

# CROSS-BORDER CORPORATE CONTROL: OPENNESS AND TAX HAVENS

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## Credibility of Emerging Markets, Foreign Investors' Risk Perceptions, and Capital Flows

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# CROSS-BORDER CORPORATE CONTROL: OPENNESS AND TAX HAVENS

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Cross-border corporate control is a major facet of globalisation. In roughly one out of four listed controlled companies in 2012, control was exercised by a foreign entity or family/individual. Controlling—and passive—ownership stakes are often hidden in complex structures, involving pyramids and chains of intermediate firms. Besides, shareholders often use shell companies incorporated in financial offshore centres. As we demonstrate in this paper, even locals use firms in tax-haven jurisdictions as conduits of their (controlling) equity stakes in domestic firms. However, international corporate control is not well-understood due to the esoteric corporate holding schemes and the complex network of equity holdings. We take a first step in understanding cross-border corporate control by documenting some broad patterns, based on our ongoing research of the drivers of the internationalisation of corporate control (Fonseca and others, 2022).

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By compiling new ownership data for almost 90 percent of the world market capitalisation of listed firms in 2012, we provide a mapping of corporate control, zooming into the role of tax havens, whose role, while prominent, is not well-understood due to secrecy, lack of data and transparency.

In section 1, we discuss the data compilation, which extends our earlier work (Aminadav and Papaioannou, 2020). Relying on a plethora of sources (e.g. regulatory filings, company reports, financial media), we augment, update, and revise the ORBIS database on corporate ownership to identify ultimate controlling shareholders for 25,884 listed firms in 86 jurisdictions in 2012. The 83,942 shareholders and ultimate owners come from 90 territories. We give examples of ownership structures for various controlling entities, individuals, banks, governments, and nonbank financial institutions, distinguishing between three nationality types for the ultimate controlling entity and the immediate controlling shareholding entity: (a) domestic, (b) foreign, and (c) foreign tax-haven.<sup>1</sup> We also compare our newly compiled proxies of international corporate ownership of listed firms with the widely used external wealth of nations statistics of Lane and Milesi-Ferretti (2018, 2021) and find strong correlations.

In section 2, we provide an anatomy of international corporate control and cross-border ownership of listed corporations. First, we uncover large differences in cross-border corporate ownership and control around the world. The degree of 'openness', reflecting the share of market capitalisation (and share of listed firms) controlled by foreign entities differs considerably, even when looking at countries of similar income and in the same region. Second, when we tabulate differences across income groups and explore the role of market size, we find that foreign control is less common in richer and more populous countries, echoing the international trade and portfolio investment evidence.

In section 3, we zoom into the role of tax-haven-incorporated vehicles in the exercise of control. The use of tax havens in 2012 appears, on average, moderate, but quite heterogeneous, even within regions. We find evidence that lower-income countries have higher shares of control of their companies by or via entities in tax havens, but not that poorer countries are more likely to exert control through tax havens. We find that, in a few countries, domestic entities, including

1. Following the classification of the OECD (2000) and Tørsløv and others (2018).

families and individuals, hold controlling equity stakes in firms listed in the local stock exchange by using intermediate firms incorporated in tax-haven jurisdictions. This pattern is higher in Ukraine, Russia, Greece, and Serbia, as well as in China. The exercise of control by or via tax-haven-incorporated vehicles appears to be low in the United States. This may be so because our data do not distinguish the state of incorporation, which would be useful due to the case of Delaware, which has been identified as a tax haven (Michel, 2021).

Our paper relates and contributes to various strands of research in the literature on international economics and corporate finance:

First, our paper mostly connects to the voluminous literature on trade, foreign direct investment (FDI), portfolio, and bank flows (Lane and Milesi-Ferretti, 2007 and 2008; Portes and Rey, 2005; Wei, 2000; Aviat and Coeurdacier, 2007; Papaioannou, 2009; Hau and Rey, 2008; Alfaro and others, 2008). Rather than looking at volatile capital flows, we examine international corporate control, which is more persistent. Examining corporate control allows for a more in-depth mapping of global market integration. Our data and effort here and in our companion papers (Aminadav and Papaioannou, 2020; Fonseca and others, 2022) have been on mapping actual ties and incorporating indirect links; for example, a Russian national controlling a Brazil-incorporated listed corporation via a Cypriot or Maltese ‘shell’ company. We try addressing a major shortcoming of most international asset holdings and liabilities positions datasets—IMF International Financial Statistics (IFS), U.S. Treasury International Capital (TIC) System—that, following the *residence principle*, misses indirect exposure. While international institutions, policymakers, and researchers increasingly acknowledge this issue, there has been limited progress in capturing indirect exposure, which anecdotal evidence and case studies suggest is becoming extensive. Important exceptions are the parallel and independent works of Coppola and others (2021), and Damgaard and others (2019). The former study international bond and equity issuance via special purpose vehicles (SPV) documenting the chief role of tax havens. The latter combine foreign direct investment data from various sources to approximate real and ‘phantom’ FDI, often channelled via countries with low-tax systems tailored for multinationals. Rather than looking at corporate

debt issuance and multinationals' activities, we look at corporate ownership and control, major facets of globalisation that have not been much researched.<sup>2</sup>

Second, our findings that a non-negligible portion of international corporate control gets through offshore financial centres contribute to a nascent but fast-growing research agenda on their increasing role in the global economic system (Hines and Rice, 1994; Zucman, 2015; Tørsløv and others, 2018). The literature focuses on how corporations shift earnings across jurisdictions (Johannessen and others, 2020; Guvenen and others, 2017), how tax havens allow hiding assets (Alstadsæter and others, 2018), and even money laundering and criminal activity (Andersen and others, 2020). We show that offshore financial centres play a crucial conduit role in the internationalisation of corporate control.

Third, our paper adds to research in corporate finance studying cross-country differences in corporate control (La Porta, Lopez-De-Silanes, and Shleifer, 1999; Claessens and others, 2000; Faccio and Lang, 2002; Laeven and Levine, 2007; Franks and others, 2012). This research mostly works with relatively small samples and countries. We take a panoramic view covering the vast majority of listed corporations across the world. We revise, clean, and extend the dataset of Aminadav and Papaioannou (2020), who in turn have expanded the ORBIS dataset, to identify control from the often obscure structures of corporate ownership. We zoom in on the internationalisation of corporate control, which has not been much studied—except for the parallel and independent work of De La Cruz and others (2019).

## **1. DATA AND METHODOLOGY**

In this section, we first go over the ownership data used to identify corporate control of public (listed) corporations. Second, we discuss our methodology to identify ultimate controlling shareholders from obscure structures of corporate ownership. Third, we present, providing company examples, our methodology to classify domestic, foreign, and tax-haven control and direct ownership. Fourth, we discuss our

2. For example, Coppola and others (2021) are able to record both direct U.S. investments into the Brazilian corporate-bond market and indirect investments via subsidiaries in the Cayman Islands and Bermuda. Likewise, we are able to trace direct equity stakes of U.S. nationals to Brazil, as well as indirect links via private companies in offshore financial centres (e.g. Panama), but also other jurisdictions (e.g. Chile).

aggregation of corporate control across countries, distinguishing between destination and source. Fifth, we present tabulations comparing our measures of international corporate control with the widely used data compiled by Lane and Milesi-Ferretti (2018).

## **1.1 Ownership Data**

The corporate ownership and control data we use builds on the work in Aminadav and Papaioannou (2020), who in turn extend, clean, and update the ORBIS dataset.<sup>3</sup>

### **1.1.1 Procedure**

We proceed as follows.

- We start with Bureau van Dijk's (BvD) ORBIS database.<sup>4</sup> BvD collects ownership information from company reports, financial news, private correspondence, and local specialised agencies. BvD reports shareholder's voting rather than cash-flow rights, taking into account dual shares, "golden shares", and other special share types. This makes them suitable for identifying control.<sup>5</sup> We extract information for publicly traded corporations from ORBIS. We correct inconsistencies, omissions, and errors (e.g. double entries).

- We then match ORBIS' corporate ownership information with Datastream (Thompson Reuters) and Compustat (North America and Global) to get firms' market capitalisation, industry, and other information.

- ORBIS data have gaps on shareholders for many private companies, which prevents tracing ultimate controllers of listed companies. We manually checked and added information on control for firms with incomplete coverage. This work started with Aminadav and Papaioannou (2020), who gathered information on ultimate control for 10,857 listed companies whose ultimate controller could not be traced from ORBIS for 2004–12; they obtained ownership information for

3. Aminadav and Papaioannou (2020) goal was to re-examine the link between corporate control and legal origin and institutions for the largest possible sample of publicly traded firms. We refer interested readers to Aminadav and Papaioannou (2020) main paper and appendix for details on the data.

4. Kalemli-Özcan and others (2015) discuss practical details in building samples from this database.

5. See also Massa and Zaldokas (2016), Kalemli-Özcan and others (2015), Franks and others (2012).

about 7,000 private firms, which appear in ORBIS as main shareholders of listed companies. They relied on financial data providers (Bloomberg, Dun & Bradstreet, Google Finance, Credit Risk Monitor, and Forbes), government publications, reports from regulatory agencies, news, and data made available by the *International Consortium of Investigative Journalists*. For the current paper, we focus on 2012 and we expanded the search into the corporate ownership structure of 4,002 listed firms that Aminadav and Papaioannou (2020) could not trace control. These firms had 3,695 unique controllers, usually private firms. We traced new ultimate controllers for 3,387 of these private firms. Though in our search we may find information about multiple links in the chain of control, our dataset captures only the immediate shareholders and the ultimate controller and does not record further intermediate links.

In 2012, the full dataset contains 27,315 listed firms in 126 jurisdictions.<sup>6</sup> To ensure reasonable coverage across countries and meaningful country statistics, we drop:

- Companies with a market capitalisation below 1 million U.S. dollars. Doing so, we lose 956 companies from 48 (typically very small) jurisdictions.

- Companies for which our database registers aggregate ownership stakes of one percent or less. This drops 300 companies from 49 jurisdictions.

- Companies from jurisdictions with ten or fewer public companies. This leads to the loss of 113 listed companies from 40 jurisdictions.<sup>7</sup>

- Ownership stakes held by entities from jurisdictions when shareholders from those jurisdictions hold stakes in ten or fewer

6. Throughout the paper, we use jurisdiction and country as synonyms.

7. These are: Anguilla, Bahamas, Barbados, Belize, Benin, Botswana, Cambodia, Cameroon, Curaçao, Ecuador, Faroe Islands, Gabon, Gambia, Georgia, Gibraltar, Iraq, Isle of Man, Jamaica, Jersey, Kazakhstan, Kyrgyzstan, Lebanon, Liberia, Liechtenstein, Macao, Malawi, Monaco, Mongolia, Namibia, Niger, North Macedonia, Palestinian Territories, Panama, Papua New Guinea, Rwanda, Senegal, Sudan, Tanzania, Trinidad & Tobago, and Uganda.

companies. This excludes 56 jurisdictions from statistics related to direct ownership stakes.<sup>8</sup>

Companies whose controller is from a jurisdiction that controls five or fewer distinct companies. This drops 75 companies from 48 jurisdictions and drops 37 jurisdictions as controllers.<sup>9</sup>

### **1.1.2 Sample**

The final sample consists of 25,884 public firms located in 86 jurisdictions in 2012. These countries represent approximately 96 percent of global GDP. Our sample accounts for about 87 percent (81 percent) of the total global market cap in Datastream (World Bank). There are 81,192 distinct shareholders; we have information on the nationality of percent of these, accounting, however, for the overwhelming majority of equity ( percent). Shareholders come from 90 jurisdictions. We have 8,048 unique ultimate controllers; we have information on the nationality of percent of these, accounting for 97 percent of the controlled market capitalisation, and they come from 81 jurisdictions. The combined market capitalisation is USD 41.35 trillion, and the database captures about half (19.62 trillion) of the value of the voting right stakes. There is strong home bias, as domestic entities hold stakes worth around USD 13.88 trillion.

