



The role of parental financial assistance in the transition to homeownership by young adults[☆]

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ABSTRACT

This study examines the role of direct parental assistance in their adult children's home buying, net of other resources. Past research has cited the importance of down payment constraints, but often has not included data on parental wealth and direct transfers. Using both the Health and Retirement Survey (HRS) and Panel Study of Income Dynamics (PSID), we first confirm other research that children whose parents have more resources are more likely to buy homes themselves. In addition, we find that financial transfers increase the probability of home buying among adult children, net of parental wealth and other characteristics of parents and children. Results from the HRS suggest that receiving a transfer greater than \$5000 for any purpose increases the probability of transitioning to homeownership by 15.1%. Results from the PSID suggest that this effect was magnified after the recession.

1. Introduction

The financial crisis of 2008–2009 and subsequent recovery have reshaped the U.S. housing market, as homeownership has plummeted to its 50-year low and lending standards have dramatically tightened (CoreLogic 2017; Goodman, 2017). The effects of changing economic conditions on homeownership have been magnified among young households, who are more likely to be liquidity constrained (Jappelli, 1990). Survey evidence from the 2014 Fannie Mae National Housing Survey suggests that 50% of younger renters identified down payment and closing costs as their greatest obstacle to obtaining a mortgage for the purpose of purchasing a home (Fannie Mae, 2014). Larimore et al., (2016) also found in the 2014 Survey of Household Economics and Decisionmaking (SHED) that more than half of young renters believe that they cannot afford a down payment and that

student loans and credit card debt will increase the time it takes to save enough to own a home.

Intergenerational financial transfers can relax down payment constraints for young adults by reducing the number of years to save, increasing the total amount of funds available, or both (Cox, 1990; Engelhardt and Mayer, 1998; Guiso and Jappelli, 2002). Recent surveys point to first-time home buyers' reliance on financial gifts, in particular. The National Association of Realtors (NAR) reports that 14% of all buyers in the last year, including 26% of first-time home buyers, received a gift to help with their down payment.¹ NAR reports that gifts were much more common among buyers age 34 and younger (25%) than those ages 35 to 49 (15%), and far less common among those 50 and older. Similarly, the Federal Reserve Board (2015) reports in its 2014 SHED that 18.1% of respondents of any age who purchased a home between 2011 and 2014 said they made use of a "loan or gift from

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¹ Data come from the Home Buyers and Sellers Generational Trends Report 2015 (National Association of Realtors, 2015). The survey was mailed to a random sample of 72,206, with an adjusted response rate of 9.4%, producing data on 6572 buyers who purchased between July 2013 and June 2014.

family or friends,” among multiple options, for purposes of a down payment.²

Although the observed patterns are consistent with theory, survey evidence is not sufficient to determine whether financial assistance from parents directly affects home buying. It should be recognized that the universe for calculating the share with assistance in both NAR and SHED is the set of home buyers, not the complete universe of people or households observed prior to a purchase. Moreover, the effect of assistance is not estimated net of other related factors. Financial assistance may reflect the fact that adult children with high resource parents are more likely to become homeowners because of their own high economic status, or that of their parents, and due to other unobserved factors associated with parents' high income and wealth that are related to homeownership (Hurd et al., 2011; Schoeni and Ross, 2005; Zissimopoulos and Smith, 2011).

In this study, we use the Health and Retirement Survey (HRS) and Panel Study of Income Dynamics (PSID), two nationally representative panel data sets with rich covariates on parents and their adult children, to quantify the impact of a financial transfer from a parent to an adult child non-homeowner on the likelihood that the child becomes a homeowner. Each data set has distinct advantages. The HRS has more accurate transfer data, as McGarry and Schoeni (1995) find that the PSID underreports financial transfers, while the PSID includes more recent data and information on a child's wealth that is not available in the HRS. We estimate reduced form models to measure the association between receiving a transfer in the past two years and becoming a homeowner over the same period. The empirical models include a rich set of demographic, social, and economic characteristics of the adult child and the parents, which enables us to estimate the association between receiving a transfer in the transition to homeownership as independent of these confounding effects.

We find evidence of intergenerational transmission of homeownership and wealth through direct financial assistance. Evidence in the HRS suggests that the probability of transitioning to homeownership increases by 3.1 percentage points, or 15.1%, if a child receives a substantial transfer of over \$5000. This result is confirmed by data from the PSID that also reveals a stronger association during the Great Recession. During the recessionary period, children in the PSID sample that received a transfer of over \$5000 have 7.3 percentage points higher likelihood of becoming a homeowner.

