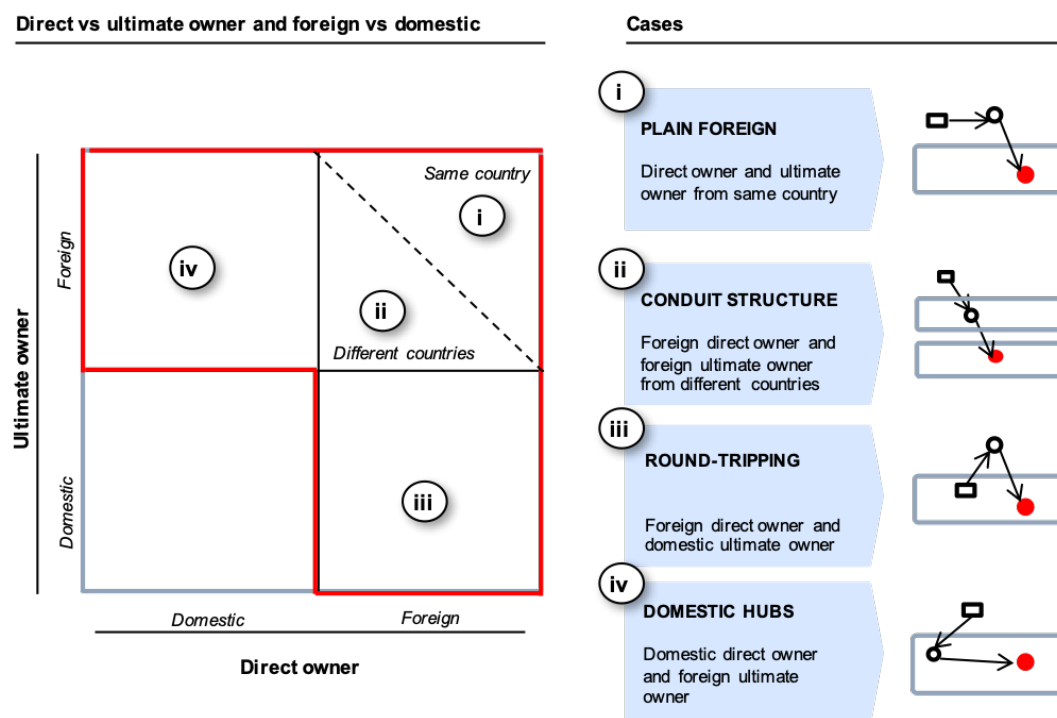


Table 1: Key statistics by archetype

	Archetype i (Plain Foreign)	Archetype ii (Conduit)	Archetype iii (Round Tripping)	Archetype iv (Domestic Hubs)
N of cases	426,427	78,722	7,903	209,229
Frequency	59%	11%	1%	29%
Avg. Hierarchical Distance	1.39	3.15	3.19	3.31
Subsidiary Avg. Revenues (millions)	0.07	0.11	0.14	0.10
GUOs Avg. Revenues (millions)	10.56	19.60	12.01	23.66
Share Conduit OFCs	30%	51%	60%	14%
Share GUOs OFCs	30%	32%	27%	34%

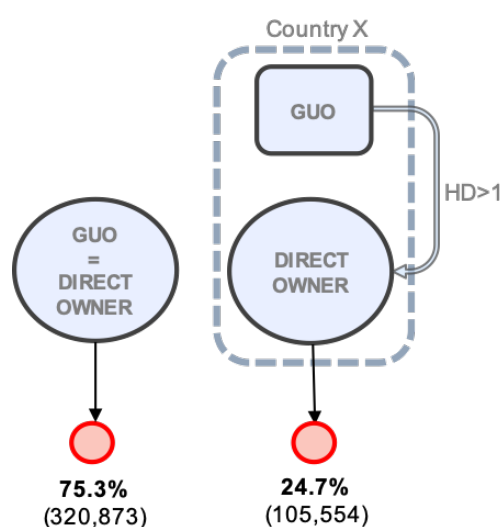
that of the other archetypes (Table 1).

