

# Wall Street and the Housing Bubble

## Appendix

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## Appendix A: Data

### A. Lexis/Nexis data

The Lexis/Nexis Public Records database aggregates information available from public records, such as deed transfers, property tax assessment records, public address records, and utility connection records. The interface allows us to search for people based on a variety of factors, as illustrated in Figure A1. For each name, we begin by looking for any public information on the web that may provide additional clues on how to find them. For example, many people publish public profiles on LinkedIn, which include current location information (e.g., “Greater Chicago Area”) as well as educational history. Both of these allow us to narrow our search down to specific areas. Educational background is useful as Lexis/Nexis allows us to search for a person who has been in multiple locations. For example, although “John Doe” may be difficult to find, “John Doe” who lives in Illinois and also lived in Minnesota narrows it down. Campaign contribution records are also typically helpful. The Federal Election Commission’s website allows a name-based lookup of campaign contributions and displays the city and state of the person as well as a workplace. We use this and any additional information to attempt to find a person in Lexis/Nexis.

The system aggregates information from public records into a report about the person, as shown in Figure A2. The amount of information available varies by person. Typically, the data show the month and year of a person’s date of birth. We use this to compute the age of each person as of a common reference point, December 2011. The data often report an address history for each person, any real properties ever owned, as well as other information (such as who the person’s neighbors are), based on the public records it has analyzed. The address history contains properties a person has owned and also often includes properties a person has rented based on utility connection records.

For people we are able to isolate, we check the address history of each person to determine which properties they have owned. Lexis/Nexis can compile a Property Report for any location where a person has resided, as shown in Figure A3. This report compiles information about the property itself and who the current and previous owners of the property are based primarily on deed transfers and property tax assessments. To obtain whether a person bought and sold a particular home, we examine deed and tax assessment records, as shown in Figures A4 and A5. The deed records often have the transaction date, transaction price, and some information about the mortgage terms, although mortgage information is

often incomplete. The difference in information availability arises due to varying recording requirements across counties.

To ease replication, we provide our full data collection manual online at the corresponding author’s website.

## B. Matching lawyers

For each person in the securitization agent sample, we randomly choose matching lawyers at most five years older or younger and working at firms located in counties in the same MSA as the matched person. The location of the person in the securitization agent sample is determined by the first property they owned after 2000. We select five names per person except in Massachusetts, where age is not reported and we select ten names. We choose our lawyers with replacement, although we have almost no overlap of lawyers across securitization agents due to the large population of lawyers in Martindale-Hubbell. Having narrowed the list of names in a first round, we then further randomly select two names out of these five for data collection. We also subsequently attempt to collect data for the full matched set (five or ten lawyers) of lawyers for just under half of our securitization agents.

## C. Transaction intensities

In the simplest conceptual setup where a person may only engage in one transaction per year, a basic estimate of the intensity of transaction type  $k$  occurring in year  $t$  is the number of people who conduct transaction  $k$  in year  $t$  divided by the number of people who could have conducted that transaction in that year. In this setup, the number of people eligible for each type of transactions at the beginning of the year is given in the following table.

**Table A1: Eligible People for Different Transactions**

<b>Transaction Type</b>	<b>Eligible People That Year</b>
Buy a first home during the year	Non-homeowners at beginning of year $t$
Buy a second home during the year	Homeowners at beginning of year $t$
Swap a home (up, down or missing) during the year	Homeowners at beginning of year $t$
Divest any home during the year	Homeowners at beginning of year $t$
Divest a second home during the year	Homeowners with multiple homes at beginning of year $t$

However, one person may engage in more than one type of transactions per year. For example, a non-homeowner at the start of year  $t$  may buy a first and second home during the year. In this case, the

person was a non-homeowner at the beginning of year  $t$  and bought a second home in year  $t$ . On the one hand, this may suggest that everyone in each sample is eligible to make every type of transaction each year. However, measuring the number of people eligible each year as the whole sample implicitly assumes that each person  $i$  in the sample has an equal probability of conducting transaction  $k$  irrespective of his homeowner status at the beginning of the year, which is clearly not true. For example, a non-homeowner at the beginning of the year has a much lower probability of buying a second home during the year than a homeowner, since the non-homeowner must buy two houses. Taking the whole sample as the number of eligible people ignores valuable conditioning information about whether he is a homeowner and will mix together two distinct sets of outcomes.

