“We Buy Houses”: You Lose Out

By Benjamin Preis, Bruce Katz and Kevin Gillen

DREXEL UNIVERSITY
Nowak Metro Finance Lab
Lindy Institute for Urban Innovation

ACCELERATOR FOR AMERICA

CONTENTS

PUBLISHED MARCH 2023

ABOUT THE AUTHORS

BENJAMIN PREIS is a Research Fellow at Drexel University's Nowak Metro Finance Lab. He is currently pursuing a PhD in Urban Studies and Planning at MIT, where he received his Master in City Planning in 2019. Ben is interested in the use of novel computational tools to better understand regional wealth inequality, specifically in the areas of housing and economic development. He has previously worked with the Urban Redevelopment Authority of Pittsburgh, the Cambridge Housing Authority, and the Center for Public Studies in Santiago, Chile. Prior to his time at MIT, he worked on science and higher education policy at Lewis-Burke Associates in Washington, DC.

BRUCE KATZ is the founding Director of the Nowak Metro Finance Lab at Drexel University. He has co-authored The Metropolitan Revolution: How Cities and Metros are Fixing Our Broken Politics and Fragile Economy (2013) and The New Localism: How Cities Can Thrive in the Age of Populism (2018). Bruce previously held various positions at the Brookings Institution, including Centennial Scholar, vice president, and founding director of the Brookings Metropolitan Policy Program. Prior to his time at Brookings, Bruce served as chief of staff to U.S. Housing and Urban Development Secretary Henry Cisneros and senior counsel and then staff director of the U.S. Senate Subcommittee on Housing and Urban Affairs.

KEVIN GILLEN, PH.D. is an economist who holds positions as both a Senior Research Fellow with the Lindy Institute for Urban Innovation and an adjunct Professor of Finance at Drexel University. With a background in urban economics, real estate finance and public policy, Dr. Gillen's research and consulting practice is concentrated in applied work in the analysis of real estate developments and operation of real estate markets, including their fiscal, economic and financial implications. Dr. Gillen received his Ph.D. in Applied Economics in 2005 from the Wharton School of the University of Pennsylvania.

ACKNOWLEDGEMENTS

The authors would like to thank Mary Ellen Wiederwohl, Matt Horton, and Anne Bovaird Nevins from Accelerator for America staff, as well as Ira Goldstein from Reinvestment Fund, for their valuable feedback. All of these individuals and others have helped shape and advance this paper's contents; we look forward to the journey ahead, together, to test its theories of intervention, and work steadfastly to improve the lives of our cities' residents.

Main Findings

• This study looks at sale prices for single family homes in Philadelphia, examining the differences between home sales that occur on or off the Multiple Listing Service, and the differences between home sales that go to an individual or an investor.

• Off-MLS transactions are part of the "informal housing market," which includes real estate wholesalers — those individuals who "Buy Houses for Quick Cash Now," as well as homes sold to family members, with lease-to-own options from the seller, and other atypical property transactions.

• This study finds that homes sold to investors, and homes that transact without first being listed on the MLS, sell at a considerable discount, *even when taking property characteristics into account*. This means that individual sellers may be losing out on thousands of dollars when they sell their house through a wholesaler; on average, we estimate a $126,000 difference in home sale price.

• The geography of Off-MLS property transactions mirrors the geography of historical disinvestment and intentional exclusion in Philadelphia, with informal property transactions more common in low-income neighborhoods with large non-white populations. This phenomenon further perpetuates the racial wealth gap by preventing Black- and Latinx- homeowners from getting the highest value for their homes.

• In order to help homeowners, they need access to better information; wholesalers should be regulated and the industry should be made less lucrative; and county recorders of deeds need to be equipped to track informal housing transactions in order to alert policymakers.

Introduction and Executive Summary

Last year, the Nowak Metro Finance Lab, Reinvestment Fund, and Accelerator for America published a report: *Investor Home Purchases and the Rising Threat to Owners and Renters*. The Lab's report highlighted the disconcerting trends of investors large and small buying up residential properties, changing neighborhoods, and harming homeowners, homebuyers, and tenants. In Philadelphia, Jacksonville, and Richmond — which was the scope of the study's data collection efforts — the results indicated that investors were most active in distressed neighborhoods: areas with low mortgage lending, low-incomes, and disproportionately large non-white populations.

One of the key assertions in that report is that homeowners are being hurt by investor activity because some investors pay homeowners less than the market value of their property. In some transitioning neighborhoods with new investment and public assets, long-time homeowners may not know how much their house has appreciated; flippers, wholesalers, and iBuyers can exploit that lack of knowledge by offering quick and easy cash offers for less than what they would receive if they listed their house with a real estate agent.

There are anecdotal stories of this occurring from the media. WABE in Atlanta reported a story about a homeowner getting $17,000 for their home from an investor, only to see that property resold for $100,000 — without any work done to improve its condition. The Philadelphia Inquirer reported about a pair of investors targeting unsuspecting heirs; they bought properties for as low as $6,000, only to resell them days later for upwards of $125,000.

In order to better understand the impact of investor purchases on existing homebuyers, this study analyzes single family home sales[i] in Philadelphia between January 2018 and June 2022. It differentiates each transaction by whether the buyer or the seller was an owner-occupant, or an investor. "Investors" are deemed to be any individual who purchased more than 5 homes during the study period, and/or are a business entity.[ii] This study also examines whether each transaction occurs "on" or "off" the open market, meaning whether the transaction took place after the home was listed on the Multiple Listing Service (MLS).[iii] This study's hypothesis is that homes sold to individuals on the MLS would transact at a higher sale price than homes sold to investors without ever being listed on the MLS.

