

WHO PAYS FOR RENT CONTROL? HETEROGENEOUS LANDLORD RESPONSE TO SAN FRANCISCO'S RENT CONTROL EXPANSION ONLINE APPENDIX; DIAMOND, MCQUADE, AND QIAN; ONLINE APPENDIX

LANDLORD CLASSIFICATION

For the small multi-family apartment buildings with two to four units in our sample, we link their official parcel numbers from the San Francisco Assessor's office to property ID numbers from DataQuick, hereinafter refer to as properties. We then use both detailed historical transaction records and current owners provided by DataQuick to match properties to their owners on December 31st, 1993. Specifically, we identify all buyers who bought a property before December 31st, 1993 (15.3% of the properties in our sample), all sellers who sold a property after December 31st, 1993 (41.9% of the properties in our sample), and the current owners (99.6% of the properties in our sample). Buyers and sellers are identified from the set of arms-length transactions that are not refinances or home equity loans.

We first clean names of buyers, sellers and current owners as follows:

- We standardize the names of past buyers, sellers and current property owners by removing special characters, dates, suffixes such as "JR" and "SR", and numerals such as "II", "III" and "IV" that often appear at the end of first and last names. We also remove any lone letters in names which are most likely initials (in most cases, middle initials).
- By identifying words that appear most frequently in names such as "properties", "portfolio", "investment", "associates", "management", etc., we classify the names of past buyers, sellers and current property owners into individuals vs. corporates. Words such as "trust", "estate", and "family partnership" also appear frequently in names, indicating the ownership of a property under a family trust, estate or partnership. We classify such names as individuals by stripping any words that are not part of the names of beneficiaries.
- For individuals including trusts/estates/family partnerships, we identify their first and last names from as many patterns of recording names as we could detect. Examples of common patterns of names include "MORET,DAVID", "MCCARTHY,MATTHEW & KELLY", "BETTY RUSSELL", "CLARK,POWELL TR", "BYRD,MARGUERITE EST" and "JAMES WONG ESTATE", etc.

We then apply multiple steps to match properties to their owners on December 31st, 1993. In each step, properties enter a match round only if they have not already been matched to an owner in an earlier round. The share of properties matched in each round is documented below.

- 1) Last individual or corporate buyer of a property before December 31st, 1993 who sold the property after December 31st, 1993 – we are certain they are the owners of properties on December 31st, 1993. 5.75% of the properties in our sample are matched to at least one owner in this step.
- 2) Current individual or corporate owner of a property who bought the property before December 31st, 1993 – we are certain they are the owners of properties on December 31st, 1993. This step increase the share of properties with matched owners to 11.0%.
- 3) First individual or corporate seller of a property after December 31st, 1993 who we never observe as a buyer before December 31st, 1993, and no one transacts at the property before December 31st, 1993 – it is likely that the purchase of the property

dated back to before our transaction records from DataQuick started in 1988. We are quite confident they are the owners of the properties on December 31st, 1993. This step increase the share of properties with matched owners to 44.7%.

- 4) First individual or corporate seller of a property after December 31st, 1993 who we never observe as a buyer before December 31st, 1993, but someone else transacts at the property before December 31st, 1993 – it is still likely that the purchase of the property dated back to before our transaction records from DataQuick started, although we are less certain in this case. Assuming they are the owners increases the share of properties with matched owners to 46.9%.
- 5) Current individual or corporate owner of a property, and we do not observe anyone who transacts at the property – it is likely that they are the owners of the property on December 31st, 1993 but their transactions dated back to before our transaction records from DataQuick started. Adding these owners increases the share of properties with matched owners to 97.7%.
- 6) Last individual or corporate buyer of a property before December 31st, 1993 who we never observe as a seller after December 31st, 1993 and is not the current owner, and no one else transacts at the property after December 31st, 1993 – we assume they are still the current owners and likely owners back on December 31st, 1993. Adding these owners increases the share of properties with matched owners to 99.8%.

Next we classify the landlords of the parcels in our sample into individual vs. corporate. For individual landlords, we further classify their race. Note it is possible for a parcel number to be linked with more than one property¹ and for a property to be matched to multiple individual or/and corporate owners. A parcel is classified to have individual landlords if all of its matched owners are individuals; it is classified to have corporate landlords if at least one of its matched owners is corporate.

For individual landlords, we use “NamePrism”, a non-commercial ethnicity/nationality classification tool intended to support academic research (Ye et al. (2017)), to compute probabilities of race/ethnicity for each landlord based on her first name and last name. For each individual landlord, “NamePrism” outputs the probabilities for the six ethnic categories defined by U.S. Census Bureau: Hispanic; non-Hispanic White, non-Hispanic Black or African American, non-Hispanic Asian/Pacific Islander, non-Hispanic American Indian and Alaska Native, and non-Hispanic Multi-racial. An individual landlord’s race is given by the racial category with the highest probability. We further group the racial categories into non-Hispanic White and Minorities. A parcel is classified to have white individual landlords if it only has individual landlords and at least of them is white; it is classified to have minority individual landlords if it only has individual landlords who are minorities. Table 1 shows the breakdown of landlord types for our sample of analysis.

¹85.4% of the parcels are linked to a unique property from DataQuick and 91.4% of parcels are linked to no more than two properties.