Portfolios of Real Estate Investors

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Abstract

Using seven waves of the Survey of Consumer Finances from 2004 to 2022, this study documents key features of U.S. real estate investors' portfolios and tracks their evolution over time. We compare real estate investors — defined as homeowners who also own other real estate properties — with typical homeowners and renters. We find that real estate investors hold more diversified portfolios and exhibit lower debt-to-asset ratios. Over the sample period, the most notable shift in household portfolios is the growing prominence of financial assets after 2010. Additionally, we examine factors associated with real estate investment, finding that older and wealthier households are more likely to be real estate investors. Financial knowledge and conditions over the property cycle are also correlated with real estate investor status.

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1 Introduction

Real estate investors can amplify housing market cycles, often with significant macroeconomic consequences. Increasing demand from real estate investors directly impacts house prices and affects housing affordability, which is one of the pressing challenges in most cities worldwide. A growing body of the literature has thus focused on real estate investors. Many of these studies have highlighted the important role of real estate investors in housing booms and busts (Haughwout, Lee, Tracy, and van der Klaauw (2011), Gao, Sockin, and Xiong (2020), Garcia (2022), and Lambie-Hanson, Li, and Slonkosky (2022)). A number of them have explored the impacts of deep pocket foreign and out-of-town investors (see, for example, Chinco and Mayer (2016), Badarinza and Ramadorai (2018), Cvijanovic and Spaenjers (2021), Favilukis and Van Nieuwerburgh (2021), Li, Shen, and Zhang (2024), and Pavlov, Somerville, and Wetzel (2024)). Other studies have investigated the returns to these investors (Chinco and Mayer (2016), Giacoletti and Westrupp (2018), Bayer, Geissler, Magnum, and Roberts (2020), Bayer, Magnum, and Roberts (2021), and D'Lima and Schultz (2021)).

There are, however, surprisingly few studies that examine the overall portfolios of real estate investors, including their asset holdings and debt composition. Understanding these portfolio choices has important implications for risk allocation in housing markets and for the distribution of wealth. This study aims to help fill this gap by providing a comprehensive analysis of real estate investors' portfolios.

We define real estate investors as homeowners who also own other real estate properties (i.e., multiple-property owners). The study has two main objectives. First, we document overall household portfolio patterns in the United States by income, net worth, and age, and then examine key facts about the portfolios of real estate investors and how these facts have evolved over time. This analysis enables comparisons with two other household groups in the population: typical homeowners, who do not own other real estate, and renters. Second, we investigate which household characteristics — including socio-demographic and behavioral factors — are associated with being a real estate investor, and whether these relationships vary across different phases of the property cycle.

In doing so, we use the recent seven waves of the Survey of Consumer Finances (SCF) spanning 2004 to 2022. The SCF is probably the most comprehensive source of data on U.S. household finances. It collects detailed information on income, balance sheets, use of financial services, demographics, attitudes and other characteristics for a representative sample of U.S. households. Since 2016, the SCF has also included self-rated financial knowledge, a crucial factor influencing decisions like saving, borrowing, and investing. Overall, the SCF data allow us to include a comprehensive set of control variables when examining which household characteristics are associated with real estate investor status.

Households allocate their portfolios between financial and non-financial assets. We classify financial assets into seven categories: (1) transaction accounts, (2) certificates of deposit, (3) directly held bonds, stocks, and mutual funds (i.e., these assets are not held in a managed investment or retirement account), (4) retirement accounts, (5) cash value life insurance, (6) other managed assets, and (7) other financial assets. Non-financial assets are grouped into five categories: (1) primary residences, (2) other real estate, (3) vehicles, (4) business equity, and (5) other non-financial assets. We also classify total debt into seven categories: (1) debt secured by primary residence, (2) debt secured by other real estate, (3) lines of credit not secured by residential property, (4) vehicle loans, (5) education loans, (6) credit card balances, and (7) other debt.[1]

Our key findings are as follows. First, real estate investors were more likely to hold nearly every category of assets compared to typical homeowners and renters across the seven waves of the SCF. In addition to owning other real estate, they were more likely to hold bonds, stocks, and mutual funds directly, have retirement account, and own business equity. These patterns suggest that real estate investors had more diversified portfolios.

Ownership rates for most asset and debt categories remained relatively stable from 2004 to 2022. However, ownership of certificates of deposit and cash value life insurance declined after 2007 across all the three household groups, likely reflecting the low-interest rate environment following the financial crisis. There was also a decrease in the direct ownership of bonds, stocks, and mutual funds over time, while education loan ownership

[1]See the detailed definition of each asset or debt category in Appendix A.

increased.

Second, with regard to asset composition, non-financial assets accounted for more than 60% of total assets on average across the seven waves of the SCF for both real estate investors and typical homeowners, with financial assets representing less than 40%. In contrast, financial assets accounted for 51.51% of renters' total assets on average. Renters also held a larger share of their total assets in nearly every category of financial assets compared to the other two groups.

The most important difference between the portfolios of real estate investors and typical homeowners lies in the composition of non-financial assets. For real estate investors, the primary residence accounted for approximately 19% of total assets, while other real estate contributed an additional 19%. In contrast, the primary residence was the dominant asset for typical homeowners, comprising roughly 42% of total assets, with no holdings of other real estate. Another key difference is the role of business equity: it accounted for about 22% of total assets for real estate investors, compared to less than 14% for typical homeowners.

A notable change in asset composition over time across the three household groups is the increased role of financial assets after 2010. This upward shift in the share of financial assets is primarily driven by a substantial rise in holdings of directly owned bonds, stocks, and mutual funds, as well as retirement accounts, reflecting the post-crisis rally in U.S. stock markets.

Third, real estate investors were generally less leveraged than the other two groups. Their aggregate debt-to-asset ratio was 10.54% across the seven waves of the SCF, compared to 19.11% for typical homeowners and 18.09% for renters. Conditional on holding debt, the median debt-to-asset ratio was 14.87% in 2022 for real estate investors, compared to 28.95% for typical homeowners and 47.09% for renters in the same year. Debt-to-asset ratios rose in 2010 (i.e., immediately after the financial crisis) but have since trended downward for all the three household groups.

Fourth, real estate investors tended to be older and have higher income and net worth than the other two groups.[2] These observations are based on unconditional comparisons

[2]Regarding household income, the SCF has information on a household's pre-tax income for the full calendar year preceding the survey. Additionally, the SCF includes questions about a household's "usual

that do not control for households' socioeconomic and demographic characteristics.

We then use a probit model to examine which factors are associated with being a real estate investor.[3] Our results suggest that older homeowners were more likely to be real estate investors, particularly in more recent survey years, after controlling for other household characteristics. Both income and net worth emerged as key explanatory factors, exhibiting strong, positive, and statistically significant associations with the probability of being a real estate investor. In addition, ownership of business equity was positively associated with real estate investor status.

Financial knowledge also plays an important role in real estate investment decisions: higher levels of financial knowledge were associated with a greater likelihood of being a real estate investor. By contrast, a greater willingness to take financial risk was not significantly associated with real estate investor status. If anything, an unwillingness to take financial risk was associated with a lower probability of being a real estate investor. Finally, we find no consistent statistically significant relationships between real estate investor status and other household characteristics.

We further examine whether these relationships varied over the property cycle. The results mentioned above largely held true across the seven survey years. However, several notable differences emerge. For instance, income was a significant predictor of real estate investor status in the post-crisis period (2010–2022), but not in the pre-crisis years (2004 and 2007). The marginal effect of net worth on the likelihood of being a real estate investor

income" to account for income variability due to factors such as unemployment spells, bonuses, or other temporary influences. Usual income is recorded if respondents indicate that their income in the reference year was unusually high or low compared to what they consider normal. The income measure used in this study refers to the SCF's usual income.

[3]We examine the relationship between real estate investor status and a range of explanatory variables, including demographic and socioeconomic characteristics, as well as measures of financial knowledge, attitudes, and behavioral proxies. A potential limitation of the probit model is the presence of unobserved confounding factors — such as individual preferences — that may affect both the dependent and independent variables, thereby leading to biased estimates. In addition, some explanatory variables may be endogenous to the dependent variable. Accordingly, the estimates from the probit model should be interpreted as associative rather than causal.

appeared to weaken after the financial crisis. These patterns are consistent with a growing literature documenting a shift from relatively loose lending standards before the financial crisis to tighter, income-based constraints afterward, including stricter income verification and debt-to-income requirements (Keys, Mukherjee, Seru, and Vig (2010), Purnanandam (2011), and Vojtech, Kay, and Driscoll (2020)). We also notice that the willingness to take substantial financial risk was significantly linked to a higher probability of being a real estate investor in 2004, but not in subsequent years from 2007 to 2022. This suggests that the relationships between household characteristics and real estate investment may vary over the property cycle. The survey year 2004, a year during the housing boom, appeared to be notably different from other survey years.

This study contributes to two strands of literature. First, our study is related to the broader literature that has examined the factors correlated with housing decisions of the general populations and its sub-groups.[4] Most of the existing literature focuses only on owner-occupied property and neglects other real estate ownership. Only a few studies consider demand for both primary residence and other residential properties (second home or dwelling for renting out); see Ioannides and Rosenthal (1994), Manrique and Ojah (2003), and Brown, Schwann, and Scott (2008). Our study complements this branch of literature by examining U.S. households' investment in other real estate (i.e., non-primary residence) over the period 2004 – 2022.

Second, our study is also linked to the large literature that has studied household portfolios; see Guiso, Haliassos, and Jappelli (2002), Campbell (2006), Christelis, Georgarakos, and Haliassos (2013), Guiso and Sodini (2013), Badarinza, Campbell, and Ramadorai (2016), Fagereng, Gottlieb, and Guiso (2017), and Lyng and Zhou (2023), among others. Household portfolio choices are found to be associated with various factors, including risk preferences, demographic and financial characteristics, background risk, information and participation costs, and so forth. We add to the existing literature by examining U.S.

[4]These factors include income, wealth, race, health status, and differences in other demographic and socioeconomic characteristics. See Gyourko and Linneman (1996), Gyourko, Linneman, and Wachter (1999), Gabriel and Rosenthal (2005), Hilber and Liu (2008), Engelhardt (2008), Bian and Lin (2022), Churchill, Yew, and Nguyen (2022), among others.

real estate investors' portfolios and comparing them to other households.

The remainder of this paper is organized as follows. Section 2 describes the data and provides detailed portfolio structures of real estate investors and other groups of households. Section 3 analyzes the factors associated with being a real estate investor and presents empirical results. Section 4 concludes.

2 The Data

2.1 Survey of Consumer Finances

The data set used in this study is the public-use micro data from the Federal Reserve Board's triennial Survey of Consumer Finances (SCF).[5] The SCF is widely recognized as one of the most comprehensive sources of data on U.S. household finances, providing detailed information about family income, balance sheet components, use of financial services, and a range of demographic, attitudinal, and other characteristics for a representative sample of U.S. households.

We use the seven most recent waves of the SCF, spanning 2004 to 2022, in this study. The availability of data over such an extended period facilitates an analysis of portfolio shifts in response to changes in the economic environment. The unit of analysis is household. A household unit is a primary economic unit (PEU), the family, defined as the economically dominant individual or couple (whether married or living together as partners) along with financially dependent members of the household.[6]

2.2 Overall Household Portfolios

Our analysis begins with the overall structure of household portfolios. Total household assets include both financial and non-financial components. In each survey, we classify

[5]See more information about the survey in Appendix A.

[6]The data set includes 4519, 4417, 6482, 6015, 6248, 5777, and 4595 sample households in 2004, 2007, 2010, 2013, 2016, 2019, and 2022, respectively. A multiple imputation method is used in the SCF to address missing data. The imputations are stored as five successive replicates of each data record. Thus, the number of observations in the data set is five times the actual number of respondents in each survey year. We divide the weights by 5 to obtain sample statistics.

financial assets into seven broad categories: (1) transaction accounts, (2) certificates of deposit, (3) directly held bonds, stocks, and mutual funds (i.e., these assets are not held in a managed investment or retirement account), (4) retirement accounts, (5) cash-value life insurance, (6) other managed assets, and (7) other financial assets. Non-financial assets are grouped into five categories: (1) primary residences, (2) other real estate, (3) vehicles, (4) business equity, and (5) other non-financial assets. We also classify total debt into seven categories: (1) debt secured by the primary residence, (2) debt secured by other real estate, (3) lines of credit not secured by residential property, (4) vehicle loans, (5) education loans, (6) credit card balances, and (7) other debt.

