What we don't know about corporate ownership: A study of ownership chains in 500 multinationals

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ABSTRACT

This article investigates who ultimately owns the top ten shareholders of 500 of the world's largest multinational corporations (MNCs) and asks why this information is so often not publicly available. Using ultimate beneficial ownership (UBO) research, it identifies the real owners for only 5.8% of all 4,973 ownership chains in the sample. Over 80% of the top ten shareholders are institutional investors, including BlackRock, Vanguard and State Street, three leading providers of investment funds. The lion's share of fund assets managed by the Big Three are domiciled in Delaware, in addition to Ireland, the UK and Luxembourg, all of which offer advantageous tax and legal regimes to investment funds. Institutional investors in a handful of jurisdictions are thus responsible for the vast majority of unknown ownership. This lack of transparency cannot be blamed on tax havens alone, however; there are gaps in UBO frameworks around the world, which fail to account for intermediated investment.

KEYWORDS

transparency, beneficial ownership, multinational corporations, tax havens, institutional investors

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1. Introduction

Over the last decade, millions of leaked documents have brought to light how wealthy individuals and corporations exploit financial secrecy to avoid national taxes and regulations. The 2021 Pandora Papers, one of the most consequential leaks in recent years, exposed the offshore activities of world leaders, politicians and other public officials, along with business leaders, billionaires and celebrities, suggesting that the status quo of financial secrecy is not accidental (ICIJ 2021).

This article is particularly interested in corporate ownership: it attempts to identify the owners of large corporations and asks why this information is so often not publicly available. This question matters because anonymous ownership relieves beneficial owners and those who manage their assets of democratic accountability, enabling certain individuals and groups to accumulate money and power through illegitimate means. Beneficial ownership data are necessary for the proper functioning of the financial system. Additionally, corporate assets make up a substantial proportion of household wealth. Without beneficial ownership data, the distribution of household wealth cannot be measured accurately and objectively. This lack of information weakens public debate on inequality. It also undermines the ability of policymakers to design and run equitable tax systems, which in turn negatively impacts the availability of public services. Finally, understanding what stands in the way of transparency has concrete implications for the ongoing debate on public access to beneficial ownership registers.

The explanations why even law enforcement agencies often lack access to beneficial ownership data range from legal or bureaucratic deficiencies to deliberate strategies that exploit legal loopholes to avoid transparency. Such strategies may involve opaque legal vehicles, multiple layers of ownership, and circular or otherwise complex ownership structures. This article focuses on the role of tax havens and the investment fund industry. To assess how they contribute to corporate ownership transparency, I conduct ultimate beneficial ownership (UBO) research for 500 multinational corporations (MNCs) and their top ten shareholders. Given the prevalence of institutional investors as legal owners of MNCs, I complement the UBO research with an analysis of the fund domiciles used by three leading providers of investment funds.

The article is structured as follows: Chapter 2 reviews relevant literature on tax havens and institutional investors as potential obstacles to corporate ownership transparency; it also introduces the concept of beneficial ownership. Chapter 3 provides an overview of the research design, case selection, data sources and limitations. Chapter 4 discusses the results of the UBO research and the complementary research into fund domiciling strategies. Chapter 5 presents the conclusions.

2. Theory

2.1 Tax havens

According to Palan et al. (2013), an ideal type of tax haven (or offshore jurisdiction) meets three criteria:

1. Tax havens impose low or zero taxes on non-residents. Instead, they charge fees for incorporations and other offshore services. They may apply average or high tax rates to their resident population.
2. Tax havens offer banking secrecy and/or secret ownership of companies and other legal entities. They do not maintain publicly accessible UBO registers and may not require the registration of beneficial ownership at all. They refuse to share financial information with law enforcement authorities of other jurisdictions. Strict confidentiality and a lack of due diligence procedures facilitate activities considered disreputable or illegal elsewhere. Tax havens enable individuals and businesses to evade taxes by hiding their assets. While certain techniques of tax avoidance may be unregulated or legal, tax evasion is by definition always illegal.
3. The incorporation of companies or other legal entities is flexible and cheap. Tax havens do not require companies to maintain a physical presence in their territory, allowing for easy relocation to other jurisdictions when the need arises. This enables individuals and businesses to set up shell companies, which have no employees or independent activities but serve mainly to conduct financial transactions.

Definitions of tax havens differ in how much weight they attribute to the three criteria above. Most researchers use lists of tax havens, based either on tax haven characteristics or on financial data reflecting the position of a jurisdiction in the global offshore market. There are also political lists designed to exert pressure on certain jurisdictions, such as the OECD's or EU's list of non-cooperative jurisdictions for tax purposes (OECD 2009; Council of the European Union 2024). The main criticism against political lists is that they focus on small island states and territories, while ignoring more powerful tax havens with much larger shares of the offshore market (Laage-Thomsen/Seabrooke 2021).

Modern tax havens emerged in the second half of the 19th century as a result of the territorial demarcation of sovereignty, allowing states to commercialize goods such as residence to raise revenue (Palan 2002). Among the first tax havens were Switzerland, which introduced banking secrecy for non-residents, and the US states of New Jersey and Delaware, two early incorporation centres. British courts developed the legal principle of fictional residence for legal and tax purposes; it was applied via common law throughout the British Empire (Palan et al. 2013). Tax havens defend the view that a legal person's activities fall under the jurisdiction of the country or territory where it is formally incorporated, rather than the jurisdiction where real economic activity occurs. Today, this view prevails in the US and many other common law countries. It has been adopted by traditional civil law countries in Europe, such as the Netherlands, and has more recently been advanced via the jurisprudence of the European Court of Justice (Nougayrède 2019). Tax havens proliferated in the context of globalization in the second half of the 20th century. Following the establishment of the Eurocurrency market in 1957, new tax havens, including the UK's Crown dependencies (CDs) and overseas territories (OTs), as well as Caribbean territories oriented towards the US market, emerged to cater to a fast-growing market for offshore finance (Palan et al. 2013). In the 1950s and 60s, private wealth was repatriated at a massive scale from the decolonizing world to havens, many of which were themselves former colonies or dependencies of former colonial powers (Ogle 2020). A principal component analysis of foreign direct investment (FDI) data by Haberly/Wójcik (2015) demonstrated the role of imperial relationships in offshore finance. It identified a global network dominated by jurisdictions in Northwest Europe and the Caribbean, in addition to several regional subnetworks. In line with Palan et al. (2013), those findings point to a new British Empire of offshore finance centred on the City of London, UK dependencies and former colonies, which today also incorporates Switzerland, Luxembourg and the Netherlands.

Only a few of those jurisdictions are pure tax havens, however. Most of them use their policy instruments selectively, enabling tax and regulatory avoidance through varying degrees of financial secrecy, tax loopholes and double tax treaties. Due to various forms of tax relief, there is a large gap between statutory tax rates and the lowest available corporate income tax rates (LACIT) in many jurisdictions, which blurs the line between tax havens and low-tax jurisdictions (Ateş et al. 2021). Successful tax havens serve as offshore financial centres (OFCs). They provide financial services to non-residents at a scale that far exceeds the size of their domestic economy. OFCs are characterized by lax regulation and supervision of financial markets. Financial institutions in small and mid-size OFCs – including the Bahamas, the Cayman Islands, the Channel Islands, Dubai, Hong Kong, Luxembourg, Panama, Singapore and Switzerland – book offshore financial transactions for business conducted in the largest OFCs, including London, New York and Tokyo (Palan et al. 2013). Some tax havens specialize in certain regions or sectors of the offshore market. Garcia-Bernardo et al. (2017) distinguish two types of tax havens based on their position in ownership chains. Conduits, located in the middle of ownership chains, transfer value towards sinks, located at the end of ownership chains, where value is extracted or stored. Sinks are typically small economies with high levels of financial secrecy and near-zero taxes, whereas conduits typically have well-developed legal and financial systems, low or zero taxes on capital transfers and numerous tax treaties. Multi-jurisdiction ownership chains take advantage of this specialization among tax havens.

Due to high entry barriers, tax havens primarily benefit wealthy individuals and MNCs. However, the investment fund industry also makes tax and regulatory avoidance schemes available to individual investors who lack access to specialized legal, accounting or tax planning services.

2.2 The rise of institutional investors

Institutional investors are financial intermediaries that collect and pool money from individuals and other institutions for investment purposes. They include banks, insurers, investment companies and advisers, mutual and pension funds, endowments, investment divisions of MNCs and sovereign wealth funds. Traditional investments focus on stocks, bonds and cash, while alternative investments include hedge funds, private equity, real estate, infrastructure and commodities.

The rise of institutional investors began in the US. The pension reform of 1974 resulted in a shift away from defined-benefit plans to defined-contribution plans, where employers regularly contribute a fixed sum to their employees' individual retirement accounts. As the baby boomer generation invested its savings in the financial market to pay for retirement benefits in the future, ownership in US corporations became increasingly intermediated by institutional investors (Jung/Dobbin 2012). Other rich economies have also adopted elements of funded systems to complement their public pension systems. In emerging economies, privatizations and debt financing by foreign investors have strengthened the role of institutional investors (Gillan/Starks 2003). The expansion of financial markets in the 1980s and 90s contributed to the rise of institutional investors at the global level (Fichtner 2020). Individual investors increasingly rely on investment funds to diversify risk and save costs through passive investment strategies (De La Cruz et al. 2019). By 2024, the top 500 global asset managers had reached US$128 trillion in assets under management (Thinking Ahead Institute 2024).