8. The dropped jurisdictions are Algeria, Andorra, Angola, Anguilla, Azerbaijan, Barbados, Belize, Benin, Botswana, Brunei, Burkina Faso, Cambodia, Congo - Kinshasa, Costa Rica, Côte d'Ivoire, Czechia, Ecuador, Gambia, Ghana, Gibraltar, Guinea-Bissau, Iran, Iraq, Jamaica, Jersey, Kazakhstan, Kyrgyzstan, Macao SAR China, Madagascar, Malawi, Moldova, Mongolia, Mozambique, Myanmar (Burma), Namibia, Nepal, New Caledonia, North Korea, North Macedonia, Papua New Guinea, Puerto Rico, São Tomé & Príncipe, Seychelles, St. Kitts & Nevis, St. Lucia, St. Vincent & Grenadines, Sudan, Tajikistan, Tanzania, Togo, Trinidad & Tobago, Uganda, Uruguay, Vanuatu, Yemen, and Zambia. There are 167 affected listed firms; these firms are however not fully dropped from the sample (only the stakes from shareholders from these countries), as the goal is only to avoid computing statistics on ownership and control of countries with little representation in the sample.

9. These are Andorra, Angola, Azerbaijan, Bahamas, Barbados, Botswana, DR. Congo, Côte d'Ivoire, Curaçao, Ecuador, Ethiopia, Gibraltar, Iran, Jamaica, Kazakhstan, Kenya, Kyrgyzstan, Lebanon, Liberia, Libya, Liechtenstein, Marshall Islands, Monaco, Mongolia, Myanmar, Namibia, North Macedonia, Palestinian Territories, Panama, Seychelles, Sierra Leone, Tanzania, Togo, Trinidad & Tobago, Uruguay, Zambia, and Zimbabwe.



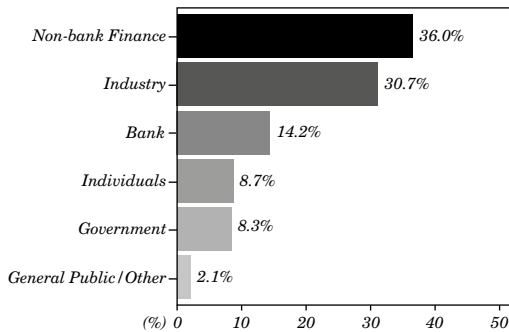
### 1.1.3 Shareholder Types

BvD classifies entities into 19 types, which we aggregate into six major categories:

- **Bank:** Banks
- **Nonbank Finance:** Financial companies; insurance companies; mutual & pension funds / nominees / trusts / trustees; private equity firms; venture capital; hedge funds
- **Industry:** Industrial companies
- **General Public / other:** Foundations / research institutes; public; other unnamed shareholders, aggregated; branches; marine vessels
- **Government:** Public authorities, states, governments
- **Individuals:** Individuals; employees / managers / directors; self-ownership; unnamed private shareholders, aggregated

Figure 1 shows the share of equity stakes (controlling and passive) held by each major shareholder type. Nonbank finance and industrial companies are the largest shareholders, each holding around one-third of the equity stakes in our sample.

**Figure 1. Share of the Market Capitalisation Value of the Direct Stakes by each Shareholder Entity Type**



Source: Authors' calculations.

Note: The sample consists of 25,884 publicly traded firms located in 86 jurisdictions in 2012.

## 1.2 Controlled and Widely Held Corporations

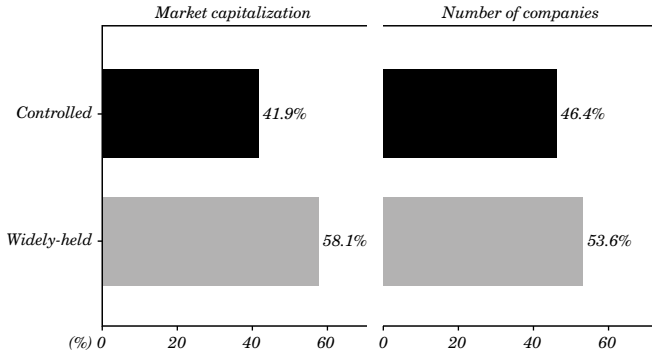
We follow the corporate finance literature and apply a -percent voting right cutoff to identify controlled, as opposed to widely held, companies (e.g. La Porta, Lopez-De-Silanes, Shleifer, and Vishny, 1999).<sup>10</sup> We classify as controlled listed firms where a shareholder (i.e. individual, family, state, another firm, mutual fund) has voting rights over percent. As in Aminadav and Papaioannou (2020), but in contrast to earlier studies, we aggregate the voting rights of all firms that an individual (family or entity) uses to exercise control and aggregate the voting rights of all family members.<sup>11</sup>

Our algorithm identifies 13,864 widely held corporations with a market cap of about USD 24 trillion and 12,020 firms with a controlling shareholder with a market cap of USD 17 trillion. Figure 2 shows the share of controlled and widely held firms in terms of total market capitalisation and the total number of listed firms. Controlled firms are around 42 percent of the market capitalisation and 46 percent of the number of companies. Figure 3 provides the disaggregation across continents and World Bank income groups. Figure 4 tabulates the share of market capitalisation and the number of companies controlled by entities of each type. Despite individuals and families being a minority in ownership stakes (figure 1), they are the controllers of the majority of firms and control a plurality of market capitalisation. Governments control a similar share of market capitalisation with a much smaller share of the number of companies, as they control large companies.

10. Corporate finance research has employed various cutoffs; for example, Lins and others (2013) employ a cutoff, while Laeven and Levine (2008) use . In Aminadav and Papaioannou (2020) we also estimated Shapley-Shubik voting right power measures that incorporate information of all (main) shareholders (Shapley and Shubik, 1954; and Banzhaf, 1965). This alternative metric is useful for the cases where ownership is dispersed and a majority of investors are small or passive, leading stakes smaller than 20% as effective controllers. The 20% cutoff rule yields are quite similar to the Shapley-Shubik method binary classifications of controlled firms that do not matter much when we aggregate at the country(pair) level. Corporate finance studies often distinguish between widely held firms with and without equity blocks, typically over 5% of firm's voting and cash-flow rights. We abstract from this distinction as our focus is on corporate control.

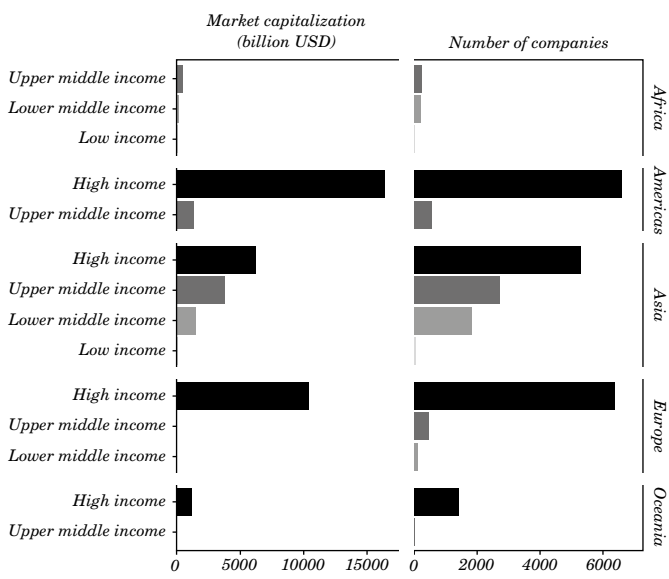
11. In Fiat and BMW, for example, we add the voting shares of all the Agnellis and Quandts.

**Figure 2. Share of Controlled and Widely Held Listed Companies in 2012**



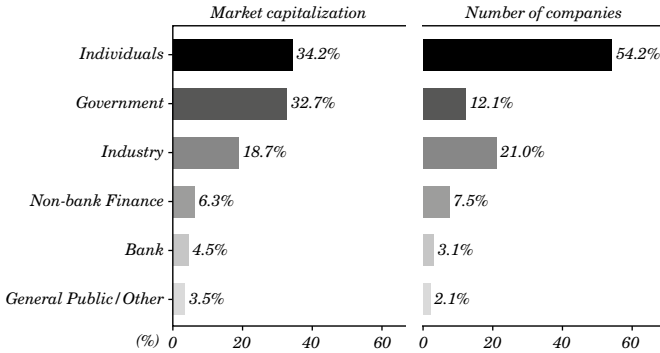
Source: Authors' calculations.  
 Note: The sample includes 25,884 companies in 86 countries and jurisdictions.

**Figure 3. Market Capitalisation and Number of Controlled Firms (with a Shareholder Entity Holding Voting Rights in Excess of 20 Percent) across Income Groups and Regions, Following the Classification of the World Bank**



Source: Authors' calculations.

**Figure 4. Share of Listed Companies Controlled by each Major Entity Type, as a Share of Total Market Capitalisation and Total Number of Companies**



Source: Authors' calculations.

Note: The sample contains 12,020 controlled companies with a total capitalisation of USD 17.3 trillion in 2012.

### 1.3 International Control

We distinguish between three nationality types for the ultimate controlling entity and for the nationality of the *immediate* controlling (shareholder) entity: (a) domestic, (b) foreign (non-tax-haven), (c) tax-haven (foreign), combining the OECD (2000) list and the classification of Tørsløv and others (2018), which is based on Hines and Rice (1994) and adds Belgium and the Netherlands.<sup>12</sup> Below, we report examples of these different cases.

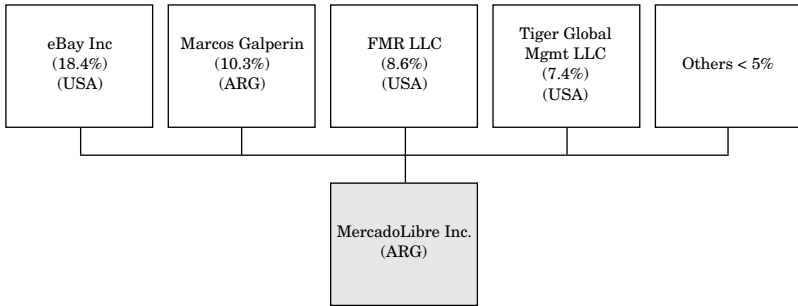
#### 1.3.1 Widely Held (Noncontrolled)

MercadoLibre Inc., an Argentine company operating online marketplaces is an example of a widely held listed corporation, as its largest shareholder, eBay, held below 20 percent of voting rights (18.4 percent). Marcos Galperin, the company's founder, held a 10.3-percent

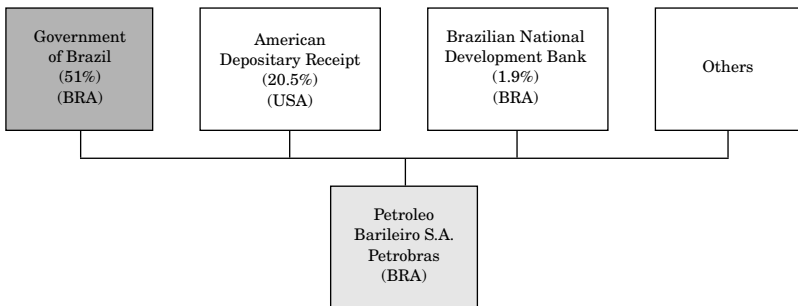
12. The jurisdictions in the union of the two classifications are Andorra, Anguilla, Bahamas, Bahrain, Barbados, Belgium, Belize, Bermuda, British Virgin Islands, Cayman Islands, Curaçao, Cyprus, Gibraltar, Hong Kong SAR China, Ireland, Isle of Man, Jersey, Jordan, Lebanon, Liberia, Liechtenstein, Luxembourg, Macao SAR China, Malta, Marshall Islands, Mauritius, Monaco, Nauru, Netherlands, Panama, Samoa, San Marino, Seychelles, Singapore, St. Kitts & Nevis, St. Lucia, St. Vincent & Grenadines, Switzerland, and Vanuatu.

stake, while the remaining shareholders are mostly American investment companies.