2.2.1 By Income Quintile

For each asset and debt category, we compute its aggregate share of total assets (i.e., the relative weight of each category in total assets) for all households and by income quintile in each survey. We then report the averages across the seven surveys in Table 1. On average, households allocated 38.87% of their portfolios to financial assets and 61.13% to non-financial assets. Financial assets were concentrated in directly held bonds, stocks, and mutual funds, as well as retirement accounts. Among non-financial assets, primary residences, business equity, and other real estate each accounted for sizable shares of total assets, whereas vehicles and other non-financial assets represented only small shares. The average debt-to-asset ratio across the seven surveys was 14.57%. Debt secured by primary residences was the dominant form of debt, followed by debt secured by other real estate.

[Table 1]

Across income quintiles, the share of financial assets in total assets increased with income, rising from 26.02% for households in the bottom quintile to 41.31% for those in the top quintile. This pattern is driven largely by directly held bonds, stocks, and mutual funds, whose share increased from less than 6% for households in the bottom two quintiles to 17.79% for those in the top quintile. In contrast, the share of non-financial assets declined with income. The most notable difference across quintiles is the share of primary residences:

primary residences accounted for more than 40% of total assets among households in the bottom 80% of the income distribution, compared with only 20.96% among those in the top quintile. Conversely, business equity and other real estate constituted much larger asset shares for top-quintile households. For example, business equity (other real estate) accounted for 23.26% (11.60%) of total assets for households in the top quintile, compared with 6.74% (7.95%) for those in the third quintile.

Table 1 also reports asset ownership rates by income quintile. A key finding is that households in higher income quintiles were more likely to own nearly every asset category. For financial assets, although the vast majority of households held transaction accounts, ownership rates for directly held bonds, stocks, and mutual funds and for retirement accounts varied substantially across income groups. Only 13.41% of households in the bottom quintile had a retirement account, compared with 86.24% in the top quintile. Similarly, the ownership rate of directly held bonds, stocks, and mutual funds increased from 9.55% in the bottom quintile to 58.25% in the top quintile. For non-financial assets, the ownership rate of primary residences rose from 40.85% in the bottom quintile to more than 90% in the top quintile. Business equity ownership was rare in the bottom quintile (3.07%) but much more common in the top quintile (27.75%). A similar pattern held for ownership of other real estate, which increased from 5.35% in the bottom quintile to 37.70% in the top quintile.

2.2.2 By Net Worth Quintile

Table 2 presents asset allocations and ownership rates by net worth quintile. The patterns closely mirror those observed across income quintiles. The share of financial assets increased with net worth, while the share of non-financial assets declined. Primary residences represented a much smaller share of total assets for households in the top net worth quintile than for other households. In contrast, business equity and other real estate accounted for much larger shares of assets among top-quintile households. Consistent with the income-based patterns, households with higher net worth were more likely to own nearly every asset category.

[Table 2]

2.2.3 By Age Group

Table 3 reports results by age group. In general, the share of financial assets increased with age, while the share of non-financial assets declined. Households aged 55 and above allocated a smaller share of their total assets to primary residences, despite having higher home ownership rates than younger households. Older households were also more likely to own other real estate, which accounted for a larger share of their total assets compared with younger households.

[Table 3]

2.3 Household Groups Based on Real Estate Ownership

Next, we classify households into different groups based on real estate ownership and examine their detailed portfolio structures.

Figure 1 presents household composition trends based on home ownership across survey years. In 2004, approximately 69% of U.S. households owned their primary residence. Following the housing market downturn and subsequent financial crisis, the home ownership rate declined to just under 64% in 2016, before rising to 66% by 2022.

Independent of primary residence ownership, households may also own other real estate, such as investment or vacation properties.[7] The proportion of U.S. households owning other real estate fluctuated between 16 percent and 19 percent from 2004 to 2022, peaking in 2007. The percentage of households owning both primary residence and other real estate rose from 15.5% in 2004 to 16.5% in 2007. It then fell gradually to around 14% in 2022. Households renting their primary residence yet owning other real estate remained relatively constant at approximately 2% across the seven waves of the SCF.

[Figure 1]

[7] Other real estate includes residential or non-residential properties. According to the 2004–2022 SCFs, among those households that owned other real estate, 77% owned residential properties, and 37% held non-residential properties, with about 14% owning both.

In this study, we define "real estate investors" as homeowners who also own other real estate (i.e., multiple-property owners). Households can own other real estate for a variety of reasons. Some households may consider it mainly as an investment that provides an ongoing source of income. Other households may own a property primarily as a vacation/secondary home, that is for lifestyle reasons, but may also decide to rent it during part of the year. In both cases capital gains on the real estate may be part of the expected return on their investment. Since we cannot distinguish among these motives, we include all real estate that is non-primary residence in our definition of other real estate.

The decision to own a primary residence may differ significantly from that for other real estate. Accordingly, SCF households are categorized into three groups in this study: (1) real estate investors, (2) typical homeowners without other real estate, and (3) renters.[8] We then examine each group's portfolio structure and key characteristics.

2.3.1 Ownership Rates and Values of Assets and Liabilities by Household Group

For the three groups of households, Table 4 reports the proportion of households within each group that hold various types of assets and liabilities. A key finding is that real estate investors were more likely to hold nearly every asset category compared to the other two groups in the seven SCFs, suggesting a more diversified portfolios among real estate investors. By definition, all real estate investors owned both a primary residence and other real estate, while typical homeowners did not own additional real estate, and renters did not own a primary residence. Beyond real estate, most households in all three groups owned transaction accounts and vehicles, which was expected. However, there were notable discrepancies in the ownership of directly held bonds, stocks, and mutual funds, with 51.75% of real estate investors, 31.99% of typical homeowners, and only 14.77% of renters holding these assets. Real estate investors also had a significantly higher rate of retirement account ownership at 75.41%, compared to 58.53% for typical homeowners and 29.48% for renters.

[8] A very small proportion of renters in the SCFs owned other real estate. These renters are not analyzed separately.

[Table 4]

The last three columns of Table 4 show the conditional median value of each asset category for the three household groups in the 2022 SCF.[9] The conditional median asset values for real estate investors were markedly higher than those for both typical homeowners and renters. A particularly striking contrast appears in total financial assets: the conditional median value of total financial assets for real estate investors was $328,330 in 2022, which was 4.6 times that of typical homeowners and 65.7 times that of renters. Among the financial asset categories, the conditional median value of directly held bonds, stocks, and mutual funds for real estate investors was $106,000, compared to $25,000 for typical homeowners and $4,000 for renters. Retirement accounts followed a similar trend, with real estate investors holding a conditional median of $280,000, far exceeding the $95,700 for typical homeowners and $18,190 for renters. While the disparity in the conditional median values of non-financial assets was somewhat less dramatic, real estate investors still held considerably higher values. For instance, the conditional median value of total non-financial assets for real estate investors was $891,000, which was 2.5 times that of typical homeowners and 46.9 times that of renters.

Regarding debt, the proportions of real estate investors and typical homeowners holding any debt were similar, averaging around 82% across the seven SCFs, while renters had a lower rate of 66%. Debt ownership patterns across specific categories were also similar between real estate investors and typical homeowners, except that typical homeowners lacked debt secured by other real estate. Renters, by contrast, did not hold debt secured by a primary residence, but a small fraction of renters held debt secured by other real estate properties (2.52%). Another notable difference was the higher proportion of renters with education loans compared to real estate investors and typical homeowners.

Examining the conditional median values of debt categories, we find that all debt categories, except lines of credit not secured by residential property, had higher conditional

[9] In this study, unless otherwise specified, all dollar amounts from the SCF including income, assets, and liabilities are adjusted to 2022 dollars using the Consumer Price Index (CPI) for all urban consumers. Please see Appendix B for details.

median values for real estate investors than for the other two household groups. However, the contrasts in debt values were generally less pronounced than those observed for assets.

We also assess changes in ownership rates for assets and liabilities from 2004 to 2022 across the three household groups (see Appendix C for details). Interestingly, most asset and liability categories showed little variation in ownership rates over this nearly two-decade period, despite different business cycle phases. For example, the ownership rate of retirement accounts rose only modestly across all three groups from 2004 to 2022. Similarly, vehicle ownership rates remained fairly stable over time.

Despite this general stability, a few asset and debt categories experienced substantial shifts in ownership rates (see Figure 2). The ownership of certificates of deposit was at its highest in 2007, just before the financial crisis, and has since trended downward across all three groups, likely due to the low-interest rate environment following the crisis. Another notable trend was the decrease in ownership of directly held bonds, stocks, and mutual funds: for real estate investors, the ownership rate fell from approximately 60% in 2004 to 45% in 2019, with an upward tick in 2022. A similar pattern was observed among typical homeowners and renters. Figure 2 also reveals a significant decline in the ownership of cash value life insurance for both real estate investors and typical homeowners, while renters maintained relatively low and stable ownership across surveys. Among debt categories, education loans showed the most notable increase, rising sharply between 2004 and 2022 across all three household groups. For instance, the proportion of real estate investors with education loans grew from approximately 8% in 2004 to 14% in 2022, while similar increases were seen among typical homeowners (from 12% to 20%) and renters (from 19% to 28%).

[Figure 2]

2.3.2 Asset Composition by Household Group

Table 5 examines the asset composition of the three household groups. For each asset and debt category, we compute its aggregate share of total assets in each survey and report the averages across the seven surveys. The table also presents the conditional median share of each asset and debt category in total assets based on the 2022 SCF. Several key observations

emerge.

[Table 5]

(1). **Financial versus Non-Financial Assets**: For both real estate investors and typical homeowners, non-financial assets accounted for more than 60% of total assets on average across the seven waves of the SCF, with financial assets representing less than 40%. In contrast, renters held a higher proportion of their total assets in financial assets (51.51%) and a lower proportion in non-financial assets (48.49%), primarily reflecting the absence of owner-occupied housing in their portfolios.

(2). **Distribution of Financial Assets**: For the seven financial asset categories, overall real estate investors and typical homeowners displayed a similar aggregate distribution. Real estate investors, however, held a smaller fraction of their assets in retirement accounts and a larger fraction in directly held bonds, stocks, and mutual funds compared to typical homeowners. On the other hand, renters not only held a higher proportion of their total assets in financial assets but also held a greater fraction in nearly every category of financial assets. Notably, renters allocated a significantly higher proportion of their total assets to transaction accounts (9.27%) than real estate investors (4.13%) and typical homeowners (5.13%).

The last three columns of Table 5 report the conditional median share of each financial asset category in total assets in the 2022 SCF. Consistently, the conditional median shares were close for real estate investors and typical homeowners, while renters exhibited higher conditional median shares, reflecting a greater aggregate allocation to financial assets.

(3). **Distribution of Non-Financial Assets**: For the five non-financial asset categories, there were significant differences in their aggregate shares. The most notable difference lied in the role of real estate. For real estate investors, the primary residence accounted for approximately 19% of total assets, and other real estate contributed another 19%. In contrast, the primary residence was the dominant form of asset for typical homeowners, comprising roughly 42% of total assets, with no ownership of other real estate. Although renters did not own a primary residence, a considerable portion of their assets (about 17%) was held in other real estate, despite only 6% of renters owning such property. Another

prominent difference was the role of business equity, which represented around 22% of total assets for real estate investors, compared to less than 14% for typical homeowners.[10] Even though the proportion of renters with business equity was small (under 6%), business equity comprised about 20% of their total assets.

In 2022, the conditional median ratio of primary residence to total assets was roughly one-third for real estate investors and two-thirds for typical homeowners. For real estate investors, other real estate and business equity were the next most important asset categories, with conditional median ratios of around 16%. For renters, the conditional median ratios for vehicles (64.31%) and other real estate (50.32%) indicated a concentration of assets in these categories among renters who held them.