The results are striking: even when comparing for characteristics like home size, condition, and amenities, homes sold from an owner-occupant to an investor off the MLS sold for 51% less than comparable homes sold on the MLS to an individual. Considering the average sale price in Philadelphia for off-MLS, individual-to-investor transactions was $120,000 during the time period of this study, if homeowners had been able to sell their house without the relative discount, we would have expected home sale prices to be $126,000 higher, on average. Across the 3,900 off-MLS transactions from Individuals to Investors in the scope of this study, that comes to nearly a cumulative $500 million.

However, the reader should be cautioned in taking these numbers literally, as the assessor information may be inaccurate, and the regressions can't control for every difference in home quality. Nonetheless, this first look at the price differential in the informal housing market begs for more attention.

The geography of Off-MLS and investor sales is also concerning. These purchases do not occur with equal spatial frequency across all neighborhoods. Instead, it is the parts of Philadelphia that have large concentrations of communities of color and low-income communities — North and West Philadelphia — that see the highest concentrations of investor purchases and Off-MLS purchases.

The significantly large amount of lost home wealth strongly suggests the need to better understand the informal housing market and the actors within it. In particular:

- Who is buying homes off the MLS?
- Where are these homes located?
- How is it that they are acquired for so little money?

The National Association of Realtors estimates that approximately 90% of home sellers list their homes on the MLS,[iv] and studies have shown that approximately 85% of homes sold in Philadelphia are listed on the MLS.[v] With roughly 5.6 million home sales in 2020, that means that off-MLS transactions may account for 500,000 sales per year, nationwide. While a small part of the overall market, in particular neighborhoods and cities — those numbers add up fast.

This study explores the relatively under-investigated world of "We Buy Houses," — that is, the wholesale property market, — as well as other types of informal home sales. Some solutions are offered in the concluding section, but it boils down to three key points:

1) Homeowners need better information

When a homeowner decides to sell their house to a wholesaler or an investor, they should know the potential costs and benefits of doing so. Homeowners should know that wholesalers may resell their contract for a substantial profit, and that the offer may be substantially different from what they could get on the open market. Homeowners should be provided with information about alternative ways to sell their house, as well as ways to remain in their home if they are at risk of losing it because of foreclosure, need for repairs, or inability to pay property taxes. Homeowners should also be able to obtain an independent appraisal of their house before choosing to sell it to a wholesaler. Some homeowners, considering the pros and cons of working with a real estate agent and a wholesaler, may choose a wholesaler, because of the speed, efficiency, and privacy associated with this type of sale. But such a choice should be an informed choice.

2) Wholesaling should be subject to higher legal scrutiny

Wholesaling is a largely unregulated industry in the United States. Only a handful of states directly regulate wholesalers, and the approaches to wholesaling regulation range from simple disclosures to outright bans. In most other states, the business practice of reselling contracts falls into a legal grey area, and it's up to the discretion of Attorneys General on how and whether to crack down on the worst offenders.

The wholesaling industry should be more broadly regulated, though there are different approaches that states and local governments can take, as is outlined in the solution section of this report. A range of wholesaling business practices should be considered, from the practice of assigning contracts, the generation of leads, and disclosure of intent to resell. Owners should be able to opt-out of the incessant phone calls, text messages, mailers, and advertising that they receive today. States may wish to tax the assignment of a real estate contract as a property transaction.

3) Counties should be tracking the informal housing market more closely

The data contained in this study is merely a best approximation of the informal property market. Without better information on which properties had same-day double-closings, or contracts assigned to a different buyer, it is impossible to say which transactions specifically involved a wholesaler. Additionally, wholesaling is just one part of the informal housing market. Recently, a real estate company has come under hot water for offering homeowners small-dollar loans, in exchange for the exclusive right to sell their house for the next 40 years.[vi] County recorders of deeds see these transactions as they happen, and they should be equipped with the resources to flag transactions that have been sold via a wholesaler.

Elevated shot of Philadelphia homes
Source: Christopher Boswell

The Informal Housing Market

In the United States, approximately 90% of home sale transactions occur between buyers and sellers who do not know each other, but who find each other through real estate agents who have shared information on the MLS. The seller has an asking price, the buyer makes an offer, and if the parties agree on the price, the home is sold. The seller likely has a commitment for a mortgage from a bank, or cash on hand. If the seller is lucky, they may receive multiple offers, letting them take their pick. This is the formal housing market.

In the informal housing market, the script is not so easy to write. America's "fringe" housing market is relatively tiny, yet is hugely varied. [vii] It includes predatory mortgages, lease-to-own contracts, foreclosure "rescue" scams, and equity theft. The informal housing market is also inclusive of home sales that occur outside the open market, such as homes sold to family members at a deep discount, homes that are listed *for sale by owner*, or when an investor buys a house directly from a homeowner.

Focusing specifically on investor purchases that occur for homes without being listed on the MLS, these transactions are often mediated by a "wholesaler" in the property market. The "We Buy Houses," signs are emblematic of wholesaling, but their business model is fairly complicated:

> A wholesaler is a marketing arm for investors. They spend time and marketing dollars to source and find discounted, and often distressed properties, for cash buyer investors who are looking for properties that they can rent or flip for profit. As a business practice, a wholesaler learns what cash buyers are willing to pay for properties, then contracts those properties with sellers at a lower price than the cash buyer is willing to pay, then exercises their contractual rights, by assigning their contract for a fee.[viii]

To reiterate, the business model of a wholesaler is as follows: they find a house that investors might like to purchase; make an offer on that house, get a contract to buy the house, and then *resell the contract* to the investor for a markup. If the contract prohibits them from reselling that contract, they may set up a Limited Liability Corporation and sell the ownership rights to that LLC instead. Or they may do a "double closing" where they close on the property, turn around, and sell it again to their investor, possibly the same day.

