EUTAX Observatory

The Mystery of Anonymous Investment in US Real Estate

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NOTE

Summary

This note addresses the significant concerns associated with anonymous real estate ownership in the United States, highlighting how a considerable amount of property, including residential real estate, is held via corporate entities that conceal the true owners. Analyzing data from three major US cities, New York, Miami and Boston, we reveal the limitations of current methods in accurately identifying foreign ownership and propose solutions for federal and state authorities to enhance transparency and understanding of the extent of cross-border real estate ownership. Without such measures, the enigma of anonymous ownership persists, obstructing our collective grasp of its breadth and implications. The fact that the size and scope of foreign investment in US real estate remains a mystery is not a data problem, but a policy one.

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1 Introduction

In mid-2022, the US Justice Department's Operation KleptoCapture task force raided several luxury properties in New York and Miami. The unit had recently been established to root out, seize and freeze the assets of sanctioned Russian oligarchs, particularly those that may have been attempting to circumvent the sanctions regime by hiding their ownership. The Justice Department later revealed that the properties were actually owned by Viktor Vekselberg, a Russian-Cypriot billionaire who has been under US sanctions since late 2017.

While KleptoCapture had sufficient intelligence that Vekselberg owned roughly $70m worth of property, the average concerned citizen would have been clueless as to the size of his investments in the US real estate market. Vekselberg is not listed as the owner of any properties in New York City's Automated City Register Information System (ACRIS). In place of his name was an anonymous shell company, actually registered in Panama but with a Madison Square garden mailing address. In practice, this combination of secretive ownership structures and limited filing requirements had kept the oligarch's sizable property portfolio out of view.

Illicit billionaire property portfolios are particularly eye-catching, but they represent a more general phenomenon that demands more attention by researchers and policymakers alike: the rise of secretly-owned real estate in luxury property markets, much of it held through complex, opaque ownership structures. Real estate estate markets have long been a concern for those looking to crack down on financial crime (FATF, 2007). Because it offers both a stable store of wealth and ambiguity over the market value, real estate is in many ways an ideal asset class for those looking to launder illicit wealth. In many jurisdictions, the types of due diligence checks that banks are required to conduct on their customers do not apply to the lawyers and real estate agents involved in transactions. When they are, they are often poorly-enforced.

These risks are amplified when ownership originates offshore or the ownership structure involves foreign companies. More generally, a person's ownership of property overseas, or at home through a complex offshore structure, is significantly more likely to go unnoticed by their authorities at home, making it easier to get away with tax evasion or corruption. This is because while most property registers are publicly accessible, most jurisdictions do not require corporate property owners to file information on who owns the underlying company. Furthermore, many of the third party reporting requirements that apply to foreign financial assets do not extend to real estate, leaving many authorities — both foreign and domestic — in the dark as to who owns what.[1]

Understanding the size of cross-border positions in real estate is the first step to addressing these risks. Despite this, there have only been a few systematic attempts to do so by researchers.[2] A recent effort by the EU Tax Observatory, known as the Atlas of the Offshore World, published new bilateral estimates of

[1] A recent study by **?** found that those holding offshore assets shifted a sizable portion into UK real estate in order to circumvent new requirements on the exchange of bank account information. A recent case study in Dubai revealed that many properties being held there by Norwegian nationals were not reported to the tax authority back home (Alstadsæter et al., 2022)

[2] Examples of recent efforts at the country level include Alstadsæter and Økland (2022), Bomare and Le Guern Herry (2022), Alstadsæter et al. (2022) and Johannesen et al. (2022)

foreign ownership of real estate in six major cities and areas, including Paris, London, Dubai and Singapore.[3] As we will describe in detail below, expanding the coverage of these estimates requires detailed data that offers a path to observing, or at least inferring, the ultimate owner of each real estate property in a jurisdiction, a process which is complicated when ownership is completely anonymous.

This note demonstrates how a significant share of the property market in key US cities is owned by anonymous companies and how this corporate ownership opacity hampers efforts to gauge the size and evolution of foreign owned real estate in the United States. Anecdotally, many American cities are prime targets for illicit wealth, ranging from Russian oligarchs[4] to those involved in the Malaysian 1MDB scandal. A recent study noted that at least $2.3 billion were laundered through U.S. real estate between 2015 and 2020, likely only a fraction of the total amount (GFI, 2021).[5] In recent years, concerns over the attractiveness of luxury real estate to those engaged in corruption or financial crime have led US policymakers to target many of its largest cities with new enforcement orders aimed at gathering more info on the ownership structures involved (Collin et al., 2021).

In this report we focus on three cities for which the nominal ownership data for real estate is readily available: New York City, Miami and Boston. We show that transparency around nominal ownership — the name written down in the property register — does not translate into transparency of ultimate ownership. For each of the cities, we establish the following:

- Corporate ownership represents a large share of the value of total residential real estate.
- That ownership appears too "domestic," in that there is far less direct foreign ownership than what would be expected given the popularity of these markets.
- The majority of that ownership is opaquely held through companies with no clear method of establishing who the ultimate owners of US properties are.
- Simplified, aggregate reporting by federal and state authorities, made possible by recent legislation, would help shed significant light on this problem.

The rest of this note proceeds as follows: In Section 2 we highlight how we've processed the data for each of the three cities. Section 3 provides background on the data and broad trends in real estate investments in three major cities: New York, Miami and Boston. We then analyze the fault lines in the current availability of data on offshore real estate in Section 4. Finally, Section 5 posits some relevant policy implications and outlines the scope for future work.

[3] At present the Atlas covers these four cities, as well as Côte d'Azur and Oslo.

[4] Maybe paradoxically, there is more transparency about the inflow of Russian money into the real estate market in the secretive tax haven Dubai (UAE) than in the US. This is due to leaks from local authorities and organisations. These leaks have been covered extensively by media organisations (see Dubai Uncovered and Dubai Unlocked) and have been analysed in economic terms by Alstadsæter et al. (2022) and Alstadsæter et al. (2024). The most recent effort, Alstadsæter et al. (2024), finds that Russian owners held real estate in Dubai worth USD 3.7 billion in 2022 and that several new billions were invested after the new waves of international sanctions in 2022.

[5] This amount only covered known cases of money laundering as a result of criminal prosecutions. This means it very likely reflects only a small fraction of the total amount.

2 Processing Public Data on Corporate Ownership

As part of this analysis, we rely on public data from three US cities: New York City, Miami and Boston. We chose each city because of their renown for both being highly-popular with foreign owners and — in the case of New York City and Miami — for being significant hotspots for illicit real estate activity.[6] All were chosen as potential candidates to be added to the real estate section of the Atlas of the Offshore World, the website developed by the EU Tax Observatory to present the most up-to-date estimates of the extent of offshore wealth, profit shifting and effective tax rates.

We obtained annual data for New York City using annual assessment valuations published by the Department of Finance as well as ownership information held in its Automated City Register Information System (ACRIS) system. For Miami, we rely on data from the Miami-Dade Property Appraiser. Lastly, we retrieved data for Boston from the City of Boston's open data hub, Analyze Boston. Our analysis for each city is based on the latest data available at the time we began our analysis for this note: 2022 data for New York, 2023 data for Miami, and 2021 data for Boston.

In our analysis, we identified corporations by flagging owners in each dataset whose names contain words that are most commonly associated with corporations, such as LLC or INC.[7] This allows us to identify the total number of properties that are owned (or part-owned) by corporations, as well as the total value of that property.

There are limits to this approach, particularly for cities that publish more limited data on property ownership. For New York City, we were able to identify each owning party that was listed in ACRIS, and link that information to the city's annual valuation dataset using each property address's unique identifier.[8]

In contrast, neither Miami nor Boston published detailed information on all the parties that own a property, instead only listing a single owner in their valuation database. This may mean we are underestimating the proportion of corporate owners in the database. Specifically, in the context of the Miami/Boston datasets, if we possessed the same level of detail regarding all parties connected to a property's deed as is available for New York, it would potentially enable us to identify additional owners, particularly those that are corporate entities, of the property in question. We describe our exact process for creating each dataset in the Appendix.

3 Evaluating the Scope of Hidden Property Ownership in the US: Insights from New York City, Miami and Boston

In this section, we describe the scale and concentration of corporate ownership in the real estate market across New York City, Miami and Boston.

[6]All three cities, along with Atlanta, Georgia and Austin, Texas, were highlighted as top destinations for commercial real estate investments in a survey conducted by the Association for International Real Estate Investors. Multiple reports by journalists and civil society organizations have highlighted the degree to which both NYC and Miami real estate have become hotspots for dirty money, where think tank reports have highlighted similar risks for Boston.