2. Background

Research demonstrates that support for adult children occurs for a variety of purposes, including buying a home (Schoeni and Ross, 2005; Keane and Wolpin, 2001; Engelhardt and Mayer, 1998; Guiso and Jappelli, 2002). Most often assistance takes the form of a financial transfer (loan or gift) from parents to their children, but in practice it could also include transfers from grandparents or other family and friends (Gale and Scholz, 1994). Studies find that support from parents is linked to human capital investments, such as college attendance (Keane and Wolpin, 2001), which, in turn, can affect future career choices (Blundell et al., 2005) and health later in life (Cutler and Lleras-Muney, 2006). However, not all parents give money to their adult children and, in general, parents with higher socioeconomic status are more likely to give money to their adult children and they give more often (Hurd et al., 2011; Schoeni and Ross, 2005; Zissimopoulos and Smith, 2011).

Transfers may support home buying directly, through down payment assistance, or indirectly by supplementing income to cover expenses or college costs and allowing young adults to save more of their own money. Economic theories of consumption indicate the potential

role of financial transfers in the home-buying decision. Artle and Varaiya (1978) developed a life cycle model of consumption and homeownership, which has been updated subsequently to include financial transfers (Cox, 1990; Engelhardt and Mayer, 1998; Guiso and Jappelli, 2002). Artle and Varaiya provide a theoretical framework to explain how liquidity constraints, such as a down payment requirement, imposed by market imperfections reduce consumption early in the adult life cycle, as households forgo consumption to save for a down payment (Engelhardt, 1996; Haurin et al., 1996); however, the amount of time (and willingness) required to save will depend on the individual's (or household's) discount factor and initial assets. In this context, Cox (1990) showed that inter vivos transfers act to relax liquidity constraints by increasing the household's assets.

In the relatively few studies that examine the link between intergenerational financial transfers and homeownership, there is consensus that parental resources and children's home buying are positively linked. For example, Charles and Hurst (2002) use parental wealth as a proxy for the available financial assistance that a household could receive for down payment and find a strong positive association between parental wealth and homeownership. Later studies confirm the relationship (Hilber and Liu, 2008; Öst 2012; Mulder and Smits, 2013; Bond and Eriksen, 2017). While Hilber and Liu (2008) illustrate a potential endogeneity between the parental wealth and child's housing tenure choice, Bond and Eriksen (2017) find that parental wealth is positively associated with being, achieving, and maintaining homeownership status of their children.

The idea that transfers may reduce the time to saving for a down payment and induce home buying earlier in the life cycle has been more explicitly examined by using a direct measure of parental financial assistance. Using a survey conducted by a private company, Engelhardt and Mayer (1998) find that financial transfers reduce the time spent saving for a house, increase the amount put towards a down payment, and raise the value of the home purchased. The studies from a variety of countries draw similar conclusions such as Henretta (1984) on the United States; Guiso and Jappelli (2002) on Italy; Helderma and Mulder (2007) on Netherlands; Spilerman and Wolff (2012) on France; and Cigdem and Whelan (2017) in Australia. Nevertheless, these studies use cross-sectional data, which cannot measure the timing of individuals' or households' home-buying in response to transfer receipt. Haurin et al., (1996) use panel data to estimate the association between young adults' wealth accumulation and homeownership; however, they focus on the young adults' assets, without taking their parents' resources into consideration. They find homebuyers were more likely to receive financial gifts prior to buying a home, as compared to current owners and renters. Thus, there has been relatively scarce research on the effects of parental assistance on housing tenure choice with comprehensive set of characteristics observed over time.

At the same time, research has also noted other determinants of home buying that are potentially associated with financial transfers. A well-established relationship exists in the housing literature between homeownership and household income and wealth (Gyourko and Linneman, 1996; Haurin et al., 1996; Painter et al., 2001; Coulson, 1999). The parental transfers may enable their income and wealth constrained child to own a home by compensating their low level of financial resources. In their study on first-time home-buyers, for example, Mayer and Engelhardt (1996) find a positive association between monetary gifts and financial constraints of a household, implying that parents are more likely to give to needier children. On the other hand, the economic resources of a household might not be independent of parental resources as much empirical literature documents a positive relationship between parental socio-economic status and children's outcomes (Taubman, 1989; Oreopoulos et al., 2006; Black et al., 2005). Confirming these insights, Charles and Hurst (2002) find that there are substantial gaps in home buying between African Americans and white households that might be associated with notably different parental resources available for financial transfers across races. This fact, and

² The SHED data were collected in October 2014 through a probability-based online panel that yielded 5896 respondents. The overall final stage completion rate was 65.7%.

past studies of discrimination (Kain and Quigley, 1975; Munnell et al., 1996), suggests that different levels of parental resources and different constraints in the housing and labor markets may have implications for wealth inequality that persists across generations.