To make money, wholesalers take a flat "fee" that comes from the difference between the offer they make to buy a house and the amount for which they can sell the contract to an investor. That fee might be a few thousand dollars, or it could be a hundred thousand dollars. It comes down to the difference in what the wholesaler offers a homeowner and what an investor would be willing to pay for that property.

Wholesalers provide an important service: matchmaking. For distressed properties in need of serious repair, it can be of great value to the buyer *and* the seller. Homeowners do not have to wait to sell their house, they don't have to pay closing costs or a real estate agent's commission, and they get privacy from their neighbors on their home's condition. Some homeowners, considering the pros and cons of working with a real estate agent and a wholesaler, may choose a wholesaler, because of the speed, efficiency, and privacy associated with this type of sale. Additionally, real estate agents are paid a percentage-based fee,

North Philadelphia home at the corner of Montgomery Avenue and 18th Street
Source: Smallbones

making the low-end of the property market less attractive, meaning that some homeowners aren't well served by working with a real estate agent.

A large part of the wholesaler business model is finding homeowners looking to sell. Their tactics can range from passive "bandit signs," where they advertise that "We Buy Houses" on utility poles, to aggressive text messages, calls, and non-stop solicitations to homeowners. They might scour the MLS for good deals, or "drive for dollars" to identify distressed properties that could be bought and resold for profit. In the end, they aim to find a property owner who is looking to sell quickly for cash.

Wholesalers are largely unregulated throughout the United States. Texas, Arkansas, Oklahoma, and Illinois are the only states that regulate wholesaling directly,[ix] in addition to city-level efforts in Philadelphia and Atlanta, and each jurisdiction takes a very different approach. In many other states, the practice of wholesaling falls into a legal grey area. Assigning contracts as your sole type of business may not be entirely above board, but doing a combination of flipping and wholesaling may allow wholesalers to be in the clear. In Illinois and Oklahoma, wholesaling without a real estate license is now effectively illegal; in Texas, wholesaling requires appropriate disclosures to homeowners, and in Arkansas, state laws have attempted to minimize the grey areas under which wholesalers can fall.

Because of the way that wholesaling works, it is difficult to understand the impact on homeowners. Academic research has found that iBuyers — like Opendoor, Offerpad, and previously, Zillow — pay approximately 5% less than owner-occupants for similar homes.[x] It's possible to directly study iBuyers because their names appear on the transaction. iBuyers actually buy the house before reselling or renting. Wholesalers, however, only buy the house in the case of a double-closing. Otherwise, they sell the contract, and never appear on official documents as having been involved in the sale of the house.

Thus, wholesalers exist only ephemerally in the transaction, and rarely in the data. Most property transactions with a wholesaler occur Off-MLS, and their clients are often investors, but it is hard, if not impossible, to discern if all off-MLS transactions to investors are via wholesalers. Nor can it be said with certainty that off-MLS transactions to investors represent the whole universe of wholesale transactions. Instead, this report is a first cut, a wake-up call, and a call for greater transparency and regulation around the wholesale market.

Data & Analysis

In order to better understand the difference between the formal and informal property market on homeowners, this report analyzes the differences in house sale prices between properties that were sold after being listed on the MLS, as compared to those that were *not* listed on the MLS. The information about MLS-listed homes comes from the MLS.

The analysis matches the MLS data to public sales records, and classifies each buyer and seller as an "individual" or "investor." A buyer or seller is classified to be an "investor" if they had purchased 5 or more properties during the time period, or if they had a name that indicated they were a company.[xi] This thus captures the universe of "corporate" and small, medium, and large investors who purchase multiple properties in short time periods.

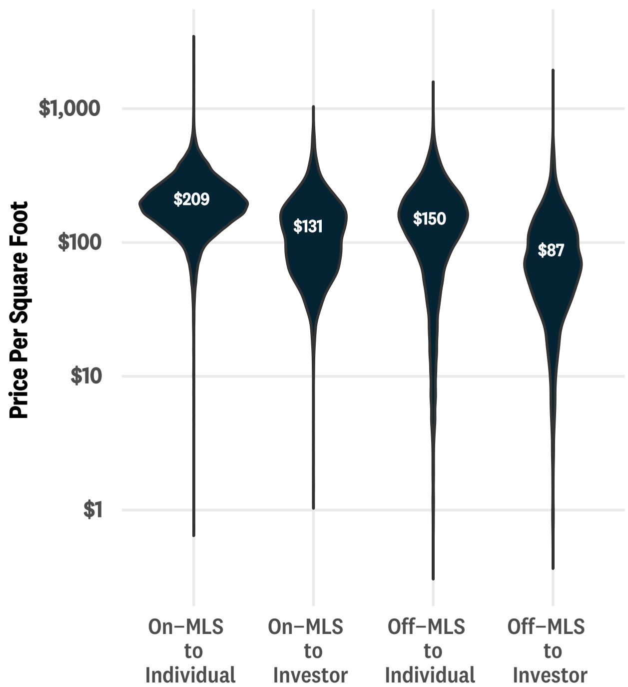
The analysis is restricted to transactions from owner-occupants or investors, in order to try and eliminate bias from mom-and-pop landlords who would be coded as "individuals," but might have different interests from owner-occupants. The analysis also restricted the sample to exclude transactions below $1,000, Sherriff sales, and flip resales.[xii]

In order to analyze the price difference between On- and Off-MLS transactions as well as sales from individuals to other individuals or investors, a series of weighted regressions were run, full details and results of which can be found in the Appendix. In these regressions, a number of variables were included to account for: the condition of the property, the age of the property, its size, condition of both the interior and exterior of the property, whether the property had central air, fireplaces, garages, the property's distance to downtown, number of stories, type of building material, type of house (apartment, rowhouse, detached). The regression also controls for the year and the season of each sale, since it is important to capture temporal movements in house prices that are independent of secular market forces. The analysis also locates the property sales within their respective Census tracts, in order to map the density of sales.

