The Role of Trusts in the Intergenerational Transfer of Housing Wealth*

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Abstract

Owner-occupied housing is the primary source of wealth for most U.S. households, making the intergenerational transfer of housing a central component of estate planning. Yet little empirical evidence exists on how legal instruments—particularly trusts—shape the transfer of real estate wealth. This is surprising since inheriting a house is one of the few affordable ways to obtain home ownership. This paper studies the role of trusts in facilitating intergenerational housing transfers, combining newly assembled linked administrative data with a dynamic model of parental decision-making. Using property records, household address histories, and mortgage data, we document that trusts are the dominant estate planning tool for housing wealth, while inter vivos gifts play a limited role. To interpret these patterns, we develop a dynamic optimal stopping model in which an altruistic parent chooses whether to retain, gift, sell, or place a house into a trust under uncertainty about longevity, transaction costs, taxation, and probate. Estimation using data from older homeowners in San Diego reveals that the utility from remaining in the home is large, making outright transfers and sales rare. Trusts are attractive because they allow parents to retain control while reducing planning uncertainty and avoiding delays associated with probate. Savings in legal fees account for only a small share of the benefits of trusts, whereas reductions in hassle and uncertainty are central. Policy counterfactuals show that lowering probate legal fees has limited effects on trust formation, while reducing non-monetary probate costs substantially reduces the use of trusts and increases the housing market liquidity through higher sales.

Keywords: housing dynamics, property taxation, estate planning, intergenerational transfer of housing wealth, trusts, gifts, and bequests.

1 Introduction

Owner-occupied housing is the primary source of wealth for most U.S. households.[1] Thus, not surprisingly, the intergenerational transfer of housing wealth is a central margin along which households allocate resources across generations. Altruistic motives give rise to dynastic considerations, requiring households to balance the welfare of parents and heirs under uncertainty about longevity and late-life financial needs. Despite its importance, there is limited systematic empirical evidence on the role of trusts and related estate-planning instruments in facilitating real estate transfers. This gap is notable given the prevalence of housing inheritance—one of the few viable pathways into homeownership for younger cohorts in the U.S.[2]—and the scale of the ongoing "Great Wealth Transfer," that is projected to reach $124 trillion through 2048, with $105 trillion passing to heirs.[3] This paper addresses this gap by examining the role of trusts in the intergenerational transmission of housing wealth.

Trusts are legal arrangements used to manage and transfer assets across generations. They involve three parties: the settlor, who places assets into the trust; the trustee, who manages them; and the beneficiary, who receives them. Trusts have advantages over wills because they can be established during the settlor's lifetime, allow ongoing control of property, and remain private. They come in two main types: living trusts, which function while the settlor is alive, and testamentary trusts, which activate only after death and require probate. Living trusts may be revocable or irrevocable. Revocable trusts allow the settlor continued control and are mainly used to avoid probate. In contrast, irrevocable trusts provide tax and asset-protection benefits because ownership is permanently transferred out of the settlor's estate.

Probate is the court-supervised procedure used to validate a will, administer the estate, and ensure that assets are distributed according to the deceased person's wishes. Avoiding probate is one of the most significant benefits of trusts, especially in California, where probate fees scale with estate value and can be substantial. Probate can delay inheritance, requires legal oversight, and makes estate information public, whereas transferring real property through a trust is faster, less costly, and typically kept private. When a house is placed in a trust, ownership remains with the

[1] Based on the 2023 Survey of Consumer Finances, the primary residence holds the highest conditional median value ($323,200) of any single asset category listed. `https://www.federalreserve.gov/publications/files/scf23.pdf`

[2] Approximately 18% of residential property transfers in California in 2025 (roughly 60,000 homes) occurred through inheritance, according to Cotality; the share is higher in our sample.

[3] Cerulli Associates, U.S. High-Net-Worth and Ultra-High-Net-Worth Markets (2022).

trust until the settlor's death, at which point a successor trustee distributes the property according to the trust's terms. Trustee fees are generally modest, especially when handled within a family, and trusts usually settle within a year. Overall, trusts enable parents to retain control of a home during life while providing the heirs a relatively low-cost and confidential way of inheriting the property through probate avoidance.

To empirically assess the role of trusts, we have assembled a new panel data set. We use linked administrative data sources to measure intergenerational transfers of properties at the household level. Our analysis primarily uses merged data from two data sources. The first data source is from ATTOM Data Solutions, which provides detailed administrative data on tax assessments and ownership recording, including transaction records for houses and their property characteristics. We merge these data with Data Axle household address records. Data Axle collects information on household address histories from a variety of sources, including real estate transfers, voter registration files, and telephone directories. Finally, we use McDash data to characterize mortgage characteristics.

Our empirical analysis focuses on the housing markets of San Diego, which is the second largest city in California and the seventh largest city in the U.S. It is also a market that has historically experienced significant housing market price appreciation. As a result, there are many properties in our sample whose assessed values are below their market value.[4] We restrict attention to households over the age of 55. These households have already purchased a house and have fairly low mobility rates. For this sample, we measure three types of transfers: parent-to-trust transfers, parent-to-child transfers, and arm's-length sales.

Our empirical analysis leads to three central conclusions. First, trusts are the dominant channel through which homeownership status evolves over the life cycle. The pronounced decline in direct personal ownership at older ages is driven primarily by the growing use of trusts rather than by property sales or gifts. Second, inter vivos gifts play a very limited role in housing transfers. Only a small fraction of homes are transferred to children during the owner's lifetime, suggesting that estate

[4]The estate planning transfers are also shaped by the system of property taxation that is in place in California. Proposition 13, which was passed in 1978, created an acquisition value tax system that led to large under-assessment in property values. As a consequence, effective tax rates are much lower than statutory tax rates. From the perspective of intergenerational transfers, the key other policy change was Proposition 58, which passed in 1986. Effectively, this proposition allowed children to avail themselves of the same property tax basis that their parents enjoyed. This feature of the property tax system, therefore, created strong incentives to keep the house in the family. Recently, Proposition 19, which was passed in November 2020, put some restrictions on the ability to pass along these tax benefits, i.e., it limited the tax benefits to primary residences. Baker and Kim (2024) study behavior responses to the taxation of inherited properties. They find a large response to Proposition 19, especially in wealthy areas of San Francisco and Los Angeles.

planning mainly occurs through changes in legal ownership structure instead of outright transfers. Third, although market sales contribute to changes in ownership, their role is secondary. Sales account for only a modest share of the overall reduction in personal ownership. Taken together, the evidence indicates that lifecycle housing transitions are shaped predominantly by estate planning through trusts, with gifts and sales playing comparatively minor roles.

Focusing on trust adoption, homeowners who transfer their properties into trusts between 2006 and 2020 tend to have higher incomes than those who never do so. Accordingly, their homes have higher fair market values and property tax liabilities, are located in more expensive neighborhoods, and provide greater housing services. Homeowners whose properties were already held in trust in 2006 are, on average, nearly three years older than those who adopt trusts later. Although these earlier adopters report lower incomes, they occupy more valuable homes. At the same time, they face lower property tax burdens, likely reflecting the advantages provided by Proposition 13. Finally, our analysis reveals strong persistence in ownership choices, with about 93 percent of personally owned homes and 97 percent of homes held in trust remaining in the same status, indicating that transitions into trusts occur gradually and that trusts, once established, are rarely reversed. Moreover, only around 10 percent of properties placed in trust are sold before the trust is dissolved, suggesting that most trusts remain in place until the owner's death.

To gain additional insights, we develop a new dynamic model to study the role that trusts play in facilitating the intergenerational transfer of housing wealth within families. Our model captures the behavior of a parent who owns a house and has altruistic preferences towards a child. In our model, the parent is forward-looking and cares about the timing and the magnitude of the bequest that she leaves to the child. At the same time, the parent faces uncertainty about its life span and thus has incentives to keep control of the asset and enjoy the service flows that the house provides. At each point in time, the parent can engage in one of four mutually exclusive choices: keep the house, gift the house to the child, transfer the house into a trust that locks in the bequest, or sell the house. As the parent ages, she faces a stochastic process of dying. If the house has not been transferred to the child or placed into a trust, the house goes into the probate process and is ultimately transferred as a bequest to the child. The model, therefore, captures the parents' incentives to avoid the high probate costs. In addition, the model captures other relevant constraints such as transaction costs, property taxation, and the costs of setting up and maintaining a trust. In the model, all trusts are revocable, which reflects the fact that irrevocable trusts are only of interest for super-high-income

individuals for whom the gift and estate limits are relevant. Our model can be cast as a dynamic discrete choice model.[5] Hence, the model can be estimated using a nested fixed-point estimator developed by Rust (1987, 1994). [6]

Estimating the parameters of our dynamic model, we find that the pay-offs of staying in the house are large. As a consequence, most older individuals prefer to live in their houses as long as possible. They rarely sell their houses or give them away as they grow older. Nevertheless, bequest motives are strong. However, parents clearly prefer bequests over gifts, potentially for strategic reasons. Trusts are popular instruments since they combine the benefits of staying in the house with the additional benefits of avoiding the probate process. Revocable trusts are more flexible instruments than irrevocable trusts. Saving the legal costs associated with the probate process only explains a small fraction of the benefits of setting up trusts. Individuals mostly value the reduction in planning uncertainty and avoiding the delays and uncertainties inherent in the probate process. The bequest motive is, at best, weak, which is largely because we do not observe many gifts in the sample. Adjustment costs and the variance of the idiosyncratic shocks are large, which captures the fact that the timing of setting up the fund is largely based on convenience.

Our empirical findings thus suggest that the probate process is costly. As a consequence, households should take preemptive estate planning measures that minimize the cost and the hassle associated with the probate process. However, these actions require the setting up and maintenance of trusts, which itself may be considered to be a legal burden. As such it is of interest to analyze how the transfer of property is shaped if we reduce the overall costs associated with the probate process. Here we consider two policy options. The first policy eliminates the legal fees associated with the probate process. The second policy focuses on reducing the additional hassle costs associated with the probate process. Our policy simulations suggest that reducing or eliminating the legal fees associated with probate has only a small impact on the probability of setting up a trust. This reinforces our view that legal fees are not the main reason why parents prefer trusts. However, reducing the additional hassle costs associated with the probate process by 50% has a significant impact. Our simulations indicate a reduction in the use of trusts and an increase in sales, thereby improving market liquidity.

Our paper contributes to the literature on the intergenerational transfer of wealth, focusing on

[5]Some other early papers that used dynamic discrete choice are Wolpin (1984), Miller (1984), and Pakes (1986).

[6]Given the fact that at least two choices are terminal actions in our model, we could also use a Hotz and Miller (1993) estimator.

the role of estate planning tools such as trusts and gifts. Becker (1974, 1981) reconciled altruistic behavior with standard rational-agent models by embedding the welfare of others directly into the individual or household utility functions. Barro (1974) extended this idea to dynastic altruism, modeling families as infinitely-lived "dynasties" where intergenerational transfers play a central role in aggregate capital accumulation.[7]

Early empirical papers examined whether observed wealth transfers align with these theoretical models. Kotlikoff and Summers (1981) estimated that four-fifths of U.S. capital accumulation came from intergenerational transfers, including bequests and inter vivos gifts, a finding that appeared inconsistent with traditional life-cycle models as pointed out by Bernheim (1984). To address this challenge, growth theorists incorporated altruism into their models. To provide some micro-theoretical foundations for this approach, Bernheim, Shleifer, and Summers (1985) developed a strategic bequest model in which parents use inheritances to influence children's behavior, providing empirical support from the Longitudinal Retirement History Survey. In contrast, Modigliani (1988) argued that much observed wealth accumulation reflects life-cycle savings, precautionary motives, durable goods investment, or human capital accumulation, with bequests largely accidental. More recently, Piketty (2014) revisited this debate, highlighting the fact that top wealth shares are increasingly inherited rather than accumulated through lifetime savings.