Mutual and pension funds dominated in the 20th century, while hedge funds have seen strong growth in recent decades. Both sectors remain relatively fragmented (Fichtner 2020). Since the mid-2000s, investors have moved trillions of dollars from active to passive funds. Despite charging higher fees, most actively managed funds had proven unable to outperform funds that replicate the composition of stock market indexes or other pre-established indexes (Fichtner et al. 2017). The boom of index funds intensified concentration in the investment fund industry, favouring large providers of index funds which had already consolidated their position, including BlackRock, Vanguard and State Street, three US-domiciled asset managers. The Big Three have since increased their stakes, controlling between 3% and 5% of thousands of listed corporations around the world (Fichtner/Heemskerk 2020). The Big Three's combined stake makes them the largest single shareholder with a mean ownership interest of over 21% in 88% of the 500 largest listed corporations in the US (Fichtner et al. 2017). In other stock markets, the Big Three have comparatively less control because ownership structures are more often dominated by large blockholders (Fichtner/Heemskerk 2020).

In concentrated ownership structures, ownership and control are exercised by one or a few large blockholders. In highly dispersed ownership structures, there are many small shareholders with limited control. Ownership studies have traditionally been less concerned with who owns large corporations than with who controls their day-to-day business operations (Aguilera/Clespi-Cladera 2016). Porta et al. (1999) are an exception since they did not stop at the first layer of ownership but searched for owners with more than 20% of voting rights in the largest listed corporations and medium companies of 27 rich countries. Their ownership study identified states and individuals or families as owners in 48% of large corporations and 60% of medium companies. Additionally, it found that ownership structures were most dispersed in Japan and rich common law countries, including the US and the UK, where the rights of minority shareholders are legally protected. Research has also linked ownership dispersion to the development of financial markets and specific regulations, such as restrictions on bank ownership in the US (Aguilera/Clespi-Cladera 2016). A 2019 study of the 10,000 largest listed corporations in the world found that ownership structures are becoming increasingly dispersed in Canada, Finland, Sweden, Norway and the Netherlands. The largest group of shareholders in those countries are institutional investors. In contrast, ownership structures in most of Asia, Continental Europe and Latin America are dominated by large blockholders. Globally, institutional investors control 41% of aggregate equity in listed corporations, ranging from as much as 72% in the US to only 7% in emerging economies. Almost a quarter is held by foreign investors, most of which are institutional investors domiciled in the US and Europe (De La Cruz et al. 2019). A handful of global asset managers dominate sectors such as food and agriculture (Clapp 2019) or the automotive industry (Sacomano Neto et al. 2020). A network analysis by Vitali et al. (2011) found that large corporations are strongly interconnected via cross-shareholdings. A group of only 147 MNCs controls nearly 40% of the total operating revenue generated by over 43,000 MNCs. This core group – of which many are institutional investors – has almost full control over itself.

2.3 Beneficial ownership

Legal ownership refers to an entity's direct owner, whether that is a legal or a natural person. Beneficial ownership refers to a natural person who ultimately controls, owns or benefits from a legal entity. It encompasses ultimate control of an entity's activities as well as the right to benefit from its assets. Beneficial ownership may be exercised directly or indirectly, via multiple layers of ownership. A widely adopted definition of beneficial ownership by the Financial Action Task Force (FATF) also includes the customers of financial institutions and designated professional services providers (FATF 2012). Open Ownership (2020a) points out that beneficial ownership is not always equivalent to voting or cash flow rights because contractual agreements may stipulate voting rights or cash distributions that exceed the ownership interests of certain parties. Beneficial owners may also transfer their voting rights to a nominee director or nominee shareholder (Nougayrède 2019). The fact that ownership and control are legally separate in certain types of entities adds complexity: In limited partnerships, the general partner controls the business, while the limited partners legally own its assets and benefit from them. In trusts, the settlor transfers assets to a trustee, who assumes legal ownership and control on behalf of the beneficiaries. Partnerships and trusts are legal arrangements that cannot own assets themselves. Foundations are legal persons whose assets are managed by a board on behalf of the beneficiaries, according to the instructions of the founder (Garde et al. 2021). Tax havens may not apply the legal separation of those roles, allowing settlors and founders as well as their beneficiaries to exercise control (Palan et al. 2013).

Case studies show that most UBOs involved in money laundering cases use multilayered ownership chains, made up of corporate entities in one or more jurisdictions, to conceal their identity. Many UBOs exercise both direct and indirect control via nominee arrangements with professional intermediaries, family or business associates. More rarely, UBOs use bearer shares, falsify documents or designate a large number of beneficiaries to camouflage the true beneficiaries (FATF/Egmont Group 2018). Most UBOs rely on corporate entities set up by professional service providers to hide the proceeds of corruption (Van der Does de Willebois et al. 2011).

The FATF recommends that countries ensure competent authorities timely access to accurate and up-to-date information about the beneficial ownership and control of legal persons and arrangements (FATF 2012). Its peer review process found that only 72 of 178 evaluated jurisdictions were fully or largely compliant with this recommendation about beneficial ownership (FATF 2024). According to a 2021 report by the Global Forum on Transparency and Exchange of Information for Tax Purposes, only 38.5% of 81 reviewed jurisdictions had effective UBO frameworks for legal entities in place, and only 7.4% were fully compliant when it came to making UBO data available in practice (Garde et al. 2021). A report by the Tax Justice Network found that 81 of 133 reviewed jurisdictions required the registration of beneficial ownership as of 2020. Ecuador is cited as a best practice case with free online access to up-to-date UBO data on legal persons and arrangements (Harari et al. 2020). Ecuador determines beneficial ownership based on a threshold of only one share in private entities and two percent of shares in publicly listed corporations; there is a unit threshold for investment funds (Knobel 2020). The EU has continuously updated its UBO legislation in recent years, culminating in the 5th Anti-Money Laundering Directive (AMLD5), which required member states to establish centralized and publicly accessible

UBO registers (OJ 2018 L 156/43). Other jurisdictions that have recently introduced or improved their ownership registration laws include Argentina, Colombia, Egypt, Ghana, Indonesia, Jordan, Kenya, Malaysia, New Zealand, Nigeria, Norway, Panama, the Seychelles and Ukraine. According to the Tax Justice Network, the least transparent jurisdictions are Barbados, Brunei, Belize, Canada, Cameroon, St. Lucia, Pakistan, Samoa, the US Virgin Islands and the US; these jurisdictions had neither legal nor beneficial ownership registration laws in place as of 2020 (Harari et al. 2020). In 2021, the US Congress passed federal legislation requiring private companies to register UBO data for the first time. However, the law has limited applicability and targets shell companies without a physical presence in the US (US Congress 2021).

Obstacles to corporate ownership transparency include gaps in UBO frameworks – where they exist at all – and a lack of effective implementation: many jurisdictions exempt listed corporations, even though securities laws may define beneficial ownership differently. There are also frequent exemptions for legal arrangements and certain parties of legal entities where ownership and control are separate. Some jurisdictions tolerate the use of nominees or bearer shares. High reporting thresholds are another limitation of UBO frameworks. Most jurisdictions follow the FATF's recommendation and apply a threshold of 25% of shares or voting rights to determine the beneficial ownership of private entities (Harari et al. 2020). The UBOs of listed corporations are required to report ownership interests exceeding 5% per share class to the relevant stock exchange or stock market regulator in most jurisdictions, including the US and China. High reporting thresholds effectively exempt UBOs of entities with dispersed ownership structures and carry the risk that UBOs split their ownership interests to circumvent registration requirements. Percentage thresholds disregard that even a negligible ownership interest in listed corporations or investment funds may be very valuable (Knobel 2020). Banks are generally required to identify and keep up-to-date records on their customers (Garde et al. 2021). However, only the first-level intermediary in direct contact with the customer typically knows the UBO and the source of their funds, whereas other intermediaries in the custody or ownership chain have partial or no access to information about the customer whose money is being invested. The use of tax havens and high-frequency trading of securities by financial intermediaries obscures beneficial ownership. Additionally, financial intermediaries typically pool money or securities from multiple end investors in a single account (Knobel 2019). Central securities depositories in most of the world's leading stock markets (excluding China) use omnibus accounts, which do not disaggregate securities by end investor. As a result, listed corporations may not be able to identify their UBOs and rely on self-reporting by UBOs, who may themselves be unaware which securities they own via investment funds (Nougayrède 2018). In many FATF-evaluated jurisdictions, poor data quality and deficient information-sharing mechanisms among authorities undermine transparency (FATF 2019). Open Ownership (2020b) and Transparency International (Martini 2019) recommend opening up UBO data to the public in order to improve not only access but also data quality through additional checks. However, data privacy and protection laws prevent far-reaching transparency. In November 2022, a preliminary ruling by the European Court of Justice (joined cases C-37/20 and C-601/20) invalidated certain provisions of AMLD5, stating that unlimited public access interfered with beneficial owners' fundamental rights to respect for private life and protection of personal data (Court of Justice of the European Union 2022).