North Philadelphia homes on the north side 3000 block of Stiles Street. Source: Smallbones

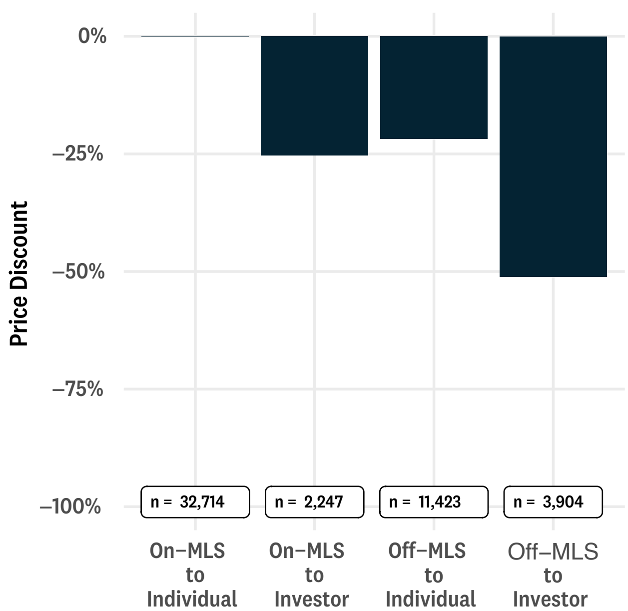
The Effect of Selling On- and Off-MLS to Investors and Individuals

Average Price & Density per square foot for owner–occupied home sales in Philadelphia



Price Differential for Similar Homes

Relative to On–MLS Individual–Individual Transaction



January 2018 – June 2022
Results from hedonic regression Source: Philadelphia OPA and MLS

The sale prices of homes listed on the MLS are significantly higher than those that sold without being listed. Breaking down that division even further, transactions from individuals to investors almost always occur at a lower value.

There is risk to comparing these raw numbers, however. It is possible that some homes not listed on the MLS are fundamentally different than homes listed on-MLS. Some off-MLS homes might be in worse condition, have larger structural issues, or be in lower-value neighborhoods. Individuals may be less likely to buy houses in need of repair, meaning that the price difference could be driven by differences in quality.

To try and differentiate between price gaps due to quality and price gaps due to seller and buyer behavior, we ran a series of regressions to account for qualities of the property, the results of which can be seen in the bottom chart.

Even when controlling for houses of similar quality and characteristics, investors pay less than individuals, and investors who buy a property Off-MLS pay the least.

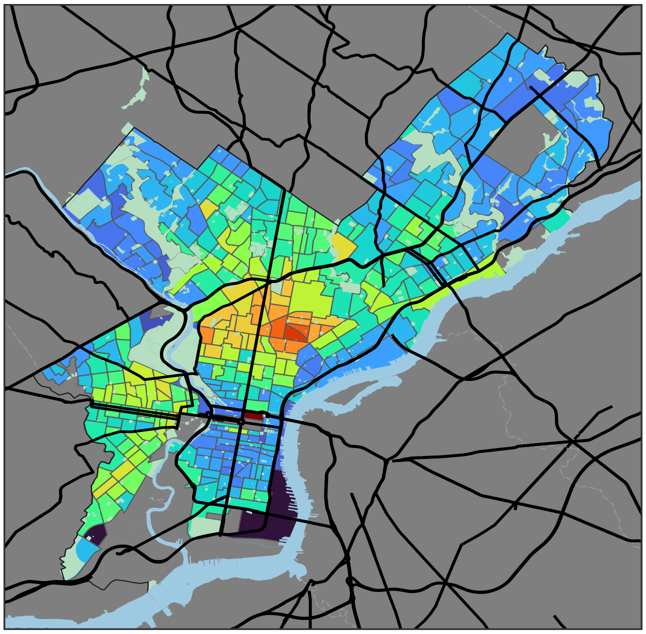
These numbers are stark. Given the nearly 4,000 homes sold Off-MLS to investors during this time period, the data indicate that there is a nearly $500 million loss to homeowners who opted to sell their homes to investors Off of the MLS.

Caution should be taken in interpreting these numbers literally. Homes purchased Off-MLS may not incur brokerage fees, potentially reducing transaction costs to both buyers and sellers. Additionally, wholesalers may offer speed and privacy that sellers value. Assessor information about house conditions may be incorrect, leaving our regression results biased. Additionally, homes sold off the MLS may be in significantly worse condition than would be accounted for in the assessor's database, meaning that the difference in price is due to real differences in quality, requiring buyers to invest serious capital to rehabilitate these homes and resell them for a profit. Even if our estimates are off by 50%, however, the differences would still add up to tens of thousands of dollars in a given transaction and hundreds of millions of dollars city-wide.