A rich empirical literature has documented the distributional impact of intergenerational transfers. Gale and Scholz (1994) used the Survey of Consumer Finances to show that transfers are substantial and concentrated among wealthier households, reinforcing persistent wealth inequality. Altonji, Hayashi, and Kotlikoff (1992, 1997) studied intra-family risk-sharing and find limited evidence for the full risk sharing hypothesis implied by dynamic altruism. Wolff (2002) showed that inheritances reduce wealth inequality in the short term, while Saez and Zucman (2016) and Elinder, Erixson, and Waldenström (2018) provided evidence that inheritance and capital returns drive wealth concentration in the U.S. and Sweden, respectively. Using the same Swedish data, Nekoei and Seim (2023) showed that while inheritances initially reduce relative inequality, over roughly a decade, wealthy heirs preserve their wealth while average heirs deplete theirs, reversing the short-term effect.

More recently, a new literature has focused on jointly explaining savings and insurance choices,

[7]Subsequent research recognized that altruistic behavior often reflects motives beyond concern for others' welfare. Andreoni (1990) introduced the notion of a "warm glow," highlighting that individuals may derive satisfaction or social recognition directly from giving.

focusing on the behavior of older individuals. Research by Brown and Finkelstein (2008) established that standard life cycle models without bequest motives can match the low rates of long-term care insurance coverage among middle-class retirees. Separate research by Palumbo (1999), De Nardi (2004), De Nardi, French, and Jones (2010), and Ameriks et al. (2011) has shown that the life-cycle model can also explain the slow drawdown of wealth among middle-class retirees. However, Lockwood (2018) points out that models without bequest motives cannot match both of these patterns simultaneously. His preferred models treat bequests as luxury goods. He finds that bequest motives tend to reduce the value of insurance by reducing the opportunity cost of precautionary saving. The bequest motive significantly increases savings and significantly decreases purchases of long-term care insurance and annuities.

Intergenerational transfers are also influenced by tax policy. Early work in the U.S. (Poterba (2001); Bernheim, Lemke, and Scholz (2004); Joulfaian (2005)) and more recent studies in Europe (Goupille-Lebret and Infante (2018); Glogowsky (2021)) find that households do not fully exploit gift or estate tax incentives, suggesting that observed giving is lower than predicted by pure altruism models. Nevertheless, the timing and form of transfers respond to policy, indicating that tax incentives affect behavior.

Despite extensive research on the scale and distribution of intergenerational transfers, the role of legal institutions such as trusts have received limited attention in economics. Lau (2011) provides a notable exception, framing trusts as property-based institutions that structure rights, obligations, and control over assets, enabling systematic analysis of incentives, governance, and efficiency. To our knowledge, empirical research on how trusts affect intergenerational wealth transmission remains scarce, with only a few studies in law and economics examining related issues (Sitkoff and Schanzenbach (2005)).

Our paper differs from the existing literature in two key ways. First, we focus specifically on intergenerational transfers of housing wealth, which allows for more precise measurement and avoids many challenges faced by prior studies of financial or total wealth. Second, we investigate the role of trusts in shaping these transfers, highlighting inefficiencies generated by the legal system. By combining rich microdata with an explicit focus on institutional mechanisms, our analysis provides novel insights into how wealth is transmitted across generations and how these processes are affected by the legal system.

The rest of the paper is organized as follows. Section 2 provides additional information about

the institutional framework. In particular, we discuss how trusts can be used as tools in estate planning. Section 3 presents our data set. Section 4 presents our model and discusses structural estimation. Section 5 provides empirical results from our structural model. Section 6 discusses some of the policy implications of our work. Section 7 provides a discussion of the main policy issues as they apply in the U.S. and not just California. Section 8 offers conclusions and discusses future research.

2 Institutional Background

2.1 Trusts and Gifts

Trusts provide an essential tool in estate planning by offering a flexible framework to manage and transfer wealth efficiently.[8] A trust is a legal arrangement that manages and protects holdings or assets for the benefit of designated individuals. Here, we focus on trusts as estate planning tools to transfer housing wealth within a dynastic family. Typically, there are three key parties involved. The settlor or grantor creates the trust and transfers assets to it. In the case of real estate trusts, the settlor is typically a parent who owns a house and wants to pass it on to one or more children. The trustee acts as guardian of the trust and is responsible for managing and distributing the assets (a house) according to the terms of the trust. Hence, a trust is a fiduciary arrangement that requires the trustee to act solely in the interests of the beneficiary. The trustee can be a professional or, to save costs, a family member. The recipient or beneficiary ultimately receives the benefits of the trust.

Trusts provide important advantages over wills, which only become effective posthumously. In contrast, trusts are structured during the settlor's lifetime, allowing for a more flexible way of managing the asset. Unlike wills, which generally disburse lump-sum inheritances, trusts allow grantors to establish age or milestone-based conditions to prevent young or inexperienced beneficiaries from squandering wealth. [9] One of the primary advantages of trusts is avoiding probate, since the trustee holds legal title to the trust property, probate is not needed upon the death of the settlor (Sitkoff and

[8]For in-depth treatments of revocable and irrevocable trusts under California statutes (see Stern, 2024; Cohan and Stern, 2024).

[9]This structural flexibility is particularly vital for blended families, as grantors can use set up trusts in certain structures to provide financial support for a surviving spouse during their lifetime while irrevocably preserving the principal for children from a prior marriage (I.R.C. §2056(b)(7)).

Dukeminier, 2025). Additionally, given the public nature of probate, a related benefit of avoiding probate is privacy. Unlike wills, which becomes public upon probate, trusts are confidential. They do not become public upon execution (Foster, 2007). Another advantage of trusts is avoiding court-surpervised conservatorship. In the event of the settlor's incapacity or death, trust administration ensures the continuity of asset management and the expedited distribution of property, bypassing the procedural delays associated with the judicial appointment of a guardian or conservator (Feder and Sitkoff, 2016). Furthermore, compared to wills, trusts facilitate the optimization of multi-state estate planning. Specifically, trusts can be used to bypass ancillary probate for real property in another state (see Wyatt and McCabe, 2024). The settlor of a trust also has more freedom to choose which state's law apply compared to a testator of a will.

One can distinguish between living trusts and testamentary trusts. Living trusts are used to manage and protect assets while the settlor is still alive. In contrast, testamentary trusts are typically formed by a will and are only activated once the settlor passes away. As a consequence, they have to go through the probate process.

From the perspective of control and flexibility, trusts can be revocable or irrevocable. A revocable trust is, by construction, also a living trust and can be altered or terminated by the grantor at any time. This type of trust is often used to avoid probate, ensuring that assets pass directly to beneficiaries without court intervention. Because the settlor retains control over the trust's assets, they remain responsible for any taxes associated with these assets. A revocable living trust requires ongoing management, which can be costly. However, if the trust only contains a single house as an asset and if the settlor keeps living in and maintains the house, there are not many actions required by the trustee. In particular, there are a few investment or income distribution decisions necessary as long as the settlor is alive.

An irrevocable trust cannot be modified or revoked after it has been created. Once assets are transferred into an irrevocable trust, they are no longer considered part of the settlor's estate for most purposes, i.e., the settler surrenders control of the asset that is placed in the trust. As a consequence, irrevocable trusts provide protection against potential legal claims by the settlor's creditors or family disputes.[10] Irrevocable trusts can also be used as a strategy to reduce estate taxes, especially when the value of the assets appreciates over time, as gains on those assets are not included in the grantor's taxable estate. Transferring assets to an irrevocable trust may trigger gift

[10] Asset protection is particularly useful for individuals in high-risk occupations, such as entrepreneurs or physicians.

taxes. However, these tax benefits are only relevant for individuals who have accumulated sufficient wealth such that the lifetime estate and gift tax deduction is binding. Most households in our sample do not have estates large enough to be significantly impacted by the lifetime gift and estate tax exemption.

Giving a house to children as a gift is another way to transfer property instead of using a trust. If the gift is complete, ownership fully shifts to the child, meaning the house is removed from the parent's estate, and any future increase in value is taxed to the child, not the parent. If the gift is incomplete, the parent retains some control, and the house remains part of their estate, but the child may inherit it with a step-up in tax basis, reducing capital gains taxes if sold. Complete gifts may trigger federal gift taxes, while incomplete gifts do not. The IRS also distinguishes between present-interest gifts, where the recipient can use the property immediately and which qualify for annual gift-tax exclusions, and future-interest gifts, which provide benefits later and are taxable. In our analysis, direct parent-to-child home transfers are treated as complete, present-interest gifts.

2.2 The Probate Process in California

The primary purpose of gifts and trusts is to avoid the probate process, especially in California, where probate fees are based on a percentage of the value of your estate (see Dacey, 1965; Nelson, Sass, and Plum, 2021; Howard, 2024). Probate is the court-supervised procedure used to validate a will, administer the estate, and ensure that assets are distributed according to the deceased person's wishes. Unfortunately, probate can be both time-consuming and costly. It involves time-consuming steps such as the validation of the will, the establishment of an estate inventory, the appraisal of assets, and the settlement of debts.[11] Although certain types of wealth, such as assets in retirement plans or life insurance policies, may directly pass to the beneficiary, housing wealth is not exempt and, therefore, is subject to the probate process. By placing a home in a trust, an individual can bypass probate, helping to ensure that beneficiaries receive their inheritance quickly and without delay. Trusts also offer privacy that probate lacks. During probate, wills become public records, revealing an individual's asset details and distribution plans. In contrast, trusts usually remain confidential unless an interested party invokes the court's jurisdiction under California Probate Code §17200.

To gain some insight into the advantages of revocable trusts, it is useful to understand the probate process in California. The executor of a will is the person named in the will to manage and settle the

[11] Howard (2024) notes that probate proceedings in many California counties can take nine months or more.

deceased's estate. If no executor is named, the court will appoint one. An attorney is often necessary to navigate the legal process, ensure compliance with state law, and resolve any disputes that may arise. In California, both the executor and the attorney involved in the probate process are entitled to statutory fees, which are set by the Probate Code (§ 10810). These fees are based on the value of the estate, which is typically determined by the executor's inventory, sometimes with the help of court-appointed appraisers. Importantly, the court bases these fees on the gross estate value, not accounting for debts. The statutory fees are 4% of the first $100,000 of the estate; 3% of the next $100,000; 2% of the next $800,000; 1% of the next $9,000,000; and 0.5% of the next $15,000,000. If the estate is valued over $25,000,000, a reasonable amount is determined by the court[12]. Note that these fees are typically calculated twice, once for the attorney's fee and once for the executor's fee.[13] Given these significant costs, even estates worth much less than the current lifetime estate tax exclusion limit of $13.92 million can benefit from creating a trust to avoid probate.