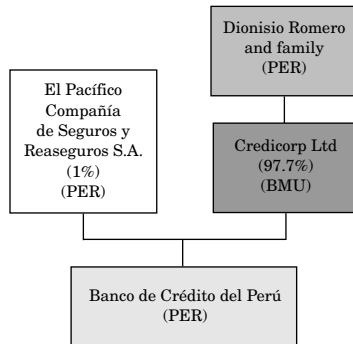
**Figure 1.3.1**



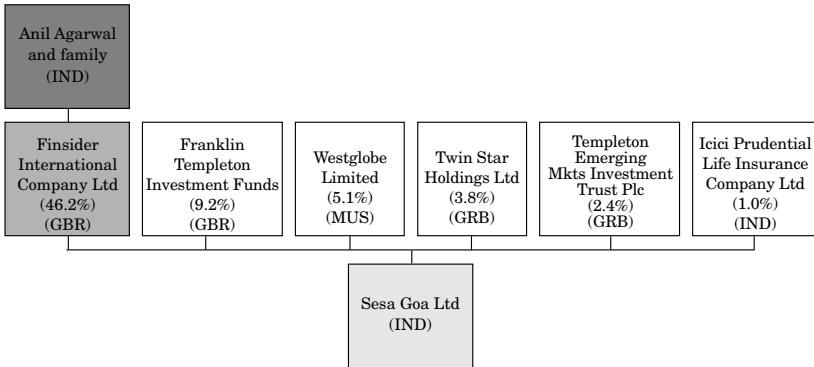
**Figure 1.3.2**



**Figure 1.3.3**



**Figure 1.3.4**



**1.3.2 Domestic Control through Domestic Intermediate or Direct Shareholding**

More often than not, listed firms are controlled by a domestic-entity resident either directly or via a local firm. Petrobras, the Brazilian oil and gas giant is an example. The Brazilian government holds an equity stake of above 50 percent. A 20.5-percent stake exists in the form of an American Depository Receipt, which allows the stock to trade in U.S. financial markets.

**1.3.3 Domestic Control through Tax Haven**

Some firms are controlled by local residents, but the control equity stake goes via an intermediate company, incorporated in financial offshore centres. Banco de Crédito del Perú is an example. The main shareholder, Credicorp Ltd, is incorporated in the Bermuda Islands. This company is in turn owned and controlled by Peruvian citizen Dionisio Romero and his family. A minor stake in the company is held by El Pacifico, a Peruvian insurance company, which is also controlled by Credicorp Ltd.

**1.3.4 Domestic Control through Foreign Entity (Non-Tax-Haven)**

Often locals control domestic listed corporations by using foreign intermediate firms, which are not necessarily incorporated in tax-haven jurisdictions. Sesa Goa Ltd, an Indian mining company, is an

example. The main shareholder is Finsider International Company, a U.K.-based entity, which owns 46.2 percent. Finsider is in turn owned and controlled by Anil Agarwal and his family, also from India. The other main shareholders of Sesa Goa are investment companies from the U.K., Mauritius, and India.

### **1.3.5 Foreign Tax-Haven Control through Domestic Intermediary**

In some cases, firms incorporated in tax havens will have controlling equity stakes in listed corporations by using an intermediate domestic firm. PLDT Communication and Energy Ventures is a listed company on the Philippine Stock Exchange in the communication and energy sectors. In 2012, it was wholly owned by Smart Communications, another Philippine entity, whose controlling shareholder was First Pacific, a Hong-Kong-based and listed investment and management company.

### **1.3.6 Foreign Tax-Haven Control through Foreign Tax-Haven or Direct Shareholding**

It is not uncommon that control exerted by a company in a financial offshore centre is intermediated via a company in another tax-haven jurisdiction. PT Astra International, Tbk. is an Indonesian conglomerate that operates in several sectors, in particular in the automotive industry. Our dataset records a majority stake owned by Jardine Cycle & Carriage, a Singaporean entity, which is ultimately owned by Jardine Strategic Holdings, a Hong-Kong-based entity founded in the 19th century.

**Figure 1.3.5**

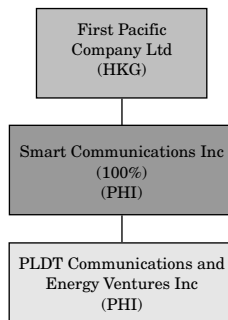


Figure 1.3.6

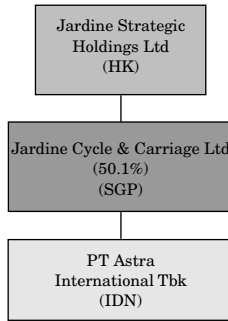
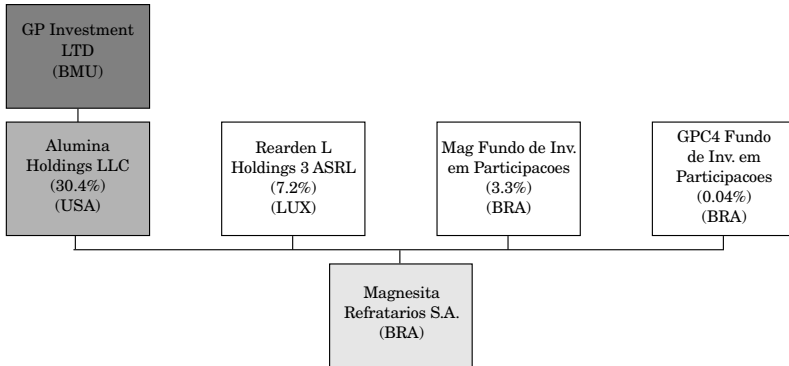


Figure 1.3.7



### 1.3.7 Foreign Tax-Haven Control through Foreign Non-Tax-Haven

Sometimes controlling equity chains operate via many companies, incorporated both in foreign countries and foreign tax-haven jurisdictions. Take, for example, Magnesita Refratários, a Brazilian company in the refractory industry. Its controlling equity stake is held by Alumina Holdings LLC, a Delaware-based entity,<sup>13</sup> but the intermediate firm is owned by GP Investments LTD, a Bermuda-based entity.

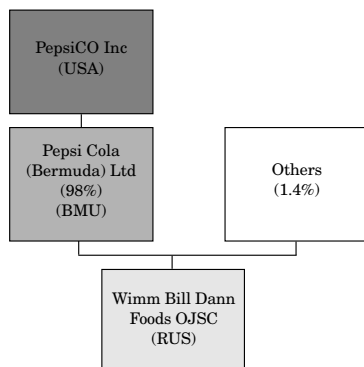
13. Despite the potential classification of Delaware-registered companies as tax-haven companies, our dataset does not allow us to distinguish between different states in the United States.



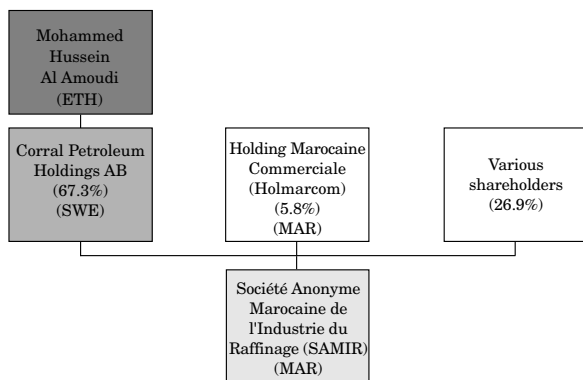
**Figure 1.3.8**



**Figure 1.3.9**



**Figure 1.3.10**



### **1.3.8 Foreign (Non-Tax-Haven) Control through Domestic**

Often foreign controlling shareholders channel their controlling equity positions via domestic firms. For example, Hanjaya Mandala Sampoerna, an Indonesian tobacco company is owned (97 percent-equity stake) via Philip Morris Indonesia PT, the local subsidiary of Philip Morris International.

### **1.3.9 Foreign (Non-Tax-Haven) Control through Tax Haven**

Often large multinationals and other foreign investors will use an intermediary firm incorporated in a tax-haven jurisdiction. Wimm Bill Dann Foods OJSC, a Russian dairy company is controlled by PepsiCo Inc, the American giant, via a Bermuda-incorporated subsidiary, Pepsi Cola Bermuda Ltd.

### **1.3.10 Foreign Non-Tax-Haven Control through Foreign Non-Tax-Haven or Direct Shareholding**

The final group is for firms held through foreign non-tax-haven entities. Société Anonyme Marocaine de l'Industrie du Raffinage (SAMIR) is a Moroccan firm specialised in refining of petroleum products. Our dataset listed Swedish holding company Corral Petroleum Holdings AB as its main shareholder, holding a stake of 67.3 percent. In addition, a Moroccan holding and various other unidentified shareholders are registered. Corral Petroleum is ultimately held by Ethiopian-Saudi billionaire Mohammed Hussein Al Amoudi.

## **1.4 Corporate Control across Countries**

### **1.4.1 Measures**

As we analyse countries, we discuss the construction of international corporate ownership and control statistics across source and destination countries, by using Argentina as an example. We define the following measures of international corporate ownership and control.

- Cross-border Ownership:
  - Value of direct equity stakes by entities from source jurisdiction in public companies of destination jurisdiction (% of voting stake market capitalisation).

- International Corporate Control:
  - Value of listed firms (market capitalisation) ultimately controlled by entities from source jurisdiction in destination jurisdiction.
  - As our focus is on control, we compile four measures:
    - market capitalisation amount (billion U.S. dollars) and share of total market capitalisation;
    - number of companies and share of total listed companies controlled.

### **1.4.2 Example: Argentina**

#### *Companies in Argentina*

Our dataset records 76 companies based in Argentina, 75 of them listed on the local stock exchange, and one listed in the United States, with a total market capitalisation of USD 32 billion in 2012. We classify 71 as controlled, as there is a shareholder (domestic, foreign, or tax-haven) with voting rights in excess of 20 percent. The remaining companies are widely held. The total market capitalisation of controlled firms is USD 26 billion. We assign controlled companies into nine groups (examples above) according to the combination of the ultimate and the main direct shareholder:

- 25 controlled by an Argentine entity, worth USD 13.38 billion.
  - 25 controlled by an Argentine entity through an Argentine entity, worth USD 13.38 billion.
  - 0 controlled by an Argentine entity through a foreign entity.
  - 0 controlled by an Argentine entity through a tax-haven entity.
- 24 controlled by a foreign entity, worth USD 9.54 billion.
  - 10 controlled by a foreign entity through an Argentine entity, worth USD 1.96 billion.
  - 13 controlled by a foreign entity through a foreign entity, worth USD 5.88 billion.
  - 1 controlled by a foreign entity through a tax-haven entity, worth USD 1.7 billion.
- 3 controlled by a tax-haven entity, worth USD 404 million.
  - 1 controlled by a tax-haven entity through an Argentine entity, worth USD 148 million.
  - 2 controlled by a tax-haven entity through a foreign entity, worth USD 256 million.
  - 0 controlled by a tax-haven entity through a tax-haven entity.