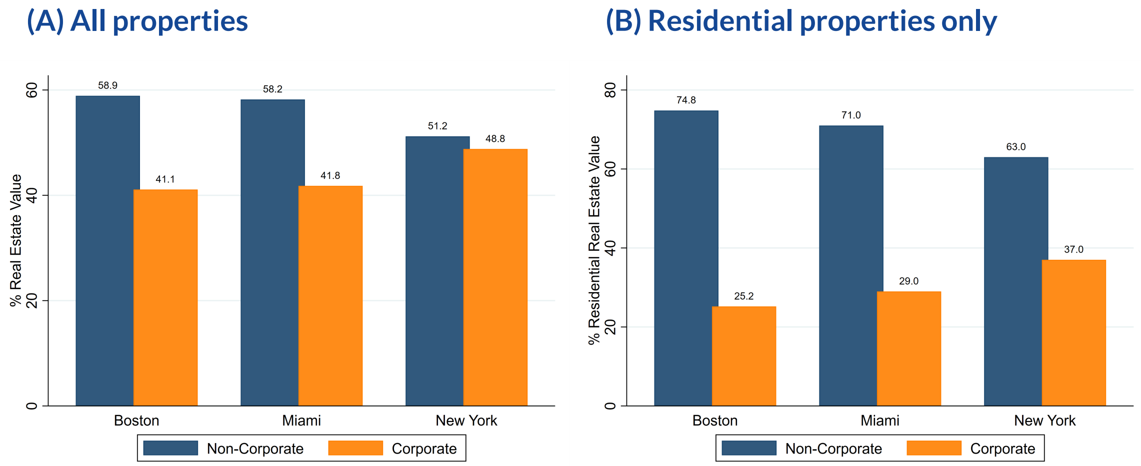
[7]We outline the full set of these "noise words" that we rely on in the appendix.

[8]When multiple parties own the same property, we split the value equally between them.

Our analysis illustrates three things: (i) opaque corporate ownership comprises a significant part of each market, (ii) it is more common in the luxury and high-end property market, and (iii) that it is very likely the high density of US corporate ownership effectively hides how much real estate is actually held by foreign buyers.

FIGURE 1

Share of corporate ownership in selected cities in the US



Note: The figure presents the share of corporate ownership of (a) total real estate value and (b) total residential real estate value in New York City, Miami and Boston. NYC estimates use 2022 assessment valuation and ownership information from New York City's Department of Finance and its Automated City Register Information System (ACRIS). Miami estimates are taken from Miami-Dade Property Appraiser published as of 2023. Boston estimates are derived from 2021 data published by the City of Boston's Analyze Boston open data hub. Corporate ownership was identified through the presence "noise words" associated with corporate names.

Result 1: Corporate ownership comprise a substantial share of the value across each market, and a rising share in NYC

Our first result is that corporate ownership represents a sizable share of the value of real estate across all three cities. As shown in Figure 1, corporate ownership of real estate ranges from approximately 41% (in Boston) to nearly 49% (in NYC). Some of this dominance is due to corporate ownership of commercial property, which is more common than in residential markets. When we restrict the data to units that are residential,[9] the share of corporate ownership drops to between 25-37% across the three cities. By our estimates, most of this real estate is held via more secretive limited liability companies (LLC): out of all company-owned real estate in each city, roughly 71%, 68% and 67% of the value is owned via a LLC in NYC, Miami and Boston, respectively.

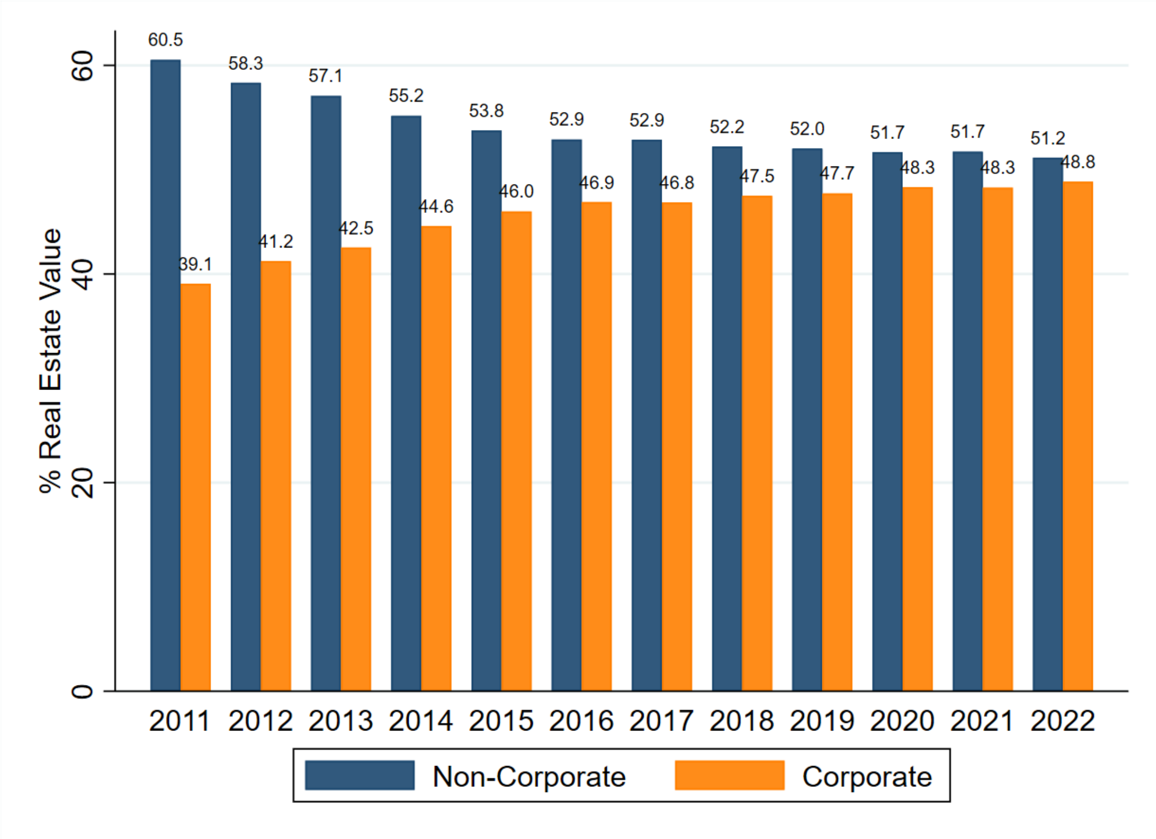
Not only is corporate ownership a substantial share of the real estate market, it also appears to be rising.

[9] We distinguish residential units from the broader real estate stock by utilizing the tax classification laid out by the Department of Finance. Specifically, Tax Class 1 encompasses residential properties consisting of one to three units. Conversely, Tax Class 4 includes a wide array of real property types, such as office buildings, factories, stores, hotels, and have been classified as Tax classification 1 and 2 in New York (Fig A4). To compensate for varying data structures across cities, we devised a strategy to standardize property classification. Following the example set by New York City's use of tax class variables, we created a similar system for Miami and Boston.

Using data for New York City, where we can more easily observe changes over time by exploiting the transaction records, we found that the share of all real estate value that is owned by a company has risen by nearly 10 percentage points over the course of the 2010s (Figure 2).[10] This is consistent with recent work by Angela Stovell's for JustFix, which also finds that rates of corporate ownership are rising across NYC.

FIGURE 2

The growth in corporate ownership of real estate in New York City (2011-2022)



Note: The figure displays estimates for the share of all real estate in NYC that is owned through a corporate entity for the years 2011-2022. These estimates combine the New York City Department of Finance's annual valuation data with end-of-year ownership information taken from the Automated City Register Information System (ACRIS). Corporate ownership was identified through the presence "noise words" associated with corporate names.