Inheriting a house through a trust in California is often more cost-effective than going through probate.[14] Ownership of the property remains with the trust until it is distributed to the beneficiaries, even in cases where family members contest the trust. If the settlor was also the trustee, a successor trustee steps in after their death by formally accepting the role with an "acceptance of trusteeship" document. Unlike probate, California does not set a fixed formula for trustee compensation, but it does require that fees be "reasonable" (CA Probate Code §10800, 2024). Trustee fees are typically negotiated. In most cases where only a house is involved, family members often charge minimal or no fees. If fees are charged, they generally range from $2,000 to $5,000. These fees may be lower if the house is simply transferred to the beneficiary, but if the house needs to be sold, the fees can be higher. For professional trust setup, fees usually range from $1,000 to $3,500 for basic trusts involving one property. Do-it-yourself options are considerably cheaper, but more complicated trusts that include financial assets typically incur trustee fees of around 1% of the trust's gross value for family members, or 1-2% per year for professionals.

Once the settlor passes, the trustee has 60 days to notify the beneficiaries. The beneficiaries then have 120 days to request a full copy of the trust, review its contents, and express any concerns or contest it if necessary. The trustee is responsible for property tax assessments, filing federal

[12]CA Probate Code §10800 (2024)

[13]For example, if an estate is valued at $1,000,000, the total fees would be $46,000 (2 x $23,000).

[14]Horton (2015) finds in a small sample of 668 individuals who died in Alameda County, California, in 2007 that the total legal and fiduciary probate fees were $13,410, or 3% of the median estate value of $451,000. However, the sample was very unlikely to be representative given that the decendent-to-probate ratio was only 7% of 7,931 recorded deaths in Alameda County in 2007.

taxes within the required time frames, and determining the property's value within 9 months of the settlor's death. They also manage any outstanding debts and liens. Finally, in accordance with the trust's instructions, the trustee distributes the remaining assets and the house to the beneficiaries. On average, trusts are closed within a year of the settlor's death, allowing beneficiaries to claim their inherited property.[15]

We thus conclude that trusts are flexible estate planning tools that allow the parents to retain control over their house while still alive. Gifts are less flexible tools since parents typically lose the benefits of living in the house. The children who inherit the house via a trust can avoid the probate process after the death. This not only saves legal costs, but also prevents the asset from being held up in court to being subject to legal disputes. Moreover, it guarantees anonymity since trusts, in contrast to wills, are not made public knowledge. As a consequence, many homes in our sample are held in trust, as we will demonstrate below. Gifts are less popular estate planning tools.

3 Data

3.1 Data Sources and Measurements

Our empirical analysis focuses on housing transfers in California, which is of interest for several reasons. First, it is the largest state by population and, on its own, California's economy constitutes the fifth-largest economy in the world. Second, housing markets have boomed over the past two decades. As a consequence, many households have accumulated significant amounts of housing wealth. Third, California's system of property taxation provides strong financial incentives to transfer houses within the dynastic family. Fourth, California's probate system is notoriously expensive, which means that bequest planning is of paramount importance. Hence, California provides a natural laboratory for us to study intergenerational transfers of housing wealth.

We use a series of linked administrative data sources to measure intergenerational transfers

[15]There are no estate taxes in California, but capital gains taxes may apply to the inherited property. California allows for a "stepped-up basis," meaning the house is valued at its market price at the time of the settlor's death. The death of an owner of real property is a change in ownership on the date of death, California Code Regs §462.260(c)....On the settlor's death, either (1) the trust terminates, and the property is transferred to the remainder beneficiary, or (2) the trust continues, but becomes irrevocable.(see Bruton et al., 2024). This reduces the capital gains taxes, which are only based on the appreciation of the house that occurs after the death of the grantor. In California, capital gains taxes range from 1% to 13.3%. Additionally, California follows federal guidelines that allow a $250,000 exclusion for single individuals and a $500,000 exclusion for married couples on the sale of an inherited home. As noted, federal estate taxes are only applicable if the estate's value exceeds $13.92 million in 2024.

of properties at the household level. This section describes our data sources and procedures for identifying intergenerational transfer variables. Our empirical analysis uses merged data from two data sources. The first source is the ATTOM transaction records and property characteristics. We use an ATTOM panel of residential properties containing records from local governments' assessor and recorder offices. The ATTOM assessor's data includes the annual taxable value of properties, and the recorder's data includes both real estate sales and loans secured by the real estate. The data set also contains property characteristics such as year built, lot size, floor size, number of bedrooms, and bathrooms. In addition, the recorder data also reports property sales transaction prices and their dates.

We merge the ATTOM data with Data Axle household address records. Data Axle collects information on household address histories from a variety of sources, including real estate transfers, voter registration files, and telephone directories. These data are typically used for business marketing purposes and are comprised of an annual panel of households from 2006 to 2020. Each record provides a household's property address, names of household members, the age of the head of household, and household income. We use the CPI to convert all nominal variables into constant dollar values. Our baseline year is 2006.

The fair market value is imputed using a hedonic regression based on a sample of housing transactions, i.e., we impute fair market values for houses that did not transact during any period. We observe the statutory tax rate and the assessed value. Δ measures the difference between the fair market value (FMV) and the assessed value, and thus captures in absolute terms how much the house is under-assessed. The relative Δ normalizes this difference by the FMV.

We construct three types of intergenerational transfers: (1) parent-to-child transfers (gifts), (2) parent-to-trust transfers,[16] (3) arms-length-transactions.[17] Finally, transfers also occur at death. Appendix B explains in detail how these transfer variables are constructed.[18]

Our analysis focuses on owners of single-family residential properties in San Diego County. We use several filters to construct the sample. First, we filter for single-family residential properties.

[16]There is no single California administrative dataset that reliably identifies trust-held properties as held as in revocable vs. irrevocable trusts. However, leading legal authorities support the conclusion that, in California, residential real estate placed in trust form is overwhelmingly held in revocable living trusts rather than irrevocable trusts, reflecting households' preference to retain control while avoiding probate (see, Talai Law Offices, The Pros and Cons of a Revocable Trust in California (2023),`https://talailaw.com/blog/the-pros-and-cons-of-a-revocable-trust-in-california/`; (Langbein, 1984)).

[17]In addition, we also observe a fourth type of transfer which is primarily driven by spousal transfers. In many of these cases, the buyer and seller names often include or reference each other.

[18]When we study revocable trusts, we also construct trust-to-sale and trust-to-parent transfers.

Second, we create the indicator for holding entities based on the owner names in the ATTOM assessor and recorder data, and filter for properties held by trusts and individuals. [19] Third, we restrict the sample to owner-occupied properties. Fourth, residents of owner-occupied properties are, in most cases, homeowners, but there are also cases where multiple households reside in a property. We filter for homeowners by comparing the names of residents and owner names. Fifth, we filter for properties that only have one transaction for a given year. Sixth, we eliminate properties that were converted to rental properties at some point during the panel. Finally, we restrict attention to households where the head is 55 years old or older.

3.2 Descriptive Statistics

Table 1 provides descriptive statistics of the cross-sectional 2006 sample. The dataset includes 99,406 unique properties. We report the mean for each variable, with standard deviations provided in parentheses.

We find that about 68% of homes are held directly by households, while 32% are held in a trust in 2006, the beginning of our sample. This is because our sample consists of older home owners. The average owner is approximately 63 years old. The average assessor value is $226,000, while the average fair market value (FMV) is much higher at $670,000, reflecting an average difference of $444,000 (about 68% of FMV). Average property taxes are $2,522. The statutory tax rate is 1.12%, while the effective tax rate is lower at 0.36%. These are the results of Proposition 13, which created an acquisition value tax system that leads to large underassessments for properties that do not transact regularly.

The mean mortgage balance is around $249,000, with about 20% fixed-rate and 6% variable-rate. Only a small fraction of homes are very high value: 8.7% exceed $1 million, 0.3% exceed $2.5 million, and 0.01% exceed $5 million. Hence, strategic estate planning due to the lifetime estate tax limits is only relevant for a small number of observations in our sample. Overall, the data show that a substantial portion of homes are placed in trusts, properties vary widely in value, and most households have moderate-income levels relative to their housing assets. it thus likely that they hold a disproportionate fraction of their wealth in real estate.

Table 2 provides descriptive statistics of the cross-sectional 2006 sample by Trust Status. Column

[19] To maintain data consistency, we cross-check holding entities inferred from both assessor and recorder records for the same property. When inconsistencies arise, we default to the holding entities derived from the recorder data.

Table 1: Summary Statistics (means and standard deviations):
San Diego County Cross-Sectional Sample 2006

held by households	68.08%
held in trust	31.92%
age	62.94
	(7.10)
assessor values (real $)	225,717.44
	(213,918.82)
price index (real)	1.34
	(0.35)
housing services (real $)	492,875.21
	(126,081.95)
fair market value (FMV) (real $)	669,869.81
	(304,021.09)
$\Delta = FMV - assessorvalue(real\,\$)$	444,152.36
	(235,164.74)
relative delta (Δ/FMV)	0.68
	(0.20)
property taxes (real $)	2,521.53
	(2,397.47)
statutory tax rate (%)	1.12
	(0.21)
effective tax rate (%)	0.36
	(0.23)
mortgage amount	249,097.43
fraction fixed	19.68%
fraction variable	6.29%
fraction over $1M	8.65%
fraction over $2.5M	0.29%
fraction over $5M	0.01%
sample size	99,406

Table 2: Summary Statistics (means and standard deviations) in 2006 by Trust Status

	I Never Held in Trust by 2020	II Converted to Trust Between 2006 and 2020	III Held by Trust in 2006
age	62.05***	61.92***	64.95
	(7.01)	(6.70)	(7.12)
assessor values (real $)	216,966.88***	246,204.03***	221,555.66
	(185,638.82)	(219,460.89)	(242,313.77)
price index (real)	1.29***	1.35***	1.39
	(0.29)	(0.35)	(0.40)
housing services (real $)	475,906.13***	503,607.39***	507,437.26
	(117,468.02)	(127,144.05)	(133,538.51)
fair market value (FMV) (real $)	622,565.29***	689,601.83***	718,414.99
	(253,387.34)	(301,094.88)	(355,365.56)
$\Delta = FMV - assessorvalue\,(real\,\$)$	405,598.41***	443,397.81***	496,859.34
	(201,354.53)	(229,330.65)	(269,415.29)
relative delta (Δ/FMV)	0.66***	0.66***	0.71
	(0.20)	(0.20)	(0.19)
property taxes (real $)	2,435.57	2,748.43***	2,460.62
	(2,109.08)	(2,448.55)	(2,694.08)
statutory tax rate (%)	1.12***	1.12***	1.11
	(0.21)	(0.20)	(0.21)
effective tax rate (%)	0.38***	0.38***	0.32
	(0.23)	(0.23)	(0.22)
mortgage amount	249,218.04	241,056.46	259,097.80
fraction fixed	21.25 %	24.98%	13.43%
fraction variable	8.00%	6.25%	4.00%
sample size	42,900	24,771	31,735

Note: Standard deviations in parentheses.