While prior research indicates that home buying is associated with parents' ability to give and that financial transfers influence home-buying activities, none of these studies directly tests the relationship between financial support, net of other influential factors, such as education and parents' income and wealth and the individuals' own characteristics. We contribute to the literature on the role of inter-generational wealth transmission by using two nationally-representative panel datasets with information on parents and their adult children to estimate the relationship between large financial transfers and subsequent transition into homeownership, while controlling for characteristics of both the parents and children in the sample.

3. Data

We use two nationally representative data sources that link characteristics of parents and adult children across time: the Health and Retirement Survey (HRS) and the Panel Study on Income Dynamics (PSID). Both datasets include information on respondents' demographic characteristics, education, homeownership, financial and housing wealth, living arrangements, and financial assistance. These rich data sources allow us to link information on transfers and homeownership, as well as parent and child demographic characteristics and economic status over time. Previous studies analyze differences between transfer data in the HRS and PSID, finding that transfers, particularly small ones, are under-reported in some years of the PSID (McGarry and Schoeni, 1995). This concern is somewhat mitigated in this analysis because of our focus on large transfers in the amount of \$5000 or higher. In addition, HRS allows for individual-level analysis, whereas PSID transfers are reported at the household level. We focus first on HRS in the empirical analysis due to concerns regarding the reliability of transfer data in PSID; however, we take advantage of more recent waves of PSID that span the Great Recession to analyze whether the recession and the accompanying restrictions in mortgage lending subsequent to the financial crisis may have affected patterns of financial transfers and home-buying.

The HRS is a panel study of individuals over age 50 and their spouses. This biennial study began in 1992 and surveyed over 20,000 households in 2012. The HRS is a full panel design with repeated observations of the same individuals every two years. We measure homeownership transition and transfer receipt within the same two-year interval. Analysis is based on data from survey years 1998 to 2004, during the housing boom. We exclude the waves after 2004 as homeownership questions were skipped for the re-interviewed households beginning in 2006, which make it impossible to identify the changes in homeownership status since then.

The PSID is the longest running panel dataset in the United States. It has collected information on roughly 5000 families and their 18,000 members annually from 1968 to 1997 and bi-annually after 1997. As we are particularly interested in the housing tenure choices in recent housing market cycles, we use the 1999–2015 PSID. The PSID family files include variables on the private transfer from relatives living outside the household to the head and spouse during the year before interview. We aggregate these data at the family level and utilize the long panel of PSID data to analyze homeownership transitions over time. The PSID also include detailed data on a child and a parent's income and wealth. Analyses examining the effect of transfers on homeownership are restricted to the survey waves where both the transfer and tenure status information are available.

Since the transfers are reported differently, at the individual-level (HRS) and at the household level (PSID), the unit of observation of our analytical sample is individual child for the HRS sample and child's household for the PSID sample. The sample is restricted to include adults (HRS) or families headed by adults (PSID) between 25 and 44 years old to focus the analysis

on prime years for first-time home buying and because children younger than 25 receive transfers much more often for educational purposes.³ The HRS sample includes 32,868 child-wave observations and our PSID sample includes about 14,275 family-wave observations.

This analysis is focused on the transition into homeownership, as found in previous literature (Charles and Hurst, 2002; Dawkins, 2005; Bond and Eriksen, 2017); thus, the dependent variable is indicated by the value 1 if a household transitions from any state of non-homeownership (all people who are renters or occupants in parents' homes or group quarters) into homeownership between two survey waves (a period of approximately 2 years). Note that this metric does not represent net cohort progress into homeownership because a small percentage of cases exit homeownership during the period.

The primary covariate of interest is the receipt of financial support from parents/grandparents (HRS) or from relatives living outside household (PSID). We create a measure equal to 1 if a household receives combined transfers over \$5000 in the period between surveys, irrespective of the purpose of the transfers.⁴ We exclude small transfers from our analysis because they are not likely to be of material advantage in home buying. We conducted sensitivity analysis that used other minimum transfer thresholds and found that the main results did not change. All monetary values are adjusted to 2015 dollars.