A full treatment of this problem requires creating multiple new transaction types – for example, buying a second home when beginning the year as a non-homeowner, buying a first home during the year when beginning the year as a homeowner, and so on. Since these types of multiple-transaction outcomes are infrequently observed, we instead modify our framework by counting the number of “adjusted homeowners” by taking the number of homeowners at the beginning of year  $t$  and adding the number of non-homeowners who bought a first home during year  $t$ . The number of people eligible to buy a second home or swap a home during year  $t$  is this adjusted homeowners group. Although this still mixes the two channels, it mitigates the issue by only including the non-homeowners who in fact buy a first home during the year.

Similarly, we create an “adjusted non-homeowners” group, which adds together people who are not homeowners at the beginning of year  $t$  with the number of people who divest their last property during the first six months of the year, and use this as the number of eligible people for buying a first home. Note that the number of adjusted homeowners plus the number of adjusted non-homeowners may exceed the total number of people in each sample.

To handle divestitures, we split the number of adjusted homeowners into those with two houses or more at any point during year  $t$  (or on the last day of year  $t-1$ ) and label them adjusted multiple homeowners. Adjusted multiple homeowners are eligible to divest a second home. Because one may sell off houses in rapid succession, we take all adjusted homeowners as eligible to divest their last home. We summarize the adjustments for homeowners, non-homeowners, and multiple homeowners in Table

A2 and the people eligible for each type of transaction after accounting for the possibilities of multiple transactions per year in Table A3.

**Table A2: Adjustments to Different Groups**

<b>Group</b>	<b>Definition</b>
Adjusted homeowners at beginning of year $t$	Homeowners at beginning of year $t$ plus non-homeowners who buy a first home during year $t$
Adjusted non-homeowners at beginning of year $t$	Non-homeowners at beginning of year $t$ plus those who divest their last property in the first six months of year $t$
Adjusted multiple homeowners at beginning of year $t$	Adjusted homeowners at beginning of year $t$ who have more than two houses at any point during the year $t$

**Table A3: Eligible People for Each Type of Transactions after Adjustments**

<b>Transaction Type</b>	<b>Eligible People That Year</b>
Buy a first home during the year	Adjusted non-homeowners at beginning of year $t$
Buy a second home during the year	Adjusted homeowners at beginning of year $t$
Swap a home (up, down or missing) during the year	Adjusted homeowners at beginning of year $t$
Divest any home during the year, including the last	Adjusted homeowners at beginning of year $t$
Divest a second home during the year	Adjusted homeowners with multiple homes at beginning of year $t$

Figure A1: Lexis-Nexis Development Professional Person Search Interface

LexisNexis® Custom Solution x  
https://w3.nexis.com/hottopics/Indp/

Individual Company **Public Records** Dossier Advanced Sources History & Alerts Sign Out What's New

LexisNexis®  
for Development Professionals

Public Records  
Person Report  
Business Report  
Location Report

Comprehensive Person Report ⓘ [Make this my Start Page](#) [View Tutorial](#)

People ▾ Businesses ▾ Location ▾ All Searches ▾ [Coverage](#) [Tips](#)

Enter information in at least one field below.

Strict Search (Find only exact names and addresses)

Last Name  Street Address

Find similar-sounding last names

First Name  City

Find nicknames of first name

Middle Name/Initial  State

Link ID  Zip Code

SSN  Previous City

Date of Birth  Previous State

Age Range  To  Other Previous State

Alias Last Name  Radius

Relative's First Name  Telephone

Other Relative's First Name  e.g., 456-7890 or (123) 456-7890

[Save Search](#) [Search](#) [Clear Form](#)

Your DPPA Permissible Use: [No Permissible Use](#)  
Your GLBA Permissible Use: [No Permissible Use](#)

**Important:** The Public Records and commercially available data sources used in Smartlinx® Reports have errors. The data collected by government agencies or private data vendors may sometimes be entered poorly, processed incorrectly and could contain factual defects. This system should not be relied upon as definitively accurate. Before relying on any data this system supplies, it should be independently verified. For Secretary of State documents, the information contained in the Smartlinx® Reports is for information purposes only and is not an official record. Certified copies may be obtained from that individual state's Department of State.