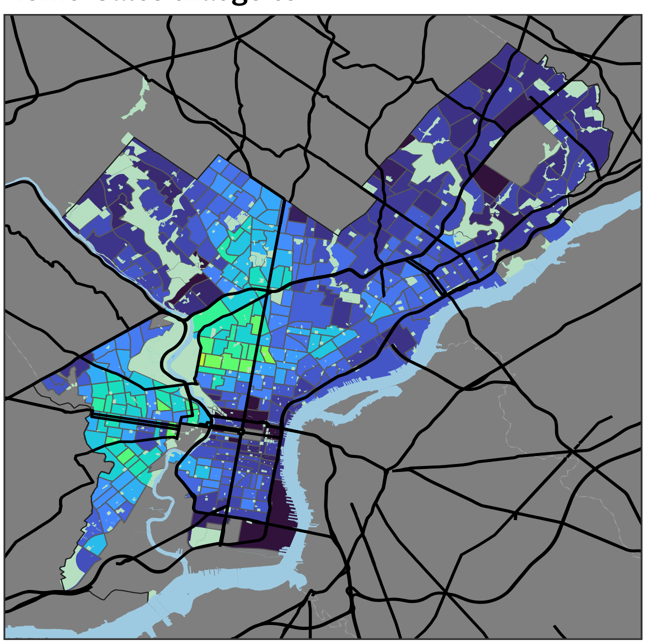
Kensington neighborhood of Philadelphia
Source: Tony Wood

Investors Aren't Buying in Every Neighborhood

Home Sales not on the MLS



Home Sales that go to an investor



Percentage of Total Home Sales

0% 25% 50% 75% 100%

Source: Philadelphia OPA and MLS
Only Sales from Individuals

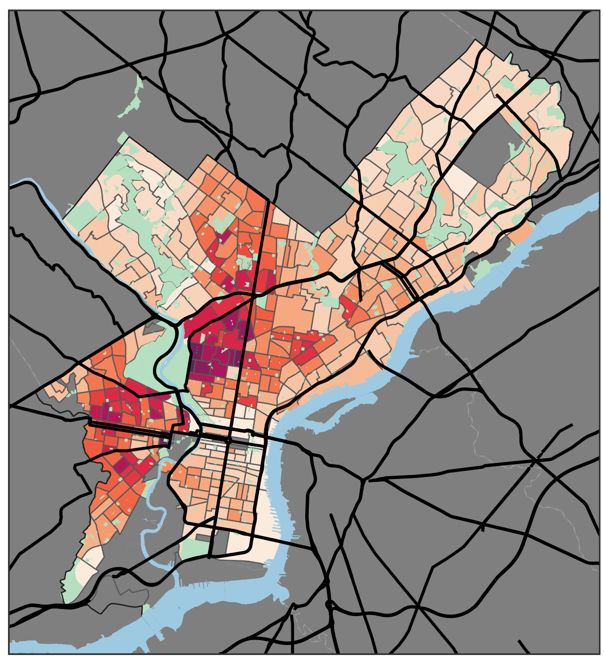
The two maps, at left, show that the phenomena of "investor purchases" and of "Off-MLS home sales" have some overlapping geographies, but are not one-and-the-same. Indeed, the map below shows where the two geographies overlap: in North and West Philadelphia.

Below, the map shows that in much of the city of Philadelphia, investor purchases Off-MLS are a non-issue. Yet in parts of North Philadelphia, Off-MLS investor purchases made up more than 1 in 5 home sales in the last 5 years.

These geographies overlap with historically racialized patterns of exclusion, disinvestment, and now, gentrification. The data strongly indicate that investor purchases of Off-MLS purchases are in these specific, historically marginalized neighborhoods, as their histories provides a gap between perceived and actual value to exploit.

There are many possible reasons for the relationship between geography and Off-MLS home sales from individuals to investors. Homeowners in these neighborhoods may be less commonly served by, or otherwise unlikely to use, real estate agents, given the relatively depressed property values. Current homeowners may not be in a position to rehabilitate their home before sale, leading to less interest from potential buyers. Thus, homes may be in worse condition, requiring sale to a flipper before a homeowner would be interested in purchase. Yet it is nonetheless concerning to see the overlap between these types of sales and the racialized geographies of Philadelphia, given the sale price differences discussed previously.

Off–MLS Home Sales From an Individual to an Investor



Percentage of Total Home Sales

0% 10% 20% 30% 40%

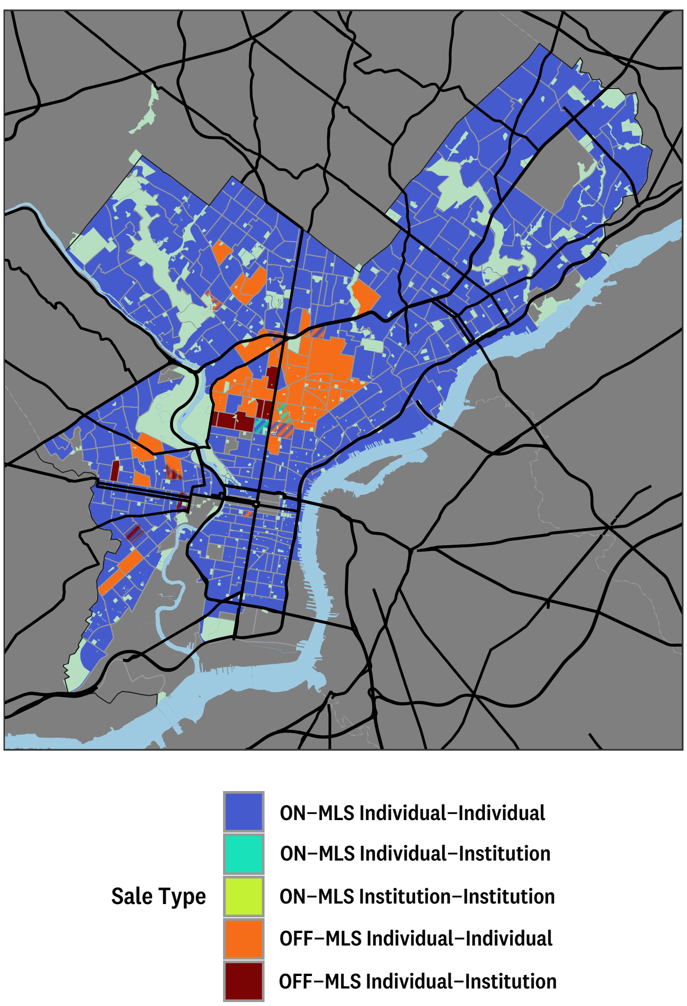
The Tapestry of Different Home Sale Types in Philadelphia