3. Methodology

The operationalization of beneficial ownership is far from simple or straightforward. Since this is a relatively new field of research, the methods used in this article are exploratory and descriptive. Most of the research effort is spent on gathering UBO data and building a data set of ownership chains for the top ten shareholders in the 500 largest MNCs. For the purpose of this article, a beneficial owner is defined as a natural person who directly or indirectly holds 25% or more of shares or voting rights in a legal person or arrangement; the only legal persons that can be beneficial owners are states. UBO research consists in identifying an entity's ownership; if the owner is a legal person, research continues to the next layer and so forth, until a natural person or state is identified. The goal is to identify the ultimate owners or beneficiaries of MNCs, not mere controlling persons. The UBO research ends where no additional ownership data are available. The result is a data set of approximately 5,000 ownership chains whose structure and distribution across jurisdictions can be described. This approach goes further than most ownership studies in following ownership chains up to the last available link. Since it focuses on aspects of ownership that are usually disregarded due to lack of data, it resembles previous research on tax havens more than traditional ownership studies. The approach allows me to study in depth which mechanisms undermine corporate ownership transparency. It does not allow me, however, to establish causality nor to draw conclusions beyond the cases covered here.

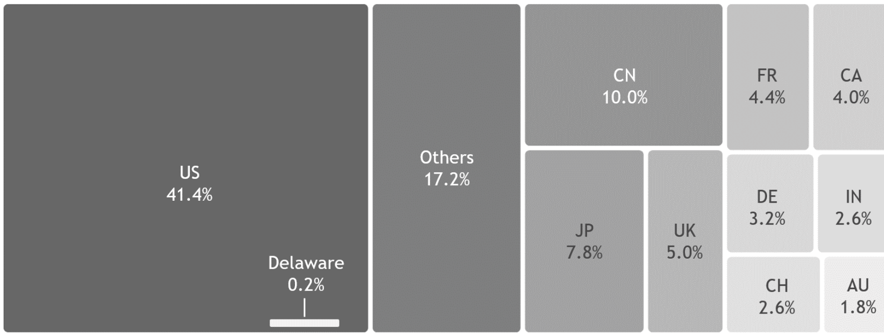
The OCED's Analytical Database on Individual Multinationals and Affiliates (ADIMA) provides a list of the 500 largest listed corporations by market capitalization in 2019. The selection of listed corporations is driven by data availability. I focus on the UBOs of the top ten shareholders to account for dispersed ownership structures in this group of MNCs. The S&P Capital IQ database reports ownership data for listed corporations and their group members, based on filings with stock exchanges and stock market regulators. I use it to identify the ten largest shareholders of the 500 MNCs in the data set and in cases where a top ten shareholder is owned by another listed corporation. The shareholder data were collected in September 2021. The Orbis database by Bureau van Dijk reports direct ownership and voting rights of controlling shareholders, combining multiple sources (i.e. stock exchange filings, corporate registers, company reports and websites, private providers, etc.). I use Orbis to follow ownership chains of private entities up to the last available link. The UBO research was performed between September 2021 and November 2021, using the latest ownership data available at that time. The financial secrecy and corporate tax haven scores produced by the Tax Justice Network evaluate a jurisdiction's legal and tax system based on a list of 20 policy indicators, which together cover the three tax haven criteria proposed here. In contrast to tax haven lists based on financial data, these two scores are not based on outcomes, nor do they reflect power as political lists do. Following Meinzer (2012), jurisdictions scoring above 60 at the time of the UBO research are considered secrecy jurisdictions or corporate tax havens, respectively. Based on the literature review, I selected BlackRock, Vanguard and State Street as influential cases of institutional investors and obtained the domicile and financial data of Big Three-managed funds from their websites in September 2021. The analysis of fund domiciles draws on scholarly research as well as publications by tax law and accounting firms.

The limitations of this research are, above all, related to data availability and quality: publicly available ownership data are in many cases unstructured, fragmented and inconsistent. In some cases, listed corporations do not disclose which individuals own their shares but only report family groups, trusts or estates as their owners. Some ownership chains are intentionally structured so as to disguise the identity of the controlling shareholders. Due to their different methodologies, the two sources of ownership data used here report different ownership interests in some cases. Both sources have better coverage of high-income economies than low- and middle-income economies, which may skew the results against corporate ownership transparency in countries such as China or India. In addition, selecting the largest MNCs in the world based on market capitalization means that MNCs and top ten shareholders from the US dominate the sample. In some cases, the low number of cases makes it impossible to detect patterns applicable to other jurisdictions. Although the fact that the results revolve around the US is interesting in and of itself, the selection criteria limit the insights that can be gained about other jurisdictions. Future ownership studies should consider including private companies and sampling at the level of jurisdictions to test whether the results hold at the global level.

4. Results

The 500 largest MNCs in the world engage in finance and insurance, manufacturing (i.e. pharmaceuticals, electronics, motor vehicles, machinery, food and beverages, tobacco, clothing and footwear, etc.), utilities, oil and gas, technology, media and publishing, retail sale and accounting. Several financial institutions among them – including BlackRock, JP Morgan Chase, UBS, Bank of New York Mellon or Charles Schwab – are key investors in other MNCs. As shown in figure 1, the majority of MNCs are headquartered in the US. Other top ten headquarters include China, Japan, the UK, France, Canada, Germany, India, Switzerland and Australia. The distribution of headquarters corresponds, by and large, to the size of the host economies. A number of jurisdictions – including the US, China, Switzerland, Hong Kong and Ireland – host a disproportionately high number of headquarters relative to their economic output.

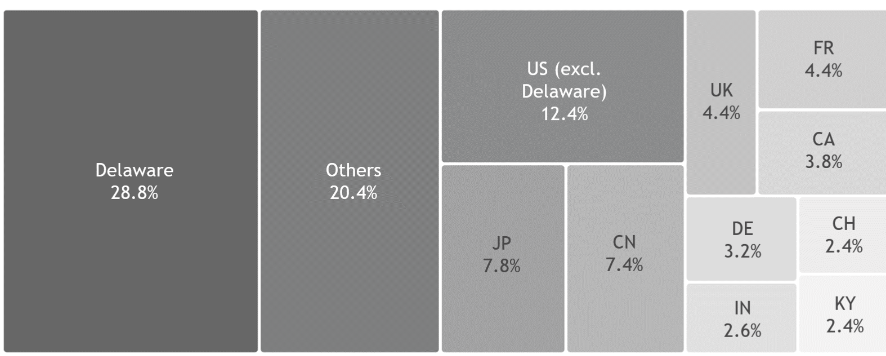
Figure 1: Distribution of the headquarters of the 500 largest multinationals



Sources: OECD (2020); Orbis (2021)

The place of incorporation or registration serves as a corporation's domicile for legal and tax purposes. As shown in figure 2, the domicile differs from the headquarters for approximately a third of MNCs. In both absolute and relative terms, this is most common among US-based MNCs, which are often domiciled in Delaware rather than the state where management is located or where most of their activities take place. Several Chinese MNCs – including Alibaba, Baidu, China Mobile, Pinduoduo and Tencent – are domiciled in the Cayman Islands or Hong Kong, while their operations remain in mainland China.

Figure 2: Distribution of the domiciles of the 500 largest multinationals



Sources: OECD (2020); Orbis (2021)

4.1 Who owns the largest multinationals in the world?

As many as 351 (70.2%) of the 500 largest MNCs in the world do not have a single shareholder who controls 25% or more of their voting shares. The public sector, led by China, controls 63 MNCs (12.6%). Individuals and families control 61 MNCs (12.2%); they are all well-known billionaires or billionaire dynasties, originating from the US in about a third of the cases and, less frequently, from Austria, Canada, Brazil, Finland, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, Mexico, the Netherlands, Russia, Spain and Sweden.[1] The remaining shareholders are institutional investors (1.8%), private entities with unknown owners (1.4%), widely held (1%) and foundations (0.8%). The low number of controlling shareholders reflects the prevalence of dispersed ownership structures in the US as well as the fact that nearly all MNCs in the sample are listed on a stock exchange.[2] The remainder of this chapter will, therefore, focus on the UBOs of their top ten shareholders.

Table 1 summarizes the results of this UBO research. The ownership chains total 4,973 because three MNCs have only one direct owner. I disregard the exact ownership interests held by top ten shareholders and instead focus on the number of ownership chains, where each ownership chain (including its sub-chains and intermediate structures) contributes the value 1 to the total. For each ownership type, the table reports the mean financial secrecy and corporate tax haven scores of the jurisdictions where the ownership chains of the top ten shareholders end. Together, the top ten shareholders hold a mean ownership interest of 43.9% percent per MNC; the mean ownership interest of all top ten shareholder is less than five percent; the tenth largest – or smallest – top ten shareholders hold a mean ownership interest of 1.2%. The table also reports the use of intermediate structures through which UBOs control MNCs. The ownership types identified during the UBO research are institutional investors (82.5%), states (8.4%), individuals and families (5.8%), listed corporations (1.2%), employees (0.8%), private entities with unknown owners (0.6%), foundations (0.6%) and self-owned shares (0.2%).