This scheme does not give rise to any issue of investor's nationality mismatch.³ Around 75% of archetype (i) cases, corresponding to half of the entire sample, are just one-to-one link between an investor and a recipient (hierarchical distance equal to 1), where the direct and the ultimate owners coincide. This is

³Its frequency at 59% corresponds to the complementary of the mismatch index (at 41%; Figure 4 and 5). In principle it is possible to have multiple investor nationalities also in this case when direct and ultimate owners are from the same (foreign) country but some intermediate shareholder from a different country. However, this option is residual.

the simplest possible type of shareholding structure (Figure 7). By construction, the distribution of the direct and ultimate owners across different countries is the same, and roughly reflect the economic size of the countries (Figure 9). The share of OFCs (Table 1), at 30%, is more limited than in more complex schemes such as conduit structures (archetype ii) and round-tripping (archetype iii), but sizable (and larger than expected based on the economic size of OFCs).

Figure 7: **A closer look to plain foreign archetype: frequency of simple schemes**



Note: Frequencies of cases are presented in bold while number of cases are presented in parentheses.

(ii) Conduit Structure

Conduit structures arise when direct and ultimate owners are from two different foreign countries. This is typically a result of transit or conduit FDI. These schemes are particularly complex because they involve at least three countries, the domestic country of the foreign affiliate and two foreign countries (of the direct and the ultimate owner, respectively), and potentially more intermediate jurisdictions. The minimal hierarchical distance is two, with the average above three (Table 1). Archetype (ii) covers 11% of the FAs in the sample, confirming that highly complex structures, although not prominent, they are not residual

either. In financial and operational terms, their weight is likely to be higher as conduit structures are generally associated with bigger companies (both at the parent and foreign affiliate levels).

In around half of the cases, the conduit jurisdictions (i.e. the jurisdictions of the direct owner) are offshore financial centers (OFCs) (Table 1 and Figure 9). The composition of GUOs instead reflects more closely the economic size, even though, the share of OFCs among the GUOs (at about 30%) is somewhat surprising. Conduit structures are challenging from the investors' nationality perspective, and they are one component of the mismatch index. The relative weight of conduit structure is higher for developing than for developed countries, both in the whole sample (16% against 10%) and, more visibly, as a share of the mismatch cases (59% vis a vis 21%) (Figure 10).

Conduit structures are very relevant from a policy perspective; they play a role in tax avoidance, but also in policies related to national security and competition. In national investment policies, the implications of this archetype are instead limited as the focus is usually on foreignness rather than nationality.