Result 2: Corporate ownership is more common at the luxury-end of the market

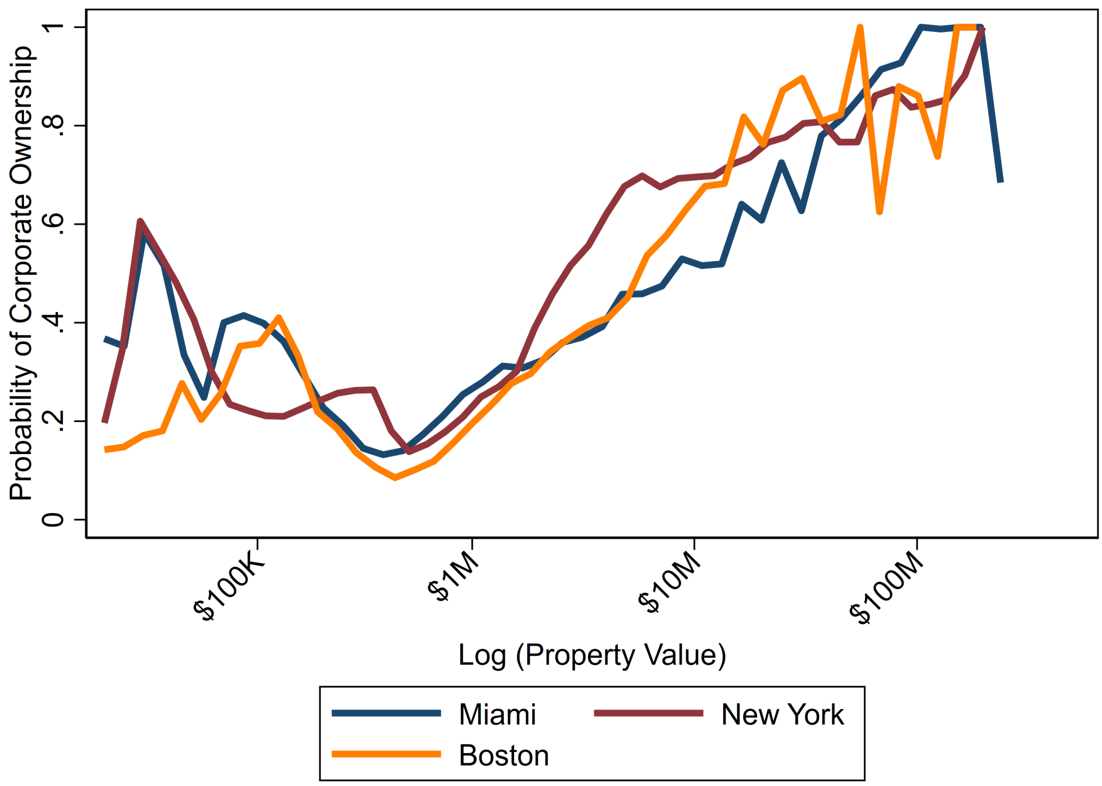
From the $30m Manhattan penthouse owned by fugitive Malaysian businessman Jho Low to an equally expensive Malibu mansion owned by the son of Equatorial Guinea's president, many of the most egregious cases of illicit wealth being funneled into real estate involve the use of luxury property. In fact, in its recent guidance for applying a risk-based approach in the real estate sector, the FATF (Financial Action Task Force) highlighted the degree to which luxury property is more likely to be used for money laundering, and that illicit actors are more likely to use legal entities to obscure their identity (FATF, 2022).

[10] This rise in the corporate share is not driven by changes in valuation over time.

To understand how much more likely opaque ownership is in the luxury market, we estimated the probability that a property is owned or co-owned by a corporate entity in each of the three cities we have data for. We focus solely on residential property here because, while there are many legitimate reasons for companies to own high-end residential property (such as property development companies or large scale leasing firms, such as Trump Tower), the increasing use of opaque ownership structures is still a risk factor for illicit investment.

FIGURE 3

The likelihood of corporate ownership increases with the value of the property



Note: The figure displays local polynomial estimates of the probability that a property is fully-owned or partly-owned by a company, as a function of that property's assessed value.

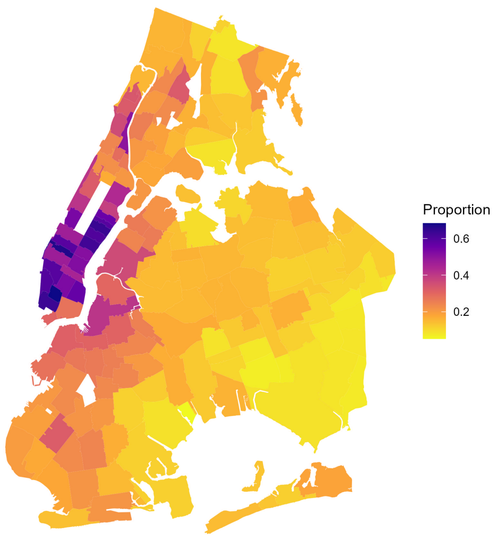
We find that corporate ownership is more highly concentrated in the luxury market in each of our three cities. As demonstrated in Figure 3, we find that the probability that at least one owner of a residential property is a corporation increases dramatically as the price of the property exceeds the $1-2m mark. For properties that are valued at $10 and $100m, respectively, the probability that a corporate owner is involved exceeds 50% and 80%, respectively. Luxury concentration also translates into geographic translation: when we map the density of corporate ownership of residential properties for New York City, we find that Manhattan zip codes (the part of the city with the most luxury property) have substantially more density than the rest of the city (Figure 4).[11]

[11] The proportion of all units owned by at least one company tells a similar story for all the real estate in NYC (Fig A3). Additionally, Fig A2 presents an overview of geographic concentration of ownership through Delaware — a state infamous for its business-friendly legal environment, especially for corporations.

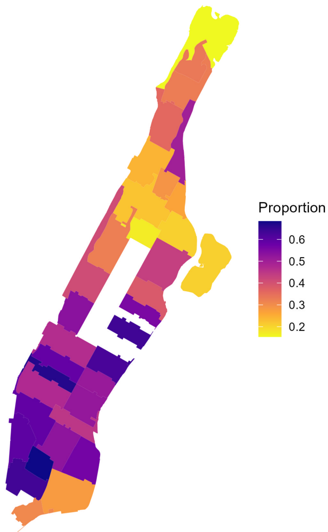
FIGURE 4

Proportion of Residential Units owned by Corporations in a given zip-code

(A) All Residential units in NYC



(B) Residential units in Manhattan

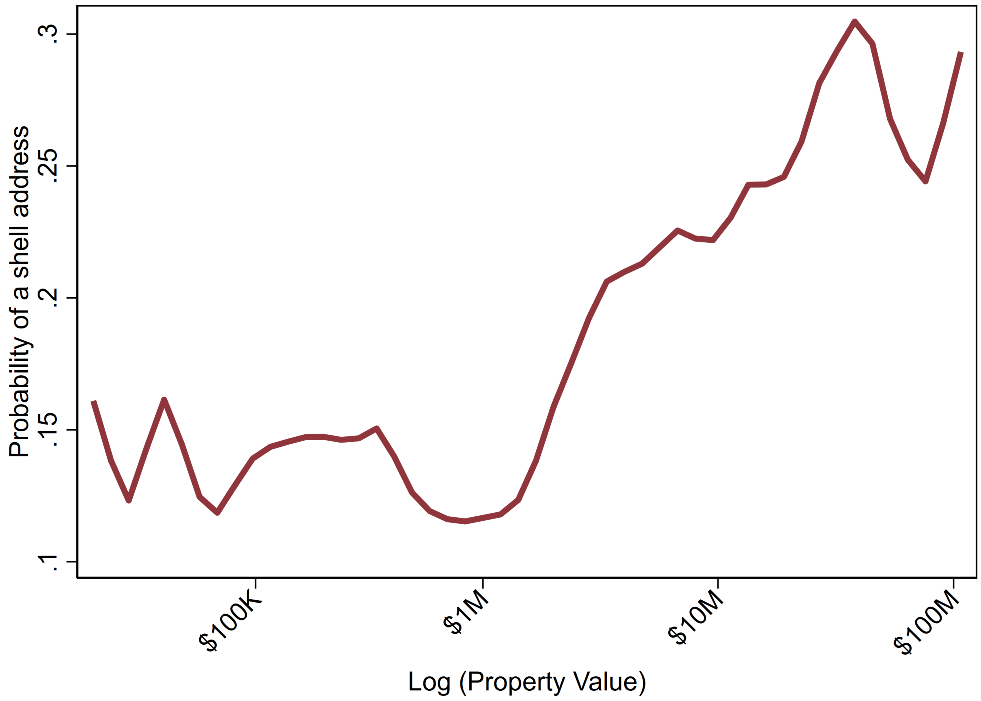


Note: The figure presents- the proportion of all residential properties in a given zip-code that are owned, wholly or partly, by a corporation.