- There are 19 domestic listed corporations, worth USD 2.75 billion for which we lack enough information about the nationality of the major entities in the control chain.

#### *Companies controlled by Argentine entities*

Argentine entities (individuals/families, banks, government, industry, nonbank finance) control 30 companies worth USD 14 billion.

- 25 domestic firms, worth USD 13.38 billion
  - 25 domestic firms controlled through a domestic entity, worth USD 13.38 billion.
  - 0 domestic firms controlled through a foreign entity.
  - 0 domestic firms controlled through a tax-haven entity.
- 5 foreign firms, worth USD 662 million
  - 3 foreign firms controlled through a domestic entity, worth USD 353 million.
  - 0 foreign firms controlled through a foreign entity.
  - 2 foreign firms controlled through a tax-haven entity, worth USD 309 million.
- 0 tax-haven firms
  - 0 tax-haven firms controlled through a domestic entity.
  - 0 tax-haven firms controlled through a foreign entity.
  - 0 tax-haven firms controlled through a tax-haven entity.

## 1.5 Comparison with Other Datasets

### 1.5.1 External Wealth of Nations, Lane and Milesi-Ferretti.

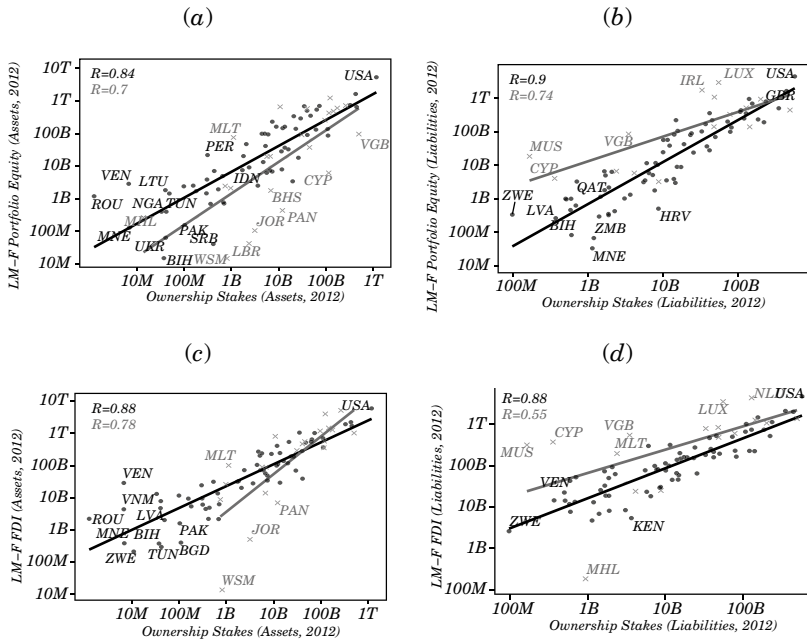
It is instructive to compare the newly compiled country-aggregate stakes in international corporate ownership and control with the widely used data of Lane and Milesi-Ferretti (2007, 2018, 2021) on the external wealth of nations. Relying on multiple sources (individual countries, international organisations such as the IMF, the World Bank, and the Bank for International Settlements, and other research), Lane and Milesi-Ferretti (2007, 2018, 2021) provide annual country-level statistics of external financial assets and liabilities (based on the residence principle) for 212 economies, distinguishing between foreign direct investment (FDI, controlling equity stakes), portfolio investments (bonds and equity), financial derivatives, and foreign exchange reserves (held by the national central banks).

Figure 5 plots the cross-country correlation between the Lane and Milesi-Ferretti portfolio and FDI measures and our statistics of

cross-border ownership stakes (both controlling and noncontrolling) in listed companies in 2012. Panels (a) and (b) compare with Lane and Milesi-Ferretti’s portfolio equity measures, while panels (c) and (d) compare with FDI measures. Panels (a) and (c) look at foreign financial assets, taking a source country (i.e. the owner’s) viewpoint in our data, while panels (b) and (d) examine the correlation between foreign liabilities and ownership stakes at the destination country (i.e. the firm’s). Each panel plots the correlation across non-tax-haven jurisdictions (dark line) and tax havens (light line).

**Figure 5. International Ownership of Listed Corporations vs External Wealth of Nations (Assets and Liabilities), Lane and Milesi-Ferretti (2018, updated in 2021)**

*Comparison between Lane and Milesi–Ferretti database and our sample*



Source: Authors' calculations, and Lane and Milesi-Ferretti (2018, updated in 2021).  
 Note: Values in current U.S. dollar; Positions < 10 M USD dropped. R indicates the correlation coefficient.

**Table 1. Comparison with other Datasets**

	Ownership stakes				
	Assets		Liabilities		Assets in tax havens
	Model 1	Model 2	Model 3	Model 4	Model 5
(Log) LM-F Portfolio Equity (Assets, 2012)	0.820***				
	(0.189)				
(Log) LM-F FDI (Assets, 2012)		1.269***			
		(0.187)			
(Log) LM-F Portfolio Equity (Liabilities, 2012)			0.418***		
			(0.083)		
(Log) LM-F FDI (Liabilities, 2012)				0.559***	
				(0.123)	
(Log) AJZ Total Offshore Wealth (2007)					0.102
					(0.116)
Tax haven	0.180	-1.350**	0.890+	0.494	
	(0.471)	(0.511)	(0.471)	(0.536)	
(Log) GNI per capita	-0.259	-0.408	0.224+	0.293*	1.121***
	(0.458)	(0.299)	(0.121)	(0.125)	(0.196)
(Log) Population	-0.011	-0.222+	0.382***	0.357**	0.981***
	(0.230)	(0.134)	(0.093)	(0.109)	(0.091)
Num. Obs	81	83	84	84	63
Adj. Pseudo R-Sq	0.691	0.860	0.825	0.804	0.941

Source: Authors' calculations.

Note: The table reports cross-country Poisson Pseudo-Maximum Likelihood (PPML) regressions. The PPML was chosen due to the use of a dependent variable in logs with 0 values. The coefficients should be read as elasticities. Columns (1)-(4) compare measures in our dataset with data from Lane and Milesi-Ferretti (2021), while column (5) compares with data from Alstadsæter and others (2018). In columns (1)-(2), the dependent variable is the aggregate value of ownership stakes owned by shareholders of a given country in foreign firms, i.e. assets of the country. In columns (3)-(4), the dependent variable is the aggregate value of ownership stakes owned by foreign shareholders in the public firms of a given country, i.e. liabilities of the country. In column (5), the dependent variable is the aggregate value of ownership stakes owned by shareholders of a given country in companies incorporated in tax havens. Heteroskedasticity-adjusted standard errors are reported below the estimates. +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

The following patterns emerge. First, the two series are strongly correlated across all measures and groups of countries, with the correlation coefficient ranging between  $0.55$  and  $0.78$ , when we set aside financial offshore centres. Second, the correlation is still strong (about  $0.55 - 0.78$ ) even when restricting attention to tax havens, despite evident difficulties in properly measuring ownership and the non-negligible measurement error. Third, the correlations retain their economic and statistical significance when we control for country size, (log) population, and (log) GNI per capita (table 1).

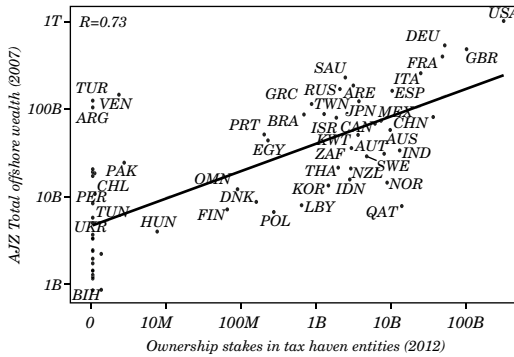
*Alstadsæter and others (2018)*

Data on tax havens are scant, although recently there has been increasing information (Zucman, 2013). Alstadsæter and others (2018) try to approximate countries' total wealth held in financial offshore centres by combining scattered information that has become available. In particular, they merge newly disclosed bilateral data from some prominent offshore centres with data from deposits of foreigners in Swiss banks and "errors and omissions" in aggregate country assets and liabilities to approximate the amount of wealth held offshore.

We thus explored how our estimates of ownership stakes in listed corporations in 2012 channelled via financial offshore centres (from a source-country viewpoint) correlate with their approximation of the total offshore wealth in 2007. Figure 6 plots the cross-country correlation (dropping offshore centres), while column (5) in table 1 reports Poisson Pseudo-Maximum Likelihood estimates. While the unconditional correlation is considerable, it weakens and turns statistically indistinguishable from zero once we simply condition on population and GNI (Gross National Income) per capita. There are some important differences between the two series, which future research should delve into. Our corporate ownership of listed companies' data suggests a very small use of financial offshore centres in Turkey, Venezuela, Argentina, and Pakistan; this is however not the case in the estimates of Alstadsæter and others (2018), which however mostly reflect cross-border bank holdings and deposits.

**Figure 6. Comparison with Estimates of Wealth Data in Tax Havens. Alstadsæter and Others (2018)**

*Comparison between Alstadsæter, Johannesen, and Zucman (2018) and our sample*



Source: Authors' calculations, and Alstadsæter, Johannesen, and Zucman (2018).  
 Note: Values in current U.S. dollars indicate the correlation coefficient.

## 2. INTERNATIONAL CORPORATE CONTROL PATTERNS. CROSS-BORDER LINKS

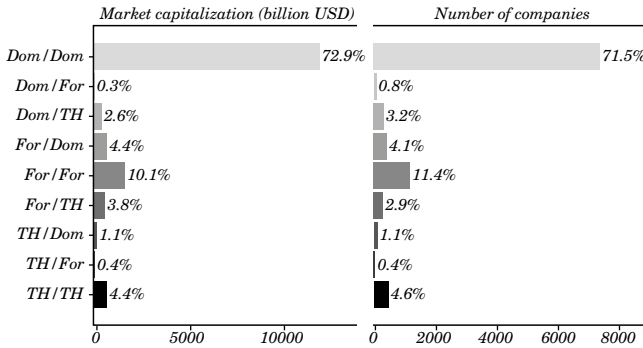
This section presents the main patterns of the internationalisation of corporate control by using the newly assembled data. First, we present the main patterns of cross-border corporate control in 2012. Second, we examine differences across income and explore the role of country size.

### 2.1 Cross-Border Corporate Control. Main Patterns

Figure 5 plots the breakdown of controlled firms across the nationality of the ultimate shareholder and the immediate shareholding entity across the world. The controlling shareholder in the majority of firms, about 75 percent, is a domestic entity (family/individual, government, banks), telling of a strong home bias. Non-domestic entities, located in a foreign country or a tax-haven jurisdiction, control about 25 percent. The most common control chain is domestic, but there is significant control exerted through foreign entities, including tax havens. The usage of tax haven as the direct shareholder is used in the same order of magnitude by domestic and foreign controllers.