As shown in figure 3, the US not only leads the list of headquarters and domiciles but is also the jurisdiction where most ownership chains (60.8%) end. In nearly all

1 Examples include Lei Jun, founder of the Chinese mobile phone manufacturer Xiaomi; the French Arnault family, which together controls the luxury conglomerate LVMH Moët Hennessy Louis Vuitton; the Austrian-German Porsche and Piëch families, who control the Volkswagen group through a complex network of companies and foundations; the Indonesian brothers Robert Budi Hartono and Michael Bambang Hartono of Bank Central Asia; the América Móvil founder Carlos Slim and his family in Mexico; Charlene de Carvalho-Heineken, heiress of the Dutch brewing company Heineken; the Facebook co-founder Mark Zuckerberg; and Michael Dell, founder and CEO of the US-based Dell Technologies.

2 The exceptions include Allergan, a previously Irish domiciled pharmaceutical company acquired by the US-based Abbvie in 2020, and the US arms producer Raytheon Company, which merged into the US aerospace company United Technologies to form the aerospace and defence conglomerate Raytheon Technologies in 2020. These mergers took place after the OECD's list of the 500 largest MNCs was published in 2020.

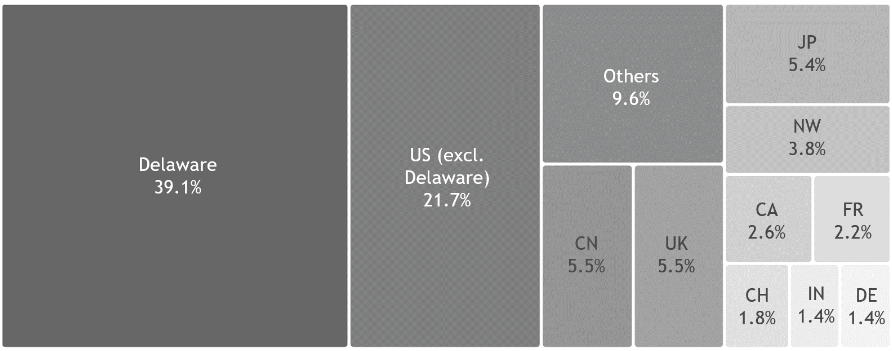
Table 1: Last available links in the ownership chains of the top ten shareholders in the 500 largest multinationals by ownership type

						Use of intermediate structures (%)			
Ownership type	**N**	**%**	**Ownership interest[1]**	**FS score[2]**	**CTH score[3]**	**Secrecy jurisdictions[4]**	**Corporate tax havens[4]**	**Foundations or trusts**	**Funds**
Institutional investors	4,100	82.45	25.75	61.20	52.22	8 (0.20)	9 (0.22)	-	3,689 (89.98)
States	419	8.43	8.46	53.15	66.37	6 (1.43)	27 (6.44)	-	194 (46.30)
Individuals	225	4.52	4.35	60.82	60.51	86 (38.57)	63 (28.25)	34 (15.25)	1 (0.45)
Families	66	1.33	2.20	58.27	60.33	41 (62.12)	29 (43.94)	19 (28.79)	-
Widely held	58	1.17	1.47	59.18	61.85	36 (62.07)	22 (37.93)	-	-
Employees	40	0.80	0.30	57.95	62.48	-	-	-	-
Unknown	29	0.58	0.52	59.82	70.54	13 (41.94)	15 (48.39)	2 (6.45)	-
Foundations	28	0.56	0.45	53.89	59.19	7 (25.00)	8 (28.57)	-	-
Self-owned	8	0.16	0.31	55.38	60.50	5 (62.50)	6 (75.00)	-	-
Total	4,973	100.00	43.92	60.36	53.58	202 (4.06)	179 (3.60)	81 (1.63)	3,384 (68.05)

[1] Mean percentage of common shares outstanding per MNC as of September 2021. Note that voting interests can be higher.
[2] Mean financial secrecy score as of 2020, weighted according to the number of ownership chains per ownership type.
[3] Mean corporate tax haven score as of 2021, weighted according to the number of ownership chains per ownership type.
[4] Jurisdictions scoring higher than 60 are considered secrecy jurisdictions and corporate tax havens, respectively.

Sources: Bureau van Dijk 2021; S&P Global 2021; Tax Justice Network 2020e; Tax Justice Network 2021e ownership chains ending in the US, the last available link is a US-based institutional investor (58.6% of the total). A much lower number of ownership chains end in other top ten destinations, including China, the UK, Japan, Norway, Canada, France, Switzerland, India and Germany. The importance of the US as a destination means that the aggregate financial secrecy and corporate tax haven scores for most ownership types are heavily influenced by the US scores.

Figure 3: Distribution of the last available links of ownership chains of the top ten shareholders in the 500 largest multinationals



Sources: Bureau van Dijk 2021; S&P Global 2021

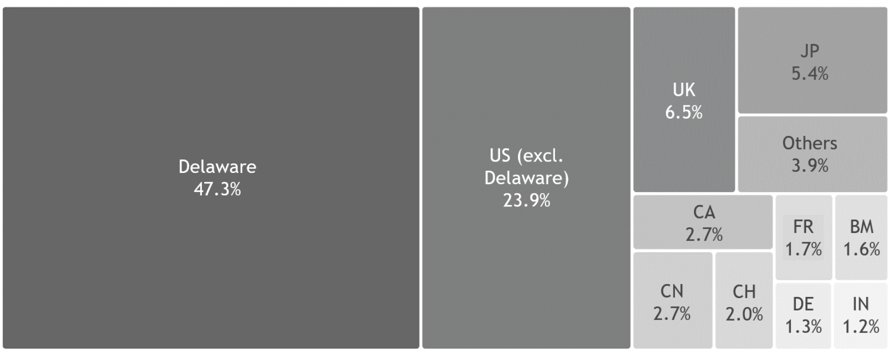
4.1.1 Institutional investors

The most striking result of this UBO research is that the overwhelming majority of top ten shareholders in the 500 largest MNCs are institutional investors. They hold a mean ownership interest of 25.8% per MNC. Approximately 11.4% per MNC are controlled by BlackRock, Vanguard and State Street alone. The Big Three represent roughly a quarter of all top ten shareholders and shares in the sample.[3] At least 90% of institutional investors hold their shares via funds. Traditional investment managers are by far the largest subgroup of institutional investors (over 90% both in the US and globally), while banks, alternative investment managers and insurance companies are only of secondary importance. US and Canadian multinationals often only have institutional investors among their top ten shareholders, whereas the public sector and other types of owners have a more important role in the rest of the world.

3 Other US-based institutional investors with ownership interests in more than 100 MNCs include Capital Research & Management, FMR (Fidelity Investments), Geode Capital Management, T. Rowe Price Group and JP Morgan Asset Management. Examples of non-US institutional investors with numerous investments in MNCs include Northern Trust Global Investments (UK), UBS Asset Management (Switzerland), Nomura Asset Management (Japan) and Amundi Asset Management (France).

As shown in figure 4, the vast majority of institutional investors are from the US. Within the US, most institutional investors are based in the financial capital of New York as well as in California, Illinois, Massachusetts and Pennsylvania. However, much like other MNCs, institutional investors are often domiciled in Delaware. The US is considered a secrecy jurisdiction due to its comparatively high levels of financial secrecy, while its corporate tax haven score indicates a below-average risk of corporate tax avoidance. A number of US investment management firms, including Fidelity International and Invesco, are domiciled in Bermuda, both a secrecy jurisdiction and a corporate tax haven. Non-US institutional investors are concentrated in the UK and Japan. Less frequently, they are based in Canada, China, Switzerland, France, Bermuda, Germany and India. Their corporate tax haven scores indicate that those jurisdictions have an above-average risk of corporate tax avoidance.[4] Institutional investors often report the names of invested funds, but there is no information available on the ultimate owners or beneficiaries of shares controlled by institutional investors. Very little information is available on their use of intermediate structures, an issue discussed in more detail in the second part of this chapter, which is dedicated to the Big Three's fund domiciling strategies.

Figure 4: Distribution of institutional investors among the top ten shareholders in the 500 largest multinationals



Sources: Bureau van Dijk 2021; S&P Global 2021

4.1.2 States

The public sector (i.e. state-owned companies, public pension sponsors, sovereign wealth funds, development banks, etc.) constitutes the second-largest group of top ten shareholders in the 500 largest MNCs, ranking before individuals and families as the largest group of known UBOs. It is dominated by Norway and China, followed at a large distance by Singapore, Saudi Arabia, Qatar, France, Canada, Russia,

4 No corporate tax haven score is available for Japan.

Australia and Germany. States rarely use intermediate structures in secrecy jurisdictions or corporate tax havens. No use of intermediate structures involving foundations or trusts was found among states. Of course, states may own additional shares via funds controlled by institutional investors; however, they are not identifiable as UBOs in those cases.