(4). **Debt-to-Asset Ratio**: The debt-to-asset ratio also shows noteworthy differences. Real estate investors tended to be less leveraged, with an average debt-to-asset ratio of 10.54% over the seven survey years, compared to 19.11% for typical homeowners and 18.09% for renters. Conditional on holding debt, the median debt-to-asset ratio in 2022 was 14.87% for real estate investors, compared to 28.95% for typical homeowners and 47.09% for renters in the same year.[11] For both real estate investors and typical homeowners, real estate-secured debt (including both primary residence and other real estate) was the predominant debt type, while other debt categories represented a small fraction of total debt. In contrast, education loans were the largest debt category for renters, followed by debt secured by other real estate.

(5). **Changes in Asset Composition over Time**: Finally, we examine changes in asset composition from 2004 to 2022 for the three household groups (see Appendix D for details). For real estate investors, the most notable shift was an increase in financial assets' share from under 33% in 2004 and 2007 to over 42% in 2022, while the share of non-

[10]Interestingly, entrepreneurs also allocate a large share of their wealth to other real estate beyond their primary residence. Such holdings represent 17.7% of entrepreneurs' total assets, second only to business equity (Gentry and Hubbard (2000)).

[11]Conditional on holding debt, the median debt-to-asset ratio was 19.48% on average across the seven surveys for real estate investors, 35.89% for typical homeowners, and 52.73% for renters. At the 90th percentile, the average conditional debt-to-asset ratio was 60.99%, 83.60%, and 454.22% for real estate investors, typical homeowners, and renters, respectively.

financial assets decreased from above 67% to roughly 58% over the same period. This shift was driven largely by an increase in directly held bonds, stocks, and mutual funds. Despite a declining ownership trend, the share of these assets grew from under 15% in 2004 and 2007 to over 20% in 2022. This share fell in 2010 immediately following the financial crisis, but it continued to increase after that reflecting the large stock markets gains since then. Meanwhile, the share of assets held in retirement accounts increased modestly post-crisis but remained relatively stable in recent surveys. The shares of certificates of deposit and cash value life insurance decreased over time, consistent with declining ownership rates.

Among non-financial assets, business equity consistently represented more than 20% of real estate investors' portfolios in all survey years, remaining stable in recent surveys. The reduced non-financial asset share was primarily due to a decline in the share of assets held in primary residence and other real estate. Given the recovery in U.S. housing markets, the declining share of real estate in investors' portfolios post-crisis is notable and may further reflect the strong growth in stock holdings. For instance, the S&P CoreLogic Case-Shiller U.S. National Home Price Index doubled from late 2010 to late 2022, while the S&P 500 index tripled over the same period.

Regarding the debt-to-asset ratio over time for real estate investors, it increased in 2010 following the financial crisis. After 2010, assets grew at a faster rate than debt, resulting in a clear downward trend in the debt-to-asset ratio.

For typical homeowners and renters, the shift in asset composition mirrored that of real estate investors, with financial assets comprising a larger share of total assets and non-financial assets a smaller share in recent surveys (2016 – 2022) compared to pre-crisis years (2004 – 2007). This change was mainly driven by an increased share of directly held bonds, stocks, and mutual funds, as well as retirement accounts, while the importance of real estate assets declined in recent surveys. The debt-to-asset ratio for typical homeowners and renters also rose in 2010 and declined in subsequent years, similar to that for real estate investors.[12]

[12]For real estate investors, the debt-to-asset ratio rose from 12.08% in 2004 to 12.81% in 2010, before decreasing to 7.09% in 2022. For typical homeowners and renters, the ratio increased from 20.10% and 16.57% in 2004 to 23.02% and 21.28% in 2010, respectively, and then declined to 14.84% and 14.89% in

2.3.3 Key Characteristics of Real Estate Investors

We also examine key characteristics — age, income, and net worth — across the three household groups (see Appendix E for details). We find that real estate investors tended to be older than both typical homeowners and renters and appeared more creditworthy, exhibiting higher income and net worth than the other two groups across the seven waves of SCF. Additionally, real estate investors were more likely to hold risky assets such as stocks and business equity. For example, an average of 78.33% of real estate investors held stocks across the seven surveys, compared with an average of 58.92% for typical homeowners and 29.75% for renters.

While these observations provide a useful descriptive picture of the characteristics of real estate investors, they do not account for other socioeconomic and demographic characteristics, nor for variables related to financial knowledge, attitudes, and behavioral factors. Therefore, further analysis is required to identify which household characteristics are most strongly associated with real estate investor status, which is the focus of the remainder of the paper.

3 Factors Associated with Being a Real Estate Investor

In this section, we use a probit model to examine which household characteristics are associated with being a real estate investor.[13] To do so, we first focus on homeowners. This approach follows from findings in the previous section, which show that homeowners and renters differ substantially in terms of income, net worth, and portfolio composition. The

2022. These patterns are consistent with findings in Bricker, Kennickell, Moore, and Sabelhaus (2012) and Aladangady, Bricker, Chang, Goodman, Krimmel, Moore, Reber, Volz, and Windle (2023), who document that the aggregate debt-to-asset ratio for all SCF households rose from 15.0% in 2004 to 16.4% in 2010, before falling to 10.7% in 2022 — its lowest level since 2004.

[13] Although we include a rich set of covariates to capture observable heterogeneity, unobserved factors — such as individual preferences — may simultaneously influence both the dependent and independent variables, thereby introducing bias into the estimates. A further concern is that some explanatory variables may be endogenously related to the dependent variable. Accordingly, the estimates obtained from the probit model should not be interpreted as causal.

limited wealth of renters suggests that they may have little incentive to diversify their portfolios and become a real estate investor, or they may be deterred from real estate investment due to fixed transaction costs or down payment requirements. Later, in a robustness check section, we extend our analysis to include all sample households in the survey.

We primarily analyze data from the 2016, 2019, and 2022 SCFs and also include surveys from 2004 to 2013. Notably, the SCF questionnaire underwent revisions in 2016, and one topic related to financial literacy and knowledge was added to the survey. This is an important aspect of this study, as financial knowledge fundamentally influences financial decisions, including saving, borrowing, and investing. Specifically, a new survey question since 2016 asks respondents to rate their own level of financial knowledge on a scale from 0 to 10, where 0 denotes "not knowledgeable at all" and 10 denotes "very knowledgeable." This question aims to capture respondents' subjective assessments of their own financial knowledge.[14]

3.1 Probit Model

The dependent variable in the probit model is an indicator of whether a household is a real estate investor. The explanatory variables include: (1) a range of demographic and socioeconomic characteristics, such as age, education, marital status, family size (i.e., number of household members), race, current work status, private pension coverage, stock ownership, private business ownership, income, and net worth; and (2) variables capturing financial knowledge, attitudes, and other behavioral proxies. The latter include self-rated financial knowledge, attitudes toward financial risk-taking, credit use (i.e., purchasing on credit), and leaving an estate or inheritance, as well as the household's planning horizon for saving and spending. The variables for age, education, marital status, race, and work status pertain to the household's reference person, while all other variables are defined at the household level. The sample consists of all homeowners in the 2016, 2019, and 2022

[14]We use dummy variables in the regressions for the self-rated financial knowledge levels. "Low or not knowledgeable" refers to responses of 0 – 3; "Moderate" refers to responses of 4 – 6; "Reasonably high" refers to responses of 7 – 8; and "Very knowledgeable" refers to responses of 9 – 10. The omitted group in the regressions is "Moderate."

waves of the SCF.

Table 6 presents the average marginal effects on the estimated probability that a homeowner is also a real estate investor.[15] Several key findings emerge from this analysis.

[Table 6]

First, older homeowners were more likely to be real estate investors compared to those in the 35–44 age group (the omitted category). This was especially apparent in more recent surveys. For instance, in 2022, the probability of homeowners being real estate investors was 12.29 (18.37) percentage points higher for those aged 55–64 (65–74) compared to those aged 35–44. Retired homeowners also had a higher probability of being real estate investors than current employees in 2016 and 2019, though no such relationship was observed in 2022.

Second, income and net worth had a positive association with the probability of being a real estate investor across all three surveys, which was statistically significant at the 1 percent level and economically large. For instance, the marginal effect of log income (net worth) was 0.0275 (0.0325) in 2022. This implies that an increase in income (net worth) of $22,000 in 2022 was associated with a 27.5 (32.5) percentage point increase in the probability of being a real estate investor.[16]

Third, private business ownership showed a significant positive association with real estate investor status.[17]

Fourth, a higher level of financial knowledge was associated with a greater likelihood

[15]Following Deaton (1997, p.70) and Brunnermeier and Nagel (2008), sample weights are not used in the regressions. However, the marginal effects, averaged across households, are weighted using survey weights in this study, even if the coefficients are estimated using unweighted data.

[16]Our results are broadly consistent with prior studies. Using U.S. and Australian data, respectively, Ioannides and Rosenthal (1994) and Brown, Schwann, and Scott (2008) show that the likelihood of owning additional real estate (e.g., rental or investment properties) beyond a primary residence increases with age, income, and wealth.

[17]This finding is in line with Gentry and Hubbard (2000), who show that entrepreneurs are more likely to own additional real estate beyond their primary residence and allocate a larger share of their wealth to such assets than non-entrepreneurs (see Table 4A in their paper). Heaton and Lucas (2000) further show that, among high-net-worth households, business equity and real estate together account for the majority of total assets.

of being a real estate investor.[18] However, willingness to take higher financial risk was not associated with a higher probability of being a real estate investor after controlling for other household characteristics. If anything, an unwillingness to take financial risk correlated with a lower probability of being a real estate investor, which was significant at the 1 percent level in 2016 and 2019, but not in 2022.

Finally, we find no consistent statistically significant relationship between real estate investor status and other household characteristics, including education, marital status, race, attitudes toward credit use and bequests, and the planning and budgeting horizon.

3.2 Robustness Checks

We performed several robustness checks to assess the sensitivity of the estimated relationships across alternative model specifications.

First, a potential limitation of the model is the endogeneity of certain variables. For example, net worth may be endogenous to real estate investment. Unfortunately, due to the cross-sectional nature of the data, we are unable to use a lagged term for net worth. To address this concern, we conducted a series of tests using the 2016, 2019, and 2022 surveys. Specifically, we: (1) replaced net worth with an alternative measure that excludes real estate wealth; (2) controlled for large wealth increases by including a proxy variable identifying households that have received an inheritance or substantial asset transfer; (3) included an additional proxy variable identifying households that expect to receive a substantial inheritance or asset transfer in the future; and (4) introduced two proxy variables for economic expectations, as economic expectations may also be related to real estate investment. The first proxy captures respondents' one-year expectations about the U.S. economy, based on

[18] This finding aligns with the growing literature on financial literacy. Prior studies show that financial literacy plays an important role in economic decision-making, and that financial knowledge is strongly associated with key financial outcomes, including borrowing, saving, and investment decisions such as stock market participation (van Rooij, Lusardi, and Alessie (2011), Lusardi and Mitchell (2014), and Kaiser, Lusardi, Menkhoff, and Urban (2022)). Previous research also suggests that households with higher levels of financial literacy are more likely to become homeowners (Gathergood and Weber (2017)). We contribute to this literature by providing evidence that financial knowledge is also associated with real estate investor status.

the SCF question: "Over the next year, do you expect the economy to perform better, worse, or about the same as now?" The second proxy reflects respondents' five-year outlook for the U.S. economy. After accounting for potential endogeneity arising from wealth measure and economic expectations, our results remain robust.[19]

Next, we examined the first four surveys in 2004, 2007, 2010, and 2013 to assess whether the factors associated with being a real estate investor varied over the property cycle. As before, the sample in the probit model included only homeowners in these surveys. The dependent variable continued to indicate whether a household was a real estate investor, and the set of independent variables remained unchanged, with the exception of self-rated financial knowledge. Because the survey question on self-rated financial knowledge was introduced in the 2016 SCF, it was excluded from these regressions.

Table 7 reports the results. Older homeowners remained more likely to be real estate investors than younger households in the earlier survey waves. Across all four surveys from 2004 to 2013, the probability of being a real estate investor was significantly higher for those in the 55–64 age group relative to those in the 35–44 age group. A similar pattern was observed for homeowners aged 65 and above in the 2010 and 2013 surveys.