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Figure A2: Person Report

LexisNexis® Custom Solution x

https://w3.nexis.com/hottopics/Indp/

LexisNexis® for Development Professionals

Individual Company **Public Records** Dossier Advanced Sources History & Alerts Sign Out What's New

Public Records View: Results List | Full | Visualize Report 1 of 54

Search: Comprehensive Person Report (1) > Search Results > Source Documents  
 Terms: first-name [redacted] last-name [redacted] state(ALL) radius(30) ( Edit Search | New Search )

**Report Contents**  
 Top of Report  
 Subject Summary  
 Others Using SSN  
 Address Summary (5)  
 Voter Registrations (1)  
 Professional Licenses  
 Health Care Providers  
 Health Care Sanctions  
 Pilot Licenses  
 Sport Licenses  
 Real Property Assets (4)  
 Aircraft  
 Bankruptcy Information  
 Judgments/Liens  
 UCC Liens  
 Fictitious Businesses  
 Potential Relatives (5)  
 Business Associates  
 Person Associates  
 Neighbors (2)  
 Employment Locator  
 Criminal Filings  
 Sources (39)

**Further Searches**  
 Health Care Provider  
 Health Care Provider  
 Sanctions  
 Civil Criminal Filings &  
 Regulatory Actions  
 Jury Verdicts  
 Marriage & Divorce Records

Full Name	Address	County	Phone
[redacted]	[redacted]	[redacted]	None Listed

**ADDITIONAL PERSONAL INFORMATION**

SSN	DOB	Gender	Link ID
[redacted] XXXX	[redacted]	[redacted]	[redacted]

**Subject Summary**

**Name Variations** [View All Name Variations Sources](#)

1:	[redacted]
2:	[redacted]
3:	[redacted]
4:	[redacted]
5:	[redacted]
6:	[redacted]
7:	[redacted]
8:	[redacted]

**SSNs Summary** [View All SSN Sources](#)

No.	SSN	State Iss.	Date Iss.	Warnings
Most frequent SSN attributed to subject:				
1:	[redacted] XXXX	[redacted]	[redacted]	

**DOBs** [View All DOB Sources](#)

**Reported DOBs:**  
 [redacted]

**Address Summary - 5 records found** [View All Address Variations Sources](#)

No.	Address	Actions
1:	[redacted]	<a href="#">Get Report</a> <a href="#">View Details</a>
2:	[redacted]	<a href="#">Get Report</a> <a href="#">View Details</a>
3:	[redacted]	<a href="#">Get Report</a> <a href="#">View Details</a>
4:	[redacted]	<a href="#">Get Report</a> <a href="#">View Details</a>
5:	[redacted]	<a href="#">Get Report</a> <a href="#">View Details</a>

Figure A3: Property Report

LexisNexis® Custom Solution x

https://w3.nexis.com/hottopics/Indp/

LexisNexis®  
for Development Professionals

Individual Company **Public Records** Dossier Advanced Sources History & Alerts Sign Out What's New

Public Records View: [Return to Results](#) | [Visualize Report](#)

Person Report  
Business Report  
Location Report

Search: [Comprehensive Person Report](#) (4) > [Search Results](#) > Source Documents  
 Terms: first-name [REDACTED] last-name [REDACTED] state(ALL) radius(30) ( [Edit Search](#) | [New Search](#) )

[Create Alert](#)  
 Select for Delivery

**Report Content**

- [Top of Report](#)
- [Location Information \(1\)](#)
- [Address Variations \(2\)](#)
- [APN\(s\) \(4\)](#)
- [Property Information \(2\)](#)
- [Neighbors \(5\)](#)
- [Associated Entities \(10\)](#)
- [Sources \(100\)](#)