Much of this luxury ownership is not only through companies, but through shell companies with little-to-no economic presence. To demonstrate this, we repeat the above exercise for all companies, now distinguishing between regular companies and those we classify as those that are likely to be shell companies. We use a combination of three different methods to flag companies as being shell companies. First, we flag companies if they appear in the New York State corporate register and are registered to an address that is in the top 10% of addresses when ranked by the number of companies registered there. Second we flag companies if their mailing address as provided to the New York Department of Finance is in the

FIGURE 5

Estimated Probability of corporate-owned units owned by shell company entity based on property value



Note: This figure presents the estimated probability of corporate-owned units owned by shell company based on property value across New York. We classify a company as a shell company if its address is among the top 10 percent of the addresses in the New York State Registry of active corporations, that is, in terms of how many corporations are registered with this address or mailing address as provided to the New York Department of Finance is in the top 10% of addresses when ranked by the number of other companies present there or a company that is is registered in Delaware, Nevada or Wyoming.

top 10% of addresses when ranked by the number of other companies present there. [12] Finally, we flag companies as being likely shell companies if we determine they are registered in Delaware, Nevada or Wyoming, popular 'secrecy states' that are known for hosting a large number of shell companies (Tuttle, 2020; Aliprandi et al., 2023).

Thus, following this methodology Figure 5 illustrates that shell company ownership is concentrated among the most expensive properties. Shell companies own both high-end and low-end real estate, but the propensity of shell company ownership increases with value, even within the sample of corporate-owned real estate. This compounds the tendency of companies in general to be more likely to invest in high-value real estate compared to cheaper units.

[12] Figure D1 shows approximately what the top addresses by corporate concentrations look like in the corporate registry. Whereas, Fig D2 depicts the later- top addresses by number of corporations registered on the mailing addresses in New York Real Estate.

Result 3: Most foreign-held real estate is not visible in public data

Next, we used public data to attempt to uncover the origins of US investment in real estate. We did this only for New York City, which as we described above, has more comprehensive coverage of property owners. There are two main challenges to identifying where the owners of New York City real estate reside. The first is the same problem facing policymakers and investigators: for companies, we will only at best be able to identify the jurisdiction of registration, not the beneficial owners and their location. We will focus on the jurisdiction of registration, to demonstrate that this leads to estimates of real estate that is foreign-owned or have offshore ownership links which are unrealistically small, given existing reporting. The second challenge is that NYC's property portal, ACRIS, only records the mailing address of the owner. This is more likely to be the actual address of residence when the owner is a real person. But companies, particularly smaller LLCs that are registered out of state (or whose beneficial owners live out of state), are more likely to receive mail at the address of a corporate service provider that helps manage their affairs, often a law firm.

To overcome this second challenge, we matched the names and mailing addresses of LLCs to the New York State Registry, which requires all companies that do business in the state to register, including foreign and out-of-state firms. For the companies that we successfully matched to this database (approximately 38% out of those that own property in NYC), we were able to recover the jurisdiction of registration from the Registry. For the remainder, we rely on the mailing address, despite its limitations.

Table 1 displays our estimates of the jurisdiction of origins for the stock of investment in NYC real estate, allocating that jurisdiction based on either what appears in the New York State Registry or the listed mailing address in ACRIS. Relying purely on public data, we are only able to allocate 0.27%, about $3.7b, of the total value of NYC real estate to foreign jurisdictions. Over 95% of the value is allocated to companies connected to New York State, and the remaining 3.7% did not contain enough information to allocate it to a jurisdiction.

Taken at face value, this would imply that the ownership of New York City real estate is overwhelmingly local, and that little of the real estate is owned from abroad. However, we know from industry reports that foreign purchases in New York State (the majority of which will be in the capital) make up approximately $2-4.5b annually.[13] This highlights the degree to which domestic corporate ownership can obscure the actual size of foreign-held real estate. It is also worth noting that a number of the foreign jurisdictions in Table 1 are notable tax havens that are known for hosting shell companies, including the Isle of Man, British Virgin Islands, and Hong Kong.

Figure 6 illustrates how the observable offshore share in the New York City housing is conspicuously low compared to other large cities. The figure shows that the offshore share in the New York City residential real estate market, 0.1 percent, is not only lower than in other global mega cities like London (7.6 percent) and Paris (6.2 percent) , but also the far less international Oslo (2.4 percent).

[13] See the National Association of Realtors Annual Report on foreign purchases, which provides rough estimates of the total dollar volume of foreign purchases of existing US homes, as well as their distribution across different US states.

TABLE 1

Top Investments in NYC Real Estate in 2022 (by Country)

Country	Value in Billions ($)	% Total RE Wealth
United States	1251.59	96.03
Unreported	48.27	3.70
Canada	0.72	0.06
United Kingdom	0.49	0.04
Singapore	0.36	0.03
Qatar	0.30	0.02
China	0.19	0.01
Germany	0.17	0.01
Spain	0.14	0.01
Japan	0.10	0.01
Isle of Man	0.10	0.01
Israel	0.09	0.01
Hong Kong	0.09	0.01
Switzerland	0.05	< 0.01
British Virgin Islands	0.05	< 0.01

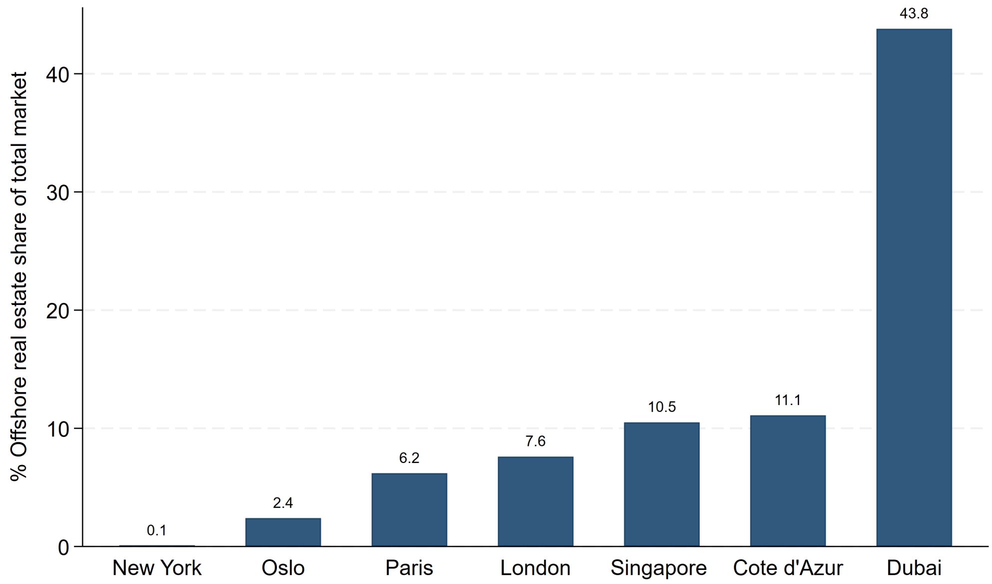
Note: This table presents top investments by countries in the New York Real Estate in 2022. The country of origin is mapped through the addresses of the parties involved in a given property transaction.

A number of studies have highlighted the role that different US states play in enabling ownership secrecy, in particular states like Delaware which are known for hosting a large number of shell companies (Aliprandi et al., 2023). In Table 2, we break down ownership of NYC property by the specific state a company is registered in. The vast majority of the value is still allocated to corporations based in New York state. This is in part due to the popularity of NY LLCs in holding, but also a limitation of our use of mailing address data. However, the second most popular location we identify are Delaware-based companies, which own at least $27b of NY real estate, roughly 4% of the total value invested by corporations.

Using publicly-available data, we have shown that most New York City real estate appears to be owned by individuals and entities based in the same state. From countless investigative and industry reports, we know that the share of real estate owned by foreigners is likely to be much higher than what we report here. Publicly, foreign-held real estate is largely missing from the equation. In the next section, we'll explore popular methods that researchers use to get around the opacity of ownership that plagues real estate markets, and explain why those methods fall short in the US context due to insufficient transparency.

FIGURE 6

Observable offshore ownership in New York City and other real estate markets around the world



Note: This figure compares the observable offshore residential real estate in New York City with six other cities and areas around the world. All numbers are for residential real estate only, with the exception of London. The methodology behind the estimates is documented is documented in Alstadsæter et al. (2023), and the London estimates in more detail in Bomare and Le Guern Herry (2022). The country-by-country estimates from the different cities are shown and can be downloaded from Atlas of the Offshore World.

4 Why does the trail run cold?

In the previous section, we highlighted how a large share of residential real estate in some of the largest US cities are owned by opaque corporate owners. But why is it so challenging to loop past that corporate ownership and establish who are the real owners of these companies (and thus properties)? In this section, we describe the four main tools or sources of information that researchers and civil society organizations use to find ultimate owners and estimate foreign-held real estate for a jurisdiction, and why those tools are less effective in the American context.