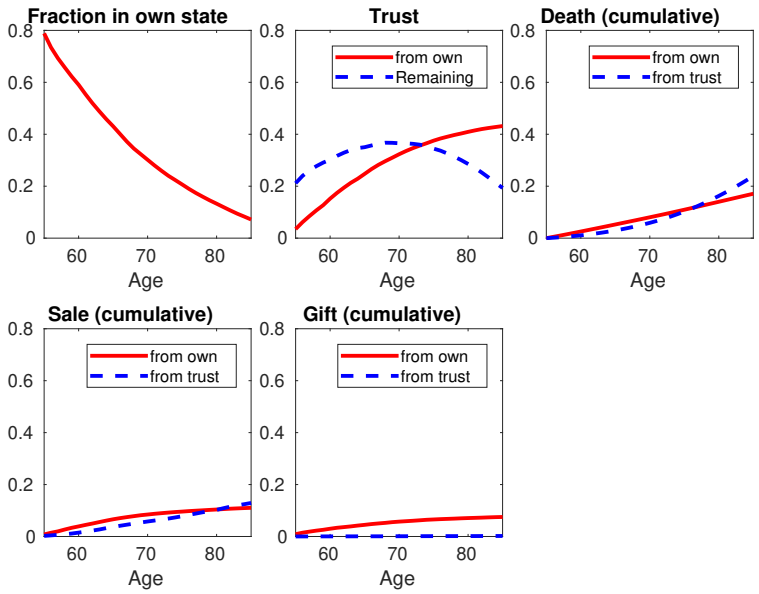
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Stars in columns (I) and (II) indicate significance of difference from column (III).

I contains the subsample of properties that are not held in trust at the end of the sample period in 2020. Column II restricts attention to properties that were converted to trusts between 2006 and 2020. Finally, Column III looks at the subsample of properties that were already held in trust in 2006. Comparing Column I with Column II, we find that individuals who place their homes into trusts tend to have higher income. As a consequence, these houses have higher fair market values and property taxes, tend to be located in more expensive neighborhoods, and provide more housing services. Comparing houses that were already in trust at the beginning of the sample in Column III with those that were placed into a trust during the sample period in Column II, we find that homeowners who had already adopted trusts tend to be older by almost three years on average. While they have lower incomes, they live in more expensive homes. However, due to the benefits of Proposition 13, they pay lower property taxes.

Next, we examine trust adoption, as well as the prevalence of gifts and sales over the life cycle, using our sample. Figure 1 displays the cumulative probability of owning a home outside of a trust.

Figure 1: Cumulative Probabilities of Personal Ownership



The red line illustrates the transitions from ownership status, and the blue dotted lines from trusts. By age 55, more than 85 percent of homes in our sample are still personally owned. However, this share declines steadily with age, falling to roughly 10 percent by age 85. The decline in direct personal ownership is driven primarily by transfers into trusts. While only about 20 percent of

homes are held in trust by age 55, this share rises sharply to nearly 40 percent by age 70, and then starts to decline primarily due to death. The transition from ownership to trusts, as indicated by the red line, is monotonically increasing in age. Next, consider inter vivos gifts. Figure 1 illustrates that gifts play a relatively minor role in estate planning. Over the life cycle, fewer than 5 percent of properties are transferred as gifts. Finally, arm's-length transactions are more important, both from ownership and trusts. Approximately 15 percent of the decline in initial ownership can be attributed to property sales.

These findings point to three main conclusions. First, trusts are the primary mechanism through which homeownership status changes over the life cycle. The sharp decline in direct personal ownership with age is driven largely by the increasing use of trusts, rather than by sales or gifts. Second, inter vivos gifts play only a minor role in housing transfers. Very few properties are transferred to children during the owner's lifetime, indicating that most estate planning occurs through legal ownership restructuring rather than outright gifting. Third, market transactions account for a meaningful but secondary share of ownership changes. While some properties are sold, sales explain only a modest portion of the overall decline in personal ownership. Overall, the evidence suggests that estate planning, particularly through trusts, dominates lifecycle housing transitions, with gifts and sales playing comparatively limited roles.

To gain some additional insights into the dynamics of estate planning, Table 3 provides the transition matrix for the model estimated below. Recall, there are four choices in our model: i) continue owning the house; ii) setting up a trust; iii) selling the house; iv) gifting the house and lastly the nonchoice of death which triggers the inheritance. Since death, gifts, and sales are terminal actions, the transition matrix has a 2 by 5 format.

Table 3 shows that there is much persistence in choices. The diagonal elements are approximately 93% for owning and 97% for holding in a trust. This offers two conclusions. First, the transition from ownership to trusts is sluggish and takes some time. This makes sense since the benefits of setting up the trust primarily occur at death, when the probate process can be avoided. Most homeowners take their time in setting up the trusts. Second, once a trust is set up, there are not many ownership structure changes. Our data do not allow us to distinguish between revocable and irrevocable trusts. However, we observe whether the trust is terminated and the property is sold, gifted to a child, or converted back to the original owner. The relevant probabilities are given in the off-diagonal elements of the transition matrix in Table 3. Here we find that approximately 10

Table 3: Transition Matrix

Entire Sample						
t-1 / t	**own**	**trust**	**sale**	**gift**	**death**	**Total**
own	623,768	27,313	6,925	4,608	8,265	670,879
	92.98	4.07	1.03	0.69	1.23	100
trust	4,330	579,111	8,155	124	4,302	596,022
	0.73	97.16	1.37	0.02	0.72	100
Total	628,098	606,424	15,080	4,732	12,567	1,266,901
	49.58	47.87	1.19	0.37	0.99	100
Not Held in Trust in 2006						
t-1 / t	**own**	**trust**	**sale**	**gift**	**death**	**Total**
own	617,617	26,303	6,803	4,506	8,051	663,280
	93.12	3.97	1.03	0.68	1.21	100
trust	2,221	172,639	2,687	42	2,580	180,169
	1.23	95.82	1.49	0.02	1.43	100
Total	619,838	198,942	9,490	4,548	10,631	843,449
	73.49	23.59	1.13	0.54	1.26	100
Held in Trust in 2006						
t-1 / t	**own**	**trust**	**sale**	**gift**	**death**	**Total**
own	6,151	1,010	122	102	214	7,599
	80.94	13.29	1.61	1.34	2.82	100
trust	2,109	406,472	5,468	82	1,722	415,853
	0.51	97.74	1.31	0.02	0.41	100
Total	8,260	407,482	5,590	184	1,936	423,452
	1.95	96.23	1.32	0.04	0.46	100

percent of all properties that are placed into a trust are sold before the trust is liquidated. We thus conclude that the vast majority of trusts are not altered until the parent dies.

4 A Dynamic Model of the Intergenerational Transfers of Housing Wealth

4.1 Ownership and Family Structure

We consider a parent who owns a house. At each point in time, the parent can continue living in the house, transfer the house as a gift to a child, transfer the house to a living trust, or sell the house in the market. If the parent dies and has not transferred the house to the child or put it into a trust, the estate must go through probate, and the child inherits the house. Avoiding the costly probate is an advantage of giving the house away or placing it into a trust. A trust allows the parent to retain control of the asset so that the parent can continue living in the house until death. Gifts provide an immediate altruistic utility flow at the time of the transfer, while this altruistic gain is delayed until death when using a trust. This is an optimal stopping model since selling the house or transferring the house as a gift are terminal actions. Finally, we consider an alternative specification of the model where all trusts are treated as revocable trusts.

Let's consider a finite-horizon, dynamic discrete choice model with four choices. Time is discrete $t = 1, 2, ..., T$. Consider a household n that consists of a parent p and a child c. The household owns a house which provides housing services, denoted by h_n. The market value of the house is given by $p_t \ h_n$, where p_t is the price per unit of housing services at time t. Prices evolve deterministically, and hence we have $p_t = p(t)$, where $p(t)$ is known to the households.[20] We, therefore, assume that individuals have perfect foresight of future prices.[21]

Home ownership is subject to property taxation. Let τ be the constant property tax rate. Let $av.n^p$ denote the assessed property value faced by the parent, which equals the acquisition value of the house under Proposition 13. Hence, $\tau \ av._n^p$ are the property taxes paid by the parent.

Home ownership may also require mortgage finance. Let m_{nt} denote the outstanding mortgage. We assume that the mortgage follows a deterministic function $m_{nt+1} = (1 - \nu) \ m_{nt}$ where ν is

[20] When we estimate the model, we account for differences in housing prices across locations.
[21] Allowing for uncertainty in the price evolution is fairly straightforward.

computed to reflect the average reduction in a 30-year fixed rate mortgage with interest rate equal to r.

Let a_{nt} denote the age of the parent. Parents are forward-looking, face uncertainty about life expectancy, and have a common discount factor β. There is an age-dependent probability $\pi(a_{nt})$ that a parent with age a_{nt} dies at the beginning of period t. Let d_{dnt} denote an indicator which is one if the parent dies at the beginning of the period and zero otherwise.

4.2 Choices and Flow Utilities

Each period, a parent has to decide whether to

1. keep living in the house as owner ($d_{ont} = 1$);
2. transfer the house as a gift to the child ($d_{gnt} = 1$);
3. keep living in the house and transfer it to a revocable living trust ($d_{rnt} = 1$), or
4. sell the house and convert it into an annuity ($d_{fnt} = 1$).

Hence, there are four choices, denoted by $j \in \{f, g, o, r\}$, which are mutually exclusive. Define $d_{nt} = (d_{fnt}, d_{gnt}, d_{ont}, d_{rnt})$.

To simplify the notation, define the observed state variables to be $x_{nt} = (a_{nt}, h_n, p_t, m_{nt}, av_n^p, d_{nt-1})$. Let $u_j(x_{nt})$ denote the deterministic part of the flow utility of choice j when alive. Similarly, let $u_j^d(x_{nt})$ denote the deterministic part of the flow utility during the period when death occurs, i.e., the flow utility that arises from a bequest. Finally, let ϵ_{jnt} denote the Type I Extreme Value shocks with location parameter equal to zero and scale parameter equal to σ.

Following Rust (1987), we assume that the flow utility is additive separable between the shocks and the deterministic components of the flow utility. Hence, we can write the flow utility as the sum of three terms:

$$U(x_{nt}, \epsilon_{nt}) \;=\; \sum_{j \in \{f,g,o,r\}} d_{jnt}\Big((1 - d_{dnt})\; u_j(x_{nt}) \;+\; d_{dnt}\; u_j^d(x_{nt}) \;+\; \epsilon_{jnt}\Big) \tag{1}$$

We also assume that the shocks satisfy the standard conditional independence assumptions.

Next, we characterize the flow utilities associated with each choice. We assume that the opportunity costs of living in the house are just the sum of the mortgage and property tax payments and equal to:

$$oc_{nt} \quad = \quad r\, m_{nt} + \tau\, av_n^p \tag{2}$$

At the same time, the house provides utility flows given by $\alpha\ h_n$. The parents' flow utility of continuing to live in the house is then given by

$$u_o(x_{nt}) \quad = \quad \alpha\, h_n \ - \ oc_{nt} \tag{3}$$

The utility form bequest is realized in the final period when a parent is alive. In the baseline model, we assume that the parent is strategic in the spirit of Bernheim, Shleifer, and Summers (1985) , and hence, primarily cares about the net value of the bequest.[22] Hence, we assume that

$$u_o^d(x_{nt}) \quad = \quad \omega_b \left(p_t h_n \ - \ m_{nt}\right) \ - \ c_p(p_t h_n) \tag{4}$$

where ω_b measures the altruism at bequest. Note that if the parent still owns the house when she dies, the estate must go through probate which reduces the value of the flow utility by $c_p(\cdot)$.