Below, we see the most common home sale type in each census tract in Philadelphia with any home sales. It is important to note that this map ignores significant heterogeneity in the number of home sales in each tract — some tracts have as few as four home sales in the last four years, while others have more than 500.

We see that, in most of the city, the most common transaction type for single family homes are those that occur on-MLS as arms-length between individuals: those are the tracts in purple. Yet in large swathes of North Philadelphia, and parts of West Philadelphia, the most common sale type still takes place between individuals — yet these individuals are transacting *off* the MLS. A small number of tracts also have investor purchases from individuals off the MLS as the most common type of transaction — the tracts in dark red.

Most frequent type of home sale in each tract

January 2018 to June 2022



Source: Philadelphia OPA and MLS

Taken together, the orange and dark red tracts are the tracts where the housing market is predominantly *informal*: occurring off the MLS, either between individuals or between individuals and investors.

This likely captures three types of transactions: for sale by owner, non-arm's-length transactions *and* small-time investors. While this study filters the original data to exclude home sales below $1,000, the informal property market still includes family member sales that transact off the MLS. For sale by owner transactions may garner a lower price than sales with a real estate agent, yet they wouldn't necessarily be categorized as part of the "informal" market as the other two types of sales discussed here.

Indeed, qualitative research from Baltimore[xiii] shows how transactions between family members can still lead to financial hardship — as the new homeowners discover expensive repairs, unpaid property taxes, or unexpected liens on the property. Though non-arm's-length off-MLS property transactions are not necessarily *predatory* they still exist within the segment of the housing market that is generally excluded from mortgages, equity lines of credit, and property appreciation.

Taken together, this analysis strongly indicates that it is imperative to tackle the challenges associated with the informal housing market — both the predatory and the exclusionary challenges.

Fast cash for home signs by wholesale buyers in Arbutus, MD
Source: Community Baltimore Heritage

Solutions

Solutions to address the inequities in the informal housing market must center around what is best for the homeowner. Wholesalers often skirt regulation because homeowners are not required to sell their homes via a real estate agent — yet regulations should not be imposed requiring real estate agents in every transaction.

The core concern is that wholesalers exploit low-information or vulnerable homeowners, offering purchase prices far below what a home is worth, knowing that the resale value of that contract can garner them tens of thousands in profits. In the worst of these situations, this can be interpreted as equity theft — investors purchasing homes far below market value when the homeowner is under distress, such as when they are in foreclosure proceedings. Thus, any solution set needs to target wholesaling *as a practice*, as well as the specific problem of equity theft and vulnerable homeowner's asymmetric information.

In Philadelphia and Atlanta, homeowners can "opt out" of being contacted by wholesalers who offer to buy their homes. Wholesalers who call homeowners who have stated they wish not to be contacted can be fined up to $1,000 in Atlanta or $2,000 in Philadelphia. Opt-outs and do-not-call lists are worthy pursuits for states and cities, but we worry they will have only a limited impact.

Philadelphia law also goes further, requiring wholesalers to obtain a "Residential Property Wholesaler License." When wholesalers offer to buy a property, they must provide information to the homeowner about how they can get information about the current value of their house. Under law, licensed wholesalers must be insured, not have recent fraud convictions, and must be in tax compliance with the city. Enforcement is important, however; the city today has issued only 76 Wholesaler Licenses. We believe that requiring wholesalers to be licensed is a necessary step to grappling with the scope and scale of the problem. Only by tracking the frequency with which wholesalers are involved in transactions can policy solutions be appropriately tailored.

The Arkansas, Illinois, and Oklahoma state legislatures have passed various regulations that limit the opportunities for wholesalers to operate without a real estate license. They all operate in slightly different ways,[xiv] but they generally make the current practice of reselling contracts illegal or very difficult. This doesn't necessarily stop the practice of wholesaling altogether, though, as wholesalers may be able to utilize double-closings or sell corporate ownership, rather than the contract itself. We are agnostic as to whether requiring wholesalers to get a real estate license is the best path forward. While real estate licensure comes with a code of ethics and obligations, enforcement of those obligations is at the hands of real estate commissions.

Focusing on homeowner education, in our September 2022 report, we said that states should enact rules requiring an outside, independent appraisal under certain trigger conditions, such as when a deed transfer has a value that differs significantly from the current assessed value. This would give homeowners the chance to know what they are giving up, though these appraisals would still likely be impacted by racial bias in the appraisal process.[xv] States may want to allow buyers to withdraw from the transfer based on the outcome of that appraisal, or it could make a settled transfer null, if the result of fraud. We stand by this recommendation: Homeowners need information about the possible differences in outcome between selling in the formal and informal markets.