Beneficial ownership registries

Many countries around the world have now implemented public registries of beneficial ownership, either for domestic companies or also - in the case of the United Kingdom - for foreign companies that hold domestic real estate. While they are not perfect (Advani et al., 2023), public-facing registries are still enormously useful because they allow researchers to more easily pierce the veil of corporate secrecy when allocating real estate wealth to foreign owners. Beneficial ownership registries were crucial in determining foreign ownership in the Atlas of the Offshore's estimates for Paris and Côte d'Azur, as well as in the United Kingdom (**?**). However, no US state currently has a beneficial ownership in place, and the federal government's centralized register has been kept private.

TABLE 2

Top Corporate Investments in NYC Real Estate in 2022 (by States)

	Value in Billions ($)	% Total Corporate RE Investments
New York	535.98	84.09
Delaware	27.11	4.25
Unreported	22.20	3.48
New Jersey	9.82	1.54
California	9.39	1.47
Florida	4.23	0.66
Illinois	4.11	0.65
Massachusetts	3.04	0.48
Texas	2.88	0.45
Connecticut	2.67	0.41
Ohio	2.25	0.35
Georgia	2.18	0.34
Colorado	1.77	0.28
Pennsylvania	1.58	0.25
Maryland	1.28	0.20

Note: This table presents top corporate investments by states in the New York Real Estate. The state of origin is mapped through the jurisdiction information from the active corporation data combined with the address of the parties involved in a given property transaction.

ORBIS

ORBIS, a proprietary database owned by Bureau van Dijk (BvD), is perhaps the largest firm-level database in the world. As the database includes vast information on ownership structure, many researchers have used it to study the behavior of multinationals across time. Some have also used it to improve upon estimates of offshore ownership, matching firm names in public real estate registers to those in ORBIS and using the latter's information on ultimate beneficial ownership to better-detect foreign-owned property (Johannesen et al., 2022).

However, ORBIS suffers from true limitations that makes its usefulness in the US context challenging. The first is that it relies entirely on public information that has been collected by BvD. That means that its coverage of ultimate ownership will be poor in contexts where the ownership structure involves jurisdictions that do not publish detailed shareholder or beneficial ownership information. If for example a foreigner owns a Delaware LLC directly, and that LLC owns property in Miami, ORBIS would be unable to record the foreigner's ownership, because Delaware does not publish this information publicly. Only in circumstances where part of the ownership structure is transparent, such as when the parent company in the ownership chain is registered in a jurisdiction that published beneficial ownership information, will ORBIS be able to correctly allocate that ownership to the right individual.[14]

[14] ORBIS is also expensive, making it a difficult tool for interested parties to access. Further limitations include duplicate

Leaked data on ownership structures

Many researchers have utilized leaked ownership information published by the International Consortium of Investigative Journalists (ICIJ), including the Panama and Pandora Papers, to shed light on ownership structures that govern real estate investments. This approach can bear fruit when there is a heavy degree of overlap between the coverage of ICIJ's data and ownership chains for a given jurisdiction. For example, both **?** and Johannesen et al. (2022) use the ICIJ's Offshore Leaks Database to improve upon their allocation of real estate ownership in England and Wales to foreign jurisdictions.

But the ICIJ data has poor coverage of ownership structures that begin in the United States. This is because leaks like the Pandora and Panama Papers involved corporate service providers who mainly specialized in setting up shell companies in offshore tax havens. The fact that US LLCs offer the same secrecy as shell companies in notorious tax havens, which means that most US real estate is owned by domestic LLCs, limits the usefulness of this approach.

Official statistics

Occasionally, governments themselves compile and publish statistics on the ultimate ownership of property in a way that can be used to identify how much of the domestic market is owned by foreigners. For example, using data sourced from Singapore's Singstat, the national statistical agency, and REALIS, a government-owned real estate information provider, researchers at the EU Tax Observatory have derived estimates of the foreign-owned share.[15]

Yet in the US, no government agency makes an effort to collate and publish detailed information on the ultimate ownership of real estate. Private sector groups such as the National Association of Realtors do occasionally release reports detailing trends in foreign ownership. But because these statistics are based on surveys of realtors rather than administrative data, they are unlikely to be wholly accurate, even if they might offer a sense of the order of magnitude.

Consolidated data that could be used to pierce the veil of corporate secrecy does exist, but it is not currently available to the public. Since early 2016, the Financial Crimes Enforcement Network (FinCEN), part of the US Treasury, has been gathering data on the beneficial ownership of residential properties in certain parts of the US. Their Geographic Targeting Order (GTO) program, which now covers at least 55 counties across the US (more than 30% of the value of all real estate sales), requires title insurance companies who cover residential properties purchased by corporations without a mortgage to collect beneficial ownership information. The GTO program now covers all of New York City, Miami and Boston, as well as all transactions above $300,000, which covers the majority of those that occur in the three cities. The US Treasury is also making plans to expand the GTO program nationwide, which means that

names of foreign entities, and the information it publishes is typically a few years old.

[15] In Singapore, residential real estate comprises public and private housing segments. Public housing is exclusively available to Singaporean citizens, while private housing has no nationality restrictions. To determine foreign ownership, we include public housing in the overall housing stock denominator. We allocate private housing data to specific countries based on housing purchase statistics spanning 1995 to 2019, encompassing district, property type, and buyer nationality. Transaction values are approximated from price range bins, adjusted using annual price indicators by property type, and aggregated by country annually.

FinCEN will soon have the requisite data to better understand the ultimate ownership of the majority of property sales in the US.

Similarly, data gathered under the recently-introduced Corporate Transparency Act, which centralized the gathering of beneficial ownership information for all US-based entities under the control of FinCEN, could be used to shed light on the problem. However, as with the GTO program, the information gathered there is not published publicly. In the next section, we will explain how this information could be used to solve the mystery of foreign ownership of US real estate.

5 Policy Implications

The fact that the size and scope of foreign investment in US real estate remains a mystery is not a data problem, but a policy one. Changes to the way that federal and state authorities collect and publish information would provide policymakers, researchers and civil society the ability to both estimate and track investments across time.

In this section we describe the policy changes that would be necessary for this to happen, starting with the ones that would have the biggest impact.

Recommendation 1: A public, machine readable beneficial ownership registry

In the beginning of 2024, the US Treasury began implementing the Corporate Transparency Act (CTA), the first-ever effort to mandate the reporting of beneficial ownership information in the US as well as centralize its collection. The CTA requires all corporate entities (companies, LLCs, LPs, and even foreign companies registered to do business in the US) to file ultimate beneficial ownership information with FinCEN. Existing businesses have until the beginning of 2025 to come into compliance, where new entities created after January 1, 2024 have to comply immediately.

By the end of 2024, FinCEN will have amalgamated a comprehensive database of beneficial ownership of every company that does business in the United States. However, the CTA does not provide any mechanism for the public to have access to that data. Other law enforcement agencies and the IRS will be able to search the database, and financial institutions will have access with their customer's consent. But these agencies will not likely have the resources to conduct a systematic analysis of foreign-owned property.

The easiest solution would be to make access to FinCEN's database public, in a machine readable fashion, much in the same way that the UK's Companies House does with its Register of People with Significant Control. This would allow interested parties to link state-level real estate registers to the beneficial ownership database, making a more precise estimation of foreign-owned real estate possible. It would also make the database more effective, by allowing the interested public to cross-check and verify the information it contains.

However, this would require a significant amendment to the CTA, at a time when there has already been pushback against public beneficial ownership registries due to privacy concerns. An alternative that accommodates these concerns would be to follow the EU, who following the 2022 ruling of the European

Court of Justice, revised their policies in early 2024 to still require ultimate beneficial ownership registries and allow access to public authorities and relevant stakeholders, like banks and other companies involved in anti-money laundering work and "persons of the public with legitimate interest", such as the press, researchers and NGOs.

In the meantime, New York State will take the first step in providing the public with access to beneficial ownership information. Thanks to the introduction of the New York LLC Transparency Act (NYLTA), beginning in 2025, companies that do business in the state will have to begin filing similar information with the local Department of State. In contrast to the CTA, the NYLTA will make some of the information gathered public: the name and mailing address of the beneficial owner. Two key provisions will be essential to making this work properly: First, that the information is made public in a machine-readable format. And second, that it includes the country of residency or the nationality of the beneficial owner. In the meantime, other states could adopt similar laws in order to bypass the lack of public transparency in the Corporate Transparency Act.