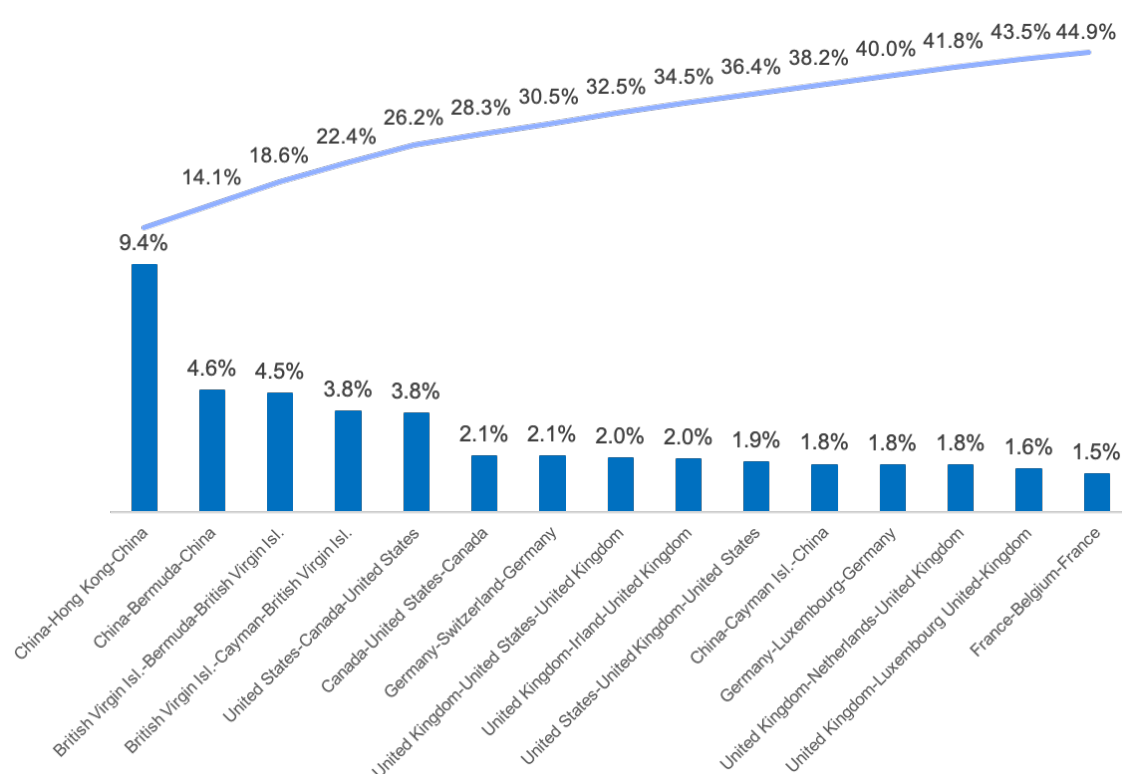
(iii) Round-Tripping

Round-tripping describes a situation where the affiliate is from the same country as the ultimate owner, while the direct owner is foreign; in other words, the parent invests domestically through a foreign intermediate subsidiary (Figure 6). It is the most controversial archetype, often brought up as an example of a harmful or abusive MNE practice. Looking at the frequency of this scheme, at only 1% of all FAs in the sample, its relevance in the world of international production is likely to be smaller than generally perceived (Table 1). Not only round-tripping is quite limited, but it is also very much confined to a small set of identifiable cases; fifteen schemes only cover almost half of the cases of round-tripping (Figure 8).

The round-tripping archetype shares with conduit structures the heavy use of

offshore financial centres as direct investors (at 60% of cases) (Table 1).⁴ Interestingly, large MNEs, while relying on conduit structures, are less involved into round-tripping, more popular among small and medium size multinationals. Despite its limited size, round-tripping is at the centre of the attention of policy-makers. It has similar policy implications as conduit structures, involving different policy areas (international investment, taxation, competition policies, national security), but typically with more controversial links to illicit practices such as money laundering. Also the level of national investment policy may be affected to the extent that domestic investors gain access to benefits reserved to foreign investors, for example in the form of fiscal incentives.