Additionally, homeowners need access to alternative pathways to wholesaling. In this regard, Philadelphia and Pennsylvania are already providing significant resources. For example, Pennsylvania recently enacted a "Whole Home Repair" program,[xvi] which will provide funding to homeowners to help them make repairs to their homes, rather than being forced to sell. Philadelphia has provided millions of dollars to legal nonprofits to help heirs with tangled titles, a serious and often costly problem in cities with older homes.[xvii] Foreclosure prevention assistance programs are another key step.

To make the practice of wholesaling less appealing, states could tax the sale of a contract. In many states, transfer taxes occur when a property is transferred from one party to another. However, when wholesalers resell the contract, that sale is only taxed as ordinary income if the wholesaler makes a profit. By taxing the sale of the contract as transfer of property, it would make the practice of wholesaling less attractive. At the local level, tax assessors should ensure that wholesalers, flippers, and landlords aren't receiving a homestead exemption for their property taxes. At the national level, we're encouraged to see proposed legislation that would target the tax code to make the transfer and holding of large single family property portfolios less attractive.[xviii]

We also believe that county registry offices need to be empowered to track and report informal property market sales. Though this work is far beyond their normal scope of work, they see all property transactions that occur within their jurisdiction. In Michigan, a county Register of Deeds began to reach out to homeowners when she saw suspicious activity coming through her office, showing how important these local government actors can be. From tracking the number of properties with an assigned contract, double closings, cases of deed theft, and unusual exclusive-rights agreements, county Recorders of Deeds need to be empowered to identify, track, and report behavior that harms property owners.

Taken together, these solutions will begin to uncover the extent of the informal property market and the harms it brings to incumbent homeowners. Heightened legal scrutiny and costs associated with wholesaling will bring the practice into the light and towards ethical business practices. Homeowners can receive better information, and any support that they need, before choosing to sell their house through whatever means works best for them. It's time to address the problems associated with this segment of the housing market.

Appendix: Regression Model and Results

In order to estimate the relationship between house sale prices and the sale type, we ran a series of hedonic regressions using Iteratively Weighted Least Squares (IWLS). Hedonic regressions are the most common approach within real estate economics and related fields to study a relationship between a house's characteristics and its sale price. Our estimating equation is as follow:

$$y_{i,s,t}=\beta_0+\beta_1 x_{i1}+\beta_2 x_{i2}+\ldots+\beta_k x_{ik}+\beta_{ST}x_{ST},i+\gamma_s+\eta_t+\varepsilon_i$$

In this equation, our dependent variable of interest, $y_{i,s,t}$, is the logarithm of sale price of house *i*, in season (spring, summer, fall, winter) *s*, in year (2018, 2019, 2020, 2021, 2022) *t*. We thus include fixed effects, γ_s, and η_t, to account for these temporal variations.

Our intercept is β_0. Our independent variables are represented by x_{i1}, x_{i2},…,x_{ik}, such as house condition, age, or location. A full list of our independent variables can be found in our regression results. The main intendent variable of interest is $x_{ST,i}$, where $x_{ST,i}$ takes on the following value depending on the sale type:

$$x_{ST,i}=\begin{cases} 0 & for\ Off-MLS\ Individual\ to\ Individual \\ 1 & for\ On-MLS\ Individual\ to\ Individual \\ 2 & for\ Off-MLS\ Individual\ to\ Investor \\ 3 & for\ On-MLS\ Individual\ to\ Investor \end{cases}$$

In the regression results in Table 2 below, the omitted category is for sales that occurred Off-MLS from Individuals to Individuals, meaning that the relative price differences given by β_{ST} are for difference in sale types *as compared to* Off-MLS Individual to Individual transactions. The coefficients in the regression are in log-points. To get a percentage difference, one uses the following function: % = $e^{log\text{-}points}$ *- 1.*

The results presented in the paper compare all sales types to sales that occur On-MLS, Individual to Individual. Table 1 presents the percentage differences compared to both Off-MLS Individual to Individual and On-MLS Individual to Individual.

Table 1

	Price Difference relative to Off-MLS Individual-Individual	Price Difference relative to On-MLS Individual-Individual
On-MLS Individual to Individual	27.9%	0%
Off-MLS Individual to Investor	-37.5%	-51.13%
On-MLS Individual to Investor	-4.5%	-25.35%
Off-MLS Individual to Individual	0%	-21.84%

Table 2

Variable	Log Sale Price
Intercept	5.607*** (0.232)
On-MLS Individual-Individual	0.246*** (0.005)
Off-MLS Individual-Investor	-0.47*** (0.011)
On-MLS Individual-Investor	-0.046*** (0.011)
Age	-0.004*** (0.0)
Age^2	0.0*** (0.0)
Floor Area Ratio	0.072*** (0.007)
Irregular Dummy	0.015*** (0.004)
Above Street Dummy	0.038*** (0.004)
View Dummy	0.079*** (0.007)
Other Building on Lot Dummy	0.154** (0.07)
Front to Area Ratio	0.986** (0.35)
Depth to Area Ratio	0.0** (0.0)
Corner Dummy	0.002 (0.006)
Superior Condition	0.13*** (0.01)
Above Average Condition	0.01 (0.014)
Below Average Condition	-0.162*** (0.04)
Inferior Condition	-0.423*** (0.119)
Superior Internal Condition	0.106*** (0.01)
Above Average Internal Condition	0.121*** (0.014)
Below Average Internal Condition	-0.025 (0.039)
Inferior Internal Condition	-0.081 (0.112)
Central Air Dummy	0.093*** (0.003)
One Fire Place	0.094*** (0.008)
Two Fire Place	0.204*** (0.02)
Three Plus Fire Places	0.309*** (0.031)
Log (Distance to CBD)	-0.829*** (0.007)
Log (Distance to CBD^2)	0.219*** (0.002)
Garage Dummy	0.065*** (0.004)
Frame Construction	0.117*** (0.011)
Masonry Construction	0.149*** (0.009)