**No. 1**

Legal Description: [REDACTED]  
 Land Usage: CONDOMINIUM  
 Tax Year: [REDACTED]  
 Data Source: A

Property Sale Information

Sale Date: [REDACTED]  
 Sale Price: [REDACTED]

Assessment Information

Assessed Land Value: [REDACTED]  
 Assessed Improvement Value: [REDACTED]  
 Assessed Total Value: [REDACTED]

**No. 2**

Legal Description: [REDACTED]  
 Tax Year: [REDACTED]  
 Data Source: B

Property Sale Information

Sale Date: [REDACTED]  
 Sale Price: [REDACTED]

Assessment Information

Assessed Land Value: [REDACTED]  
 Assessed Improvement Value: [REDACTED]  
 Assessed Total Value: [REDACTED]

**Neighbors - 5 records found**

Neighbor Name	Neighbor Address	Neighbor Phone	Actions
[REDACTED]	[REDACTED]	[REDACTED]	<a href="#">Get Report</a>
[REDACTED]	[REDACTED]	[REDACTED]	<a href="#">Get Report</a>
[REDACTED]	[REDACTED]	[REDACTED]	<a href="#">Get Report</a>
[REDACTED]	[REDACTED]	[REDACTED]	<a href="#">Get Report</a>
[REDACTED]	[REDACTED]	[REDACTED]	<a href="#">Get Report</a>

**Associated Entities - 10 records found**

No.	Current Owner(s)/Resident(s)	Actions
1.	[REDACTED]	<a href="#">Get Report</a>
2.	[REDACTED] Current Owner(s):	<a href="#">Get Report</a>
3.	[REDACTED] Current Resident(s):	<a href="#">Get Report</a>
4.	[REDACTED] Previous Owner(s):	<a href="#">Get Report</a>
5.	[REDACTED]	<a href="#">Get Report</a>
6.	[REDACTED]	<a href="#">Get Report</a>
7.	[REDACTED]	<a href="#">Get Report</a>

Figure A4: Deed Record

The screenshot shows a web browser window with the LexisNexis logo and navigation tabs. The main content area displays a 'Deed Record' page. The page is divided into several sections, each with redacted information (blacked out). The sections are: Buyer Information, Seller Information, Property Information, Legal Information, Sales Information, and Mortgage Information. A 'Deed Record' section is also visible at the bottom of the page.

**Buyer Information**  
Standardized Name: [REDACTED]  
Original Address: [REDACTED]  
Standardized Address: [REDACTED]

**Seller Information**  
Standardized Name: [REDACTED]  
Original Address: [REDACTED]  
Standardized Address: [REDACTED]

**Property Information**  
Original Property Address: [REDACTED]  
Standardized Property Address: [REDACTED]  
Land Use: [REDACTED]  
Data Source: [REDACTED]

**Legal Information**  
Assessor's Parcel Number: [REDACTED]  
Recording Date: [REDACTED]  
Contract Date: [REDACTED]  
Document Number: [REDACTED]  
Document Type: [REDACTED]  
Book/Page: [REDACTED]  
Legal Description: [REDACTED]