4.1.3 Individuals and families

Only in a small number of cases did UBO research manage to identify natural persons who ultimately own or control a top ten shareholder in one of the 500 largest MNCs. Disclosure regimes for listed corporations and other sources of publicly available information were sufficient to establish beneficial ownership in those cases. Very often, these UBOs are members of corporate management, founders or founding families. More rarely, other individuals from the general public hold substantial ownership interests. The mean ownership interest attributable to natural persons amounts to 6.6% per MNC. The mean is somewhat misleading, however, because individuals and families often have additional voting rights through separate classes of voting shares.[5] Additionally, there are 350 MNCs with no natural person at all among their top ten shareholders; excluding all MNCs where the ownership interests of individuals and families amount to zero, individuals and families are blockholders with a mean ownership interest of 22.2% per MNC.

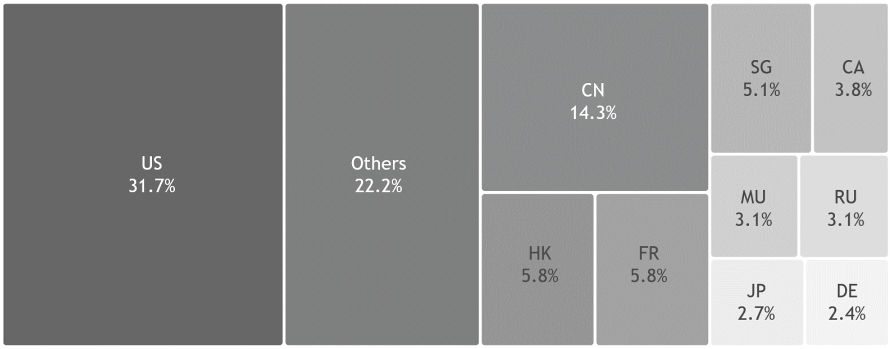
Figure 5 shows the distribution of individuals and families across jurisdictions. Their citizenship and tax residence are usually the same; where sources report a separate tax residence, it is treated as jurisdiction. Most of the known UBOs are from the US (31.7%). Another important group of individuals and families are Chinese citizens residing in China (14.3%) or Hong Kong (5.8%). The remaining individuals and families are from France, Singapore, Canada, Mauritius,[6] Russia, Japan, Germany, India, Italy and Switzerland, among others.[7]

5 An example is Google's co-founder Larry Page, who owns approximately 6% of Alphabet's common shares, while retaining more than 25% of voting rights in the company.

6 Mauritius contributes to the list of identified UBOs via SIT Land Holdings, which is part of Sugar Investment Trust, a widely held company with over 55,000 shareholders. The shareholders are members of the company's senior management and board of directors, who each hold negligible ownership interests.

7 Examples include the Brazilian-Swiss investor Jorge Paulo Lemann, who owns a minority stake in Anheuser-Busch Inbev; the Cayman Islands-based investor Kenneth Dart, who owns shares of British American Tobacco; the Chinese founders Yun "Jack" Ma of Alibaba, Yanhong "Robin" Li of Baidu and Huateng "Pony" Ma of Tencent; the French families controlling the homonymous businesses Dassault and Hermès; the German Henkel family; the Hongkongers Yiu Tung "Francis" Lui and Lui Che Woo of Galaxy Entertainment; the Indian Bajaj family, which controls the financial services company of the same name; Takemitsu Takizaki, founder of the Japanese Keyence group; the founding families of the Swiss Roche group, represented by André Hoffmann and Andreas Oeri; and in the US, the Adelson, Knight, Lauder, Marriott and Tyson families, as well as individual investors such as Bill Gates, with numerous shareholdings via Cascade Investment.

Figure 5: Distribution of individuals and families among the top ten shareholders in the 500 largest multinationals



Sources: Bureau van Dijk 2021; S&P Global 2021

Several jurisdictions are underrepresented in this group, relative to their share of multinational headquarters (or domiciles) and last available links of ownership chains. Although individuals and families from the US still are the largest group of natural persons identified during UBO research, they make up less than a third of this group, meaning that the US is underrepresented among individuals and families, relative to its share of headquarters (41.4%) and last available links of ownership chains (60.7%). One possible explanation for this low share of known UBOs might be that there are fewer individuals and families with substantial stakes in large corporations from the US than from other jurisdictions; however, this does not seem likely given the fact that most of the world's billionaires are US citizens.[8] A more plausible explanation are comparatively low transparency standards. This is consistent with the low share of known UBOs from the US, but it does not explain the even lower share of private entities with unknown owners from the US (9.4%). A third possibility is that individuals and families from the US hold additional shares via funds managed by institutional investors. This seems like the most likely explanation considering the history of intermediated investment by US employees and pensioners since the 1970s. Other underrepresented jurisdictions among known UBOs are Japan and the UK. Japan is considered a secrecy jurisdiction, which suggests that UBO research may underestimate the true dimensions of beneficial ownership by Japanese individuals and families. Both Tokyo and London host global hubs for financial services, which may also explain why Japan and the UK rank higher (immediately behind the US) among institutional investors than among known UBOs. Meanwhile, other jurisdictions have more known UBOs than expected based on the distribution of headquarters (or domiciles) and last available links of ownership chains; this applies to China, Hong Kong, France, Singapore, Russia and Italy. Again, their overrepresentation among

8 In 2022, Forbes counted 2,668 individuals with a net worth of at least US$1 billion, including 735 billionaires with US citizenship (Peterson-Withorn 2022).

known UBOs suggests that there may be a concentration of wealth in those jurisdictions, in addition to comparatively higher transparency standards and less intermediated investment. While it is beyond the scope of this research design to conclude definitively which of these explanations applies, this question could be answered in future research using multivariate analysis.

The use of intermediate structures varies among known UBOs from different jurisdictions. The UBO research found that individuals and families from the US do not resort to offshore structures, but nearly two thirds hold their shares via shell companies in Delaware or Nevada, and one third uses foundations or trusts. It is likely that the presence of these internal tax havens and a booming trust industry at home make it unnecessary for US investors to go offshore. Conversely, non-US investors almost exclusively hold their assets via other jurisdictions, including the British Virgin Islands, China, Singapore, France, Hong Kong, Luxembourg, Germany, Belgium, Canada and the Cayman Islands. A large majority of known UBOs from Hong Kong (82.4%) rely on intermediate structures in Bermuda, the British Virgin Islands, the Cayman Islands and Guernsey, in addition to foundations or trusts in Hong Kong itself. This underlines Hong Kong's double role as a conduit between China and several offshore jurisdictions, and as a sink of wealth. The use of intermediate structures is much less common among individuals and families residing in China (33.3%). There are not enough cases to detect patterns in the use of intermediate structures for other jurisdictions.

A notable difference exists between individuals and families. The use of intermediate structures is much more common among families (81.8%) than individuals (48.4%). Compared to other ownership types, families are among those with the highest prevalence of using intermediate structures, in particular foundations. Both individuals and families opt for secrecy jurisdictions over corporate tax havens to control their shares; this pattern is driven by the use of intermediate structures in the US, considered a secrecy jurisdiction but not a corporate tax haven. Intermediate structures are used to insert layers and, in some cases, split ownership chains into multiple subchains. The more layers are added and the more often an ownership chain splits, the more difficult it becomes to attribute exact ownership percentages to each individual. With each jurisdictional layer, the likelihood also increases that an ownership chain ends in a jurisdiction without publicly available ownership data. This UBO research found that families are associated with particularly complex and obscure ownership chains. Even in cases where beneficial ownership can be attributed to members of the same family, a portion of the ownership chain often remains unaccounted for.

The examples below illustrate how ownership chains can be structured in practice:

Figure 6 is an example of a simple single-jurisdiction ownership chain, where an individual based in the US (Warren Buffett) controls a 5.37% stake in an MNC (Apple) via an investment holding company incorporated in Delaware (Berkshire Hathaway Inc.).

Figure 6: Single-jurisdiction ownership chain with a known UBO

Figure 7 shows a multi-jurisdiction ownership chain of medium complexity. In this example, a 7.63% stake in a French MNC (Pernod Ricard) is beneficially owned via multiple investment holding companies in Belgium, Luxembourg, the Netherlands and Switzerland, as well as two Dutch foundations controlled by two members of the same Belgian family (Ségolène Gallienne-Frère and Gérald Frère).