[Table 7]

Several notable differences, however, emerge. First, as shown in Table 6, income was significantly and positively associated with the probability of being a real estate investor during the 2016 – 2022 period. While this relationship persisted in 2010 and 2013, it was absent in 2004 and 2007. This finding is consistent with prior research suggesting that the mortgage securitization process weakened lenders' incentives to carefully screen borrowers, contributing to looser lending standards in the pre-crisis period (Keys, Mukherjee, Seru, and Vig (2010) and Purnanandam (2011)). In contrast, lending standards tightened after the financial crisis, shifting toward stricter income-based constraints, including more rigorous income verification and debt-to-income requirements (Vojtech, Kay, and Driscoll (2020)).

Second, although net worth continued to exhibit a significant positive association with real estate investor status in the earlier surveys, the marginal effect of log net worth de-

[19]The regression results are not tabulated in this paper but are available from the author upon request.

clined substantially after the financial crisis, falling from 0.0859 in 2004 to 0.0325 in 2022. This pattern likely reflects tighter credit constraints and the expansion of macroprudential housing policies following the crisis. In the pre-crisis period, high-wealth households could more readily leverage their assets to acquire multiple properties. In the post-crisis period, however, lending decisions became more closely tied to income and debt-to-income ratios rather than asset holdings alone. As a result, even high-wealth households may face greater difficulty in securing multiple investment loans if their income does not meet stricter underwriting standards.[20]

Third, with respect to self-rated willingness to take financial risk, unwillingness to take financial risk was consistently associated with a lower probability of being a real estate investor across the 2004 – 2013 surveys, in line with the results in the 2016 – 2022 period. In contrast, willingness to take substantial financial risk was significantly associated with real estate investor status only in 2004, but not in subsequent survey years (2007 – 2013) or in the later period (2016 – 2022). This pattern suggests that 2004, a year during the housing boom, was notably different from other survey years.

So far, the sample in the probit model included only homeowners. Finally, we estimated the model using all households (i.e., both homeowners and renters) in the SCFs. We focused on the 2016, 2019, and 2022 SCFs, as these surveys contain data on self-rated financial knowledge. Appendix F reports the results, and the main findings are broadly consistent with those in Table 6, which used only homeowners in the regressions.

[20]The diminished role of wealth in real estate investment may also reflect structural changes in housing market participants. The post-crisis market appears to be driven more by local income fundamentals than by speculative demand or the investment appetite of high-wealth households. In addition, the post-crisis period has seen an increased presence of institutional investors, such as private equity firms and REITs (Mills, Molloy, and Zarutskie (2019) and Gurun, Wu, Xiao, and Xiao (2023)). Because these entities rely on corporate capital rather than personal wealth, the relationship between household net worth and real estate investment may be further weakened.

4 Conclusions

This study documents the portfolios of real estate investors in the United States using seven waves of the Survey of Consumer Finances spanning 2004 to 2022. We define real estate investors as homeowners who also own other real estate properties. Compared with typical homeowners (who only own a primary residence) and renters, real estate investors are more likely to hold virtually all categories of assets, indicating more diversified portfolios. In terms of asset composition, non-financial assets account for more than 60% of total assets on average for both real estate investors and typical homeowners, while financial assets represent less than 40%. In contrast, renters hold the majority of their wealth in financial assets. Since 2010, the share of financial assets has increased across all three groups, consistent with the post-crisis rally in U.S. stock markets.

The primary distinction between real estate investors and typical homeowners lies in the composition of non-financial assets. For real estate investors, the primary residence accounts for about 19% of total assets, whereas it constitutes roughly 42% for typical homeowners. Real estate investors also hold substantial asset in other real estate (about 19% of total assets), a category that is absent for typical homeowners. In addition, business equity plays a more prominent role in the portfolios of real estate investors, accounting for about 22% of total assets, compared with less than 14% for typical homeowners.

With respect to leverage, the debt-to-asset ratio declines significantly after 2010 across all three groups, suggesting an overall strengthening of household balance sheets. However, this improvement should be interpreted with caution given the high levels of debt.[21] Elevated debt levels — despite rising asset values — may still expose households to financial fragility, particularly in the presence of interest rate or income shocks (Bartscher, Kuhn, Schularick, and Steins (2025)). This highlights the importance of considering both sides of the household balance sheet when assessing financial resilience.

We next examine the household characteristics associated with real estate investor status using a probit model that controls for a wide range of demographic, socioeconomic, and

[21] According to the latest data from the Federal Reserve Bank of New York (2025), U.S. household debt has reached a new record high, $18.8 trillion, as of the fourth quarter of 2025.

behavioral factors. The results indicate that older homeowners are more likely to be real estate investors, particularly in more recent years. Income and net worth are also strong and statistically significant predictors, with higher levels of both associated with a greater likelihood of holding other real estate.

We further document a positive association between owning business equity and being a real estate investor. This finding is consistent with prior evidence suggesting that entrepreneurs tend to allocate a substantial share of their wealth to both business and real estate assets (Gentry and Hubbard (2000)). The potential complementarity between entrepreneurship and real estate investment — through channels such as collateral, risk diversification, or tax considerations — represents a promising avenue for future research.

Financial knowledge also emerges as an important factor associated with real estate investment decisions. Households with higher levels of financial knowledge are more likely to be real estate investors. This finding complements existing evidence that financial literacy is linked to homeownership decisions (Gathergood and Weber (2017)), mortgage choice (Guiso, Pozzi, Tsoy, Gambacorta, and Mistrulli (2022), Ilan and Mugerman (2025)), and refinancing behavior (Keys, Pope, and Pope (2016)). Given that financial literacy may influence how households engage with mortgage markets and respond to policy incentives, future research could further examine its role in shaping the effectiveness of housing policies, including subsidies, mortgage regulations, and tax incentives.

Finally, we explore how these relationships vary over the property cycle. We find that income is a significant predictor of real estate investor status in the post-crisis period (2010–2022), but not in the pre-crisis years (2004 and 2007). We also find that the marginal effect of net worth on the likelihood of being a real estate investor appears to weaken after the financial crisis. These patterns are consistent with a growing literature documenting a shift from relatively loose lending standards before the financial crisis to tighter, income-based constraints afterward, including stricter income verification and debt-to-income requirements (Keys, Mukherjee, Seru, and Vig (2010), Purnanandam (2011), Vojtech, Kay, and Driscoll (2020)). An important direction for future research is to examine the distributional consequences of these tighter lending standards, particularly with respect to access

to real estate investment opportunities.

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Table 1: Composition of Total Assets and Ownership Rates: by Income Quintile

	Share of total assets by income quintile average of 2004–2022 SCFs (%)						**Ownership rates by income quintile** average of 2004–2022 SCFs (%)					
	1st - lowest	2nd	3rd	4th	5th	All	1st - lowest	2nd	3rd	4th	5th	All
Financial assets	26.02	31.02	32.94	36.30	41.31	38.87	86.43	93.81	97.81	99.55	99.85	95.39
Transaction accounts	5.00	5.72	4.99	5.23	4.60	4.79	83.83	91.32	96.36	99.02	99.68	93.93
Certificates of deposit	2.55	2.35	1.36	1.08	0.75	1.00	6.29	8.54	9.07	11.27	14.67	9.92
Directly held bonds, stocks and mutual funds	5.95	5.72	7.07	8.74	17.79	14.63	9.55	17.30	25.62	36.77	58.25	29.23
Retirement accounts	7.59	12.54	14.68	17.29	13.94	14.16	13.41	35.46	53.07	70.68	86.24	51.34
Cash value life insurance	1.10	1.19	1.28	1.06	0.88	0.96	12.69	16.39	19.69	23.54	28.58	20.07
Other managed assets	3.01	2.82	2.93	2.40	2.87	2.82	2.75	4.39	5.51	6.62	10.56	5.92
Other	0.83	0.68	0.63	0.51	0.47	0.51	6.14	7.12	7.77	7.01	9.00	7.39
Non-financial assets	73.98	68.98	67.06	63.70	58.69	61.13	75.03	91.56	95.68	97.93	99.07	91.71
Primary residence	46.69	48.93	45.05	40.57	20.96	28.03	40.85	55.27	66.89	79.71	90.51	66.34
Other real estate	7.57	7.25	7.95	9.47	11.60	10.63	5.35	9.36	14.49	20.49	37.70	17.30
Vehicles	5.64	6.72	6.14	5.20	1.73	2.96	65.88	86.06	91.64	94.11	94.33	86.22
Business equity	11.89	4.59	6.74	7.52	23.26	18.35	3.07	5.68	9.16	13.64	27.75	11.74
Other	2.19	1.49	1.19	0.94	1.14	1.17	5.82	6.88	8.76	10.23	13.96	9.09
Debt	14.64	19.30	22.88	23.52	11.42	14.57	52.72	71.64	82.90	87.75	87.89	76.35
Secured by primary residence	7.55	12.65	16.69	17.25	7.62	9.99	14.00	29.79	46.15	63.19	73.61	44.99
Secured by other real estate	1.20	0.93	1.00	1.83	2.50	2.16	0.85	2.06	3.41	7.02	16.87	5.96
Lines of credit not secured by resid. property	0.21	0.08	0.06	0.08	0.13	0.12	1.12	1.58	1.85	1.85	2.34	1.74
Vehicle loans	0.96	1.69	1.74	1.55	0.38	0.74	12.70	28.45	38.81	46.91	43.58	33.87
Education loans	2.67	2.16	1.92	1.53	0.32	0.79	12.86	16.24	21.42	23.93	20.78	18.99
Credit card balances	0.69	0.90	0.92	0.77	0.18	0.38	27.09	41.15	51.97	54.98	42.95	43.48
Other	1.36	0.89	0.54	0.50	0.27	0.39	13.10	15.52	15.89	15.58	13.43	14.70

Notes: This table presents the aggregate share of each asset and debt category relative to total assets for all households, as well as by income quintile, using data from the Survey of Consumer Finances (2004—2022). It also reports the ownership rate of each asset and debt category across income quintiles.

Table 2: Composition of Total Assets and Ownership Rates: by Net Worth Quintile

	Share of total assets by net worth quintile average of 2004–2022 SCFs (%)						**Ownership rates by net worth quintile** average of 2004–2022 SCFs (%)					
	1st - lowest	2nd	3rd	4th	5th	All	1st - lowest	2nd	3rd	4th	5th	All
Financial assets	14.39	15.10	18.09	28.81	42.65	38.87	84.51	95.12	97.93	99.47	99.94	95.39
Transaction accounts	5.85	5.18	4.58	5.43	4.71	4.79	81.76	92.74	96.53	98.83	99.79	93.93
Certificates of deposit	0.19	0.33	0.61	1.37	1.00	1.00	1.40	3.40	7.52	15.67	21.60	9.92
Directly held bonds, stocks and mutual funds	0.72	0.85	1.33	3.08	17.72	14.63	7.61	12.99	22.71	37.42	65.43	29.23
Retirement accounts	6.16	6.90	9.50	15.80	14.52	14.16	18.06	35.02	52.15	67.36	84.12	51.34
Cash value life insurance	0.86	1.08	1.14	1.29	0.90	0.96	6.88	13.36	20.11	26.44	33.58	20.07
Other managed assets	0.07	0.21	0.49	1.43	3.27	2.82	0.28	0.90	3.18	7.67	17.59	5.92
Other	0.55	0.56	0.43	0.40	0.53	0.51	5.50	6.90	6.67	7.25	10.60	7.39
Non-financial assets	85.61	84.90	81.91	71.19	57.35	61.13	65.03	95.82	98.63	99.49	99.60	91.71
Primary residence	55.89	61.95	65.64	55.00	20.23	28.03	13.68	44.62	85.20	92.88	95.36	66.34
Other real estate	3.05	2.62	4.13	6.07	12.06	10.63	1.87	5.34	11.81	21.19	46.30	17.30
Vehicles	25.13	18.54	9.53	5.89	1.47	2.96	62.28	90.08	91.49	93.04	94.30	86.22
Business equity	0.96	0.96	1.76	3.38	22.33	18.35	1.90	4.27	8.01	13.09	31.42	11.74
Other	0.58	0.83	0.85	0.86	1.25	1.17	3.66	6.54	8.20	10.07	16.97	9.09
Debt	140.13	64.59	45.45	25.77	8.06	14.57	70.34	74.92	84.66	79.03	72.79	76.35
Secured by primary residence	54.53	47.52	36.23	20.50	5.06	9.99	12.28	33.41	61.85	59.84	57.57	44.99
Secured by other real estate	2.92	1.39	1.69	1.73	2.25	2.16	0.98	1.73	3.88	6.72	16.50	5.96
Lines of credit not secured by resid. property	0.58	0.13	0.09	0.07	0.12	0.12	2.57	1.50	1.61	1.30	1.72	1.74
Vehicle loans	12.85	6.22	3.04	1.50	0.22	0.74	28.00	35.80	41.05	36.68	27.84	33.87
Education loans	48.55	4.93	2.24	0.89	0.09	0.79	36.22	18.58	18.75	13.63	7.72	18.99
Credit card balances	7.62	3.00	1.51	0.77	0.10	0.38	40.39	47.41	53.95	46.88	28.75	43.48
Other	13.09	1.39	0.64	0.32	0.23	0.39	21.86	17.02	15.32	10.81	8.49	14.70

Notes: This table presents the aggregate share of each asset and debt category relative to total assets for all households, as well as by net worth quintile, using data from the Survey of Consumer Finances (2004—2022). It also reports the ownership rate of each asset and debt category across net worth quintiles.