**Figure 7. Share of the Different Types of Control Chains among Controlled Firms, Worldwide**



Source: Authors' calculations.

Dom indicates a domestic shareholder or controlled.

For indicates a foreign non-tax haven.

TH indicates a foreign tax haven. E.g. Dom / TH indicates that the controller is domestic, and the main shareholder is from a foreign tax haven.

Figures 6 and 7 plot the share of total market capitalisation of controlled firms, by the three types of the controlling shareholder entity: domestic, foreign, and foreign tax-haven for each jurisdiction, grouped by income level. Foreign control differs considerably across the world.

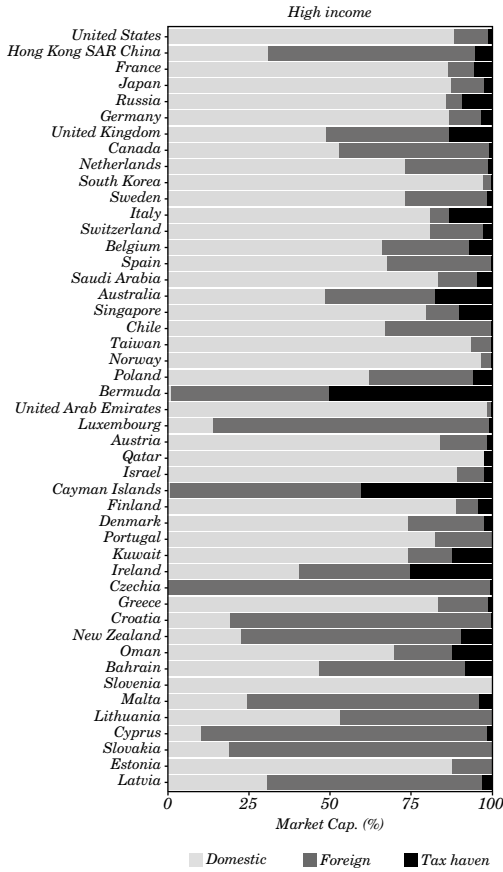
- Foreign control of listed corporations (a shareholder holding more than 20 percent voting rights) exceeds percent, sometimes significantly, in many African countries, like South Africa, Morocco, Nigeria, Kenya, Tunisia, Côte d'Ivoire, and Ghana, and parts of the former transition countries in Eastern Europe, like Czechia, Romania, Slovakia, Croatia, Serbia, Montenegro, Latvia, Bulgaria, and Ukraine.

- Control by foreign shareholding entities hovers between around percent and around percent in large emerging markets, like Brazil, Indonesia, Thailand, Malaysia, Turkey, Philippines, and Egypt, and among high-income countries in the United Kingdom, Canada, Australia, Ireland, Sweden, Spain, Chile, and Poland.

- Foreign control is low in countries across regions and income levels, such as China, Colombia, the United States, the United Arab Emirates, Qatar, South Korea, and Norway.

Appendix tables 6 and 7 provide the detailed statistics of corporate control across the 86 destination countries, distinguished by the nationality of the immediate and the controlling shareholder.

**Figure 8. Nationality of Controllers in High-Income Countries**

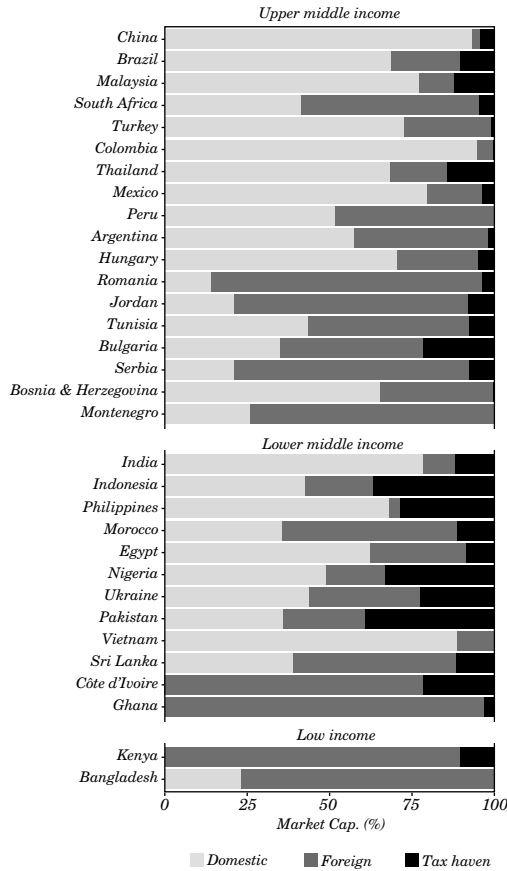


Only jurisdictions with at least 10 controlled companies are shown.

Source: Authors' calculations.

Note: Only jurisdictions with at least 10 controlled companies are shown.

**Figure 9. Nationality of Controllers in Non-High-Income Countries**



Only jurisdictions with at least 10 controlled companies are shown.

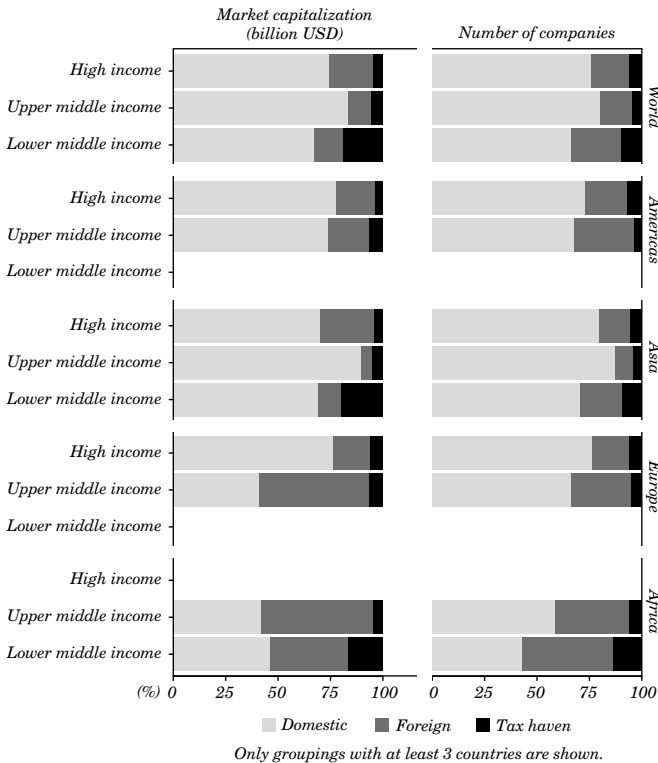
Source: Authors' calculations.

Note: Only jurisdictions with at least 10 controlled companies are shown.

## 2.2 Income, Population, and International Corporate Control

Figure 10 aggregates the nationality of the controller at the continent and income group levels. International control is higher in lower-middle-income countries, as compared to high and upper-middle-income nations. Foreign control is particularly frequent in middle-income countries in (Eastern) Europe and Africa.

**Figure 10. Nationality of Controller across Continent and Income Levels**



Source: Authors' calculations.  
 Note: Only groupings with at least three countries are shown.

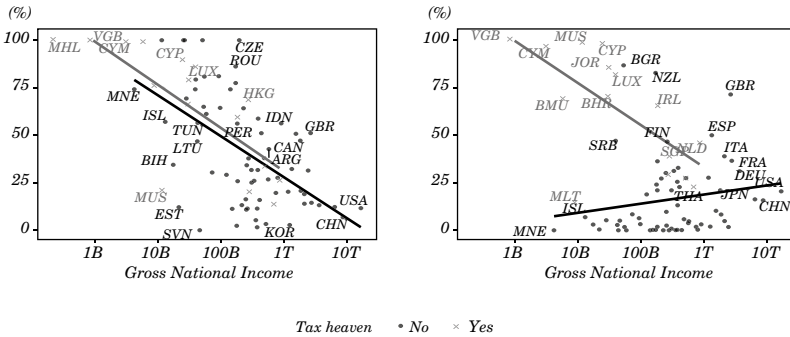
To explore more formally the correlation between country control internationalisation and income, we run simple cross-country regressions linking the share of controlled firms (in terms of market capitalisation and number of companies) with development, as proxied by (log) income (per capita) and (log) population.<sup>14</sup>

14. Numerous studies show that size, besides trade in goods, is also related to capital flows and holdings, such as foreign direct investment and bank lending (e.g. Alfaro and others, 2008). Rose and Spiegel (2004) connect trade and asset flows, while Hau and Rey (2008) develop a risk-diversification model stressing the role of size. While we do not run country-pair regressions (as in Fonseca and others, 2022), exploiting the bilateral nature of our data, we distinguish between companies incorporated into destination countries and the positions of controlling shareholders from source countries.

**Figure 11. Size and Cross-Border Corporate Control**

(a) Destination Share of market cap of local firms controlled by foreigners relative to all controlled local

(b) Source Share of market cap of firms controlled abroad relative to all firms controlled by country



Source: Authors' calculations.

Note: Panel A plots the share of the total market capitalisation in all controlled firms at destination controlled by foreign entities (individuals, families, banks, financial institutions, and so on) against countries' GNI. Panel B plots the share of the total market capitalisation in all firms, controlled and widely held, at destination against GNI. Square dots indicate tax-haven jurisdictions.

Table 2 panel A gives the results of linking openness in corporate control and ownership and size from a destination-country viewpoint, i.e. the jurisdiction of the listed company. Columns (1)–(2) look at the market capitalisation of controlled companies by foreigners as the share of the total market capitalisation of controlled firms, while in columns (5)–(6), the dependent variable is the share of the number companies controlled by foreign entities firms relative to the total number of listed controlled firms. Columns (3)–(4) and (7)–(8) examine the link between corporate ownership and size, looking at ownership links by foreign entities in public corporations in destination, not necessarily linked to control. Size is a strong correlate of the internationalisation of corporate control, as both (log) GNI (incl. per capita) and log (population) enter with significantly negative estimates, revealing that foreign control is more prevalent in smaller countries. Figure 9 panel A illustrates the strong inverse relation between cross-border corporate control and the size of the economy. This result echoes the inverse link between trade (exports and imports) and financial openness (capital inflows and outflows), and size, development, and population.

**Table 2. Size, Development, and Cross-Border Corporate Control and Ownership**

	<i>Panel (A) Destination</i>							
	Market Cap				Number of companies			
	Share of foreign-controlled firms in all controlled firms	Share of stakes in foreign firms among all recorded stakes	Share of foreign-controlled firms in all controlled firms	Share of foreign firms in all firms with a stake				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Log GNI	-0.099*** (0.010)		-0.073*** (0.010)		-0.072*** (0.011)		-0.051+ (0.026)	
Log GNI per cap.		-0.132*** (0.025)		-0.111*** (0.022)		-0.065*** (0.018)		0.030 (0.043)
Log Population		-0.084*** (0.012)		-0.062*** (0.012)		-0.058*** (0.011)		-0.058* (0.027)
Num. Obs	85	85	85	85	85	85	85	85
Adjusted R <sup>2</sup>	0.406	0.448	0.282	0.346	0.290	0.430	0.030	0.164
Fixed Effects	Continent		Continent		Continent		Continent	

Source: Authors' calculations.