Recommendation 2: The publication of routine, publicly-available statistics on foreign ownership of US property

While amending the Corporate Transparency Act (and expanding the information collected under the New York LLC Transparency Act) would allow researchers and others to thoroughly monitor the US real estate market, the US authorities already gather information that they can put to work and use to inform the public.

A second-best solution would be for the US Treasury to regularly-publish information on the foreign ownership of property using information it gathers through the Geographic Targeting Order, which requires the filing of identity documentation for beneficial owners of companies that buy real estate without a mortgage. While not perfect, this identity documentation could be used to assign the person to a probable jurisdiction of origin. It would be then straightforward for FinCEN to aggregate the value of corporate, cash purchases governed under the GTO program by the jurisdiction of the beneficial owner and publish this information on a monthly, quarterly or annual basis at the national, state or even county level. Such information would offer only a partial picture of the flow of new foreign investment in the US real estate market, but would be sufficient for researchers to make initial estimates that could be extended to the rest of the country, with some assumptions.

Of course, FinCEN has all the tools on hand to come up with more comprehensive estimates: by combining the filings made for the Corporate Transparency Act with the real estate registries published by cities like NYC, Miami and Boston, FinCEN would be able to publish detailed estimates of the stock of foreign-held real estate for the most important markets in the country. But at present, without a significant increase in the agency's resources, a detailed analysis like this is unlikely in the future.

One way to bridge this gap would be for FinCEN to embrace collaboration with academic researchers, much in the same way that the IRS frequently does in order to conduct policy-relevant research using sensitive data. Such collaborations have been fruitful in the past, allowing the IRS to better understand the risks it faces regarding tax evasion, both on and offshore (Johannesen et al., 2020; Guyton et al., 2021). Doing so would help FinCEN expand its analytical capacity substantially at little cost.

6 Conclusion

In this note, we have described the significant risks associated with anonymous real estate ownership, particularly ownership that is cross border in nature. Using data from three major US cities, we have demonstrated that a substantial portion of both total real estate and residential real estate is held through corporate vehicles that obscure its ultimate ownership. We believe these official statistics drastically under count foreign ownership, but as we have described, traditional methods of allocating the ownership of real estate do not work well in the US context.

We have suggested a way forward: if federal and state authorities wish to improve both the public's as well as their own understanding of how much real estate ownership is cross-border, they need to either gather and release the information that researchers need to make their estimates, or they need to aggregate and publish those estimates themselves. Until then, the mystery of anonymous ownership of US real estate will continue, and our collective understanding of its scale will continue to suffer.

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A Additional Tables and Figures

TABLE A1

Summary Statistics : All Properties

		Percentiles, Median and Mean				
	No. of Properties	25th	Median	Mean	75th	Max
New York	1,112,517					
Value (USD)		396,085	660,000	1,443,076	1,020,000	16.1bn
Miami	918,696					
Value (USD)		251,160	371,200	724,715	547,682.5	587mn
Boston	177,091					
Value (USD)		313,000	511,700	1,284,306	766,500	1.86bn

Note: This table presents summary statistics of values for New York, Miami and Boston properties from the administrative data. An observation is a unique property.

TABLE A2

An Illustration of Jurisdiction Mapping

	Value in Billions ($)	% Total Corporate RE Investments
Method 1		
New York	479.82	86.22
Method 2		
New York	458.04	82.19

Note: Method 1 involves gathering information from both Corporate Registry and ACRIS Parties, which is subsequently merged with 2019 New York Real Estate Data to ascertain the ultimate jurisdiction of these corporate entities. Conversely, Method 2 involves extracting data from ACRIS Parties and then combining it with 2019 New York Real Estate data to determine the jurisdiction of corporate entities engaged in property transactions.

TABLE A3

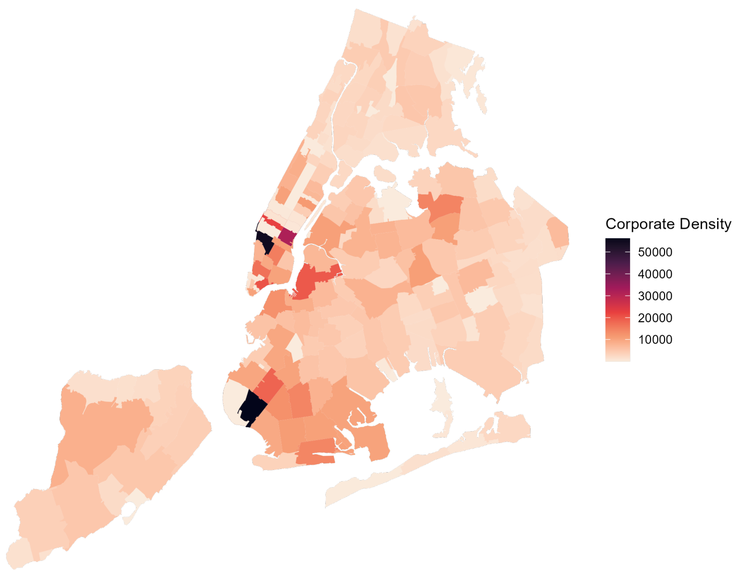
Summary Statistics : All Properties by Tax Class

		Value in Millions ($)			
	No. of Properties	Total Value	Avg Value of Property	Median	Max
New York					
Total	1,112,517				
Tax Class 1	704,284	664,000	0.94	0.74	594
Tax Class 2	294,094	386,000	1.31	0.33	1,650
Tax Class 3	382	40,300	105	1.60	8,070
Tax Class 4	113,757	547,000	4.8	0.44	16,100
Miami					
Total	918,696				
Tax Class 1	815,259	485,000	0.59	0.37	546
Others	103,437	181,000	1.75	0.30	587
Boston					
Total	177,091				
Tax Class 1	140,996	115,000	0.81	0.59	415
Others	25,869	126,000	48.7	0.23	1,850

Note: This table presents summary statistics for values for New York, Miami and Boston properties from the administrative data. For, NYC, Class 1: Most residential property of up to three units (family homes and small stores or offices with one or two apartments attached), and most condominiums that are not more than three stories. Class 2: All other property that is not in Class 1 and is primarily residential (rentals, cooperatives and condominiums). Class 3: Most utility property. Class 4: All commercial and industrial properties, such as office, retail, factory buildings and all other properties not included in tax classes 1, 2 or 3. To ensure uniformity and enable comparison among datasets from different regions, we employ a similar consistent Tax Class classification system for the real estate mainly Tax Class 1 for residential and Others and datasets of both Boston and Miami. An observation is a unique property.

FIGURE A1

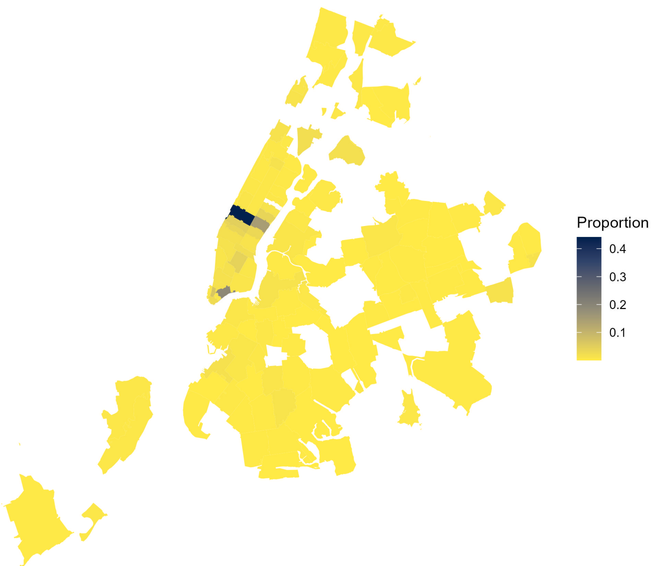
Active Corporation Density by Zip Code in New York



Note: The figure presents- density of active corporations by zip code level in New York. The Department of State keeps a record of every filing for every incorporated business in the state of New York.