Table 3: Composition of Total Assets and Ownership Rates: by Age Group

	Share of total assets by age group average of 2004–2022 SCFs (%)						**Ownership rates by age group** average of 2004–2022 SCFs (%)					
	< 35	35 – 44	45 – 54	55 – 64	65 +	All	< 35	35 – 44	45 – 54	55 – 64	65 +	All
Financial assets	21.96	27.93	34.55	41.93	45.52	38.87	93.05	94.70	95.48	96.56	97.28	95.39
Transaction accounts	5.87	4.90	4.58	4.44	5.15	4.79	91.12	92.99	94.03	95.30	96.27	93.93
Certificates of deposit	0.50	0.41	0.64	0.90	1.70	1.00	4.38	5.63	8.13	11.55	18.70	9.92
Directly held bonds, stocks and mutual funds	4.53	8.96	11.93	15.61	18.95	14.63	23.16	28.15	31.02	32.27	31.56	29.23
Retirement accounts	7.99	11.81	14.43	17.06	13.18	14.16	42.72	56.52	59.94	59.26	42.02	51.34
Cash value life insurance	0.67	0.77	0.87	0.99	1.10	0.96	9.44	14.41	19.23	25.92	29.96	20.07
Other managed assets	2.06	0.79	1.68	2.47	4.70	2.82	1.54	2.10	3.93	7.60	12.92	5.92
Other	0.34	0.30	0.41	0.47	0.74	0.51	8.13	6.30	7.36	7.20	7.55	7.39
Non-financial assets	78.04	72.07	65.45	58.07	54.48	61.13	85.99	92.30	93.92	93.51	93.05	91.71
Primary residence	47.17	38.47	30.35	23.40	24.30	28.03	37.57	62.84	72.48	76.83	81.22	66.34
Other real estate	7.06	9.17	10.02	11.30	11.44	10.63	6.24	13.64	19.74	24.91	21.94	17.30
Vehicles	9.25	4.55	3.18	2.31	1.95	2.96	81.90	87.80	89.76	88.96	83.86	86.22
Business equity	13.68	18.99	20.87	19.96	15.34	18.35	6.76	13.63	15.44	15.97	8.50	11.74
Other	0.89	0.88	1.02	1.10	1.45	1.17	7.71	7.60	9.03	9.87	10.70	9.09
Debt	46.46	29.87	17.95	10.44	5.72	14.57	80.57	86.69	85.80	78.11	55.58	76.35
Secured by primary residence	31.30	21.87	12.82	6.71	3.48	9.99	33.00	56.05	58.89	50.68	31.19	44.99
Secured by other real estate	2.26	3.36	2.57	2.21	1.32	2.16	3.00	6.50	8.26	8.70	4.19	5.96
Lines of credit not secured by resid. property	0.20	0.13	0.13	0.11	0.11	0.12	2.22	2.05	1.98	1.69	0.89	1.74
Vehicle loans	3.45	1.47	0.84	0.47	0.27	0.74	38.77	42.70	40.19	32.89	18.61	33.87
Education loans	7.33	1.75	0.72	0.30	0.07	0.79	38.52	26.59	19.49	11.22	2.35	18.99
Credit card balances	1.10	0.70	0.46	0.28	0.19	0.38	44.70	50.00	51.31	44.19	30.40	43.48
Other	0.83	0.60	0.41	0.37	0.28	0.39	16.44	17.80	17.57	15.51	7.77	14.70

Notes: This table presents the aggregate share of each asset and debt category relative to total assets for all households, as well as by age group, using data from the Survey of Consumer Finances (2004—2022). It also reports the ownership rate of each asset and debt category across age groups.

Table 4: Ownership Rates and Values of Assets and Liabilities by Household Group

	Ownership rate average of 2004 – 2022 SCFs (%)			**Conditional median value** 2022 SCF (thousands of 2022 dollars)		
	Real estate investor	Typical homeowner	Renter	Real estate investor	Typical homeowner	Renter
Financial assets	99.62	97.78	89.61	328.33	71.30	5.00
Transaction accounts	99.16	96.77	86.96	38.00	11.68	2.10
Certificates of deposit	17.52	11.21	4.39	45.00	22.00	28.00
Directly held bonds, stocks and mutual funds	51.75	31.99	14.77	106.00	25.00	4.00
Retirement accounts	75.41	58.53	29.48	280.00	95.70	18.19
Cash value life insurance	33.43	22.27	10.59	25.00	9.70	3.00
Other managed assets	12.92	6.50	1.87	295.00	115.00	180.00
Other	10.53	6.08	7.93	40.00	19.00	2.00
Non-financial assets	100.00	100.00	75.36	891.00	358.00	19.00
Primary residence	100.00	100.00	—	450.00	300.00	—
Other real estate	100.00	—	6.38	225.00	—	150.15
Vehicles	96.32	92.24	72.59	44.00	31.00	16.00
Business equity	26.68	11.51	5.32	375.00	119.80	37.00
Other	15.39	8.77	6.72	30.00	15.00	8.00
Debt	82.06	81.67	65.58	200.00	148.00	14.20
Secured by primary residence	66.23	68.18	—	180.00	152.00	—
Secured by other real estate	33.68	—	2.52	125.00	—	120.00
Lines of credit not secured by resid. property	2.67	0.88	2.60	7.10	13.00	1.50
Vehicle loans	36.16	37.66	27.13	18.00	16.00	13.00
Education loans	12.92	16.76	25.02	41.00	25.00	20.00
Credit card balances	40.57	47.61	38.32	4.60	3.10	1.60
Other	13.00	13.10	17.95	6.30	5.00	2.50

Notes: This table presents the ownership rate of each asset and debt category for real estate investors, typical homeowners, and renters, respectively, using data from the Survey of Consumer Finances (2004—2022). It also reports the conditional median value of each asset and debt category in the 2022 SCF for the three household groups.

Table 5: Composition of Total Assets by Household Group

	Aggregate share of total assets average of 2004 – 2022 SCFs (%)			**Conditional median share of total assets** 2022 SCF (%)		
	Real estate investor	Typical homeowner	Renter	Real estate investor	Typical homeowner	Renter
Financial assets	37.46	39.18	51.51	27.82	16.82	40.01
Transaction accounts	4.13	5.13	9.27	2.50	2.46	12.85
Certificates of deposit	0.84	1.12	1.70	2.28	2.90	18.23
Directly held bonds, stocks and mutual funds	16.47	12.22	16.07	4.71	3.80	5.94
Retirement accounts	11.64	16.87	17.29	14.42	15.27	27.20
Cash value life insurance	0.88	0.98	1.68	1.40	1.68	5.45
Other managed assets	2.93	2.50	4.37	10.49	10.52	42.37
Other	0.57	0.36	1.14	1.58	2.05	5.97
Non-financial assets	62.54	60.82	48.49	72.45	83.52	76.27
Primary residence	18.98	42.20	—	33.78	67.66	—
Other real estate	18.77	—	16.71	15.60	—	50.32
Vehicles	1.64	3.82	9.85	3.15	6.40	64.31
Business equity	21.99	13.78	19.51	16.34	14.65	28.57
Other	1.16	1.02	2.43	1.24	2.05	11.90
Debt	10.54	19.11	18.09	14.87	28.95	47.09
Secured by primary residence	5.72	16.34	—	12.70	30.16	—
Secured by other real estate	3.76	—	3.87	6.51	—	16.90
Lines of credit not secured by resid. property	0.15	0.05	0.43	1.28	1.52	8.38
Vehicle loans	0.29	1.02	3.20	1.85	3.36	29.30
Education loans	0.19	0.85	6.72	4.22	5.33	69.49
Credit card balances	0.16	0.52	1.53	0.54	0.78	6.57
Other	0.27	0.32	2.35	0.87	1.35	11.96

Notes: This table presents the aggregate share of each asset and debt category relative to total assets for real estate investors, typical homeowners, and renters, respectively, using data from the Survey of Consumer Finances (2004—2022). It also reports the conditional median share of each asset and debt category relative to total assets in the 2022 SCF for the three household groups.

Table 6: Marginal Effects from the Probit Model: 2016 – 2022

	2016		**2019**		**2022**	
Age: < 35	-0.0682	**	-0.0543		-0.0408	
45–54	-0.0054		0.0478	**	0.0428	*
55–64	0.0469	**	0.0632	***	0.1229	***
65–74	0.0461	*	0.0666	**	0.1837	***
≥ 75	0.0210		0.0797	**	0.1264	***
Education: Less than high school	-0.0336		0.0310		-0.0748	*
College (with or without degree)	0.0053		-0.0066		0.0044	
Bachelor degree or higher	0.0270		-0.0046		0.0281	
Marital status: Married or living with partner	0.1053	***	0.0377		0.0457	
Separated, divorced or widowed	0.0220		-0.0317		0.0239	
Family size	-0.0098		-0.0045		0.0003	
Race: White	-0.0256		-0.0033		-0.0200	
Hispanic/Latino	-0.0355		0.0552		0.0010	
Asian or Native American	-0.0457		0.0026		0.0054	
Current work status: Self-employed/partnership	0.0388	**	0.0276		0.0023	
Retired	0.0537	***	0.0516	**	-0.0025	
Other groups not working	0.0444		0.0035		0.0159	
Covered by private pension plans	0.0048		0.0141		0.0074	
Own stocks	0.0138		0.0437	**	0.0370	*
Have a private business	0.0578	***	0.0471	***	0.0912	***
Ln(income)	0.0147	***	0.0252	***	0.0275	***
Ln(net worth)	0.0437	***	0.0426	***	0.0325	***
Self-rated financial knowledge: Low or not knowledgeable	-0.0904	*	0.0132		-0.0335	
Reasonably high	0.0510	***	0.0320	*	0.0540	**
Very knowledgeable	0.0548	***	0.0352	*	0.0599	***
Self rated willingness to take financial risk: Not willing to take risk	-0.0556	***	-0.0576	***	-0.0176	
Take above average risk	-0.0127		0.0188		-0.0019	
Take substantial risk	0.0373		-0.0443		-0.0016	
Feeling about credit: Bad idea	0.0219		-0.0044		-0.0114	
Good idea	0.0406	***	-0.0153		-0.0145	
Feeling about leaving an estate or inheritance: Not important	0.0033		0.0115		-0.0440	*
Important	-0.0119		0.0164		-0.0091	
Very important	0.0156		0.0275	*	0.0016	
Time horizon in planning or budgeting: Within a year	-0.0005		-0.0090		0.0060	
Next 5-10 years	0.0095		0.0165		0.0063	
Longer than 10 years	-0.0079		-0.0154		0.0145	
Number of observations	4169		3924		3109	
R-squared	0.2269		0.2203		0.2289	