Note: The table reports cross-country OLS regressions from the perspective of the destination country, i.e. the incorporation country of a company. Columns (1)–(4) refer to measures with market capitalisation. Columns (5)–(8) refers to measures of the number of companies. The dependent variable in columns (1)–(2) is the share of the market capitalisation of foreign-controlled firms in all controlled firms in a country. The dependent variable in columns (3)–(4) is the share of the value of ownership stakes held by foreign entities in a country. The dependent variable in columns (5)–(6) is the share of the number of foreign-controlled firms in all controlled firms in a country. The dependent variable in columns (7)–(8) is the share of the number of firms that have at least one foreign entity as a shareholder. Specifications include continental fixed effects when indicated (constants not reported). Heteroskedasticity-adjusted standard errors are reported below the estimates. + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

Table 2 panel B reports the results taking a source-country viewpoint, i.e. the jurisdiction of the controller/shareholder. The dependent variable in columns (1)–(2) (and (5)–(6)) is the share of market capitalisation (number of) controlled companies abroad in the total of all companies controlled by entities of the source countries. Columns (3)–(4) and (7)–(8) repeat the analysis by looking at ownership links abroad (in terms of market capitalisation and the number of firms), without necessarily a controlling stake. Motivated by the pattern in panel B of figure 9, which shows strikingly different patterns for tax havens, we include a tax-haven dummy and its interaction with GNI. Overall, the size of the economy appears negatively correlated, but this is mainly driven by tax havens, and smaller tax havens in

particular. Once these factors are controlled for, we see that (Log) GNI per capita enters with a significantly positive estimate showing that residents in rich countries hold relatively larger equity stakes abroad, both controlling and passive, while population is not a significant predictor.

**Table 2. Size, Development, and Cross-Border Corporate Control and Ownership**

<i>Panel (B) Source</i>								
	Market Cap				Number of companies			
	Share of foreign-controlled firms in all controlled firms	Share of stakes in foreign firms among all recorded stakes	Share of foreign-controlled firms in all controlled firms	Share of foreign firms in all firms with a stake				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Log GNI	-0.049*		-0.077***		-0.031		-0.064***	
	(0.021)		(0.018)		(0.019)		(0.014)	
Log GNI per cap.		0.054*		0.082***		0.087***		0.103***
		(0.023)		(0.021)		(0.017)		(0.021)
Log Population		0.025		0.002		0.019+		0.002
		(0.015)		(0.013)		(0.011)		(0.014)
Tax haven		2.029***		1.339***		1.248**		1.037***
		(0.511)		(0.361)		(0.383)		(0.266)
Tax haven X Log GNI		-0.143***		-0.078*		-0.080*		-0.056*
		(0.040)		(0.032)		(0.032)		(0.023)
Num. Obs	78	78	89	89	78	78	89	89
Adjusted R <sup>2</sup>	0.091	0.537	0.231	0.678	0.050	0.644	0.184	0.691
Fixed Effects			Continent					Continent

Source: Authors' calculations.

Note: The table reports cross-country OLS regressions from the perspective of the source country, i.e. the shareholder or controller of a company. Columns (1)–(4) refer to measures with market capitalisation. Columns (5)–(8) refers to measures of the number of companies. The dependent variable in columns (1)–(2) is the share of the market capitalisation of foreign-controlled firms in all controlled firms in a country. The dependent variable in columns (3)–(4) is the share of the value of ownership stakes held by foreign entities in a country. The dependent variable in columns (5)–(6) is the share of the number of foreign-controlled firms in all controlled firms in a country. The dependent variable in columns (7)–(8) is the share of the number of firms that have at least one foreign entity as a shareholder. Specifications include continental fixed effects when indicated (constants not reported). Heteroskedasticity-adjusted standard errors are reported below the estimates. +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

### **3. TAX HAVENS IN INTERNATIONAL CORPORATE CONTROL**

We now zoom in on the role of tax havens in international corporate control. First, we present the major patterns across all sample countries. Second, we examine differences across income group and market size.

#### **3.1 Country Patterns on Tax-Haven Usage**

Figure 10 depicts the percentage of total market capitalisation (i.e. including noncontrolled widely held listed firms) in each country where either the controlling entity or the main direct shareholder (or both) are from or incorporated in a tax-haven jurisdiction. There is wide variation in the use of tax-haven entities.

- Tax-haven use is the highest in Eastern Europe, especially in Bulgaria, Ukraine, Serbia, Latvia, and Russia.

- The use of tax-haven-incorporated intermediate vehicles is also considerable for exercising control in many African countries, mostly in Ghana, Zambia, Nigeria, Côte d'Ivoire, and Zimbabwe.

- Tax-haven jurisdiction vehicles are used widely to control listed firms in Indonesia, Pakistan, the Philippines, and other East Asian countries.

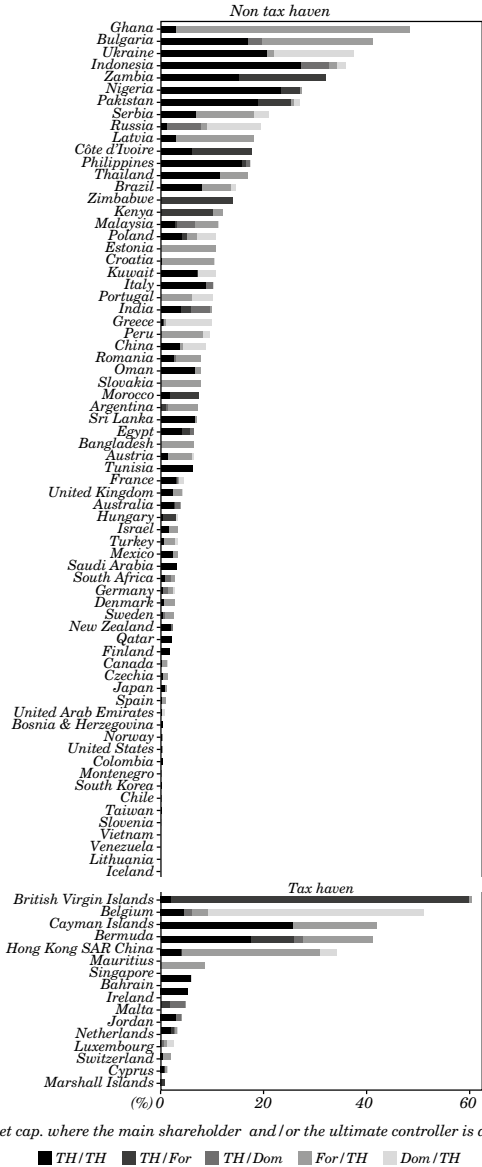
- In a few countries, domestic entities, including families and individuals, hold controlling equity stakes in firms listed in the local stock exchange by using intermediate firms incorporated in tax-haven jurisdictions. This pattern is higher in Ukraine, Russia, Greece, and Serbia, as well as in China.

- The use of intermediate firms to exercise control is smaller in countries from a wide range of regions.

- The exercise of control by or via tax-haven-incorporated vehicles appears quite low in the United States. However, while going through manual checks, we observe entities incorporated in Delaware, which has been considered a tax haven (Michel, 2021). Unfortunately, our data do not allow us to distinguish the state of incorporation.



**Figure 12. Tax-Haven-Incorporated Vehicles in Corporate Control Chain across Countries**



Source: Authors' calculations.

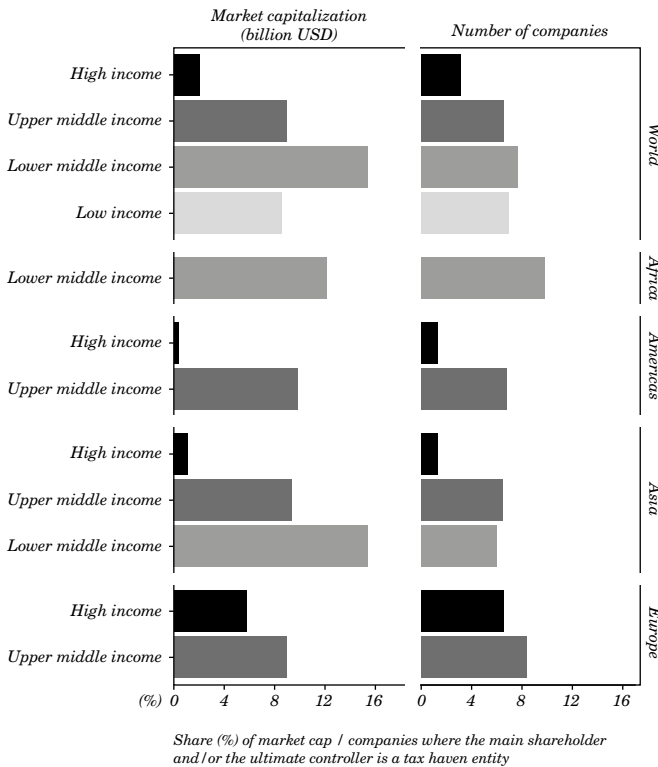
Dom indicates a domestic shareholder or controlled. For indicates a foreign non-tax haven.

TH indicates a foreign tax haven. E.g. Dom / TH indicates that the controller is domestic, and the main shareholder is from a foreign tax haven.

### 3.2 Differences across Income Group and Size Effects

As in the earlier section, we also examine the role of income and market size in explaining the considerable differences in the use of tax-haven entities in corporate control, either as intermediate vehicles or as ultimate owners. Figure 11 tabulates aggregations at the continent- and income-group levels, excluding public companies directly incorporated in tax havens. In general, lower-income countries have a higher percentage of tax-haven usage in the corporate control chains.

**Figure 13. Share of Market Capitalisation and Number of Listed Companies Where the Main Shareholder and/or the Ultimate Controller is an Entity, Incorporated in a Financial Offshore (Tax-Haven) Jurisdiction, across Income Groups and Continents**



Source: Authors' calculations.

Note: Only groupings with at least 3 countries are shown. Companies from tax-haven jurisdictions are not counted.

While our focus is not delving into the drivers of tax-haven use, we estimated simple cross-country specifications to further understand the role of market size. Table 1 shows cross-country regression results, associating the use of tax-haven-incorporated firms in the control chain to log population and log GNI per capita. As there are evident regional differences, the specifications include continental constants. For these results, we drop countries classified as tax havens to focus on the usage of offshores in non-tax-haven countries. In columns (1)–(4) we take a ‘destination’-country viewpoint, i.e. the country of the public company. The dependent variable in (1)–(2) is the share of domestic market capitalisation and, in (3)–(4), of the listed firms where control passes via companies incorporated in tax havens (the categories shown in figure 10) to the total market capitalisation and number of controlled firms in the local stock market. The estimate on log GNI per capita is negative and highly significant, while the coefficient on log population is both small and statistically indistinguishable from zero. In line with the income-group tabulations, there is some evidence that corporate control in relatively low-income countries operates often by or via entities incorporated in tax havens. The dependent variables in (5)–(8) take a ‘source’-country perspective, i.e. what the share of tax-haven usage is in the companies controlled by entities from the source country. The estimates for GNI per capita and population are not precise enough to conclude that there is a strong relation with the use of tax havens to control firms.

**Table 3. Size (Population and Income) and the Use of Tax Havens in International Corporate Control**

	Destination				Source			
	Market Cap.		Num. Companies		Market Cap.		Num. Companies	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Log GNI	-0.008 (0.007)		-0.004 (0.004)		0.004 (0.008)		-0.001 (0.006)	
Log GNI per cap.		-0.041** (0.012)		-0.024** (0.008)		-0.025 (0.024)		-0.025 (0.021)
Log Population		0.006 (0.008)		0.005 (0.005)		0.012 (0.007)		0.005 (0.006)
Num. Obs	66	66	66	66	46	46	46	46
Adjusted R <sup>2</sup>	0.043	0.241	0.053	0.220	-0.017	0.078	-0.055	0.048
Fixed Effects	Continent		Continent		Continent		Continent	

Source: Authors' calculations.