Figure 8: **Common round-tripping schemes**



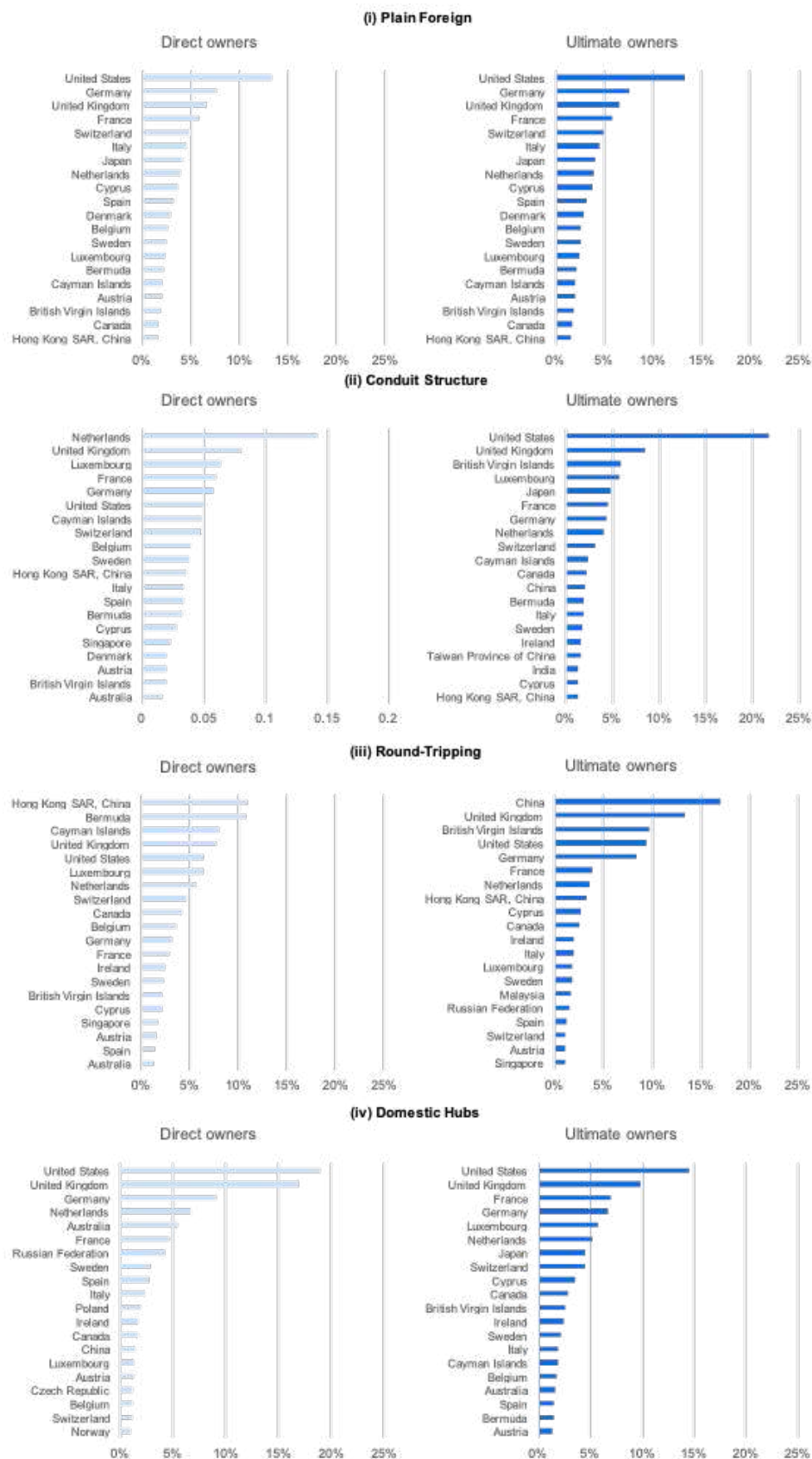
⁴As a caveat, such small share of round-tripping can be partially due to the fact that the foreign conduit jurisdictions employed in round-tripping schemes typically have strong confidentiality standards, to disguise the "real" domestic nature of the investment. In such cases, ORBIS may not detect upper layers in the ownership chain, and the bottom-up approach may stop at the level of the conduit jurisdiction, qualifying the archetype as plain foreign or a conduit structure with an OFC GUO rather than round-tripping (with domestic GUO). Balance of Payment statistics on ultimate investors available for a limited sample of countries suggests a share of round-tripping in FDI stock at about 5%, with significant variability across countries.

(iv) Domestic Hubs

Foreign affiliates may be directly owned by a domestic corporate entity, acting as domestic hub, while the ultimate owner, the MNE parent, is located in a different country (Figure 6). This archetype is quite common, covering up to a third of foreign affiliates (Table 1). It implies the establishment of a local network of affiliates and it is more widespread in mature and large economies, such as those of the larger EU members or the United States (Figure 10). It can also emerge as the result of M&A operations whereby local affiliates of an MNE acquire companies operating in the host country.