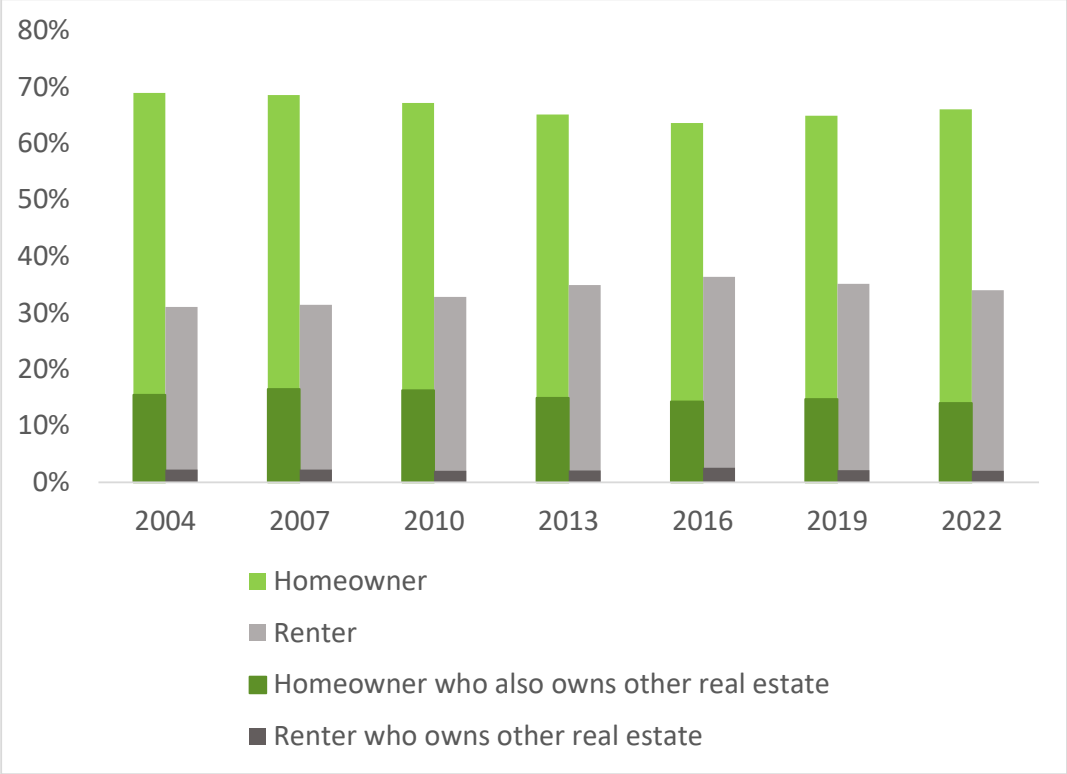
Notes: This table shows the results of a probit model, in which the dependent variable indicates whether a household is a real estate investor. The sample includes all homeowners in the 2016, 2019, and 2022 Survey of Consumer Finances, respectively. The regressions control for income and net worth by means of logarithms using the transformation $y=\ln(x)$ if $x\geq 1$, $y=-\ln(|x|)$ if $x\leq -1$, and $y=0$ if $-1<x<1$. *** (**, *) stands for statistically significant at the 1 (5, 10) percent level.

Table 7: Marginal Effects from the Probit Model: 2004 – 2013

	2004		2007		2010		2013	
Age: < 35	0.0082		-0.0142		-0.0466		-0.0025	
45–54	0.0479	**	0.0053		0.0872	***	0.0790	***
55–64	0.0416	*	0.0529	**	0.1474	***	0.1161	***
65–74	0.0448		0.0184		0.1620	***	0.1195	***
≥ 75	-0.0333		-0.0503		0.1540	***	0.1107	***
Education: Less than high school	0.0556	*	-0.0646	*	-0.0504	*	-0.0006	
College (with or without degree)	0.0472	**	0.0343		0.0385	*	0.0031	
Bachelor degree or higher	0.0234		0.0070		0.0403	**	0.0194	
Marital status: Married or living with partner	0.1085	***	0.0665	*	0.1190	***	0.1281	***
Separated, divorced or widowed	0.0723	**	0.0083		0.0652	**	0.0429	
Family size	-0.0174	**	-0.0008		-0.0041		-0.0157	**
Race: White	-0.0797	**	-0.0235		-0.0380		-0.0277	
Hispanic/Latino	-0.0003		0.0325		-0.0531		-0.0185	
Asian or Native American	-0.1130	**	-0.0399		-0.0764	**	-0.0441	
Current work status: Self-employed/partnership	0.0396	**	-0.0016		0.0739	***	0.0498	**
Retired	0.0113		0.0617	**	0.0517	**	0.0642	***
Other groups not working	-0.0304		0.0435		0.0121		0.0024	
Covered by private pension plans	0.0082		-0.0334	**	-0.0087		-0.0194	
Own stocks	0.0109		0.0569	***	0.0702	***	0.0598	***
Have a private business	0.0267		0.0509	**	0.0665	***	0.0683	***
Ln(income)	-0.0055		-0.0019		0.0368	***	0.0518	***
Ln(net worth)	0.0859	***	0.0757	***	0.0083	***	0.0129	***
Self rated willingness to take financial risk: Not willing to take risk	-0.0685	***	-0.0692	***	-0.0851	***	-0.0356	**
Take above average risk	0.0070		0.0069		0.0448	***	0.0159	
Take substantial risk	0.0914	***	0.0123		-0.0273		0.0084	
Feeling about credit: Bad idea	0.0159		0.0110		-0.0079		-0.0124	
Good idea	0.0119		0.0285		0.0109		0.0098	
Feeling about leaving an estate or inheritance: Not important	-0.0044		-0.0153		0.0189		-0.0189	
Important	-0.0324	*	0.0155		0.0421	***	0.0160	
Very important	-0.0125		-0.0003		0.0730	***	0.0454	***
Time horizon in planning or budgeting: Within a year	-0.0244		0.0119		-0.0057		-0.0102	
Next 5-10 years	0.0143		0.0111		0.0111		0.0348	**
Longer than 10 years	-0.0327	*	-0.0208		0.0264		0.0432	**
Number of observations	3274		3287		4326		3993	
R-squared	0.2983		0.2501		0.2172		0.2303	

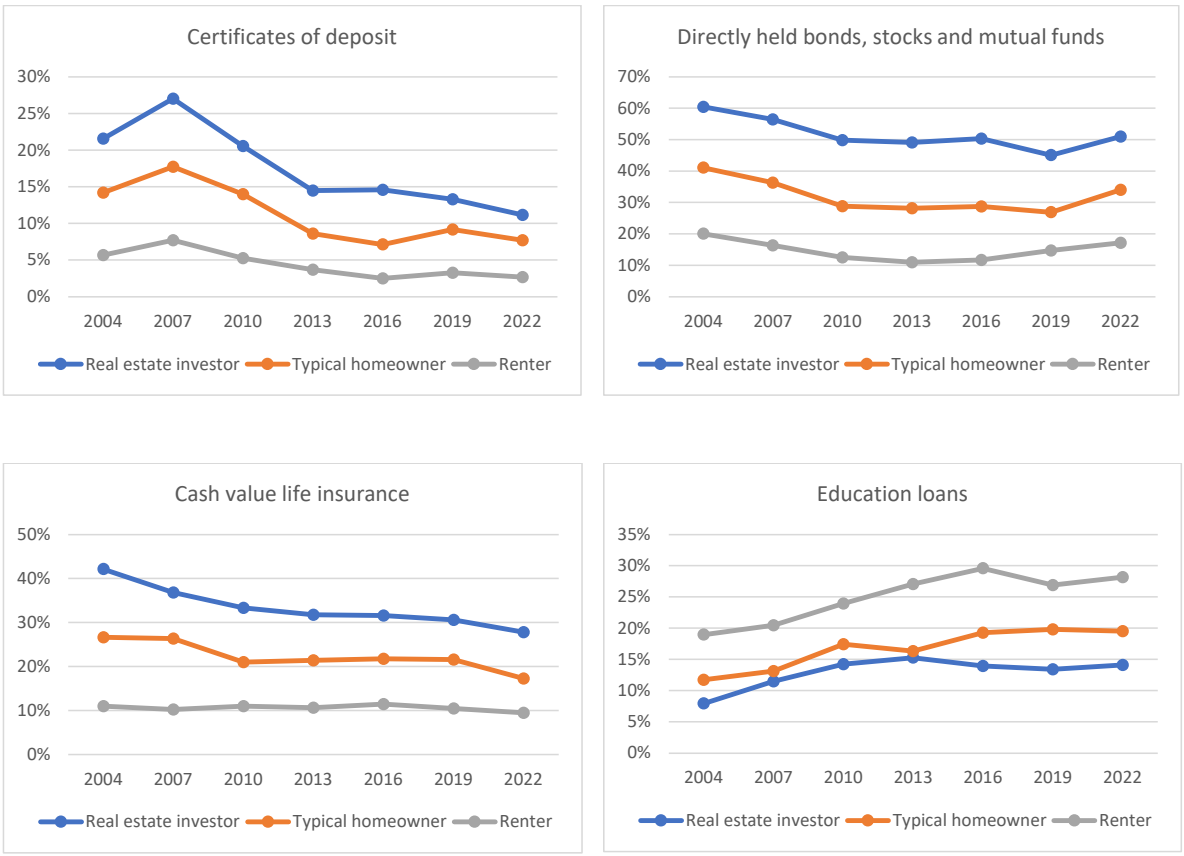
Notes: This table shows the results of a probit model, in which the dependent variable indicates whether a household is a real estate investor. The sample includes all homeowners in the 2004, 2007, 2010, and 2013 Survey of Consumer Finances, respectively. The regressions control for income and net worth by means of logarithms using the transformation $y=\ln(x)$ if $x\geq 1$, $y=-\ln(|x|)$ if $x\leq -1$, and $y=0$ if $-1<x<1$. *** (**, *) stands for statistically significant at the 1 (5, 10) percent level.

Figure 1: Household Composition by Real Estate Ownership: 2004 – 2022



Notes: This figure presents household composition by real estate ownership using seven waves of the Survey of Consumer Finances (2004–2022). Homeowners are defined as households that own their primary residence, while renters do not. Regardless of primary residence ownership, households may also own other real estate, such as investment or vacation properties.

Figure 2: Ownership Rates for Selected Categories of Assets and Liabilities: 2004 – 2022



Notes: This figure shows ownership trends for selected asset categories and education loans across real estate investors, typical homeowners, and renters using seven waves of the Survey of Consumer Finances (2004–2022).

Appendix

A. Data: Survey of Consumer Finances

The Survey of Consumer Finances (SCF) is a cross-sectional survey conducted every three years by the Board of Governors of the Federal Reserve System. It collects data on demographics, income, assets, debts, financial behavior, and attitudes of U.S. households using a dual-frame sample design, which oversamples wealthy households to correct for nonresponse bias. Sample weights are applied to represent the entire U.S. population.

We classify household assets and liabilities into several broad categories. Total assets of a household include financial and non-financial assets. Financial assets are divided into the following seven categories:

(1) Transaction accounts include checking, savings, and money market accounts; call or cash accounts at brokerages; and prepaid debit cards.

(2) Certificates of deposit are time deposits that must be cashed or renewed at the maturity date.

(3) Directly held bonds, stocks, and mutual funds refer to all bonds, stocks, and mutual funds (excluding money market funds) that are directly held by households, rather than through a managed investment or retirement account.

(4) Retirement accounts include Individual Retirement Accounts (IRA), Keogh accounts, and employer-sponsored accounts such as 401(k), 403(b), and thrift savings accounts from current or past jobs; other current job plans from which loans or withdrawals can be made; and accounts from past jobs from which the family expects to receive the account balance in the future.[22]

(5) Cash value life insurance is the current (nonzero) value of any life insurance policies with a cash value that can be withdrawn.

(6) Other managed assets include personal annuities and trusts with an equity interest

[22]This definition of employer-sponsored plans is intended to confine the analysis to accounts that are portable across jobs and for which families will ultimately have the option to withdraw the balance. It excludes Social Security (the federally funded Old-Age, Survivors, and Disability Insurance program (OASDI)) and employer-sponsored defined-benefit plans.

and managed investment accounts.