FIGURE A2

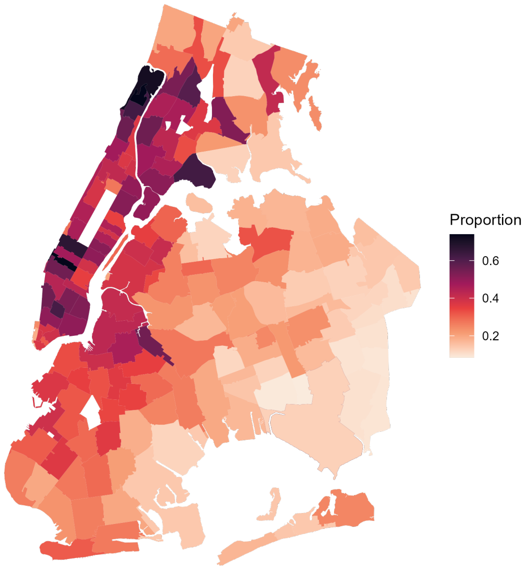
Proportion of Residential Units owned by Corporations from Delaware



Note: The figure presents- the proportion of residential properties in a given zip-code that are owned, wholly or partly, by a company with a jurisdiction mapped to Delaware.

FIGURE A3

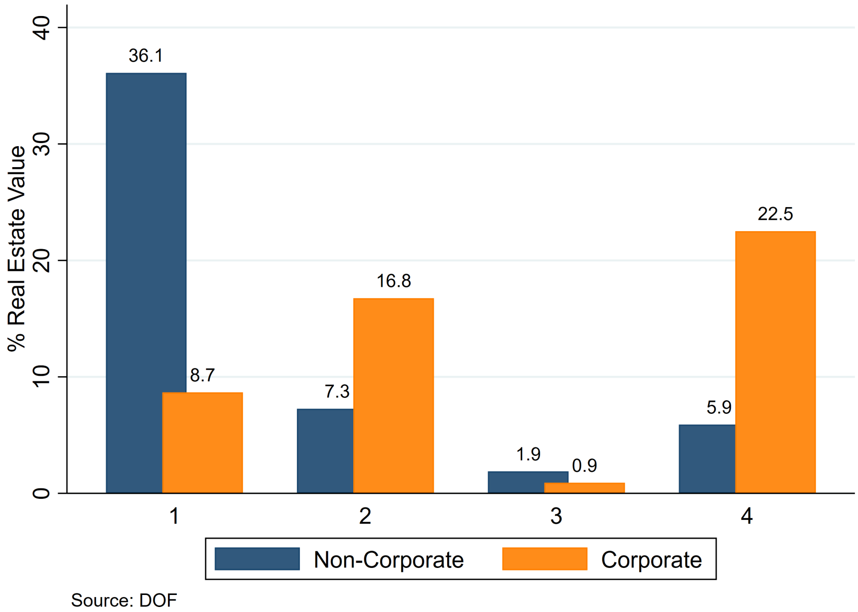
Share of all properties in a New York City zip-code that are owned by a company



Note: The figure presents - for New York City - the proportion of all properties in a given zip-code that are owned, wholly or partly, by a company.

FIGURE A4

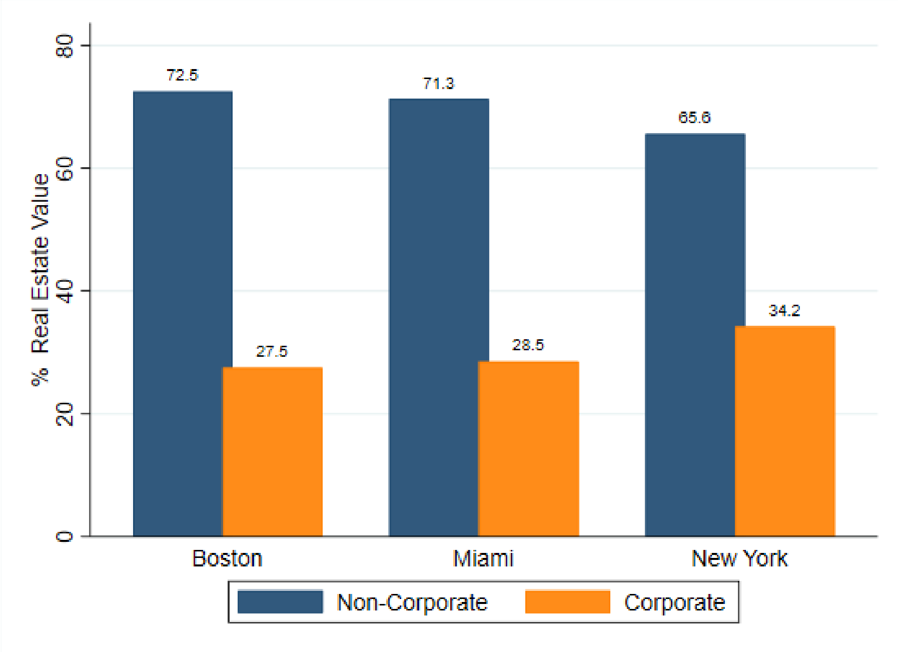
Distinction by Tax Class in New York Real Estate



Note: The figure illustrates share of ownership through corporations within each tax class of total real estate value in New York. The estimates use 2022 assessment valuation and ownership information from New York City's Department of Finance and its Automated City Register Information System (ACRIS).

FIGURE A5

Share of corporate ownership though Limited Liability Corporations



Note: The figure presents the share of ownership through limited liability companies of total real estate value in New York City, Miami and Boston. NYC estimates use 2022 assessment valuation and ownership information from New York City's Department of Finance and its Automated City Register Information System (ACRIS). Miami estimates are taken from Miami-Dade Property Appraiser published as of 2023. Boston estimates are derived from 2021 data published by the City of Boston's Analyze Boston open data hub. Corporate ownership was identified through the presence "noise words" associated with limited liability companies such as "LLC", "LP", etc.

B Misc

B.1 Keywords for Flagging Corporate Ownership in the U.S Dataset

Comprehensive list of terms and abbreviations, carefully compiled through an in-depth analysis of the data. These terms are commonly used to flag corporations based on owner names and include the following:

“LLC”, “L.L.C”, “CORP”, “BANK”, “HOLDING”, “CO”, “INC”, “LL”, “AND”, “LC”, “ASSN”, “ASSOC”, “ASSOCIATION”, “BUSINESS TRUST”, “CHARTERED”, “CHTD”, “CO-OP”, “COMPANY”, “COOPERATIVE”, “CORP.”, “CORPORATION”, “CREDIT UNION”, “FCU”, “FEDERAL CREDIT UNION”, “FEDERAL SAVINGS BANK”, “FSB”, “GENERAL PARTNERSHIP”, “GMBH”, “INC.”, “INCORPORATED”, “JOINT STOCK COMPANY”, “JOINT VENTURE”, “JSC”, “JV”, “LIMITED”, “LIMITED COMPANY”, “LIMITED LIABILITY COMPANY”, “LIMITED LIABILITY LIMITED”, “LIMITED LIABILITY PARTNERSHIP”, “LIMITED PARTNERSHIP”, “LLC”, “LLLP”, “LLP”, “LP”, “LTD”, “LTD CO”, “MD”, “MDPA”, “MEDICAL DOCTOR”, “NATIONAL ASSOCIATION”, “PARTNERSHIP”, “PLC”, “PLLC”, “PROFESSIONAL ASSOCIATION”, “PROFESSIONAL CORPORATION”, “PROFESSIONAL LIMITED COMPANY”, “PROFESSIONAL LIMITED LIABILITY COMPANY”, “REGISTERED LIMITED LIABILITY PARTNERSHIP”, “RLLP”, “SAVINGS ASSOCIATION”, “SSB”, “TRUST”, “ACQUISITION”, “ENTERPRISES”, “INFRASTRUCTURE”, “PROPERTIES”, “PROPERTY”, “ESTATE”, “INDUSTR”, “OFFICE”, “INVESTMENTS”, “BROTHER’S”, “MANAGEMENT”, “PARTNERS”, “RETAIL”, “GROUP”, “CONSTRUCTION”, “UNION”, “ESTATE”.

Following the compilation of this list, an extensive manual cleaning process was undertaken to ensure that individuals with these keywords are not inadvertently included.

B.2 Property in NYC is divided into 4 broad Tax Classes:

- Class 1: Most residential property of up to three units (family homes and small stores or offices with one or two apartments attached), and most condominiums that are not more than three stories.
- Class 2: All other property that is not in Class 1 and is primarily residential (rentals, cooperatives and condominiums).
- Class 3: Most utility property.
- Class 4: All commercial and industrial properties, such as office, retail, factory buildings and all other properties not included in tax classes 1, 2 or 3.