Note: The table reports cross-country OLS regressions. The dependent variable in columns (1)–(2) and (3)–(4) is the share of controlled firms at destination where control is exercised by or via firms incorporated in financial offshore (tax-haven) jurisdictions. The dependent variable in columns (5)–(6) and (7)–(8) is the share of controlled firms at source country where control is exercised via firms incorporated in financial offshore (tax-haven) jurisdictions. All specifications include continental fixed effects (constants not reported). Heteroskedasticity-adjusted standard errors are reported below the estimates. + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

#### 4. CONCLUSION

Drawing on our parallel work (Fonseca and others, 2022), and the extension, update, and cleaning of the ORBIS data on corporate ownership in Aminadav and Papaioannou (2020), we provide an anatomy of corporate control across more than 25,000 public companies in 2012. Our global mapping of corporate control distinguishes between three nationality types of the immediate shareholder and ultimate controlling entities (domestic, foreign, and foreign tax-haven), and the various types of entities in ownership structures.

The first part of our descriptive analysis reveals considerable differences in cross-border corporate control across countries of company incorporation on one hand, and listed traded exchange (destination) and sizable variation across the main shareholder's countries (source), on the other. International corporate control is

relatively high in Eastern Europe and Africa, where foreigners control the majority of listed companies and market capitalisation, but lower in Latin America and East Asia. There are also non-negligible differences even across nearby countries. Control by foreign entities is less significant in larger economies, mirroring the international trade and capital flow patterns. In addition, shareholder entities from wealthier jurisdictions own and control a larger share of holdings abroad.

In the second part of our analysis, we zoom in on financial offshore centres, whose role has come into scrutiny given the recent policy efforts to tax international investors and enhance transparency. We document the importance of shareholder entities in offshore financial centres as conduits of international control. We discuss the wide heterogeneity in the usage of tax havens across and within continents. In some instances, domestic residents use tax-haven-incorporated shells to channel their controlling stakes in domestic listed companies. The use of tax-haven-incorporated vehicles is larger in lower-income economies.

Our mapping of cross-border corporate control raises questions that our ongoing research (Fonseca and others, 2022) examines. First, updating the data backward and forward will allow examining the dynamics of cross-border corporate control and the use of tax-haven-incorporated conduits. Second, a thorough analysis of the drivers of cross-border control is needed, looking at the role of taxation, political institutions, investor protection, and more. Third, by exploring the country-pair structure, we examine the role of cultural, political, and economic ties, the impact of bilateral investment, and trade treaties, also distinguishing by investor type.

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## APPENDIX

## Additional Tables

**Table A.1 Matrix of Ownership Stakes between Countries from the G7, BRICS, and MINT**  
(in billion U.S. dollars)

Located/Owned	BRA	CAN	CHN	FRA	DEU	IND	IDN	ITA	JPN	MEX	NGA	RUS	ZAF	TUR	GBR	USA
Brazil	320	1		4	1			1	1	2					7	39
Canada	0	229	3	1	0	3	0	0		0	0	1	0	0	17	58
China	0	1,377	7	2	0	0	0	0	1				0	0	11	47
France	0	0	2	624	35	0		10	5				0	0	7	62
Germany	1	3	21	349				4	0			0	0	0	6	69
India	0	1	1	10	477	0	0	0	3				0		42	23
Indonesia	0		0	0	5	0	106		1	0				0	11	0
Italy	0	0	0	7	2			170	0			0	0	0	4	18
Japan	0		0	25	6	0	0	0	717						6	65
Mexico	0		0					0		89					1	21
Nigeria	0		0	1	0			0			12		0	0	2	0
Russia	0		0	16	4				0			400			6	55
South Africa	1	4	0	0	1	0							120		47	26
Turkey				3	2			6	1					119	5	12
United Kingdom	2	0	39	22	0	0	1	0	13	0	6	5			486	223
United States	1	47	2	200	159	0	2	6	3	0	1	2			33	4,340

Source: Authors' calculations.

**Table A.2 Matrix of Controlled Market Capitalisation between Countries from the G7, BRICS, and MINT**  
(in billion U.S. dollars)

Located/Owned	BRA	CAN	CHN	FRA	DEU	IND	IDN	ITA	JPN	MEX	NGA	RUS	ZAF	TUR	GBR	USA
Brazil	379	1	3	26	0			4		0					26	9
Canada	0	203	8	1	0	11	0	0	2	0	0	4	0	0	20	127
China			2,300	12				1	3			1			24	1
France	0			712	45			5							3	2
Germany		1		10	419	0		9	3						5	10
India				2	31	645		0	12						11	20
Indonesia				1	7	1	116		1					0	2	27
Italy				0				252	0			0				4
Japan			0	53	5	0	0	0	695						2	17
Mexico			0							119						2
Nigeria			0	0	0						12		0		4	0
Russia				5	5			2				594			0	5
South Africa			0	1	1	3							75		66	27
Turkey	0			3	2			13				4		127	1	6
United Kingdom			3	0	72	1	5	1	0	1	16	6	1		198	31
United States	0	36	1	15	17			1	100	27	1	1			31	1,959

Source: Authors' calculations.

**Table A.3 Market Capitalisation of Firms from each Jurisdiction According to the Nationality of the Control Chain**

	Market Capitalisation (USD bn)													
	Nationality of control chain (ultimate controller & main shareholder)													
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	FA	
United States	14,453	12,195	2,257	1,955	1	1	132	90	13	2	5	16	42	
<b>China</b>	<b>2,933</b>	<b>310</b>	<b>2,623</b>	<b>2,154</b>	<b>0</b>	<b>120</b>	<b>19</b>	<b>30</b>	<b>14</b>	<b>4</b>	<b>0</b>	<b>97</b>	<b>186</b>	
Japan	2,573	1,661	912	668	6	0	10	60	8	0	1	17	142	
United Kingdom	2,373	1,965	409	195	1	0	38	73	42	2	0	51	7	
France	1,448	555	893	696	0	15	16	50	1	4	2	39	70	
Canada	1,373	981	392	199	0	4	8	158	11	1	0	2	9	
Hong Kong SAR China	1,249	233	1,015	266	5	41	188	121	331	0	0	49	14	
Switzerland	1,182	753	430	248	0	1	35	9	6	1	1	6	122	
Germany	1,152	667	486	413	0	3	18	18	10	13	0	3	7	
Australia	1,067	840	228	106	0	0	23	49	2	10	2	27	10	
<b>India</b>	<b>1,011</b>	<b>188</b>	<b>822</b>	<b>591</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>67</b>	<b>2</b>	<b>36</b>	<b>18</b>	<b>36</b>	<b>67</b>	
South Korea	847	490	357	340	4	0	3	5	0	0	0	1	3	
Russia	798	106	692	489	9	82	8	19	8	53	0	8	16	
<b>Brazil</b>	<b>713</b>	<b>152</b>	<b>561</b>	<b>364</b>	<b>3</b>	<b>6</b>	<b>59</b>	<b>18</b>	<b>38</b>	<b>0</b>	<b>1</b>	<b>55</b>	<b>17</b>	
Netherlands	640	267	373	263	0	8	15	76	5	3	0	0	2	
Spain	487	257	230	156	0	0	23	47	4	0	0	0	0	
Sweden	458	139	320	233	0	0	2	71	7	3	0	1	3	
<b>South Africa</b>	<b>422</b>	<b>240</b>	<b>182</b>	<b>75</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>93</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>3</b>	<b>2</b>	

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.3 Market Capitalisation of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

		Market Capitalisation (USD bn)												
		Nationality of control chain (ultimate controller & main shareholder)												
		1	2	3	4	5	6	7	8	9	10	11	12	13
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	FA	FA
Taiwan	421	237	185	171	0	0	1	11	0	0	0	0	0	2
Italy	407	96	311	249	1	0	14	5	0	6	0	35	3	
Singapore	383	157	225	145	19	0	2	18	1	0	0	21	20	
<b>Malaysia</b>	<b>368</b>	<b>164</b>	<b>204</b>	<b>150</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>16</b>	<b>13</b>	<b>2</b>	<b>9</b>	<b>9</b>	
Saudi Arabia	342	116	227	182	0	0	3	24	0	0	0	10	8	
<b>Indonesia</b>	<b>310</b>	<b>34</b>	<b>276</b>	<b>104</b>	<b>1</b>	<b>5</b>	<b>30</b>	<b>18</b>	<b>4</b>	<b>16</b>	<b>0</b>	<b>79</b>	<b>16</b>	
Belgium	305	32	273	53	0	127	4	60	9	5	0	14	2	
<b>Mexico</b>	<b>272</b>	<b>92</b>	<b>180</b>	<b>119</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>30</b>	
Chile	270	62	208	129	1	0	5	58	0	0	0	0	16	
<b>Turkey</b>	<b>236</b>	<b>55</b>	<b>181</b>	<b>126</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>37</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>	
Norway	225	76	148	143	0	0	0	4	0	0	0	0	0	
<b>Thailand</b>	<b>205</b>	<b>43</b>	<b>162</b>	<b>110</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>1</b>	
<b>Colombia</b>	<b>195</b>	<b>25</b>	<b>170</b>	<b>161</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Denmark	176	138	38	28	0	0	4	2	4	0	0	1	0	
Bermuda	173	77	96	1	0	0	0	22	23	3	14	30	2	
Ireland	145	116	29	11	0	0	0	9	0	4	2	0	3	
Poland	144	18	126	72	0	5	1	37	3	0	2	6	0	
Finland	126	73	53	43	1	0	0	3	0	0	0	2	3	

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.3 Market Capitalisation of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

		Market Capitalisation (USD bn)												
		Nationality of control chain (ultimate controller & main shareholder)												
		1	2	3	4	5	6	7	8	9	10	11	12	13
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	FA	FA
<b>Philippines</b>	<b>48</b>	<b>74</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>19</b>	<b>0</b>		
Luxembourg	24	87	12	0	0	4	69	2	0	0	1	0		
United Arab Emirates	19	92	90	0	1	0	1	0	0	0	0	0		
Israel	41	69	60	0	0	0	3	2	0	0	2	1		
Cayman Islands	32	69	0	0	0	3	16	14	0	0	0	22	14	
Austria	13	80	65	0	0	6	1	4	0	0	1	2		
<b>Peru</b>	<b>21</b>	<b>69</b>	<b>33</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>21</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>		
Qatar	9	78	75	0	0	0	0	0	0	0	2	2		
<b>Morocco</b>	<b>20</b>	<b>36</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>		
Kuwait	23	32	22	0	2	0	4	0	0	0	4	0		
Portugal	8	43	25	0	2	0	3	2	0	0	0	11		
<b>Egypt</b>	<b>10</b>	<b>30</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>		
New Zealand	39	10	2	1	0	1	5	0	0	0	1	0		
<b>Argentina</b>	<b>6</b>	<b>26</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>		
<b>Nigeria</b>	<b>6</b>	<b>25</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>0</b>		
Greece	10	19	12	1	3	0	3	0	0	0	0	0		
<b>Ukraine</b>	<b>2</b>	<b>21</b>	<b>5</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>2</b>		
<b>Jordan</b>	<b>15</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.3 Market Capitalisation of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