**Sales Information**  
Sales Price: [REDACTED]  
Sales Price Description: [REDACTED]  
Total Transfer Tax: [REDACTED]

**Mortgage Information**  
Mortgage Type: [REDACTED]  
Title Company: [REDACTED]

**Deed Record**  
This data is for informational purposes only.  
Buyer Information

Figure A5: Tax Assessment Record

The screenshot shows a LexisNexis web interface for a Tax Assessment Record. The browser address bar displays <https://w3.nexis.com/hottopics/Indp/>. The navigation menu includes 'Individual', 'Company', 'Public Records', 'Dossier', 'Advanced', 'Sources', 'History & Alerts', 'Sign Out', and 'What's New'. The 'Public Records' section is active, with a 'View: Return to Results' link. A search bar shows 'Search: Comprehensive Person Report' and 'Terms: first-name [redacted] last-name [redacted] state(ALL) radius(30)'. The main content area is titled 'Assessment Record' and includes a disclaimer: 'This data is for informational purposes only.' Below this, the 'Estimated Roll Certification Date: 01/01/2011' is noted. The record is organized into several sections, each with red headers: 'Owner Information' (Standardized Name, Original Address, Standardized Address), 'Property Information' (Original Property Address, Standardized Property Address, Land Use, Data Source), 'Legal Information' (Assessor's Parcel Number, Recording Date, Book/Page, Brief Description, Legal Description), 'Sale Information' (Recording Date, Sale Price), 'Assessment Information' (Assessment Year, Assessed Land Value, Assessed Improvement Value, Total Assessed Value, Zoning), 'Tax Information' (Tax Amount, Tax Year), and 'Property Characteristics' (Year Built, Building Area, Style). A sidebar on the left contains links for 'Person Report', 'Business Report', and 'Location Report'. The bottom of the page repeats the 'Assessment Record' title and disclaimer.

## Appendix B: Supplemental Tables

**Table B1: Securitization Sample in Detail**

Panel A lists the companies with the most number of people in-sample for the securitization group. Panel B lists the most common job titles broken down by whether they worked at a firm that was either a systemically-important financial institution (SIFI) or otherwise important to the crisis. For our purposes, these firms are AIG, Bank of America, Bear Stearns, Citigroup, Countrywide, JP Morgan Chase, Lehman Brothers, Merrill Lynch, Morgan Stanley, Washington Mutual, Wachovia, Barclays, Deutsche Bank, HSBC, UBS, Credit Suisse, and Mellon Bank. Panel C breaks down self-reported education information we gathered.

**Panel A: Companies with Most People In-Sample**

Rank	Company	People	Rank	Company	People
1	Washington Mutual	26	6	Countrywide	10
2	Wells Fargo	26	7	Merrill Lynch	10
3	Citigroup	15	8	Deutsche Bank	9
4	JP Morgan Chase	15	9	Lehman Brothers	9
5	AIG	12	10	UBS	9
Distinct firms		153			
matched with CRSP		55			

**Panel B: Most Common Positions In-Sample**

Title	People	
	SIFI+ Firms	Other Firms
Vice President	50	30
Senior Vice President	29	27
Managing Director	20	17
Director	13	16
Analyst	13	13
Total people at SIFI+ firms	175	

**Panel C: Education**

Percent reporting undergraduate education	64.82
percentage Ivy League	9.40
percentage also having an MBA	20.09

**Table B2: Geographical Distribution of Properties**

This table provides summary statistics for properties owned anytime over 2000-2010. Panel A presents the distribution of addresses associated with people in our sample. Panel B presents the distribution of properties within select metropolitan areas. New York is the New York-Newark Bridgeport, NY-NJ-CT-PA combined statistical area (CSA). Southern California is a combination of Los Angeles-Long Beach-Riverside, CA CSA and San Diego-Carlsbad-San Marcos, CA Metropolitan Statistical Area. Chicago is the Chicago-Naperville-Michigan City, IL-IN-WI CSA. Boston is the Boston-Worcester-Manchester, MA-RI-NH CSA. Philadelphia is the Philadelphia-Camden-Vineland, PA-NJ-DE-MD CSA. CSA definitions follow the 2009 definitions issued by the Office of Management and Budget (OMB).