Ownership choices tend to be persistent over time. To capture this persistence or habit formation, we introduce adjustment costs, denoted by $\zeta(a_{nt})$, that need to be borne by the parent if she wants to make a change to the ownership structure. As the parent grows older, it becomes harder for them to make changes to their environment. As a consequence, we assume that adjustment costs are an increasing function of age.

Next, consider the decision to place the house into a living trust. We treat all living trusts as revocable. Setting up and maintaining a revokable trust is costly. We assume that these costs, denoted by $c_r(p_t h_n)$, are a function of the value of the house. Hence, the flow utility associated with a trust is given by:

$$u_r(x_{nt}) \quad = \quad \alpha\, h_n \ - \ oc_{nt} - c_r(p_t h_n) - \zeta(a_{nt})\ 1\{d_{ont-1} = 1\} \tag{5}$$

[22] An alternative approach that is more in the spirit of Becker (1974) and Barro (1974) would model altruism as defined over the value function of the child.

The last term reflects the adjustment costs. The property is directly transferred to the child when the parent dies. The bequest flow utility is defined as

$$u_i^d(x_{nt}) \quad = \quad \omega_b \left(p_t \, h_n \; - \; m_{nt}\right) \; + \; \xi \tag{6}$$

where ξ denotes the benefits of avoiding probate using a trust, over and above the legal fees. These benefits include the avoidance of court proceedings, which create delay as well as uncertainty. Moreover, some individuals value the privacy that trust affords.

Transferring the house as a gift to the child is a terminal action because the parent loses control of the real estate asset, and gifts are treated as complete and present-interest. As such, the parent does not continue to live in the house. We assume that a gift generates a one-time utility flow that is proportional to the value of the gift, which is the net value of the house:

$$u_g(x_{nt}) \quad = \quad \omega_g \left(p_t \, h_n \; - \; m_{nt}\right) - \zeta(a_{nt}) \, 1\{d_{ont-1} = 1\} \tag{7}$$

where ω_b measures the altruism from a gift, which may be different than altruism at death. Again, the last term reflects the adjustment costs.

Finally, the parent can sell the house and convert the real estate into a financial asset. We assume that the financial asset provides an income stream that is proportional to the after-tax net market value of the house given by:

$$mv_{nt} \quad = \quad (1 - c_t) \, p_t \, h_n \; - \; m_{nt} - t_{nt}^c$$

where the capital gains taxes are denoted by t_{nt}^c and c_t captures transaction costs. The capital gains taxes are

$$t_{nt}^c \quad = \quad \max\{0, \tau^c(p_t h_n - av_n^p - e^c)\} \tag{8}$$

where τ^c is the capital gains tax rate (which technically depends on income) and e^c is standard exemption which has been \$500,000 for a married couple if the couple used the house as a primary residence for two out of the last five years. The flow of utility associated with selling the house

equals the income from the annuity and is given by:

$$u_f(x_{nt}) \quad = \quad r(a_{nt})\, mv_{nt} \; - \; \zeta(a_{nt})\, 1\{d_{ont-1} = 1\} \tag{9}$$

where $r(a_{nt})$ is the straight life annuity rate. Since the bequest in our model only takes the form of real estate, flow utility at death is defined as

$$u_f^d(x_{nt}) \quad = \quad 0$$

This is also consistent with our assumption that parents convert the revenues from selling the house into an annuity.

4.3 Conditional Value Functions

To solve the model, we need to characterize and compute the conditional value functions that are associated with each choice. Selling the house and gifting the house are terminal actions. Hence, $v_g(x_{nt})$ and $v_f(x_{nt})$ also have a closed form solution. The conditional value function of selling the house only depends on the after-tax-and-fees market value $mv_{nt}(x_{nt})$ and is:

$$\begin{aligned} v_f(x_{nt}) \quad = \quad & u_f(x_{nt}) + \beta\Big[\sigma c_e + (1-\pi(a_{nt+1}))u_f(x_{nt})\Big] \\ & + \sum_{s=t+2}^{T} \beta^{s-t} \left[\prod_{j=t+1}^{s-1} (1-\pi(a_{nj}))\right] \Big[\sigma c_e + (1-\pi(a_{ns}))u_f(x_{nt})\Big] \end{aligned} \tag{10}$$

Note that the pay-off at death is normalized to be zero since there is no bequest. The conditional value function of gifting the house also only depends on the net value of the house at the time of the gift and is:

$$v_g(x_{nt}) \quad = \quad u_g(x_{nt}) \tag{11}$$

Owning the house and placing the house in a trust are not terminal actions. The conditional value function $v_o(x_{nt})$ can be recursively defined as:

$$\begin{aligned} v_o(x_{nt}) &= \alpha\, h_n - oc_{nt} + \beta\, \pi(a_{nt+1})\, (\sigma c_e + u_o^d(x_{nt+1})) + \beta\, (1 - \pi(a_{nt+1})) \\ & \quad E_\epsilon\Big\{ \max_{f,g,o,r} [v_f(x_{nt+1}) + \epsilon_{fnt+1}, v_g(x_{nt+1}) + \epsilon_{gnt+1}, v_o(x_{nt+1}) + \epsilon_{ont+1}, v_r(x_{nt+1}) + \epsilon_{rnt+1}]\Big\} \end{aligned} \tag{12}$$

where expectations are with respect to future preference shocks. Assuming Type I extreme value shocks, we have

$$v_o(x_{nt}) = u_o(x_{nt}) + \beta\pi(a_{nt+1})\, (\sigma c_e + u_o^d(x_{nt+1})) + \beta(1 - \pi(a_{nt+1}))\, \Big(\sigma c_e + \sigma \ln[D(x_{nt+1})]\Big) \tag{13}$$

where c_e is Euler's constant and

$$D(x_{nt}) = \exp(v_o(x_{nt})/\sigma) + \exp(v_g(x_{nt})/\sigma) + \exp(v_r(x_{nt})/\sigma) + \exp(v_f(x_{nt})/\sigma) \tag{14}$$

Similarly, the conditional value function for a revocable trust is:

$$v_r(x_{nt}) = u_r(x_{nt}) + \beta\pi(a_{nt+1})\, (\sigma c_e + u_r^d(x_{nt+1})) + \beta(1 - \pi(a_{nt+1}))\, \Big(\sigma c_e + \sigma \ln[D(x_{nt+1})]\Big) \tag{15}$$

To compute $v_o(x_{nt})$ and $v_r(x_{nt})$, we can use a backward induction algorithm as suggested by Rust (1987, 1994), since our model has a finite horizon.

4.4 Conditional Choice Probabilities and Estimation

Given the Type I Extreme Value assumption, as long as a terminal action has not been chosen, i.e., as long as the parent still owns the house, the conditional choice probabilities have a closed-form solution and are given by:

$$\begin{aligned} P(d_{fnt} = 1|\, x_{nt}) &= \frac{\exp(v_{fnt}(x_{nt})/\sigma)}{D_{nt}(x_{nt})} \\ P(d_{gnt} = 1|\, x_{nt}) &= \frac{\exp(v_{gnt}(x_{nt})/\sigma)}{D_{nt}(x_{nt})} \\ P(d_{ont} = 1|\, x_{nt}) &= \frac{\exp(v_{ont}(x_{nt})/\sigma)}{D_{nt}(x_{nt})} \\ P(d_{rnt} = 1|\, x_{nt}) &= \frac{\exp(v_{rnt}(x_{nt})/\sigma)}{D_{nt}(x_{nt})} \end{aligned} \tag{16}$$

Once a terminal action has been taken($k \in \{f, g\}$), we have for $s > 0$:

$$d_{knt} \;=\; 1 \quad \Rightarrow \quad d_{knt+s} \;=\; 1 \tag{17}$$

and

$$\begin{aligned} P(d_{knt+s} = 1 | d_{knt+s-1} = 1) &= 1 \\ P(d_{jnt+s} = 1 | d_{knt+s-1} = 1) &= 0 \quad j \neq k \end{aligned} \tag{18}$$

We can estimate the model's parameters using a Maximum Likelihood Estimator (MLE). Specifically, we observe a sample of size N for T periods. Our sample includes households that survived at the end of the sample. Therefore, the likelihood function is then given by

$$L \;=\; \Pi_{n=1}^{N} \, \Pi_{t=1}^{T} \, 1\{d_{dnt} = 0\} \left((1 - \pi(a_{nt})) \, \Pi_j \, P(d_{jnt} = 1 |\, x_{nt})^{d_{jnt}=1} \right) \tag{19}$$

Given that the model has some terminal actions, a Hotz and Miller (1993) type estimator is also feasible.

The identification of the key parameters is fairly straightforward. Note that we normalize the flow utility of selling the house to be equal to the returns of owning a financial asset with the same value as the house at the time of the sale. The parameter α measures the internal return of staying in the house, while ω_g measures the return of giving the house to a child while alive. The altruism parameter ω_b explains why parents pass their house to their children as a bequest instead of consuming the proceeds themselves. The adjustment costs are identified with the persistence of choices. The linear function is chosen to capture the fact that older individuals have more persistent choices than younger individuals, which generates concavity in the cumulative choice probabilities as observed in the data. Finally, the benefits of avoiding probates are identified by comparing the choices of staying in the house versus placing it into a trust.

5 (Preliminary) Empirical Results

5.1 Mortality Rates

To estimate our model, we need to estimate age-specific mortality rates. Figure 2 plots mortality rates in our sample and compares them to those reported by the Centers for Disease Control and Prevention (CDC). Overall, we find that the mortality rates in our sample are similar to the more

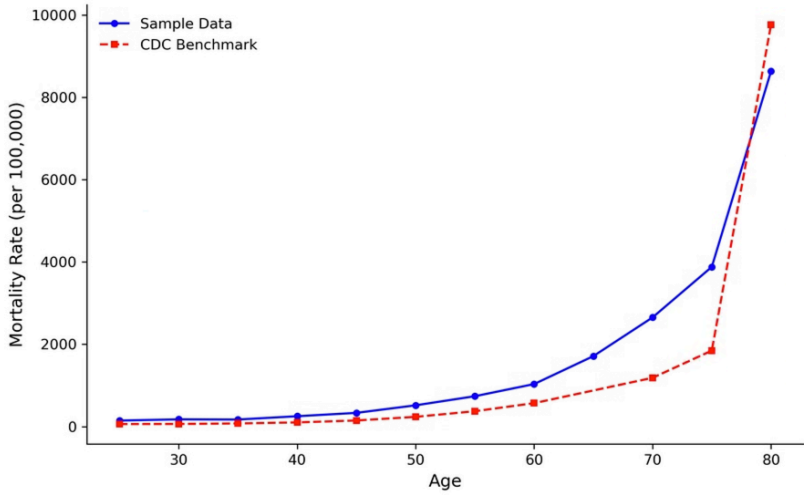


Figure 2: Mortality Rates by Age Group (CDC vs Sample)

precise rates provided by the CDC, which we use when we estimate the model.