We use total transfers as the measure of transfers for two reasons. First, data on financial assistance for home buying only is coincident with the act of home buying, because the transfer is so-designated most likely when a home purchase is already planned. Second, financial transfers are substitutable across uses (Engelhardt and Mayer, 1998; Guiso and Jappelli, 2002; Helderma and Mulder, 2007). For example, as discussed above, transfers for education or rent allow a child to allocate more of his/her income to saving for a down payment.

4. Methods

In this study, we measure the association between receiving a transfer between survey periods and buying a home during the same period after controlling for a variety of socioeconomic characteristics of children and parents that are known to influence the rate of homeownership. We first quantify the unconditional impact of receiving a financial transfer from a parent or relatives living outside household on the likelihood that a young adult becomes a homeowner in a two-year interval. We then estimate the impact of financial transfers on the transition to homeownership independent of the effects of child and parent economic and demographic characteristics.

Utilizing the longitudinal structure of the data, we examine the role of inter vivos transfers on home buying over two years, controlling for lagged demographic and socio-economic characteristics. We estimate a linear probability model of the following form⁵:

$$\Pr(own_{i,t+2} = 1 | own_{i,t} = 0) = \alpha_0 + \beta transfer_{i,t+2} + \gamma X_{i,t} + year_t + \varepsilon_{i,t}$$

where $own_{i,t+2}$ is a dichotomous variable which is equal to one if an

³ Transfers to young adults under 25 are most likely granted for education expenses. The nature of the HRS sample selection is that it includes older parents whose children are typically older. The HRS parents of 20 to 24 year-old children were at least aged 26 to 30 years old when the child was born (due to the fact that HRS respondents need to be at least 50 years of age at the time of interview). Given the nature of who practices delayed childbearing, the young children in the HRS sample have parents who are highly educated and much more likely to provide assistance to their children for education or other matters.

⁴ A similar approach can be found in Mulder and Smits (2013) and Helderma and Mulder (2007), which exclude all financial supports under €5000.

⁵ We also tested a probit model and the marginal effects are qualitatively and quantitatively very similar to the OLS models. We prefer the OLS models for their more straightforward interpretation.

adult child i owns a home in year $t + 2$ and zero otherwise in a sample of non-homeowners in year t . $transfer_{t+2}$ is the main covariate of interest and is an indicator variable (0/1) for whether the adult child i received a financial transfer between t and $t + 2$. $X_{i,t}$ is a vector of demographic and socioeconomic characteristics of child and his/her parents at time t . Characteristics include age, marital status, and educational attainment of the child, and education, income and wealth of his/her parent. The model also includes a series of year fixed effects, $year_t$. $\varepsilon_{i,t}$ is an error term. We recognize that there are correlations in the observations across time and within families. We cluster standard errors at the individual level to partially correct for this correlation in the error term.

We further test for the existence of heterogeneous effects of transfers over time. Because of the availability of a longer time series, we analyze whether the importance of transfers changed after the Great Recession using the PSID. Unlike the HRS, the PSID data include child's income and wealth, which are important predictors of home buying and provide an additional test of the independent role of transfers. The PSID data also have codes for geographic location, which allows for the inclusion of covariates that describe local market conditions (e.g., housing value and rent, and the prevailing homeownership rate in the region of residence).⁶ Despite the rich set of covariates included in these models, it remains possible that there could be unobserved factors that are correlated with both parental financial assistance and homeownership. Future research designs may be able to discover a better source of exogenous variation to isolate this relationship more precisely.

5. Results

5.1. Descriptive analysis: transfer prevalence

We first report on transfer amount and likelihood along several dimensions in the HRS to provide important context on the prevalence of transfers. An HRS respondent reports any financial transfer of \$500 or more provided to his/her children over a two-year period. Probabilities of receiving financial transfers from parents vary sharply by age group. In the HRS sample, the likelihood of transfer receipt is 6.8 to 13.6 percentage points higher at ages 25 to 29 than at other ages (Table 1). Transfers to children in their 30s and 40s may be less likely because they require less assistance liquidity constraint reduces with age.

The distribution of transfers among 25 to 44 year olds, conditional on having received a transfer, is skewed in the sample (Table 2). The median transfer ranges from about \$2600 to \$2900 (in 2015 dollars), depending on survey year, and the top quartiles of transfers are about 2.5 to 2.75 times the median value. An indication of skewness in the distribution of the transfers by amount of financial assistance is seen in the difference between the mean and median transfers as well, given that the mean is nearly three times larger than the median.