**Panel A: Regional Distribution of Properties Owned, 2000-2010**

Region	Securitization	Equity Analysts	Lawyers
Pacific	21.17%	14.35%	23.22%
Mountain	5.00%	3.36%	3.79%
West North Central	4.50%	4.93%	2.05%
East North Central	11.33%	5.83%	11.85%
West South Central	4.50%	5.61%	8.69%
East South Central	1.67%	2.24%	2.05%
South Atlantic	17.50%	12.56%	14.69%
Middle Atlantic	25.00%	36.77%	21.17%
New England	9.33%	14.35%	12.48%
N	600	446	633

**Panel B: Geographical Distribution Over Select Metro Areas**

Region	Securitization	Equity Analysts	Lawyers
New York	23.00%	39.70%	16.40%
Southern California	9.70%	5.40%	13.90%
Chicago	8.50%	4.50%	4.90%
Boston	4.00%	4.90%	7.30%
Philadelphia	3.30%	1.30%	6.20%
Other most common metro area	Minneapolis (4.1%) Wash., DC (4.1%)	San Fran. (5.4%)	Dallas (4.6%)

**Table B3: Number of Homeowners and Non-Homeowners**

We tabulate the number of homeowners (HO), adjusted homeowners, adjusted non-homeowners and adjusted multiple-homeowners for the different samples. Adjusted homeowners are people eligible to buy a second home or swap a home during the year. Adjusted non-homeowners are people eligible to purchase a first home during the year. Adjusted multiple homeowners are people eligible to divest a second home during the year. Note that the number of adjusted homeowners plus adjusted non-homeowners may be greater than the number of people in the sample. Panel A includes all people in-sample. Panel B includes people with age information.

**Panel A: Full Sample**

Year	Securitization				Equity Analysts				Lawyers			
	Adj. HO	Adj. Non-HO	Adj. Multi-HO	Fraction Adj. HO	Adj. HO	Adj. Non-HO	Adj. Multi-HO	Fraction Adj. HO	Adj. HO	Adj. Non-HO	Adj. Multi-HO	Fraction Adj. HO
	2000	197	186	45	0.546	151	165	40	0.512	225	226	53
2001	210	170	42	0.582	156	152	50	0.529	241	207	54	0.567
2002	219	156	46	0.607	169	142	53	0.573	264	191	62	0.621
2003	235	149	51	0.651	182	129	53	0.617	276	169	61	0.649
2004	246	134	63	0.681	195	117	61	0.661	288	158	67	0.678
2005	258	119	72	0.715	202	103	67	0.685	294	149	68	0.692
2006	270	106	71	0.748	208	95	68	0.705	300	141	76	0.706
2007	277	96	79	0.767	212	91	72	0.719	311	129	83	0.732
2008	276	97	76	0.765	215	87	68	0.729	308	121	81	0.725
2009	273	100	72	0.756	218	88	66	0.739	311	124	88	0.732
2010	281	95	74	0.778	218	83	67	0.739	314	120	82	0.739
Distinct people	300	213	154	0.831	232	178	119	0.786	347	266	165	0.816
with age	292	194	152	0.809	225	167	118	0.763	344	264	163	0.809

Table B3, continued

Panel B: Sample with Age Information

Year	Securitization				Equity Analysts				Lawyers			
	Adj. HO	Adj. Non- HO	Adj. Multi- HO	Fraction Adj. HO	Adj. HO	Adj. Non- HO	Adj. Multi- HO	Fraction Adj. HO	Adj. HO	Adj. Non- HO	Adj. Multi- HO	Fraction Adj. HO
	2000	195	167	45	0.540	148	154	40	0.502	222	224	53
2001	208	151	42	0.576	152	140	50	0.515	238	205	53	0.560
2002	216	137	46	0.598	164	130	52	0.556	261	188	62	0.614
2003	231	130	51	0.640	177	117	52	0.600	272	166	61	0.640
2004	240	114	61	0.665	189	105	60	0.641	284	155	67	0.668
2005	252	99	71	0.698	196	92	66	0.664	287	146	68	0.675
2006	262	86	70	0.726	199	84	67	0.675	291	137	75	0.685
2007	266	76	78	0.737	203	80	70	0.688	299	124	82	0.704
2008	264	79	74	0.731	205	76	66	0.695	289	117	76	0.680
2009	259	81	68	0.717	208	77	63	0.705	290	119	82	0.682
2010	261	75	70	0.723	208	72	65	0.705	290	115	75	0.682
Distinct people	292	194	152	0.809	225	167	118	0.763	344	264	163	0.809