5.2 Housing Prices and Price Expectations

Next, we need to measure housing prices for the San Diego metropolitan area. Here we adopt the technique proposed in Sieg et al. (2002), which decomposes the value of a house into a price and a quantity index.[23]

Consider the housing price in zip code i at time t, denoted by p_{it}. To model price expectations,

[23]Details for the construction of the house prices and housing services means are discussed in Appendix A. Note that the mean and standard deviation of the price index differ slightly from those reported in the Appendix, where the average is 1.08, and the standard deviation is 0.47. This discrepancy arises because the price index in the Appendix is calculated using the entire universe of arms-length transfers for owner-occupied properties from 2003 to 2020, whereas the sample is primarily focused on the elderly homeowners and covers the period from 2006 to 2020. In Appendix A, we provide coefficient estimates for the regressions from both the full sample and the sample of properties held by elderly households, and show that they are similar.

we then estimate the following pricing model

$$p_{it} = p_i + p(t) + u_{it} \tag{20}$$

where $p(t)$ is approximated by a polynomial.[24] Table 4 reports the results for two plausible specifications. The first one uses a quadratic polynomial, and the second one a piecewise linear specification.

Table 4: Regression Results: Evolution of Price Index Over Time

	(1) Quadratic Polynomial	(2) Piecewise Linear
t	0.423***	-0.075***
	(0.012)	(0.008)
t^2	-0.005***	
	(0.001)	
$\sqrt{t}$	-1.725***	
	(0.145)	
$\mathbf{1}(t > 2012)$		0.141***
		(0.015)
Zip Code FEs	Yes	Yes
R-squared	0.952	0.937
Adjusted R-squared	0.948	0.932
Observations	1,399	1,399

Notes: Standard errors are in parentheses.
* p < 0.10, ** p < 0.05, *** p < 0.01.

Based on these estimates, we construct two forecasting models. The first one shown in Figure 3 show the within-sample fit of a smoothed version of the piece-wise linear model estimated in Column 2 of Table 4. It also compares it to the California HPI index. Overall, we find that the within-sample fit is excellent, and our index corresponds to the California HPI index. Finally, we plot the price predictions from 2020 to 2035. Note that this model predicts that prices will keep on rising in California for the foreseeable future.

We therefore explore an alternative model that has the same within sample fit but assumes that housing price growth will stop by the year 2030. This version of the price prediction model is shown in Figure 4. These predictions are probably more plausible than the ones shown in Figure 3. We estimate the structural model using both models.

[24] Figure 11 compares our constructed fair market value estimates with those from Zillow for San Diego.

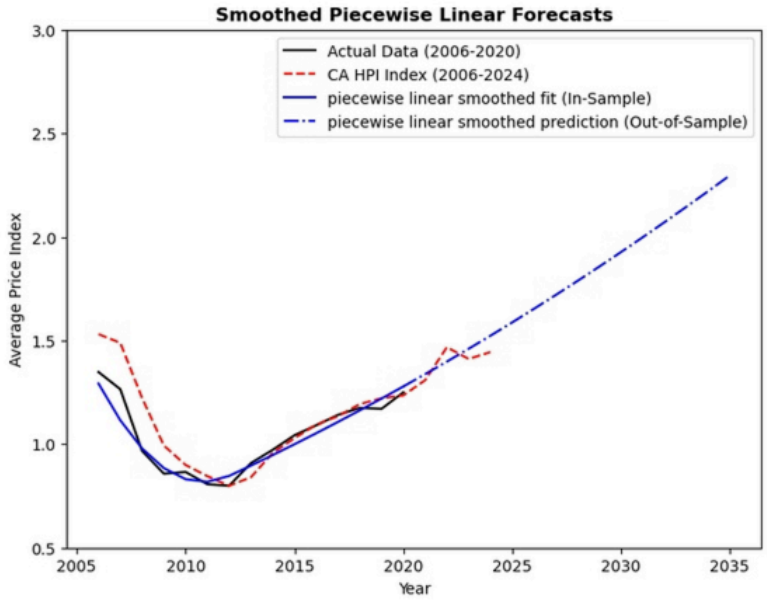


Figure 3: Model Estimated House Price Index vs CA House Price Index I

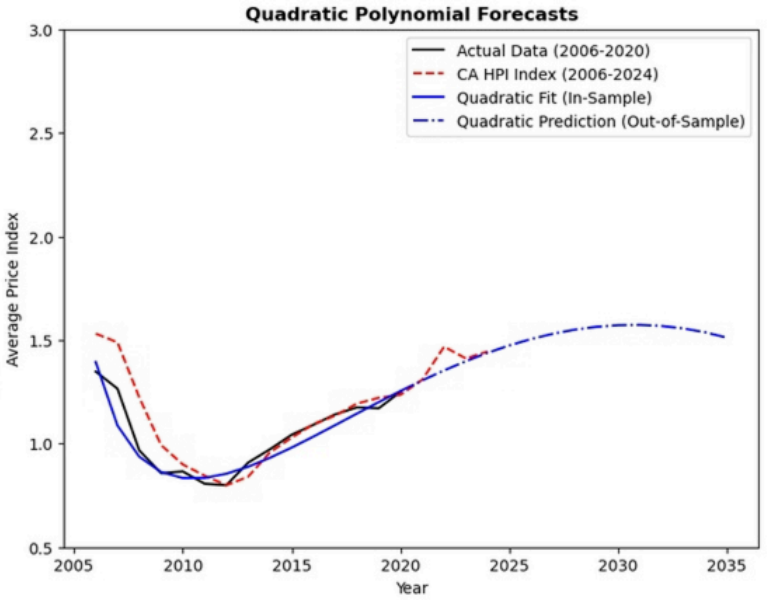


Figure 4: Model Estimated House Price Index vs CA House Price Index II

5.3 Parameter Estimates and Standard Errors

A number of the structural parameters of the model are either known or can be easily calibrated based on previous studies. Parameters that are either known or can be easily normalized are the property tax rate, the capital gains tax and exemption, the transaction costs of selling the house, as well as the interest rate. The calibration of the discount factor follows standard practice in the literature. Table 5 summarizes our normalizations.

Table 5: Calibrated Parameters

Parameter	Meaning	Value
β	Discount factor	0.96
τ	Property tax rate	0.01
e_c	Capital gains tax exemption	500,000
t_c	Capital gains tax	0.15
c_t	Transaction costs	0.06
c_l	Trust costs	0.00
r	Interest rate	0.04

We consider two specifications of the model. The parameter estimates and estimated standard errors are reported in Table 6.

Table 6: Estimated Parameters

Parameter	Meaning	Estimate
α	Utility from housing service	0.058
ω_g	Utility from gifts	0.168
ω_b	Bequest utility at death	0.206
ξ	Avoiding probate at death	587,648
σ	Standard deviation of error term	484,143
ζ_0^o/σ	Adjustment cost, from own (fixed)	3.05
ζ_0^t/σ	Adjustment cost, trust $\rightarrow$ own/gift (fixed)	4.96
ζ_0^{ts}/σ	Adjustment cost, trust $\rightarrow$ sale (fixed)	3.43
ζ_1^o/σ	Adjustment cost, from own (age)	0.019
ζ_1^t/σ	Adjustment cost, trust $\rightarrow$ own/gift (age)	-0.011
ζ_1^{ts}/σ	Adjustment cost, trust $\rightarrow$ sale (age)	-0.029
L	Log likelihood	- 279983

Table 6 produces some interesting (preliminary) results. We find that our estimate of α exceeds the interest rate. As a consequence, there are clear benefits for older individuals to continue living in their homes. The bequest motive is positive and economically meaningful. The estimated bequest

utility parameter ω_b implies that parents value bequests at around 20% of the net housing value. Similarly, the utility parameter for gifts ω_g implies that parents value gifts at around 16% of the net housing value. We thus conclude that the bequest motive appears to be stronger than the gift motive, which may be because parents use bequests to strategically influence the behavior of children while they are alive.

The non-monetary benefit of avoiding probate is economically significant: the estimated value of probate avoidance is around \$588K, roughly equal to σ. Adjustment costs are large are reported in standard deviations of the utility shock. Not surprisingly, these adjustment costs are high, since we see much persistence in choices. More interestingly, they appear to be asymmetric: switching out of a trust back to personal ownership or gifting is substantially more costly than selling, consistent with the data.

In summary, trusts are popular tools for lowering probate costs. Saving the legal costs is only a small fraction of the benefits of setting up trusts. Individuals mostly value the reduction in planning uncertainty and avoiding the delays inherent in the probate process. This is captured by the large estimate of ξ. The timing of setting up the fund is largely based on idiosyncratic convenience.

5.4 Model Fit

Figures 5 - 7 illustrate the fit of the model. In Figure 5, we plot the cumulative probabilities of choosing a trust, a gift, or selling the house. The blue circles show the data, and the red squares the model's prediction. Overall, we find that the model fits these cumulative probabilities exceedingly well.

Figures 6 - 7 show the goodness of fit of the model for the transition probabilities as a function of age. Again, we find that our model captures the time pattern well. Given that the goodness of fit of the model is excellent and the parameter estimates are plausible, we next turn to counterfactual policy analysis.