Figure 7: Multi-jurisdiction ownership chain with known UBOs

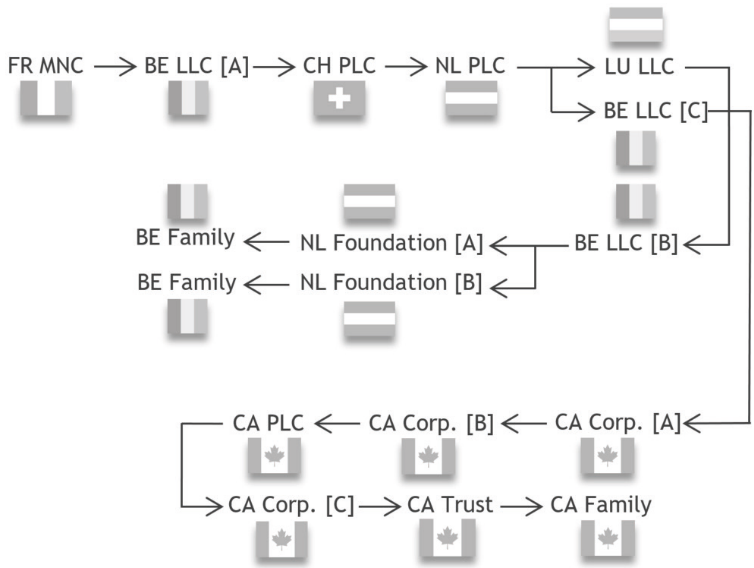
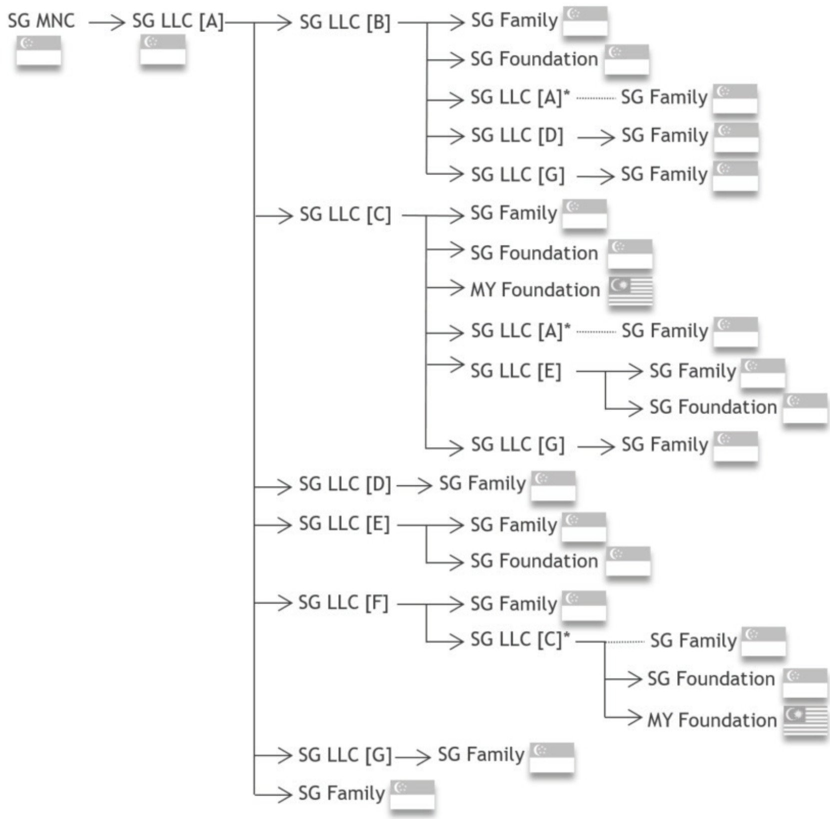


Figure 8 shows a circular ownership chain. In this highly complex example, a family controls at least five of the top ten shareholders in a Singaporean MNC (Oversea-Chinese Banking Corporation) via eight Singaporean holding companies, and two foundations in Singapore and Malaysia (both named Lee Foundation). The Singaporean holding companies are directly owned by members of the same Singaporean family (related to Lee Seng Wee) as well as by each other. Thus, the family owns each of the Singaporean holding companies directly and indirectly, via circular ownership sub-chains. In some holding companies (marked with an asterisk), the family only meets the threshold for beneficial ownership through the accumulation of indirect ownership interests held via circular ownership sub-chains (marked with a dotted line).

Figure 8: Multi-jurisdiction circular ownership chain with known UBOs



4.1.4 Unknown owners

In the remaining cases, no UBOs could be identified. Only a very small number of ownership chains end with private holding companies, partnerships or trusts for which no ownership information is available at all. Most of the 500 largest MNCs do not have any top ten shareholder from this category. Due to the very low number of cases (and the fact that ownership chains may continue beyond the last available link), the insights that can be gained from this group are limited: it encompasses simple as well as complex multi-jurisdiction ownership chains ending in the Bahamas, Belgium, Bermuda, the British Virgin Islands, the Cayman Islands, China, Finland, Guernsey, Hong Kong, India,[9] Japan, Luxembourg, the Netherlands, South Africa, the United Arab Emirates and the US. These destinations include some the world's most notorious tax havens as well as others not considered secrecy jurisdictions or corporate tax havens, but which nevertheless restrict public access and searchability of UBO data.

9 No corporate tax haven score is available for India.

This UBO research found 16 private entities with unknown owners controlling more than 5% of one of the 500 largest MNCs. Disclosure regimes for listed corporations are made less effective by exemptions (as in the case of Japan and the US), high reporting thresholds and access hurdles (as in the case of India) or lack of implementation (as in the case of Finland) (Knobel 2020). The UBO research also found reporting entities that failed to comply with reporting requirements (as in the case of Luxembourg). Others may be compliant assuming their shares are, in fact, held by multiple UBOs with smaller, non-reportable ownership interests. However, it is impossible to know whether or not UBOs are circumventing reporting requirements thanks to secrecy jurisdictions and opaque legal vehicles, such as private foundations or trusts, which are available in many jurisdictions around the world.

4.1.5 Other

In addition to the lack of transparency, there are also cases where no UBO could be identified because the ultimate owners or beneficiaries do not fit the definition of beneficial ownership. This applies to widely held shareholders (i.e. listed corporations and customer-owned entities),[10] employees (i.e. employee share ownership plans, corporate or union pension sponsors, etc.),[11] foundations (i.e. private foundations, banking foundations, charities, endowments, etc.)[12] and self-owned shares.[13] It is likely that in most of these ownership chains no single shareholder passes the 25% threshold due to dispersed ownership structures. Such cases are less relevant from the perspective of corporate ownership transparency, with the notable exception of foundations: identifying the beneficial owners of foundations and certain types of trusts is more challenging than for other legal entities due to the separation of ownership and control. Additionally, identifying the true beneficiaries of foundations is beyond the scope of this article. This UBO research failed to identify the ultimate owners or beneficiaries of all but three foundations due to the lack of publicly available UBO data, rather than overly high reporting thresholds.

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10 Examples include Huatai Securities, a Chinese brokerage and trading firm, whose investors include the Chinese electronics retailer Suning.com and the Alibaba Group; the French cosmetics company L'Oréal, which is partially owned by Nestlé; the German car manufacturer Daimler, whose investors include the Dutch-registered Renault-Nissan alliance; the Indian conglomerate ITC, a large stake of which is controlled by British American Tobacco; and the US investment bank Morgan Stanley, whose largest shareholder is Mitsubishi UFJ Financial Group.

11 Employee ownership is most common among French and Japanese multinationals.

12 Examples include Fondazione Cassa di Risparmio di Torino, with investments in Assicurazioni Generali, UniCredit and Intesa Sanpaolo; the Interogo Foundation in Liechtenstein, an owner of the Swedish clothing retailer Hennes & Mauritz; the Knut and Alice Wallenberg Foundation in Sweden as the largest shareholders of Investor AB; and Novartis in Switzerland, whose top ten shareholders include the Sandoz Family Foundation.

13 An example is the South African Nasper group, whose majority-owned subsidiary Prosus is traded on the Amsterdam stock exchange; Prosus itself is the largest shareholder of its parent company.

4.2 Where are Big Three-managed funds domiciled?

Institutional investors make up by far the largest group of top ten shareholders in the 500 largest MNCs. However, publicly available ownership data do not provide information about the jurisdictions and types of legal vehicles used by institutional investors to manage their ownership interests. To complement the results of the UBO research above, this section analyses the fund domiciling strategies of the three industry giants that dominate the sample: Vanguard is a top ten shareholder in 465 MNCs, BlackRock is a top ten shareholder in 444 MNCs, and State Street is a top ten shareholder in 262 MNCs.

Several patterns emerge when comparing fund domiciles to the locations of investors in Big Three-managed funds. The funds advertised to investors worldwide typically include funds domiciled in the investor's own jurisdiction (or an EU member state in the case of European investors). This applies to investors in Asia, Australia, Europe, Latin America and North America. Luxembourg- and Irish domiciled funds lead the offshore funds advertised to investors around the world, particularly those in financial hubs such as Dubai, Hong Kong, Singapore and Switzerland, but also investors in China and the US. This highlights the role of Luxembourg and Ireland as international financial centres with a reach extending far beyond the European market. UK-domiciled funds are also marketed to investors in the US. Meanwhile, US-domiciled funds focus on local investors and – at least compared to funds domiciled in Luxembourg and Ireland – are less frequently marketed outside the US (exceptions are the financial hubs mentioned above, as well as Chile and Mexico).

Table 2 summarizes the distribution of Big Three-managed funds and fund assets. The US is the leading fund domicile with 971 (35.6 percent) out of 2,728 funds, most of which are registered in Delaware (21.9 percent). Another 1,121 funds (41.1 percent) are domiciled in Ireland, the UK and Luxembourg. Australia, Canada and Japan are important domiciles of funds targeting primarily local investors. Aside from Japan, Asia and Latin America are less important fund domiciles for the Big Three. None of the funds are domiciled in Africa.