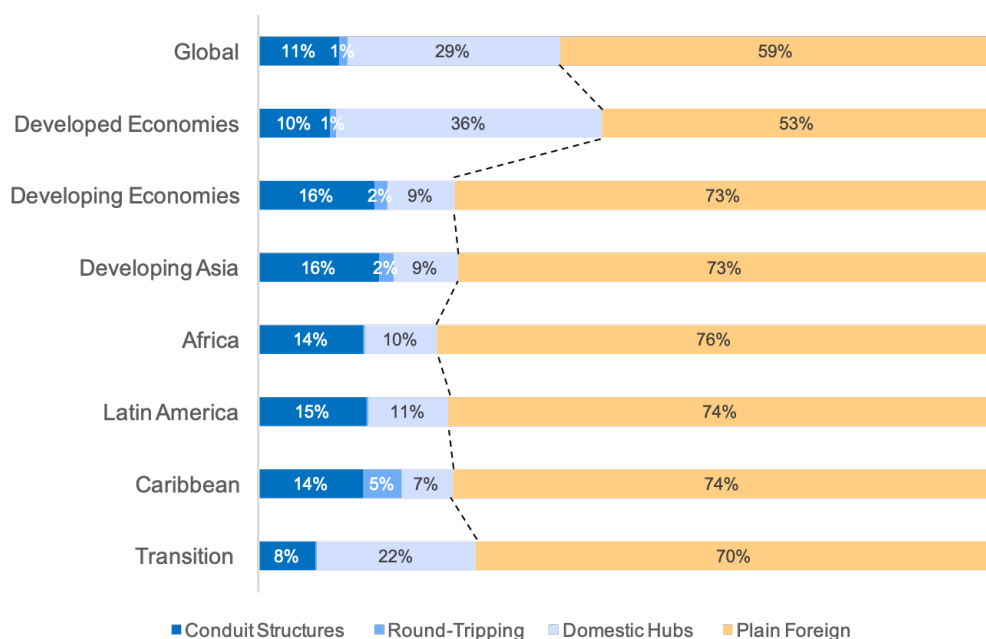
Domestic hubs are generally associated not only with major economies, but also with large MNEs, with a need to establish a multiple and capillary presence in some important host markets (Table 1). Similar to conduit structures (archetype ii) and round-tripping (archetype iii), this archetype generates mismatches in investors nationality (i.e. between a domestic direct owner and a foreign ultimate owner). However by many respects, it is less problematic. It is characterized by a limited use of OFCs and both the distribution of direct shareholders and GUOs tend to reflect the economic size of the investor countries (Table 1 and Figure 9). The rationale behind these schemes is largely driven by economic and business considerations rather than regulatory arbitrage or financial optimization. Challenges related to the multilateralizing effects of nationality mismatches and coverage of international treaties appear to be less relevant in this context. On the other side, concerns may arise on national investment policies, as disguised foreignness may lead to the circumvention of foreign ownership restrictions.

Figure 9: Top 20 largest investor countries by archetype: share of total



Note: Bars represent frequencies of country appearances as direct or ultimate owners.

Figure 10: Share of archetypes by region



5 Summary and conclusion

Complexity of MNEs ownership structures is an important feature of today's globalized production. It has ramifications and implications in policy areas such as investment policies, tax policies and competition policies. One effect of corporate complexity, relatively less explored in the literature, is the blurring of investors' nationality; the main policy question being: if a company (foreign affiliate) has investors from multiple countries (multiple passports) which is the relevant investors' nationality for investment policy purposes? This paper focuses on those cases where the two key shareholders, the direct owner (majority shareholder) and the ultimate owner, are from different countries (mismatch cases). It shares two main analytical contributions. First, the issue of mismatch in investor nationality is assessed at the aggregate level, based on a large firm-level sample of around 700 thousand FAs. Second, a more granular view on the underlying shareholding schemes is provided, leading to the definition of

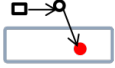

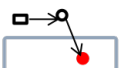
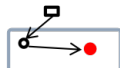
four relevant archetypes: plain foreign, conduit structure, round-tripping and domestic hubs. Each archetype is empirically analysed and policy implications discussed.

The following items reflect the main findings from the empirical analysis of archetypes.

- Contrary to the perception, complex multi-country structures are not the norm; most ownership structures are quite simple (plain foreign); half are limited to a one-to-one relationship between the shareholder and the foreign affiliate.
- However, nationality mismatches are relevant (40%) and remains a challenge in current FDI landscape. Nationality mismatch does not necessarily imply highly complex ownership structures; complexity is mostly confined to conduit structures and round-tripping.
- Conduit structures are not prominent but sizable; round-tripping is residual (and less common than perceived). Both conduit structures and round-tripping make heavy use of offshore financial centers.
- Domestic hubs is a common instance of nationality mismatch, not associated with particularly complex structures. It is concentrated in large and mature markets.
- The distribution of ownership archetypes is not uniform across level of development and MNE sizes. Smaller companies tend to prefer simpler solutions (plain foreign) while larger MNEs are more prone to build complex network, either in the form of domestic hubs (developed economies) or transnational conduit structures (developing economies). Round-tripping schemes are instead limited to few jurisdictions, usually involving smaller size MNEs.

Figure 11 concludes with a summary of the salient features of each archetype and flags the key points of policy relevance.