Figure 5: Model Fit: Cumulative Probabilities

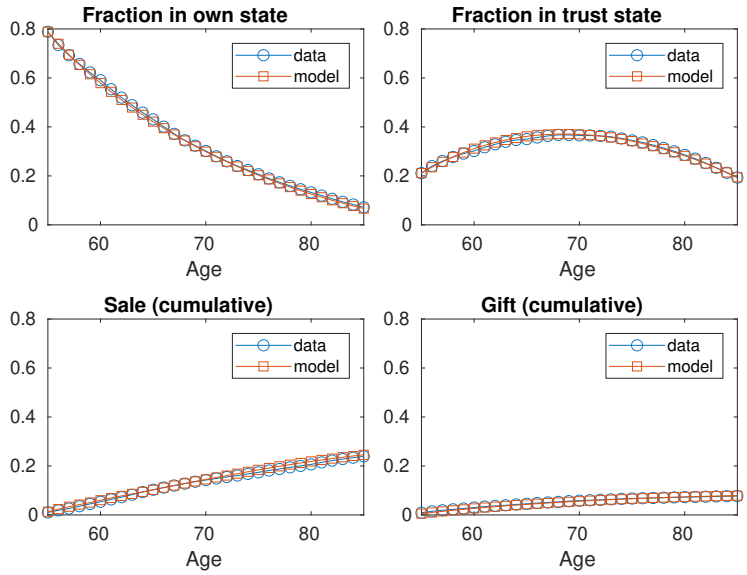


Figure 6: Model Fit: Transition Probabilities I

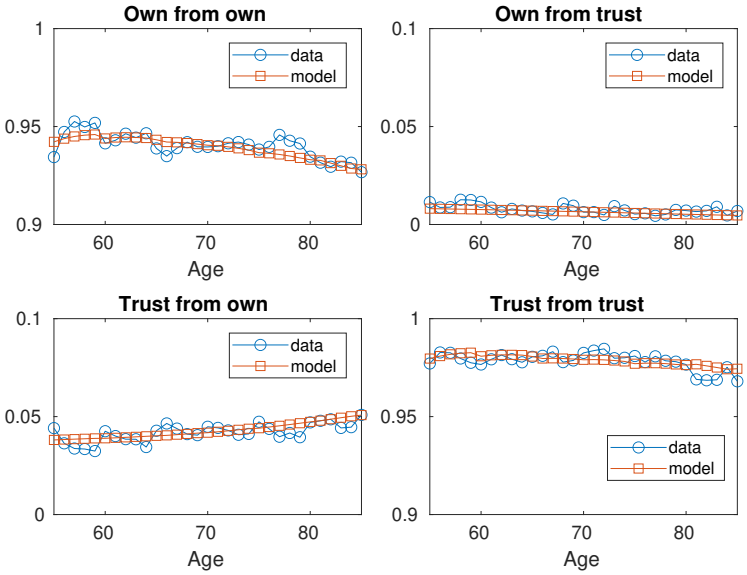
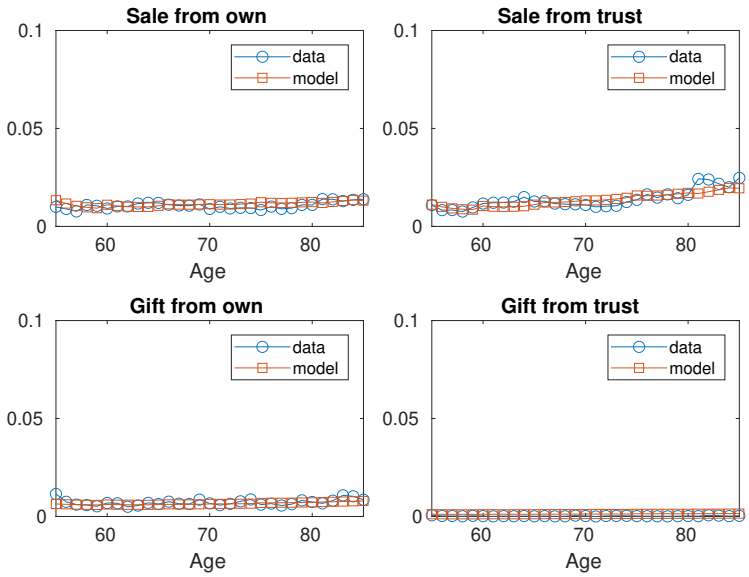


Figure 7: Model Fit: Transition Probabilities II

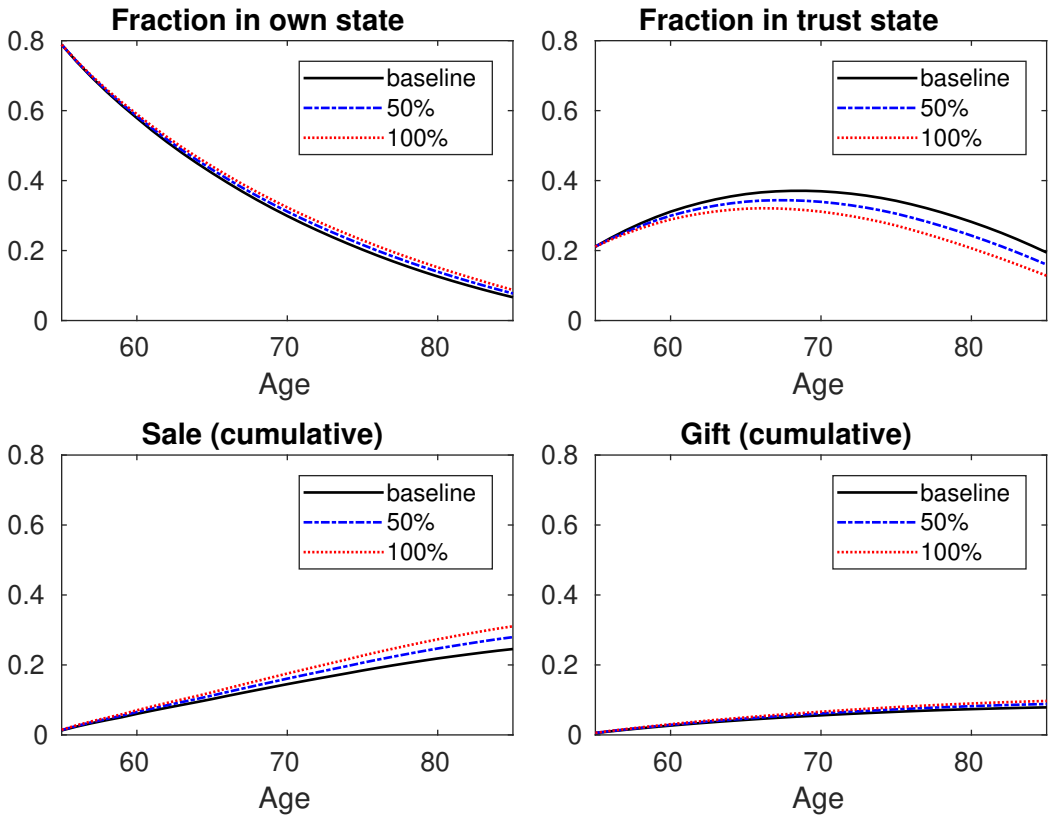


6 Policy Analysis: Reforming the Probate System

We have seen that households take preemptive estate planning measures to reduce the costs and hassles associated with the probate process. However, these actions require the setting up and maintenance of trusts, which in itself is a legal burden. As such, it is of interest to analyze how the transfer of property is shaped if we reduce the overall costs associated with the probate process. From our parameter estimates, it should be clear that any policy that just eliminates the legal fees associated with the probate process will only have a small impact on the probability of setting up a trust. Legal fees are small relative to the hassle costs and hence do not appear to be the main reason why parents prefer trusts.

Hence, our policy analysis focuses on reducing the hassle costs associated with the probate process. Here we reduce these costs by 50 (100) percent. Figure 8 summarizes our main findings. The figure plots the cumulative probabilities for the four actions in our model, comparing the baseline case with the low cost scenario. We find that reducing the additional hassle costs associated with the probate process has a significant impact on the use of trusts. The cumulative probability of using a trust declines significantly. This reinforces our finding that privacy considerations and time delays are the main drawbacks of the probate system. Moreover, the simulation results indicate an

Figure 8: Policy Analysis



increase in sales, thereby improving market liquidity. This is a potentially important side effect of these reforms. Gifts are not affected by the reform of the probate system, as one may have expected.

7 Discussion

Although our empirical analysis has focused on San Diego County, the use of probate-avoiding mechanisms such as revocable trusts are also widely used to address institutional frictions governing wealth transfer in states other than California. Our empirical findings suggest that revocable trusts function less as tax-minimization devices and more as institutional technologies that resolve intertemporal household-contracting-frictions within dynastic households. These frictions arise from the combination of (i) uncertain longevity, (ii) the consumption value of owner-occupied housing, and (iii) costly and public probate processes. In this environment, outright transfers—either through gifts or sales—require relinquishing control of an asset with high consumption value and deferring transfer through wills, or end-of-life sales, exposes households to probate-related costs and uncertainty.

Revocable trusts dominate in resolving these frictions because they uniquely decouple control rights from residual claims. They allow parents to retain full use of the housing asset while credibly pre-committing to a transfer mechanism that bypasses probate. In this sense, trusts resemble incomplete contracts that allocate contingent control rights across states of the world (life vs. death) while minimizing renegotiation costs. This interpretation helps reconcile two empirical facts documented in our data: (i) the near absence of inter vivos gifts and (ii) the high persistence of both ownership and trust status. Both patterns are consistent with a model in which households avoid irreversible actions that eliminate consumption value or expose them to institutional risk.

Under this interpretation of the broader merits of revocable trusts for the intergenerational transfer of real assets, the popularity of trusts in California may not be wholly due to the unique property tax laws of state, the high price of housing, and costly probate. Figure 9 presents the average percentage of real estate transactions involving a trust buyer by state, utilizing ATTOM recorder data from 2006 to 2020. As shown in the figure, the higher percentages of trust-related transfers are indicated by darker shading and California is currently the dominant state for their use. Nevertheless, adoption rates appear to be spreading to states outside of California including to neighboring states such as Oregon, Nevada, Utah, and Arizona. Interestingly, Illinois also has a

relatively high level of trust-involved transaction rates as does its neighboring states of Wisconsin, Michigan and Missouri.

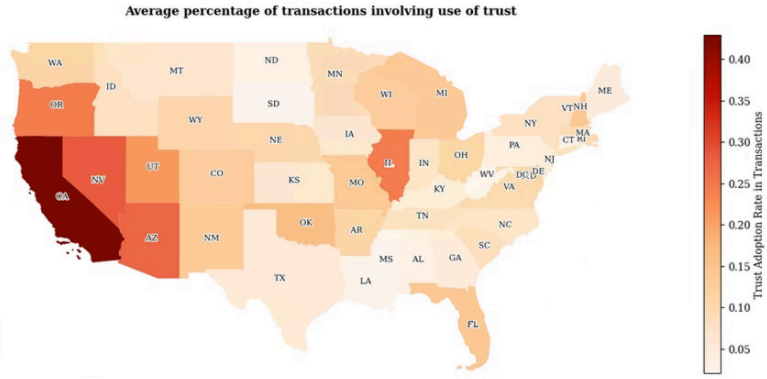


Figure 9: Average Percentage of Transactions Involving Use of Trusts

The differences of trust adoption across states reported in Figure 9 also reflects differences in local probate and tax policies. As explained in Section 2.2, in states like California and Florida, the primary costs of probate are the attorney fees and the fees to administer the estate, both of which are set by law as a percentage of the total value of the estate.[25] Given the high cost of housing in these states, probate is quite costly and trusts, from a cost perspective, would be preferred to living wills. In addition, compared to inter-vivo gifts, putting properties in living trusts allows for "stepped-up in basis",[26] which provide capital gains tax advantages. Furthermore, notable trust usage is found in Oregon and Illinois for distinct regional reasons: Oregon maintains a state estate tax threshold of $1 million—far lower than the $13.6 million federal limit—while Illinois benefits from a long-standing legal culture surrounding the 19th-century Illinois Land Trust.

As discussed in Section 2, since the consolidation of across state ownership of real estate into a revocable trust in California can mitigate the fixed and variable costs associated with fragmented probate systems (see Wyatt and McCabe, 2024), these trusts also play an important role in intergenerational transfers when Californians hold real property across multiple states. Because real property held under a will-based regime is subject to the law of its location, geographically diversified real estate ownership generates ancillary probate proceedings in each state. This multiplies administrative costs (legal fees, court delays, and coordination frictions) and introduces uncertainty due to hetero-

[25] `https://selfhelp.courts.ca.gov/probate/formal-probate`

[26] Under IRC §1014(a), the basis can be reset to fair market value of the property at death of the grantor. Certain trust provisions such as QTIP, "qualified terminable interest property", can be set up to allow for double stepped-up basis under IRC §2056(b)(7) and IRC §2044

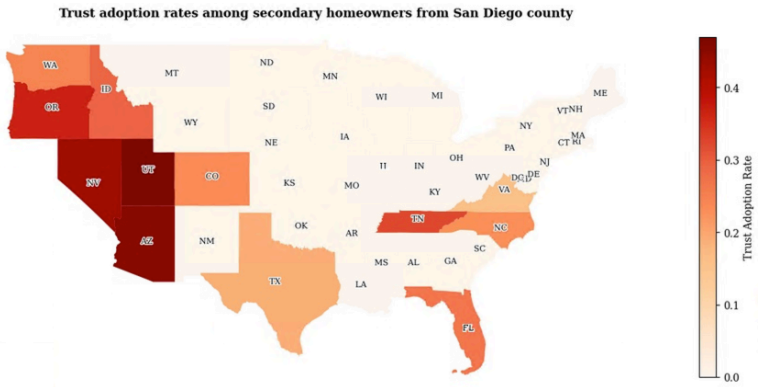


Figure 10: Trust Adoption Rates among Secondary Homeowners from San Diego County

geneous state rules governing validity, creditor claims, and the distribution of real estate assets at death. In contrast, a revocable trust consolidates legal title ex ante, allowing post-mortem transfers to occur outside probate and thereby collapsing a multi-forum adjudication problem into a single fiduciary administration. From an economic perspective, the revocable trust structure functions as a transaction-cost-reducing legal technology.