(7) Other financial assets mainly consists of loans made to others.

Non-financial assets are grouped into five categories:

(1) Primary residences include mobile homes and their sites, the parts of farms and ranches not used for farming or ranching business, condominiums, cooperatives, townhouses, other single-family homes, and other permanent dwellings.

(2) Other real estates are investment real estate and vacation properties. They include other residential property (second homes, time shares, rental properties, and other types of residential properties) and non-residential real estate (commercial property, land, and other types of nonresidential real estate).

(3) Vehicles include cars, vans, sport utility vehicles, trucks, recreational vehicles, motorcycles, boats, airplanes, and helicopters.

(4) Business equity includes net worth in the following forms of business: sole proprietorships, partnerships, corporations that are not publicly traded, limited liability companies, and other types of private businesses. The net value of the part of a farm or ranch used for agricultural business is also included.

(5) Other non-financial assets include items like art, precious metals, antiques, and other collectibles.

Total debt is classified into seven categories:

(1) Debt secured by primary residence includes mortgages, home equity lines of credit (HELOC), and home improvement loans secured by the primary residence.

(2) Debt secured by other real estate is the outstanding loan or mortgage on other real estate (i.e., investment real estate and vacation properties).

(3) Lines of credit not secured by residential property include all types of lines of credit, except HELOCs

(4) Vehicle loans are outstanding loans for all types of owned vehicles.

(5) Education loans are student loans used to finance educational expenses.

(6) Credit card balances consist of balances on all types of credit cards and store accounts.

(7) Other debt includes loans on cash value life insurance policies, loans against pension accounts, borrowing on margin accounts, other consumer loans, and a miscellaneous category largely composed of personal loans not explicitly categorized elsewhere.

B. Adjustment for Inflation

In this study, unless otherwise specified, all dollar amounts from the SCF are adjusted to 2022 dollars using the Consumer Price Index (CPI) for all urban consumers. Table B shows the adjustments made to assets and liabilities to convert them to 2022 dollars, as well as the adjustments to family income for the preceding calender year in each survey.

Table B. Inflation Adjustment Factors to 2022 Dollars for Assets, Debts, and Income

Survey year	Adjustment factor for assets and debts in the survey year	Adjustment factor for income in the calendar year before the survey year
2004	1.5715	1.6139
2007	1.4309	1.4716
2010	1.3658	1.3879
2013	1.2728	1.2921
2016	1.2334	1.2493
2019	1.1592	1.1802
2022	1.0000	1.0809

C. Ownership Rates of Assets and Liabilities by Survey Year

Tables C.1, C.2 and C.3 present the ownership rates of assets and liabilities by survey year for real estate investors, typical homeowners, and renters, respectively.

D. Composition of Total Assets by Survey Year

Tables D.1, D.2 and D.3 present the aggregate composition of total assets by survey year for real estate investors, typical homeowners, and renters, respectively.

Table C.1. Ownership Rates of Assets and Liabilities for Real Estate Investors

	Survey year						
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**
Financial assets	100.00	99.99	99.52	99.13	99.78	99.57	99.38
Transaction accounts	98.74	99.38	99.22	98.71	99.50	99.41	99.18
Certificates of deposit	21.57	27.02	20.55	14.46	14.57	13.30	11.16
Directly held bonds, stocks and mutual funds	60.46	56.46	49.80	49.12	50.31	45.09	51.01
Retirement accounts	75.15	75.35	75.01	76.26	75.78	73.51	76.84
Cash value life insurance	42.16	36.82	33.32	31.77	31.58	30.56	27.79
Other managed assets	13.53	11.85	12.97	12.86	13.74	13.61	11.88
Other	13.48	12.93	10.05	10.72	11.69	8.07	6.73
Non-financial assets	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Primary residence	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Other real estate	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Vehicles	95.40	95.99	95.38	97.76	96.32	96.12	97.27
Business equity	27.30	28.15	27.61	24.42	27.07	24.96	27.22
Other	14.76	14.86	15.90	14.78	14.03	17.00	16.42
Debt	82.87	84.84	82.24	83.19	82.51	81.98	76.74
Secured by primary residence	70.56	71.86	68.02	66.54	64.98	64.39	57.27
Secured by other real estate	31.09	35.92	34.35	33.66	36.99	32.82	30.95
Lines of credit not secured by resid. property	2.75	2.79	3.76	3.72	2.51	1.39	1.79
Vehicle loans	36.37	33.88	30.19	35.94	38.09	41.62	37.02
Education loans	7.96	11.51	14.23	15.29	13.96	13.41	14.10
Credit card balances	40.03	48.26	42.41	39.90	40.80	40.00	32.58
Other	13.83	14.34	12.47	12.19	12.98	10.79	14.40

Notes: This table presents the ownership rate of each asset and debt category for real estate investors using seven waves of the Survey of Consumer Finances (2004—2022). Real estate investors are defined as homeowners who also own other real estate properties (i.e., multiple-property owners). All values are expressed as percentages.

Table C.2. Ownership Rates of Assets and Liabilities for Typical Homeowners

	Survey year						
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**
Financial assets	96.63	97.42	96.93	96.88	98.78	99.11	98.71
Transaction accounts	94.41	96.08	95.77	96.23	98.20	98.64	98.06
Certificates of deposit	14.19	17.74	13.99	8.59	7.14	9.15	7.70
Directly held bonds, stocks and mutual funds	41.08	36.29	28.80	28.11	28.71	26.91	34.03
Retirement accounts	58.00	60.56	57.02	55.56	60.18	56.21	62.15
Cash value life insurance	26.65	26.35	20.96	21.40	21.73	21.53	17.25
Other managed assets	8.49	6.15	5.85	5.47	6.01	6.47	7.09
Other	8.16	7.12	6.32	4.46	6.60	5.76	4.14
Non-financial assets	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Primary residence	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Other real estate	—	—	—	—	—	—	—
Vehicles	91.39	93.06	93.40	92.38	91.89	91.51	92.02
Business equity	10.83	11.20	11.88	10.34	11.21	12.74	12.39
Other	9.04	7.80	7.60	8.20	7.75	9.34	11.66
Debt	82.19	81.64	81.66	79.72	82.61	82.78	81.08
Secured by primary residence	69.71	71.07	71.07	66.35	66.77	65.91	66.41
Secured by other real estate	—	—	—	—	—	—	—
Lines of credit not secured by resid. property	0.92	0.76	1.47	1.09	0.76	0.56	0.63
Vehicle loans	40.00	38.70	35.06	34.88	37.76	40.76	36.48
Education loans	11.74	13.15	17.45	16.33	19.28	19.83	19.52
Credit card balances	51.21	50.70	43.49	42.62	47.99	49.07	48.17
Other	11.88	12.49	14.63	13.33	13.01	13.47	12.93

Notes: This table presents the ownership rate of each asset and debt category for typical homeowners using seven waves of the Survey of Consumer Finances (2004—2022). Typical homeowners are defined as households that own their primary residence but do not own other real estate properties. All values are expressed as percentages.

Table C.3. Ownership Rates of Assets and Liabilities for Renters

	Survey year						
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**
Financial assets	83.97	82.67	84.36	86.50	96.09	96.88	96.79
Transaction accounts	79.36	78.42	80.99	83.57	95.12	95.62	95.64
Certificates of deposit	5.69	7.71	5.25	3.67	2.49	3.25	2.66
Directly held bonds, stocks and mutual funds	20.07	16.33	12.49	10.95	11.65	14.73	17.14
Retirement accounts	27.38	30.20	26.97	28.08	30.38	31.15	32.20
Cash value life insurance	10.96	10.18	10.98	10.61	11.44	10.44	9.47
Other managed assets	2.00	2.12	1.75	1.59	1.44	1.79	2.43
Other	9.74	8.07	7.41	7.93	8.14	7.23	6.96
Non-financial assets	75.86	74.85	74.01	74.62	74.97	75.51	77.68
Primary residence	—	—	—	—	—	—	—
Other real estate	7.08	6.96	6.00	5.91	6.94	5.97	5.82
Vehicles	73.11	72.33	72.04	72.62	71.84	72.14	74.02
Business equity	4.62	4.67	4.97	4.47	5.60	5.41	7.52
Other	6.10	6.59	5.74	6.23	5.36	6.64	10.38
Debt	63.62	65.39	61.51	63.77	67.81	66.08	70.92
Secured by primary residence	—	—	—	—	—	—	—
Secured by other real estate	1.88	2.81	2.50	2.88	3.28	2.09	2.20
Lines of credit not secured by resid. property	2.09	2.77	2.12	2.28	2.99	2.93	3.02
Vehicle loans	27.63	29.15	22.65	23.16	26.85	29.38	31.12
Education loans	18.97	20.46	23.96	27.06	29.59	26.89	28.17
Credit card balances	40.55	37.21	31.68	30.96	39.57	42.39	45.92
Other	17.29	19.20	20.06	18.14	16.93	15.42	18.63

Notes: This table presents the ownership rate of each asset and debt category for renters using seven waves of the Survey of Consumer Finances (2004—2022). All values are expressed as percentages.

Table D.1. Aggregate Composition of Total Assets for Real Estate Investors

	Survey year						
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**
Financial assets	32.97	32.20	35.52	39.88	39.67	39.90	42.06
Transaction accounts	3.96	3.19	4.39	4.59	4.34	3.87	4.55
Certificates of deposit	0.81	1.18	1.33	0.65	0.60	0.85	0.47
Directly held bonds, stocks and mutual funds	14.74	14.53	13.25	15.91	18.03	18.35	20.45
Retirement accounts	9.45	9.62	12.84	13.57	11.79	11.77	12.46
Cash value life insurance	0.93	0.90	0.83	1.14	0.81	0.87	0.69
Other managed assets	2.54	2.18	2.12	3.20	3.53	3.79	3.13
Other	0.53	0.60	0.77	0.83	0.57	0.40	0.31
Non-financial assets	67.03	67.80	64.48	60.12	60.33	60.10	57.94
Primary residence	21.61	22.33	19.87	18.48	16.32	17.27	16.98
Other real estate	21.33	20.28	20.98	18.28	18.09	17.11	15.30
Vehicles	1.85	1.65	1.83	1.69	1.46	1.42	1.59
Business equity	20.79	22.43	20.50	20.50	23.40	23.08	23.23
Other	1.45	1.11	1.29	1.16	1.06	1.22	0.83
Debt	12.08	11.92	12.81	11.16	9.25	9.46	7.09
Secured by primary residence	6.47	6.87	6.95	6.32	4.69	4.85	3.88
Secured by other real estate	4.43	4.06	4.56	3.81	3.48	3.76	2.21
Lines of credit not secured by resid. property	0.15	0.09	0.22	0.15	0.16	0.10	0.18
Vehicle loans	0.35	0.28	0.35	0.28	0.29	0.28	0.25
Education loans	0.09	0.12	0.26	0.26	0.17	0.17	0.23
Credit card balances	0.17	0.24	0.25	0.16	0.13	0.11	0.08
Other	0.44	0.27	0.22	0.18	0.34	0.20	0.26

Notes: This table reports the aggregate share of each asset and debt category relative to total assets for real estate investors using seven waves of the Survey of Consumer Finances (2004—2022). Real estate investors are defined as homeowners who also own other real estate properties (i.e., multiple-property owners). All values are expressed as percentages.