Figure 11: Archetypes: summary of the salient features

	i Plain foreign	ii Conduit structures	iii Round-tripping	iv Domestic hubs
				
Size	40-60%	10-20%	1-5%	≈30%
Main focus	• Developing economies, smaller MNEs	• Developing economies, larger MNEs	• Limited to some jurisdictions, smaller MNEs	• Developed economies, larger MNEs
Nationality mismatches	✗	✓	✓	✓
Complexity	○ Mostly one-step (HD=1); no conduit structure	● Multi-step (HD > 3); highly transnational; large use of OFCs as conduit	● Multi-step (HD > 3); large use of OFCs as conduit	● Multi-step (HD > 3); limited transnationality and limited use of OFCs as conduit
Policy relevance	○ Nothing critical	● Impact on several policy areas • "Multilateralizing effects"; treaty coverage • Nothing critical • Tax, competition, national security	● Impact on several policy areas • "Multilateralizing effects"; treaty coverage • Access to benefits reserved to foreign investors • Tax, competition, national security; contrast to illicit practices	● Potential impact on national investment policies • Nothing critical • Circumvention of foreign restrictions • Nothing critical

Note: The "size" is based on the frequency of the archetypes in the sample. However, a range was introduced to adjust upward (i.e. with empirical frequency at the lower bound) archetype ii (conduit structures) and iii (round-tripping) and downward (i.e. with empirical frequency at the upper bound) archetype i (plain foreign). This adjustment accounts for a potential bias in the sample, arising when ORBIS GUO in archetype 1 is an OFC (30% of cases). In these cases, it is possible that ORBIS is unable to detect upper layers of ownership due to poor reporting standard of the GUO and a conduit or round-tripping scheme is then classified as plain foreign (see also footnote 4).

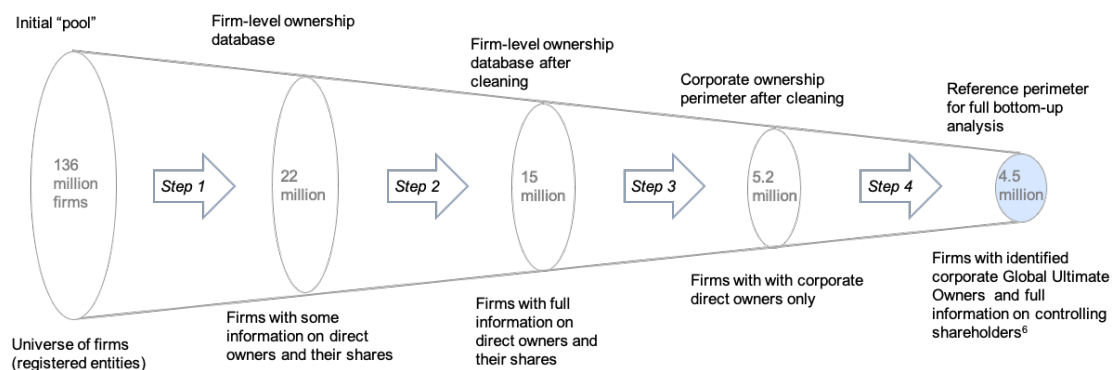
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A Appendix. Construction of the firm-level database

Figure A.1: Construction of the firm-level ownership database



Step 1. Extract companies reporting at least one shareholder. This initial subsample consists of 22 million firms, mainly private liability companies (almost 80%); it excludes branches, most sole traders and proprietorship and all companies with missing information. For each of the selected companies retained, when available, the following data: name, location, type, key financials (assets, revenues and employees), shareholders (SHs) names, SHs stakes, SHs types, and SHs location.

Step 2. Remove all those entities for which the shareholder's location is unavailable or the stakes of direct shareholders are missing or incomplete (i.e. the sum of direct shares is below 50 percent). The remaining sample presents complete information on direct shareholding and a total sum of direct shares above 50 percent (for 80% of observations the aggregate share adds up to 100 percent).

Step 3. Restrict the perimeter of the analysis to corporate boundaries. Specifically, select affiliates with shareholders belonging to the following corporate types only: corporate industrial, corporate financial, foundations/no profit, public entities. This leaves out mainly companies with individual or family shareholders and residual cases of mixed ownership or marginal ownership categories.

Step 4. Retain companies with complete and consistent information on the global ultimate owner. The remaining companies in the sample have one shareholder which qualifies as a corporate GUO and present complete information of the ownership path linking the affiliate to the GUO.

Final perimeter of the analysis includes 4.5 million affiliates with complete information of the majority ownership chain, of which 0.7 million companies qualifying as foreign affiliates, i.e. with either a foreign direct shareholder or a foreign ultimate owner or both.