To visually explore the incidence of California resident-households' use of revocable trusts when they have multi-state real estate ownership, again using ATTOM data, Figure 10 maps the average percentage of San Diego residents who have trust-held property in San Diego as well as secondary properties in other states that are also trust-held. Each state is colored based on the percentage of these dual-state owners who have opted to also place their destination-state property into a trust. Specifically, the percentage represents the ratio of trust-held properties in the destination state to the total number of homeowners who kept trust-held properties in San Diego county and also own property in that state. To ensure data reliability, percentages were set to zero for states with an insufficient sample size of dual-state homeowners.

As shown in Figure 10, trust adoption rates ranges from 30% to 50%, overall for multi-state San Diego property owners and this rate of trust use is higher than the 31% trust-adoption rate observed among San Diego homeowners who do not own out-of-state property. The discrepancy likely reflects the increased utility of trusts in managing multi-jurisdictional assets, specifically regarding the convenience and significant probate cost savings associated with avoiding ancillary probate across multiple states. It also reflects the importance of the second home ownership rates in housing located in neighboring states among the residents of San Diego County.

Additionally, the relatively high linkage between multi-state trust usage for San Diego residents and the states of Texas, Virginia and to a lesser extent Tennessee, is also likely associated with the deployment patterns of U.S. military personnel and the fact that San Diego County alone contains roughly the same number of active-duty military personnel as reside in the states of Virginia and Texas—making it one of the most spatially concentrated military populations in the U.S.[27] Thus, it is not surprising that California domiciled military personnel would seek the ancillary protections of a California revocable trust for intergenerational transfer of their multi-state ownership of properties in other states where they may have been stationed.

8 Conclusions

Owner-occupied housing is the single largest component of wealth for most U.S. households, yet little is known about how housing wealth is transferred across generations and how estate planning institutions shape these decisions. In this paper, we have studied the intergenerational transfer of housing wealth, with a particular focus on the role of trusts. We have assembled a new panel data set that links administrative property records, household address histories, and mortgage information to directly observe housing transfers at the household level. The data show that trusts are the predominant estate planning instrument for housing wealth, while inter vivos gifts are rare.

To interpret these patterns, we have developed and estimated a new dynamic structural model of an altruistic parent who owns a house and faces uncertainty about longevity in the presence of transaction costs, taxation, and a costly probate process. The parent chooses whether to retain the home, sell it, gift it to a child, or transfer it into a trust. The model highlights the trade-off between retaining control of the house during life and reducing uncertainty and delays associated with probate. Estimation using data from older homeowners in San Diego indicates that the value of remaining in the home is large, making sales and gifts uncommon. Trusts are the most important estate planning tool used by a large fraction of households in our sample. In contrast, inter vivo gifts play a rather minor role in the intergenerational transfer of housing wealth. Legal fees are not the main reason why households prefer trusts. Instead, parents like to retain control of a home during life while ensuring heirs can inherit efficiently, privately, and without the delay and uncertainties of

[27] More than 110,000 active military personnel are located in San Diego County, `https://sdmac.org/military-in-san-diego` and more than 120,000 active military personnel are in Virginia and more than 110,000 are in Texas `https://usafacts.org/articles/where-are-us-military-members-stationed-and-why`.

the probate process.

Our paper also opens several avenues for future research. In line with the existing literature, we have assumed that parents primarily care about the size of the bequest they leave. An alternative approach would define parental altruism in terms of the child's lifetime utility rather than the bequest's nominal size. More research is clearly needed to study the impact of altruism on the intergeneration transfer of housing wealth, paying special attention to the institutional details that shape these arrangements.

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A The Construction of Housing Price Indices

Consider an economy that consists of J local housing markets that we observe for T periods. Following Sieg et al. (2002), we adopt a hedonic regression model to decompose the value of a house, denoted by v_{jntj} into a neighborhood price index, denoted p_{jt} and an index of housing services. In particular, assume the following specification:

$$\ln(v_{ntj}) \quad = \quad \sum_{j=1}^{J} \ln(p_{jt})\, d_{ntj} \; + \beta_1 \; z_{1ntj} + \; ... \; + \beta_K \; z_{Kntj} \; + \; u_{ntj} \tag{21}$$

where d_{ntj} is a binary variable which takes value of 1 if n the house is located in market j at time t and zero otherwise; z_{kntj} are observable housing characteristics. the local price index p_{jt} is thus identified as a location-time-specific dummy variable in the hedonic regression. Note that the above specification assumes the following production for housing services:

$$h_{ntj} = exp(\beta_0 + \beta_1 z_{1ntj} + ...\beta_K z_{Kntj} + u_{ntj}) \tag{22}$$

Under the log-normal assumption, we have the expected housing services of a unit are given by:

$$E[h_{ntj}|z_{nt}] = exp(\beta_0 + \beta_1 z_{1ntj} + ...\beta_K z_{Kntj} + \frac{1}{2}\sigma_u^2) \tag{23}$$

In our application, we treat the zip code as the local housing market. We, therefore, regress the logarithm of the value of the house on the full set of zip code - year dummies and housing characteristics, which include the size of the house measured in square feet, the number of bedrooms, the number of bathrooms, and the property age. The model is estimated using transaction data for sales of single-family residential homes from 2003 to 2020. We construct the data by merging the ATTOM transaction records with the ATTOM assessor panel data to obtain housing characteristics, and then add the following filters:

- arm's-length transactions
- owner-occupied properties
- transaction price is greater than 10,000.

After cleaning the data and removing outliers, we obtained a sample of 221,528 transaction records

from 2003 to 2020 that we use for the price index regressions. Note that our sample covers a slightly longer period and thus allows to test whether our model provides reasonable estimates for the period before the Great Recession. Descriptive statistics for our sample are reported in Table 7

Table 7: Summary Statistics of house price index regressions

	mean	std
house square footage	1,886.4	819.5
number of bedrooms	3.37	0.84
number of bathrooms	2.29	0.78
property age	36.98	19.89
house value (real) ($)	533,970.2	353,179.9

Table 8 reports the estimates from a log-log hedonic regression.

Table 8: Regression Coefficients

	ln-ln
log_sqft	-1.4671^{***}
log_bed	-0.0493^{***}
log_bath	0.0630^{***}
log_age	0.1685^{***}
log_age_2	0.00
log_sqft_2	0.1426^{***}
log_age_sqft	-0.0249^{***}
R-squared	0.85
R-squared Adj.	0.85
No. observations	221,528

Overall, we find that the fit of the model measured by the R^2 is remarkably good. The coefficients associated with the characteristics have the expected signs and are statistically significant. The mean estimated housing price is 1.08 with a standard deviation of 0.47. We also estimate the same regression using the sample described in Section 4, which consists of a panel tracking properties from 2006 to 2020 whose owners were aged 55 or older at the start of the period. Table 9 shows the regression estimates from the sample of properties held by elderly homeowners. Overall, the estimates are fairly close to those reported in table 8. Note that the elderly sample is notably smaller, which is attributable not only to the specific demographic focus but also to a lower frequency of arm's-length transfers compared to full sample including younger households. The mean estimated housing price index for the elderly sample is 1.24 with a standard deviation of 0.47. Compared to the full sample, price indices for elderly households are slightly elevated, consistent with the fact

that elderly households usually possess greater housing wealth.

Table 9: Regression Coefficients for Elderly Sample

	ln-ln
log(sqft)	-1.1480^{***}
log(bed)	-0.0551^{***}
log(bath)	0.0467^{***}
log(age)	0.4251^{***}
$\log(\text{age})^2$	(0.00)
$\log(\text{sqft})^2$	0.1289^{***}
log(age_sqft)	-0.0581^{***}
R-squared	0.85
R-squared Adj.	0.85
No. observations	24,618

Figure 11 compares our constructed fair market value with Zillow's predictions for typical single-family homes in San Diego County. As illustrated, our predictions align closely with those provided by Zillow.

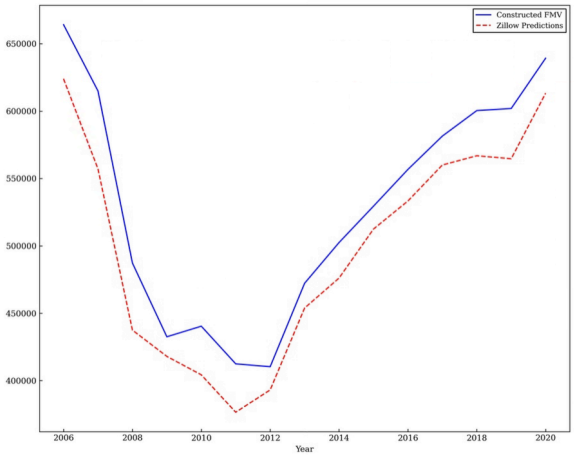


Figure 11: Comparison of Fair Market Value Predictions with Zillow

B Measurement of Intergenerational Transfers

We are interested in the following types of transfers in this study:

- **parent-child transfer**: a transfer from a parent to a child when both the parent and the child are still alive, i.e., a gift from a parent to a child; We apply the following criteria:

- arms-length transaction flag is off
- deed type is not "AD", i.e., affidavit of death
- both buyer and seller are individuals
- buyer and seller are not the same person. We aim to exclude the following cases with this restriction:
  - buyer and seller are the same; for example, both buyer and seller names are "John Doe"
  - buyer and seller names contain each other when number of buyers is smaller than number of sellers; for example, buyer names are "John Doe & Jane Doe"; seller names are "Jane Doe" or vice versa.
  - buyer and seller names are sufficiently similar; for example, buyer name is "Christopher Doe", and seller name is "Chris Doe". Essentially, we computed the text distance between buyer and seller names, and exclude transactions where the text distance score is higher than 0.95.
- if the first name of the buyer predicts male, then we need the buyer and the seller to share the same last name. In cases where there are multiple buyers and sellers, as long as the buyer (seller) share the same last name as one of the sellers (buyer), we count it as the buyer and seller share the same last name. This includes the following scenarios:
  - buyers are Jane Wayne and John Doe; and the sellers are John Wayne and Janice Hamilton
  - buyers are Jane Wayne and John Doe; and the sellers are John Wayne and Jane Doe
- if the first name of the buyer predicts female, then we don't need the buyer and seller to share the same last name.
- note that we exclude some of the spousal transfers with the restriction that the buyer and seller names do not contain each other when number of buyers is smaller than number of sellers. For example, if Jane and John co-own a property during their marriage, Jane gets the property when they are divorced, then seller should say "Jane Doe & John Doe", and the buyer should say "Jane Doe". However, if John is giving Jane a property that he owns by himself, then the seller would say "John Doe", and the buyer would say "Jane Doe", our algorithm won't be able to exclude such transfers.