This pattern is even more pronounced when fund assets are taken into account. The US alone accounts for 82.4% of total net assets held by Big Three-managed funds. Again, the vast majority of fund assets are held in Delaware (72.2%). Together, the remaining US-domiciled funds – registered in Massachusetts, New York, Maryland, Ohio and Virginia – have more assets under management (10.3%) than any fund domicile outside the US. Ireland is the only European fund domicile with a sizable share of fund assets (9%), followed by the UK (3.6%) and Luxembourg (1.9%). A number of funds were originally domiciled in the UK and later re-domiciled in Ireland. Luxembourg-domiciled funds, though advertised to investors worldwide, are somewhat less important in terms of fund assets. Their share (1.9%) is closer to locally oriented markets,

Table 2: Investment funds and net assets managed by BlackRock, Vanguard and State Street by jurisdiction

	Funds		Net assets			
Fund domicile	**N**	**%**	**US$ (millions)[2]**	**%**	**FS score[3]**	**CTH score[4]**
US[1]	971	35.61	12,675,107.71	82.41	63	47
Delaware	598	21.93	11,098,603.62	72.16	n/a	n/a
Massachusetts	241	8.84	753,225.08	4.90	n/a	n/a
New York	25	0.92	548,771.68	3.57	n/a	n/a
Maryland	7	0.26	265,732.53	1.73	n/a	n/a
Ohio	93	3.41	6,654.87	0.04	n/a	n/a
Virginia	7	0.26	2,119.94	0.01	n/a	n/a
Ireland	659	24.17	1,388,742.01	9.03	48	77
UK	268	9.83	464,268.40	3.02	46	69
Luxembourg	194	7.11	287,746.34	1.87	55	74
Australia	139	5.10	254,157.47	1.65	50	n/a
Canada	186	6.82	111,472.73	0.72	56	n/a
Germany	55	2.02	56,198.29	0.37	52	58
Netherlands	8	0.29	35,983.82	0.23	67	80
Mexico	59	2.16	32,544.68	0.21	53	54
Japan	103	3.78	26,343.94	0.17	63	n/a
Hong Kong	22	0.81	21,259.09	0.14	66	78
Switzerland	23	0.84	17,980.56	0.12	74	89
Brazil	11	0.40	4,365.64	0.03	52	29
Singapore	4	0.15	1,828.44	0.01	65	85
Colombia	1	0.04	1,752.23	0.01	56	n/a
China	1	0.04	1,002.00	0.01	60	63
South Korea	17	0.62	n/a	n/a	62	n/a
Unknown	6	0.22	552.37	0.00	n/a	n/a
Total	2,728	100	15,381,305.73	100	m=58.12	m=66.92

[1] Data pertaining to US states are included in the US numbers.
[2] Net assets reported by providers' websites in September 2021. In some cases, financial information was taken from the fund's most recent financial statement published prior to September 2021. Note that the net asset total does not take into account cross investments between funds.
[3] Financial secrecy score for 2020.
[4] Corporate tax haven score for 2021.

Sources: BlackRock 2021; State Street 2021; Tax Justice Network 2020e, 2021e; Vanguard 2021 such as Australia (1.7%) and Canada (0.7%). Otherwise important conduits – including the Netherlands, Hong Kong, Switzerland and Singapore – host only a negligible number of funds and share of total net assets. On the one hand, this distribution reflects the maturity of the investment fund industry in the US, where many households have been investing in the financial market for decades. Since the US has the largest customer base, it is not surprising that the majority of global asset managers are located there (Fichtner 2020). Additionally, there is an incentive to centralize fund management and domicile funds in fewer jurisdictions to achieve economies of scale. On the other hand, fund managers use multi-jurisdiction structures to accommodate different investor profiles. According to a KPMG publication, the overarching purpose of fund structuring is to maximize returns through tax planning; other important factors in selecting fund domiciles include reputation, regulatory requirements, flexibility and costs (Teo et al. 2020). The question is why fund managers prefer certain fund domiciles – above all, Delaware – over others. The mean financial secrecy and corporate tax haven scores suggest that tax systems and rates may be more important for fund domiciling than the level of anonymity a jurisdiction provides. However, this explanation does not hold for the largest fund domicile, the US, which combines a high level of financial secrecy with a relatively low risk of corporate tax avoidance, based on the two scores. A more fine-grained analysis shows that the leading fund domiciles in the US and Europe all offer advantageous tax and legal regimes for investment funds:

In terms of taxes, the US exempts portfolio interests from corporate and government bonds held by foreigners (Tax Justice Network 2021a). Delaware is not a low or zero-tax jurisdiction per se (Dyreng et al. 2013). There are, however, tax exemptions available to the investment fund industry (ITEP 2015). Delaware offers tax-transparent legal vehicles such as limited partnerships or trusts, which are not taxed on their income (dividends or interest) and capital gains. Instead, all fund income flows through to the investors, who are liable to taxes in their capacity as limited partners of partnerships or beneficiaries of trusts, respectively (Cumming et al. 2015). Tax transparency has the additional advantage that it allows foreign investors to circumvent anti-tax avoidance measures applied by their own jurisdictions, such as Controlled Foreign Corporations (CFC) and Foreign Investment Fund (FIF) rules (Teo et al. 2020). Ireland, the UK and Luxembourg are all considered corporate tax havens. Ireland provides various forms of tax relief for foreign dividends, interests and capital gains arising from the disposal of securities. Non-Irish investors are generally exempt from paying withholding tax in Ireland (PwC 2019); they are also exempt from corporation taxes levied on resident real estate investment trusts (REITs) and investment companies (Tax Justice Network 2021b). In the UK, REITs and investment companies are exempt from paying taxes on either dividends or capital gains, depending on their organizational form. The UK generally does not levy any taxes on foreign dividends and grants tax credits for foreign taxes paid on interest income. Tax exemptions are also available for capital gains in the UK (Tax Justice Network

2021c). In Luxembourg, investment companies are exempt from taxes on corporate income, capital gains (under certain circumstances) and net wealth (Tax Justice Network 2021d). These three European fund domiciles offer specialized legal vehicles, including investment companies with tax-exempt status and/or access to tax exemptions (e.g. Irish collective asset management vehicles [ICAVs] or variable capital investment companies [VCCs] in Ireland; open-ended investment companies [OEIC] in the UK; and investment companies with fixed or variable capital [SICAF or SICAV] in Luxembourg). Entities with legal personality have access to tax treaty benefits. Recently, the UK introduced a new tax regime for asset holding companies, aiming to increase its attractiveness as a fund domicile and prevent re-domiciliation of funds to the EU (HM Revenue and Customs 2021). Luxembourg is a fierce competitor of Ireland and the UK, offering legal vehicles that combine elements from civil and common law jurisdictions. Like Delaware, these jurisdictions offer flow-through entities (e.g. unit trusts, investment limited partnerships [ILP] or common contractual funds [CCF] in Ireland; qualifying asset holding companies [QAHC], private fund limited partnerships [PFLP] or authorized contractual schemes [ACS] in the UK; and fonds commun de placement [FPC] or funds established as special limited partnerships [SCSp] in Luxembourg) (CMS 2021; HM Revenue and Customs 2021; Knobel 2019; PwC 2019). Some of the above are hybrid entities benefitting from mismatches between national tax systems. ICAVs, for example, are treated as corporations with access to tax treaty benefits and various forms of tax relief in Ireland, and as tax-transparent partnerships in the US. As a result, US investors are not charged taxes that are normally due on foreign-source passive investment income (KPMG 2015).

In addition to low or zero taxes, Delaware and the European fund domiciles have legal advantages. The ease, rapidity and low cost of incorporating and operating a company are key features of Delaware's tax haven strategy (ITEP 2015). Delaware companies can be purchased "off the shelf," and there is no requirement to maintain any physical activity or employees in Delaware (Tax Justice Network 2020a). An article by two US lawyers specializing in global asset management argues that Delaware has fewer know-your-customer (KYC) and anti-money laundering (AML) rules than high-ranking secrecy jurisdictions such as the Cayman Islands, Hong Kong or Singapore (Roberts/Silber 2020). Delaware has an established body of laws and precedents, an efficient court system specializing in corporate law, many corporate lawyers and laws favouring management over shareholders (Dyreng et al. 2013). The clear definition of management duties and the predictability of the legal system are particularly important for investment funds, where control and ownership are separate (Cumming et al. 2015). There are additional regulatory advantages of selecting Delaware as a fund domicile: US-based investors are subject to fewer reporting requirements when investing in a domestic fund, and the US – along with other OECD countries – has avoided being blacklisted by the OECD or EU (Council of the European Union 2024; OECD 2009). Finally, its small size and dependency on revenues from incorporations signal that Delaware is responsive to pressure from private interests. The Tax Justice Network (2020a) has criticized the disproportionate influence of the financial services sector on policymaking in US states such as Delaware, as well as the UK and Luxembourg. Luxembourg is the second-largest fund domicile in the world after the US. The small state is known for its developed financial services sector and light regulation, as are Ireland and the UK (Tax Justice Network, 2020b, 2020c, 2020d). Ireland and Luxembourg offer privileged access to the European market and beyond via numerous tax treaties. UK-domiciled funds have lost their passporting rights post-Brexit, which allowed them to be sold throughout the EU without registration, a development that has made Ireland and Luxembourg the preferred fund domiciles for institutional investors in the EU (Teo et al. 2020).