		Market Capitalisation (USD bn)												
		Nationality of control chain (ultimate controller & main shareholder)												
1	2	3	4	5	6	7	8	9	10	11	12	13		
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA		
Czechia	22	0	22	0	0	0	21	0	0	0	0	0	1	
<b>Vietnam</b>	<b>21</b>	<b>12</b>	<b>9</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Croatia	20	2	18	3	0	0	7	6	2	0	0	0	0	
<b>Hungary</b>	<b>19</b>	<b>8</b>	<b>11</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	
<b>Pakistan</b>	<b>18</b>	<b>6</b>	<b>12</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>2</b>	
Oman	17	8	9	7	0	0	0	1	0	0	0	1	0	
Bahrain	15	4	11	4	0	0	0	4	0	0	0	1	3	
British Virgin Islands	14	5	9	0	0	0	0	0	0	0	8	0	0	
<b>Romania</b>	<b>14</b>	<b>3</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Bangladesh</b>	<b>12</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	
<b>Venezuela</b>	<b>11</b>	<b>2</b>	<b>8</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Kenya</b>	<b>8</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	
<b>Sri Lanka</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Tunisia</b>	<b>7</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Slovenia	6	1	5	5	0	0	0	0	0	0	0	0	0	
Iceland	6	1	4	2	0	0	2	0	0	0	0	0	0	
Cyprus	5	2	4	0	0	0	3	0	0	0	0	0	0	
Lithuania	4	1	4	2	0	0	0	2	0	0	0	0	0	

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.3 Market Capitalisation of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

		Market Capitalisation (USD bn)													
		Nationality of control chain (ultimate controller & main shareholder)													
		1	2	3	4	5	6	7	8	9	10	11	12	13	
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA			
<b>Bulgaria</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	
<b>Marshall Islands</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Malta	4	0	4	1	0	0	2	0	0	0	0	0	0	0	
Slovakia	4	1	3	1	0	0	2	0	0	0	0	0	0	0	
<b>Serbia</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Bosnia &amp; Herzegovina</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Mauritius</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Cote d'Ivoire</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Zambia</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Montenegro</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Estonia	2	0	2	1	0	0	0	0	0	0	0	0	0	0	
<b>Ghana</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Latvia	1	0	1	0	0	0	0	0	0	0	0	0	0	0	
<b>Zimbabwe</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Total</b>	<b>41,345</b>	<b>24,016</b>	<b>17,329</b>	<b>11,978</b>	<b>57</b>	<b>434</b>	<b>716</b>	<b>1,657</b>	<b>623</b>	<b>184</b>	<b>69</b>	<b>723</b>	<b>889</b>		

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.4 Number of Firms from each Jurisdiction According to the Nationality of the Control Chain**

	Number of companies												
	Nationality of control chain (ultimate controller & main shareholder)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	TA
United States	4,246	3,095	1,151	795	4	6	17	71	7	2	3	15	231
Canada	1,862	1,388	474	208	5	7	16	105	17	1	0	16	99
<b>China</b>	<b>1,659</b>	<b>450</b>	<b>1,209</b>	<b>797</b>	<b>0</b>	<b>57</b>	<b>8</b>	<b>19</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>23</b>	<b>294</b>
Japan	1,446	760	686	564	5	0	13	27	6	1	1	5	64
<b>India</b>	<b>1,317</b>	<b>669</b>	<b>648</b>	<b>332</b>	<b>6</b>	<b>4</b>	<b>11</b>	<b>62</b>	<b>11</b>	<b>10</b>	<b>4</b>	<b>15</b>	<b>192</b>
Australia	1,314	1,009	305	144	2	3	28	51	12	3	1	16	45
United Kingdom	1,252	995	257	108	2	3	17	47	11	1	0	11	57
Taiwan	940	796	144	120	0	0	3	10	0	0	0	3	8
South Korea	798	507	291	250	1	0	4	17	0	0	0	4	15
France	772	247	525	333	3	10	14	16	8	7	2	28	104
Germany	681	208	473	300	2	7	33	47	20	18	1	20	25
Hong Kong SAR China	671	270	401	65	2	61	22	46	51	2	1	66	85
Poland	622	230	392	262	4	44	7	35	11	1	1	19	8
<b>Malaysia</b>	<b>516</b>	<b>227</b>	<b>289</b>	<b>220</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>11</b>	<b>5</b>	<b>7</b>	<b>1</b>	<b>13</b>	<b>23</b>
Singapore	464	218	246	89	3	2	9	43	4	0	0	14	82
Israel	435	160	275	252	0	2	2	4	2	1	0	3	9
Russia	432	90	342	262	5	35	2	6	4	8	0	7	13
Sweden	325	184	141	94	1	1	5	22	1	2	0	2	13

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.



**Table A.4 Number of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

	Number of companies												
	Nationality of control chain (ultimate controller & main shareholder)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Total	Noncontrolled	Controlled DD	DF	DT	FD	FN	FT	TD	TF	TT	FA		
<b>Turkey</b>	<b>294</b>	<b>69</b>	<b>225</b>	<b>153</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>19</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>34</b>
<b>Brazil</b>	<b>273</b>	<b>78</b>	<b>195</b>	<b>118</b>	<b>2</b>	<b>1</b>	<b>24</b>	<b>15</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>24</b>
Switzerland	269	132	137	87	1	3	8	19	4	1	1	5	8
Italy	260	79	181	148	4	6	4	4	1	4	0	5	5
<b>Indonesia</b>	<b>244</b>	<b>50</b>	<b>194</b>	<b>103</b>	<b>2</b>	<b>5</b>	<b>7</b>	<b>22</b>	<b>5</b>	<b>7</b>	<b>0</b>	<b>14</b>	<b>29</b>
Greece	224	52	172	138	4	7	2	6	2	2	1	1	9
<b>South Africa</b>	<b>202</b>	<b>123</b>	<b>79</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>16</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>11</b>
Norway	197	117	80	60	0	1	2	9	1	0	0	4	3
Chile	179	59	120	72	1	0	12	13	0	1	0	1	20
Spain	178	89	89	66	0	1	3	13	2	0	0	1	3
Croatia	167	65	102	64	1	1	13	15	4	0	0	1	3
Bermuda	158	73	85	2	0	1	2	15	11	2	2	35	15
Belgium	156	58	98	49	0	7	6	13	2	3	0	6	11
Kuwait	153	72	81	67	0	7	0	3	0	1	1	1	1
Denmark	151	98	53	33	0	1	6	5	1	0	1	2	4
<b>Romania</b>	<b>144</b>	<b>33</b>	<b>111</b>	<b>74</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>10</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>2</b>
Netherlands	133	71	62	31	0	2	4	13	2	3	1	3	3
Cayman Islands	127	57	70	1	0	0	1	6	16	0	0	22	24

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.4 Number of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

	Number of companies												
	Nationality of control chain (ultimate controller & main shareholder)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	FA
<b>Thailand</b>	126	45	81	40	0	0	1	24	4	0	0	6	6
<b>Peru</b>	119	30	89	44	2	6	6	14	6	1	0	2	8
Saudi Arabia	119	61	58	42	0	0	3	6	0	0	0	6	1
<b>Jordan</b>	116	59	57	32	1	1	2	10	3	2	1	2	3
Finland	112	71	41	28	1	0	1	8	0	0	0	1	2
New Zealand	97	69	28	10	2	0	2	6	0	2	0	4	2
<b>Ukraine</b>	97	25	72	20	0	17	3	6	5	0	0	7	14
Austria	95	17	78	48	0	3	13	5	2	0	0	3	4
United Arab Emirates	94	30	64	57	0	1	0	4	0	0	0	1	1
<b>Pakistan</b>	89	29	60	22	2	1	0	19	1	0	2	9	4
<b>Egypt</b>	85	31	54	31	0	0	8	8	0	1	1	3	2
<b>Serbia</b>	77	33	44	22	0	1	4	5	4	0	0	1	7
<b>Argentina</b>	76	5	71	25	0	0	10	13	1	1	2	0	19
<b>Bosnia &amp; Herzegovina</b>	74	36	38	20	0	0	2	13	0	0	0	2	1
<b>Sri Lanka</b>	73	18	55	37	0	0	2	8	2	0	0	1	5
<b>Montenegro</b>	72	25	47	26	0	0	5	10	1	0	0	0	5
Ireland	65	48	17	5	0	0	1	5	1	2	1	0	2
<b>Bulgaria</b>	60	9	51	32	1	0	4	3	3	2	0	2	4

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.4 Number of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

	Number of companies												
	Nationality of control chain (ultimate controller & main shareholder)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	
Cyprus	57	33	24	15	0	0	4	2	0	0	1	0	2
<b>Morocco</b>	<b>57</b>	<b>13</b>	<b>44</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>5</b>
<b>Philippines</b>	<b>57</b>	<b>22</b>	<b>35</b>	<b>17</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>2</b>
Portugal	51	15	36	26	0	2	0	2	2	0	0	0	4
<b>Mexico</b>	<b>50</b>	<b>9</b>	<b>41</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>
Slovenia	46	16	30	26	0	1	0	0	0	0	0	0	3
<b>Vietnam</b>	<b>46</b>	<b>34</b>	<b>12</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Bangladesh</b>	<b>45</b>	<b>17</b>	<b>28</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>
Luxembourg	42	16	26	4	0	0	4	14	3	0	0	1	0
Oman	41	14	27	14	0	0	3	6	1	0	0	2	1
Bahrain	40	19	21	9	1	0	0	9	0	0	0	1	1
<b>Hungary</b>	<b>37</b>	<b>15</b>	<b>22</b>	<b>11</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>Nigeria</b>	<b>37</b>	<b>12</b>	<b>25</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>
Lithuania	34	8	26	19	1	0	1	5	0	0	0	0	0
<b>Colombia</b>	<b>33</b>	<b>11</b>	<b>22</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Tunisia</b>	<b>31</b>	<b>7</b>	<b>24</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>
Slovakia	28	7	21	12	0	0	0	5	2	0	0	0	2
British Virgin Islands	27	19	8	1	0	0	0	2	1	0	1	2	1

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

**Table A.4 Number of Firms from each Jurisdiction According to the Nationality of the Control Chain (continued)**

	Number of companies													
	Nationality of control chain (ultimate controller & main shareholder)													
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Total	Noncontrolled	Controlled	DD	DF	DT	FD	FN	FT	TD	TF	TT	FA	FA	
Qatar	27	9	18	15	0	0	0	0	0	0	0	0	1	2
Latvia	24	6	18	13	0	0	1	2	1	0	0	0	1	0
Czechia	19	1	18	0	0	0	0	13	2	0	0	0	1	2
Iceland	17	8	9	8	0	0	1	0	0	0	0	0	0	0
<b>Kenya</b>	<b>16</b>	<b>3</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
Malta	16	1	15	5	0	0	2	2	1	1	0	2	2	2
Estonia	15	4	11	10	0	0	0	0	1	0	0	0	0	0
<b>Cote d'Ivoire</b>	<b>14</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Mauritius</b>	<b>14</b>	<b>5</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>Ghana</b>	<b>12</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>
<b>Venezuela</b>	<b>12</b>	<b>3</b>	<b>9</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Marshall Islands</b>	<b>11</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Zimbabwe</b>	<b>11</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Zambia</b>	<b>10</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>Total</b>	<b>25,884</b>	<b>13,864</b>	<b>12,020</b>	<b>7,362</b>	<b>78</b>	<b>328</b>	<b>423</b>	<b>1,174</b>	<b>300</b>	<b>111</b>	<b>44</b>	<b>473</b>	<b>1,725</b>	

Source: Authors' calculations.

Note: Rows in bold text indicate non-high-income countries according to the World Bank classification in 2012.