Masonry – Other	0.17*** (0.01)
Stone	0.298*** (0.014)
1.5 Stories	-0.051*** (0.008)
2 Stories	-0.031*** (0.005)
2.5 Stories	0.076*** (0.011)
3 Stories	0.118*** (0.009)
4+ Stories	0.11*** (0.018)
Apartment House	0.338** (0.134)
Detached House	0.313** (0.133)
Row House	0.185 (0.133)
Semi-Detached House	0.25* (0.133)
Log(Lot Square Feet)	0.781*** (0.049)
Log(Lot Square Feet^2)	-0.037*** (0.003)
Log(Building Square Feet)	0.404*** (0.009)

N	50,239
R^2	0.699
Adjusted R^2	0.6987
Residual Standard Error	222949 df = 50187
F Statistic	2284.88 (df = 51)

Note: *** p < .01; ** p < .05; * p < .1. Standard errors in parentheses

Year and Season Fixed Effects Included

Endnotes

i. In Philadelphia, "Single Family" homes include 1-4 unit properties, per the Office of Property Assessment

ii. Corporations were identified by looking for key words or terms in the buyer and seller name, such as LLC, Corp, Development, Inc., Association, etc.

iii . The MLS is a tool used by the Real Estate industry to share information about a home being for sale between multiple offices and real estate agencies. Studies have shown that listing a home on the MLS can lead to higher sale prices for a homeowner. See: Gillen, Kevin, Ken Schneider, and Lisa Sturtevant. 2022. "On MLS Study: Measuring the Benefits of an Open Marketplace." *Bright MLS*

iv. National Association of Realtors. 2020. "2020 Profile of Home Buyers and Sellers."

v. Gillen, Kevin, Ken Schneider, and Lisa Sturtevant. 2022. "On MLS Study: Measuring the Benefits of an Open Marketplace." *Bright MLS*

vi. "AG Shapiro sues real estate brokerage firm mv realty over misleading homeowner benefit program," December 14, 2022. https://www.attorneygeneral.gov/taking-action/ag-shapiro-sues-real-estate-brokerage-firm-mv-realty-over-misleading-homeowner-benefit-program/

vii. Karger, Howard Jacob. 2007. "America's Fringe Housing Market." Journal of Policy Practice 6 (3): 25–44. https://doi.org/10.1300/J508v06n03_03.

viii. FlippingMastery. "Wholesaling Is Getting Banned! - Why Real Estate Agents Hate Wholesalers." YouTube Video, May 21, 2021. https://www.youtube.com/watch?v=b4sji5X0d94.

ix. Braun-Harrison, Rebecca. "A Whole Sale or Wholesaling: Regulating the Wild West of Real Estate Purchase Contract Resale Comments." Oklahoma Law Review 74, no. 2 (2022 2021): 147–86.

x. Seiler, Michael J., and Liuming Yang. "The Burgeoning Role of IBuyers in the Housing Market." Real Estate Economics, May 17, 2022, 1540-6229.12384. https://doi.org/10.1111/1540-6229.12384.

xi. Specifically, we looked for names and terms like "LLC," "Inc," "Association" "Development," etc.

xii. Flips involve two transactions, one from the original owner to a flipper, and one from a flipper to a new owner. We include the first sale, but exclude the second.

xiii. Jang-Trettien, Christine. 2022. "House of Cards: Informal Housing Markets and Precarious Pathways to Homeownership in Baltimore." Social Problems 69 (4): 928–51. https://doi.org/10.1093/socpro/spab004.

xiv. See Braun-Harrison, Rebecca. "A Whole Sale or Wholesaling: Regulating the Wild West of Real Estate Purchase Contract Resale Comments." Oklahoma Law Review 74, no. 2 (2022 2021): 147–86. Also see "Predatory Real Estate Wholesaler Prohibition Act Effective November 1st, 2021." Oklahoma Real Estate Commission, https://oklahoma.gov/orec/resources/blog/wholesale-act.html.

xv. Howell, Junia, and Elizabeth Korver-Glenn. "Appraised: The Persistent Evaluation of White Neighborhoods as More Valuable Than Communities of Color." Weidenbaum Center on the Economy, Government, and Public Policy, Washington University of St. Louis, November 2022. https://static1.squarespace.com/static/62e84d924d2d8e5dff96ae2f/t/6364707034ee737d19dc76da/1667526772835/Howell+and+Korver-Glenn+Appraised_11_03_22.pdf.

xvi. Giammarise, Kate. "New Pennsylvania Program Takes Aim at a Big Problem — Homes in Need of Repairs." 90.5 WESA, July 14, 2022, sec. Politics & Government. https://www.wesa.fm/politics-government/2022-07-14/pennsylvania-home-repair-program.

xvii. Bond, Michaelle. "Philly Is Giving $7.6M to Legal Aid Agencies to Clear Residents' Tangled Titles." Philadelphia Inquirer. September 8, 2022. https://www.inquirer.com/real-estate/housing/dead-homeowner-unclear-ownership-funding-tangled-title-philadelphia-deed-20220907.html.

xviii. Cohen, Rachel M. "Democrats Eye New Legislation to Rein in Wall Street Landlords." Vox, December 2, 2022. https://www.vox.com/policy-and-politics/2022/12/2/23485957/housing-banks-corporate-single-family-renters-landlord.