C Data Construction

C.1 New York

In the process of extracting and analyzing data from the NYC Automated City Register Information System (ACRIS), we relied on datasets related to parties, master records, legal documents, and valuation. Our goal was to reveal the intricate patterns of property transactions and ownership shifts. We intersected the master, parties, and legal datasets to track property dealings involving individuals and corporate entities, such as Limited Liability Companies (LLCs), and noted ownership changes. Although the valuation dataset contributed to our understanding, its limited information on corporate ownership indicated a notable gap in capturing comprehensive corporate property stakes.

Our methodology included identifying corporate ownership indicators within property deeds, notably the mention of "LLCs". This approach, upon validation, facilitated an analysis of residential property valuations and transactions across the city, employing tax classification distinctions. We further refined our analysis by filtering out noise words from owner and party names to flag corporate ownership, uncovering potential inadequacies in the valuation dataset's overall representation of corporate entities. Additionally, we addressed ownership arrangements by equitable distribution of each property's value, enhancing our insight into the distribution of property ownership.

We also utilized the Active Corporate Registry to supplement missing data, particularly concerning corporate jurisdictions, and to analyze corporate density at the zip code level. This approach aided in mapping the geographical distribution and potential concentration of shell companies in New York's real estate market.

C.2 Miami and Boston

For our analysis on Miami and Boston, we sourced data from administrative public databases: the Miami-Dade Property Appraiser and the City of Boston's open data hub, (Analyze Boston). We used the most current data available at the onset of our research—2023 data for Miami and 2021 data for Boston.

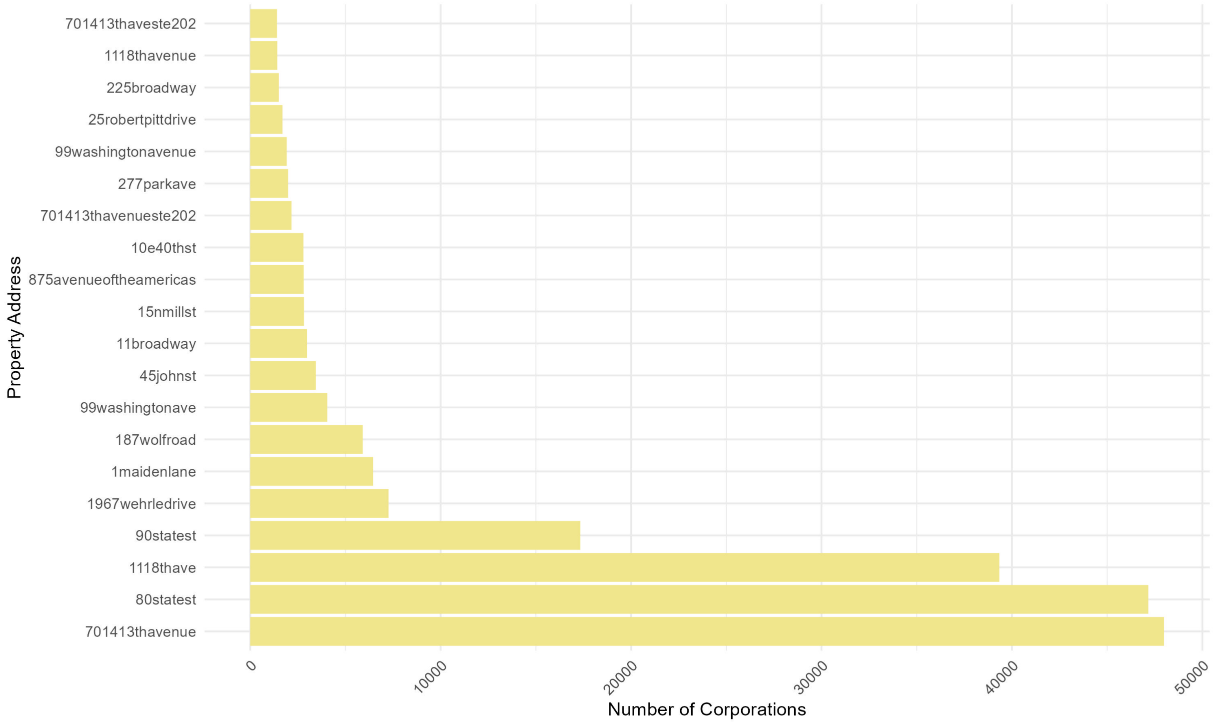
Our methodology involved identifying corporate-owned properties by filtering property records for 'noise words' indicative of corporate entities (e.g., LLC, Cooperative). This approach is consistent with our analysis in New York City. However, while Boston's records list only one owner per property, Miami's dataset allows for up to two owners per property. This discrepancy introduces challenges in accurately identifying potential additional stakeholders in property deeds. Consequently, the absence of comprehensive transactional data may lead to an underestimation of the actual number of corporate property owners in Miami and Boston.

To compensate for varying data structures across cities, we devised a strategy to standardize property classification. Mirroring New York City's use of tax class variables, we developed an analogous variable for Miami and Boston. This was achieved by leveraging land use codes and property classification data provided within each city's dataset. This standardization enables us to categorize properties as either residential or non-residential. Coupled with our corporate ownership identification algorithm, this methodology aids in demystifying the ownership structures of properties in Miami and Boston, enhancing transparency in our analysis of mysterious investments.

D Shell Analysis Figures

FIGURE D1

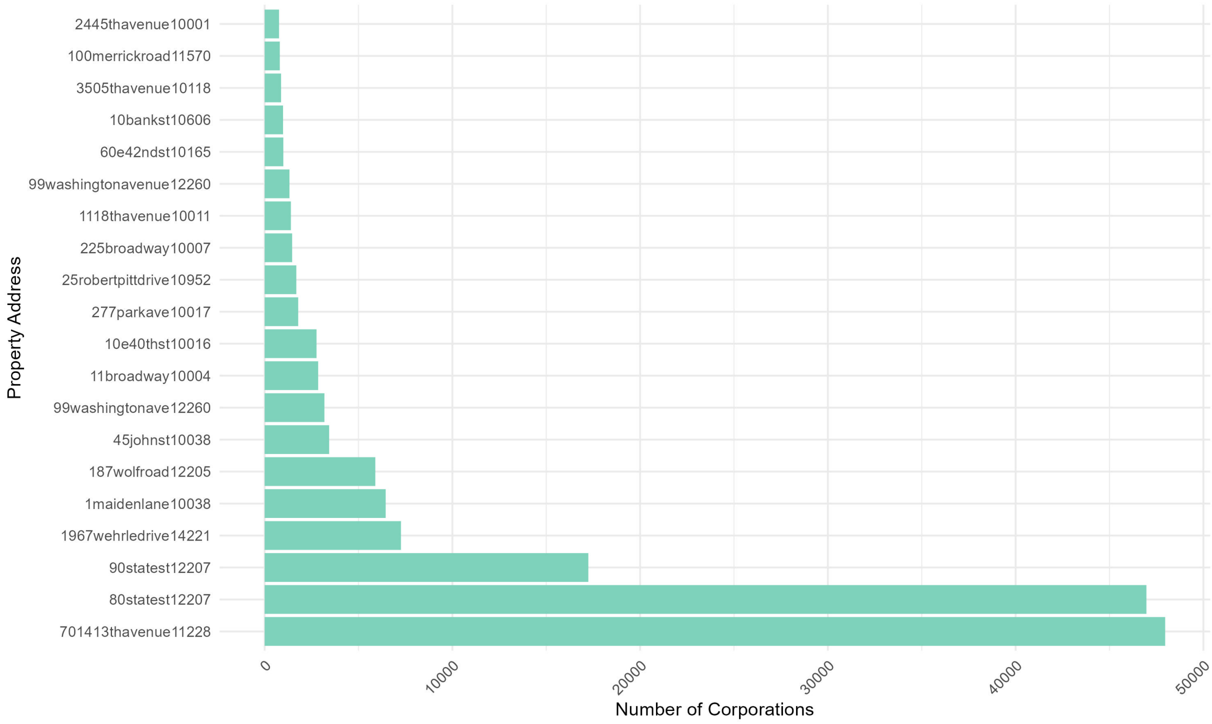
Top Addresses by Corporation Density in the Active Corporate Registry



Note: The figure presents- top 20 addresses by number of corporations registered in the Active Corporate Registry in New York. The Department of State keeps a record of every filing for every incorporated business in the state of New York. Data Active Corporations: Beginning 1800

FIGURE D2

Top Addresses in New York Real Estate by Corporation Density



Note: The figure presents- top 20 addresses by number of corporations registered on the mailing addresses in New York Real Estate. The addresses were mapped using the New York database from ACRIS and the data of corporate registry- Active Corporations: Beginning 1800