While the European fund domiciles no longer centre their tax haven strategies on secrecy (with reservations in the case of Luxembourg) (Tax Justice Network, 2020b, 2020c, 2020d), the US continues to rank at the top of the world's secrecy jurisdictions. Delaware is a state that takes financial secrecy particularly far (Tax Justice Network 2020a). Until recently, US federal law did not require the registration of beneficial ownership of private companies at all. Under the Corporate Transparency Act, effective January 2024, private companies have to collect and report UBO data to the Financial Crimes Enforcement Network (FinCen), accessible to US authorities and others for law enforcement purposes only. The law explicitly exempts not only securities-issuing companies but also most financial institutions and pooled investment vehicles from registration requirements; it also does not apply to partnerships and trusts (US Congress 2021). As of March 2025, all entities created in the US are exempt from reporting UBO data to FinCen (FinCen 2025). Certain financial institutions in the US are required to collect and report beneficial ownership data on both resident and non-resident taxpayers. However, the US government has historically been reticent to share financial information on non-residents with foreign governments and does not participate in the OECD's Common Reporting Standard (CRS) for automatic exchange of financial information (Tax Justice Network 2020a). By contrast, Ireland, the UK and Luxembourg all participate in the CRS. All three have centralized UBO registers (Tax Justice Network, 2020b, 2020c, 2020d). The UK, which officially exited the EU in 2020, was one of the first jurisdictions to make its register publicly accessible. In 2018, the UK Parliament passed legislation mandating its OTs to do the same (Tax Justice Network, 2020c). However, with the exception of Gibraltar, the inhabited CDs and OTs either do not have beneficial ownership registration laws or UBO data is not accessible to the public. AMLD5 required EU member states to establish publicly accessible registers of any natural person who ultimately owns or controls more than 25% of either shares or voting rights in a legal person or arrangement incorporated within their territory (OJ 2018 L 156/43). AMLD6, to be transposed by the end of July 2027, clarifies that competent authorities and persons of the public with a legitimate interest should have access to UBO data (OJ 2024 L 1640). However, the reporting threshold of 25% established by the directive effectively exempts most pooled investment vehicles in practice. It also exempts exchange-traded funds

(ETFs). Since UBO frameworks generally fall short of capturing the beneficial ownership of investment funds, Delaware and the three European fund domiciles arguably do not offer greater anonymity than other jurisdictions.

Table 3: Overview of the analysis of fund domiciles

	Fund domiciles			
Advantages offered to investment funds	**Delaware**	**Ireland**	**UK**	**Luxembourg**
Tax exemptions	✓	✓	✓	✓
Tax transparency	✓	✓	✓	✓
Access to double tax treaties	✓	✓	✓	✓
Specialized legal vehicles		✓	✓	✓
Incorporation centre	✓		✓	
Offshore financial centre		✓	✓	✓
EU passport rights		✓		✓
Not blacklisted	✓	✓	✓	✓
No automatic exchange of financial data	✓			
Exempt from UBO registration	✓			
Exempt from UBO registration – in practice	✓	✓	✓	✓
Access to UBO data limited to competent authorities	✓			

5. Conclusions

The UBO research conducted in the context of this study was unable to identify any natural person or state accounting for more than 25% of shares or voting rights for as many as 4,263 top ten shareholders in the 500 largest MNCs (85.7%) due to the lack of publicly available UBO data and ownership structures in which no UBO fits the definition used here. The results show that it is rare for UBOs of large corporations to hide behind shell companies with no apparent link to a financial intermediary. Instead, the lack of corporate ownership transparency is mostly driven by financial intermediation. At the same time, the results also show that institutional investors preferentially domicile funds in tax havens. It is unclear whether fund managers seek out financial secrecy, or whether anonymity is an added benefit of fund domiciling strategies focused on low or zero taxes, because the leading fund domiciles offer both.

The main takeaway from this article is that institutional investors in a handful of jurisdictions are responsible for the vast majority of unknown ownership in large corporations. Some jurisdictions clearly have more responsibility for the state of corporate ownership transparency in the world than others. This applies to jurisdictions hosting many MNCs as well as jurisdictions where the UBOs of those MNCs reside. The US contributes disproportionately to the lack of corporate ownership transparency worldwide because over 40% of the 500 largest MNCs are both headquartered and domiciled there. In the US, nearly all ownership chains where no UBO could be identified have institutional investors as their last available link. Its contribution is thus largely driven by the important role of institutional investors. However, there are also other jurisdictions hosting private entities with unknown owners who control a top ten shareholder in one of the 500 largest MNCs. They include China, India, the Cayman Islands, Japan and Luxembourg, to name just a few. Delaware is the leading fund domicile, while Ireland, the UK and Luxembourg stand out as the preferred non-US fund domiciles among the Big Three. The list of jurisdictions enabling secret ownership includes some of the richest and most powerful states in the world. The jurisdictions attracting most Big Three-managed investment funds are all OECD members. Although transparency standards have improved in recent years, they have not yet disrupted the business models of tax havens in the OECD area. The results of this study do not pinpoint tax havens as the sole culprits. Instead, they highlight the lack of effective UBO frameworks throughout ownership chains of large corporations.

Institutional investors play a key role in the anonymization of beneficial ownership because investment funds largely fall outside the scope of ownership registration laws. The existing UBO frameworks – in particular high thresholds used to determine beneficial ownership – are inadequate in a context where ownership of large corporations is overwhelmingly intermediated by institutional investors. This group accounts for over 80% of ownership interests held by the top ten shareholders in the 500 largest MNCs, at least 90% of which hold their shares via funds. The only publicly available information on the ownership of those shares are the names of the fund managers.

This lack of transparency is not only problematic from a researcher's perspective: ownership and control of large corporations are linked to power, including the ability to shape transparency regimes. The availability of tax havens, along with gaps in the UBO frameworks of many jurisdictions around the world, allow beneficial owners to stay anonymous and, potentially, abuse their anonymity to evade taxes or engage in other forms of financial crime. The costs of financial secrecy are borne by citizens and small or medium-sized companies, who do not benefit from tax and regulatory avoidance schemes. In democracies, it should therefore be a matter of public record who owns the most powerful economic actors. To ensure corporate ownership transparency, policymakers should specifically address gaps in UBO frameworks that exempt the investment fund industry.

The most comprehensive approach by far to achieve this would be the creation of a global wealth register. Such a register could also cover other forms of wealth, including equity in listed and unlisted corporations, debt instruments, bank deposits, cash, crypto assets, insurance and pension claims, real estate, vehicles, valuables, art or intellectual property rights. This idea was proposed by Piketty (2014) and further developed by Zucman (2015), who suggested that a global wealth register could be built by merging ownership data from tax authorities and central securities depositories. It would involve introducing registration requirements for assets that currently are not registered anywhere and limiting the use of cash. To account for privacy and personal safety concerns, access to sensitive data would need to be restricted to law enforcement authorities in some cases. Even if the technical and legal concerns were to be resolved, however, the question remains whether the establishment of a global wealth registry is politically feasible since it would demand international cooperation in policy areas that have until now been subject to fierce competition. In the absence of a global solution, there are steps policymakers should and can take to improve corporate ownership transparency in the immediate future. Based on the results of this study, in conjunction with recommendations made by experts from international organizations (FATF 2019; Garde et al. 2021; Van der Does de Willebois et al. 2011) and civil society (Harari et al. 2020; Knobel 2019; Knobel 2020; Martini 2019; Open Ownership, 2020a, 2020b), the following principles should be applied:

- All jurisdictions should establish central registries to collect legal and beneficial ownership data, including historical data, from legal entities.
- The data should be publicly accessible, free of charge and searchable by legal entity and beneficial owner.
- Registration requirements should apply to owners and controlling persons of all types of legal persons and arrangements operating in a jurisdiction.
- Thresholds to determine beneficial ownership should be sufficiently low to cover all UBOs with substantial control or cash flow rights, to be determined based on the value of ownership interests, rather than percentages.
- In addition to public scrutiny, there should be adequate resources and controls in place to guarantee data quality, including sanctions for failure to comply with registration requirements.
- There should be alternative data sources so that public authorities can cross-check information. UBOs should be required to contribute to the identification of beneficial ownership. Reporting entities should be required to identify and keep up-to-date records of their UBOs. Identification and record-keeping obligations should be extended to the financial institutions and professional service providers involved in the formation of entities. They should be required to report any discrepancies to the registry.
- The use of nominee accounts pooling deposits or investments from different end investors should be disallowed.

In conclusion, the question of who owns the largest corporations in the world remains unanswered, and this is unlikely to change soon. The results of this study suggest at least two other areas for future research: On the one hand, it would be worthwhile to test various explanations for different levels of unknown ownership across jurisdictions in a multivariate setting. On the other hand, the relationship between the most successful tax havens and financial intermediaries deserves more attention in both media and research going forward.

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