Table D.2. Aggregate Composition of Total Assets for Typical Homeowners

	Survey year						
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**
Financial assets	38.20	34.14	37.78	39.72	43.36	40.35	40.69
Transaction accounts	4.90	3.82	5.12	6.08	5.34	5.21	5.42
Certificates of deposit	1.78	1.40	1.65	0.82	0.66	0.97	0.54
Directly held bonds, stocks and mutual funds	11.93	10.71	11.33	10.48	14.99	12.03	14.08
Retirement accounts	15.03	14.42	16.05	18.27	18.44	18.07	17.82
Cash value life insurance	1.12	1.26	0.91	0.95	0.95	0.89	0.76
Other managed assets	2.98	2.12	2.42	2.74	2.56	2.91	1.79
Other	0.45	0.41	0.28	0.39	0.43	0.27	0.30
Non-financial assets	61.80	65.86	62.22	60.28	56.64	59.65	59.31
Primary residence	46.16	45.71	44.55	41.48	37.81	40.57	39.11
Other real estate	—	—	—	—	—	—	—
Vehicles	4.12	3.72	4.15	4.01	3.55	3.52	3.68
Business equity	10.34	15.31	12.54	13.84	14.56	14.60	15.25
Other	1.19	1.11	0.98	0.95	0.72	0.96	1.27
Debt	20.10	19.92	23.02	20.24	17.16	18.45	14.84
Secured by primary residence	17.44	17.22	20.08	17.57	14.35	15.28	12.48
Secured by other real estate	—	—	—	—	—	—	—
Lines of credit not secured by resid. property	0.02	0.01	0.08	0.04	0.02	0.01	0.15
Vehicle loans	1.26	1.08	0.94	1.00	1.01	1.10	0.78
Education loans	0.45	0.59	0.89	0.89	1.03	1.22	0.86
Credit card balances	0.58	0.73	0.64	0.47	0.44	0.49	0.30
Other	0.36	0.30	0.40	0.28	0.32	0.36	0.28

Notes: This table reports the aggregate share of each asset and debt category relative to total assets for typical homeowners using seven waves of the Survey of Consumer Finances (2004—2022). Typical homeowners are defined as households that own their primary residence but do not own other real estate properties. All values are expressed as percentages.

Table D.3. Aggregate Composition of Total Assets for Renters

	Survey year						
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**
Financial assets	44.71	47.58	50.42	50.56	55.62	59.52	52.12
Transaction accounts	10.09	8.80	10.84	7.69	8.19	10.31	8.95
Certificates of deposit	2.09	3.14	1.72	2.06	0.59	1.05	1.23
Directly held bonds, stocks and mutual funds	10.73	14.20	14.25	16.88	18.41	20.12	17.88
Retirement accounts	14.96	16.11	16.23	16.52	18.80	20.90	17.52
Cash value life insurance	1.49	1.68	2.62	1.64	1.77	1.36	1.17
Other managed assets	4.00	2.95	3.29	4.82	5.61	4.90	5.01
Other	1.35	0.70	1.48	0.94	2.25	0.89	0.38
Non-financial assets	55.29	52.42	49.58	49.44	44.38	40.48	47.88
Primary residence	—	—	—	—	—	—	—
Other real estate	23.03	20.09	16.13	15.36	17.27	13.59	11.50
Vehicles	11.12	10.22	11.51	9.75	9.01	8.51	8.82
Business equity	19.17	19.18	19.69	19.80	16.61	16.68	25.42
Other	1.97	2.92	2.25	4.53	1.49	1.70	2.14
Debt	16.57	17.51	21.28	19.47	18.54	18.37	14.89
Secured by primary residence	—	—	—	—	—	—	—
Secured by other real estate	3.16	5.25	5.39	4.51	3.35	2.66	2.74
Lines of credit not secured by resid. property	0.56	0.32	0.29	0.32	0.61	0.36	0.52
Vehicle loans	3.82	3.78	3.15	2.70	3.08	3.09	2.76
Education loans	4.38	4.18	7.53	7.58	8.30	8.37	6.71
Credit card balances	2.41	1.80	1.56	1.23	1.20	1.45	1.02
Other	2.25	2.18	3.36	3.13	2.00	2.43	1.13

Notes: This table reports the aggregate share of each asset and debt category relative to total assets for renters using seven waves of the Survey of Consumer Finances (2004—2022). All values are expressed as percentages.

E. Distribution of Age, Income, and Net Worth by Household Group

Tables E.1, E.2 and E.3 present the distributions of age, income, and net worth by survey year for real estate investors, typical homeowners, and renters, respectively.

Table E.1. Distribution of Age by Household Group

	Survey year							
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**	**Average**
A. Real estate investor								
Percentile of age								
25	46.00	45.00	49.00	49.00	50.00	48.00	51.00	48.29
50	54.00	55.00	58.00	59.00	60.00	59.00	61.00	58.00
75	65.00	64.00	67.00	67.00	69.00	69.00	70.00	67.29
90	75.00	73.00	77.00	76.00	78.00	77.00	76.00	76.00
mean	55.47	54.55	58.20	58.02	59.44	58.86	60.19	57.82
B. Typical homeowner								
Percentile of age								
25	40.00	40.00	40.00	42.00	43.00	41.00	41.00	41.00
50	50.00	51.00	52.00	54.00	55.00	55.00	56.00	53.29
75	65.00	65.00	65.00	66.00	68.00	68.00	68.00	66.43
90	77.00	77.00	77.00	78.00	78.00	77.00	78.00	77.43
mean	52.49	53.13	53.08	54.55	55.34	55.04	55.22	54.12
C. Renter								
Percentile of age								
25	28.00	28.00	29.00	29.00	30.00	30.00	30.00	29.14
50	38.00	39.00	40.00	40.00	41.00	40.00	41.00	39.86
75	52.00	52.00	54.00	55.00	56.00	56.00	59.00	54.86
90	66.00	69.00	68.00	67.00	67.00	69.00	71.00	68.14
mean	41.58	42.46	42.76	43.35	43.68	44.00	45.01	43.26

Notes: This table presents the distribution of age for real estate investors, typical homeowners, and renters, respectively, using seven waves of the Survey of Consumer Finances (2004–2022).

Table E.2. Distribution of Income by Household Group

	Survey year							
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**	**Average**
A. Real estate investor								
Percentile of income								
25	80.70	73.58	69.40	72.36	76.21	75.53	74.58	74.62
50	124.27	130.97	123.52	121.46	132.43	135.72	139.44	129.69
75	225.95	220.74	215.12	213.20	246.11	240.76	277.79	234.24
90	403.48	414.99	449.68	381.17	463.49	492.14	540.45	449.34
mean	233.87	244.74	230.44	233.56	276.34	263.38	285.59	252.56
B. Typical homeowner								
Percentile of income								
25	46.80	44.15	45.80	40.06	43.73	44.85	47.56	44.71
50	79.08	79.47	79.11	72.36	77.46	77.89	82.15	78.22
75	129.11	128.03	127.69	124.04	124.93	132.18	135.11	128.73
90	200.12	183.95	198.47	193.82	208.63	212.44	228.07	203.64
mean	107.15	107.50	110.15	105.81	121.84	113.33	125.46	113.03
C. Renter								
Percentile of income								
25	24.21	22.07	24.98	23.26	24.99	25.96	27.02	24.64
50	41.96	44.15	41.64	40.06	42.48	43.67	45.40	42.76
75	72.63	72.11	69.40	65.90	69.96	73.17	75.66	71.26
90	106.52	103.01	111.03	103.37	112.44	113.30	122.14	110.26
mean	57.12	57.27	58.94	55.16	60.33	59.92	67.34	59.44

Notes: This table presents the distribution of income for real estate investors, typical homeowners, and renters, respectively, using seven waves of the Survey of Consumer Finances (2004–2022). All values are in thousands of 2022 dollars.

Table E.3. Distribution of Net Worth by Household Group

	Survey year							
	2004	**2007**	**2010**	**2013**	**2016**	**2019**	**2022**	**Average**
A. Real estate investor								
Percentile of net worth								
25	364.51	387.43	284.77	277.60	347.70	347.53	455.55	352.15
50	913.98	861.40	735.73	693.68	928.75	844.44	1,186.40	880.63
75	1,824.83	1,724.78	2,018.17	1,756.71	2,320.32	2,272.74	2,821.14	2,105.53
90	4,771.86	5,710.58	5,111.92	4,928.92	6,268.14	7,376.80	7,876.00	6,006.32
mean	2,459.17	2,662.01	2,356.23	2,441.15	3,319.50	3,346.54	3,889.69	2,924.90
B. Typical homeowner								
Percentile of net worth								
25	88.16	100.62	60.50	61.99	82.27	94.94	137.50	89.43
50	229.75	256.27	170.38	188.50	211.90	232.73	309.20	228.39
75	537.85	535.16	424.63	452.86	505.57	518.97	738.89	530.56
90	1,130.85	1,108.29	999.49	1,108.80	1,251.10	1,207.31	1,592.00	1,199.69
mean	563.84	623.85	517.08	543.21	670.58	659.76	883.72	637.43
C. Renter								
Percentile of net worth								
25	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.04
50	6.44	7.44	6.97	6.89	6.18	7.27	10.40	7.37
75	34.32	30.91	26.66	26.35	30.16	33.74	43.10	32.18
90	131.20	153.25	118.55	124.03	127.57	154.97	196.90	143.78
mean	90.23	104.48	81.42	99.28	118.91	116.12	157.74	109.74

Notes: This table presents the distribution of net worth for real estate investors, typical homeowners, and renters, respectively, using seven waves of the Survey of Consumer Finances (2004–2022). All values are in thousands of 2022 dollars.

F. Marginal Effects from the Probit Model: All Households

Tables F reports the marginal effects from the probit model using all households in the 2016, 2019, and 2022 Survey of Consumer Finances, respectively.

Table F. Marginal Effects from the Probit Model Using All Households

	2016		**2019**		**2022**	
Age: < 35	-0.0579	***	-0.0508	**	-0.0548	**
45–54	0.0116		0.0599	***	0.0194	
55–64	0.0499	***	0.0780	***	0.0754	***
65–74	0.0642	***	0.0801	***	0.1215	***
≥ 75	0.0506	**	0.0984	***	0.0748	***
Education: Less than high school	-0.0098		0.0126		-0.0519	*
College (with or without degree)	0.0101		0.0046		-0.0070	
Bachelor degree or higher	0.0444	***	0.0190		0.0189	
Marital status: Married or living with partner	0.0702	***	0.0243		0.0479	**
Separated, divorced or widowed	-0.0013		-0.0266		0.0205	
Family size	-0.0058		0.0006		-0.0035	
Race: White	-0.0107		0.0189		-0.0100	
Hispanic/Latino	-0.0229		0.0399	*	-0.0001	
Asian or Native American	-0.0084		0.0209		0.0074	
Current work status: Self-employed/partnership	0.0328	**	0.0133		0.0083	
Retired	0.0383	**	0.0340	**	0.0069	
Other groups not working	0.0207		-0.0148		0.0101	
Covered by private pension plans	-0.0006		0.0008		0.0096	
Own stocks	0.0277	**	0.0310	**	0.0230	
Have a private business	0.0606	***	0.0508	***	0.0695	***
Ln(income)	0.0187	***	0.0236	***	0.0254	***
Ln(net worth)	0.0177	***	0.0210	***	0.0214	***
Self-rated financial knowledge: Low or not knowledgeable	-0.0288		-0.0067		-0.0062	
Reasonably high	0.0457	***	0.0321	**	0.0420	***
Very knowledgeable	0.0538	***	0.0409	***	0.0541	***
Self rated willingness to take financial risk: Not willing to take risk	-0.0543	***	-0.0458	***	-0.0281	*
Take above average risk	-0.0070		0.0176		0.0012	
Take substantial risk	0.0207		-0.0284		-0.0173	
Feeling about credit: Bad idea	0.0186	*	-0.0010		-0.0093	
Good idea	0.0292	***	-0.0073		-0.0157	
Feeling about leaving an estate or inheritance: Not important	-0.0055		0.0034		-0.0386	**
Important	-0.0136		0.0197		-0.0132	
Very important	0.0157		0.0316	***	0.0034	
Time horizon in planning or budgeting: Within a year	-0.0008		-0.0193		0.0026	
Next 5-10 years	0.0054		0.0071		0.0032	
Longer than 10 years	-0.0028		-0.0116		0.0071	
Number of observations	6248		5777		4595	
R-squared	0.2812		0.2912		0.3027	

Notes: This table shows the results of a probit model, in which the dependent variable indicates whether a household is a real estate investor. The sample includes all households in the 2016, 2019, and 2022 Survey of Consumer Finances, respectively. The regressions control for income and net worth by means of logarithms using the transformation $y=\ln(x)$ if $x\geq 1$, $y=-\ln(|x|)$ if $x\leq -1$, and $y=0$ if $-1<x<1$. *** (**, *) stands for statistically significant at the 1 (5, 10) percent level.