Parental assistance is one means by which economic advantages are passed down from generation to generation. Table 3 shows children whose parents' wealth is in the top quartile have a far higher likelihood of receiving assistance through a financial transfer (greater than \$5000). Only 1.1 to 1.4% of children receive a transfer if their parents occupy the bottom quartile of the wealth distribution. However, the likelihood roughly doubles if the parents belong to the second quartile (between the 25th percentile and the median). The likelihood doubles again if the parents occupy the third quartile (between the median and the 75th percentile). If the parents are in the top wealth quartile, the

Table 1

Transfer probabilities (any amount) by age and wave.

Source: 1998–2004 RAND HRS family data file.

	1998–2000	2000–2002	2002–2004
Total Ages, 25–44	15.6	15.9	15.0
25–29	24.9	24.9	25.3
30–34	16.5	17.5	18.5
35–39	12.8	14.0	13.4
40–44	12.3	12.6	11.7

Note: The sample is restricted to adults between ages 25 and 44 at the beginning of interval.

Table 2

Reported transfer of any amount, conditional on receiving a transfer (in 2015 dollars).

Source: 1998–2004 RAND HRS family data file.

	1998–2000	2000–2002	2002–2004
Mean	7372	7640	8071
Median	2908	2753	2635
75th Percentile	7270	6882	7246
95th Percentile	29,082	27,528	26,350

Note: The sample is restricted to adults between ages 25 and 44 at the beginning of interval who have reported that they received at least \$500 over a two-year period for the HRS.

Table 3

Transfer probabilities (above thresholds) by quartile of parental wealth and wave.

Source: 1998–2004 RAND HRS family data file.

	1998–2000	2000–2002	2002–2004
Total ages 25–44	5.3	5.7	5.4
Lowest quartile	1.1	1.1	1.4
Second quartile	2.8	2.8	3.0
Third quartile	6.2	5.8	5.4
Highest quartile	12.9	15.2	14.7

Note: The sample is restricted to adults between ages 25 and 44 at the beginning of interval. Transfer threshold is \$5000 (in 2015 dollars) over a two-year period.

children's probability of transfer receipt doubles yet again, more than one-dozen times greater than for children with parents in the bottom quartile, depending on the period of analysis. While wealthier parents are more likely to provide transfers, there remains a sizeable number of parents in the lower quartiles that provide financial assistance to their children. At the same time, the data reveal that the great majority of wealthy parents do not report providing any transfers (greater than the \$5000 threshold) to their children between survey periods.

Race is another dimension that stratifies intergenerational wealth transmission in the United States. On average, children with non-Hispanic white parents are over three times more likely to receive financial assistance as children whose parents are black or Hispanic (Table 4). It is likely that this difference could be due to differences in wealth levels between races.

5.2. Descriptive analysis: home-buying prevalence

Homeownership transition rates by age and transfer receipt (over \$5000) from the HRS are provided in Table 5. The likelihood of transition to homeownership among 25 to 44-year-olds is similar across the 5-year age groups, ranging from 20 to 22%. Further, the table highlights differences in home-buying between those who received transfers and those who did not. Among 35 to 39 year olds, for example, those who received a transfer were 9.6 percentage points more likely to become homeowners than those who did not receive a transfer.

⁶ The restricted version of the HRS also contains geographic information for respondents such as state, county, ZIP code, and census tract. Unfortunately, the data is only available under a restricted data access agreement, and we were not able to obtain the data.

Table 4

Transfer probabilities (above thresholds) by race and wave.
Source: 1998–2004 RAND HRS family data file.

	1998–2000	2000–2002	2002–2004
Total ages 25–44	5.3	5.7	5.4
NH-White	6.7	7.3	6.9
NH-Black	2.0	2.1	2.5
Hispanic	2.4	1.8	2.4
Asian/Other	4.8	4.3	3.3

Note: The sample is restricted to adults between ages 25 and 44 at the beginning of interval. Transfer threshold is \$5000 (in 2015 dollars) over a two-year period.

Table 5

Likelihood of home buying by receipt of transfer over \$5000 between survey waves, by 5-year age group.

Source: 1998–2004 HRS main and family data file.

	Overall Home-buying likelihood	Condition: Received transfer	Condition: Did not receive transfer
25–29	20.7	27.0	20.1
30–34	22.0	28.6	21.6
35–39	20.5	29.7	20.1
40–44	20.1	27.0	20.7

Note: The sample is restricted to those non-owners between 25 and 44 at the beginning of interval. Transition of panel members into homeownership is conditional on their non-homeownership in previous years. That is, the numbers above are percentages of the non-owners by age at the beginning of the interval who became owners at the end of the interval.

5.3. Descriptive analysis: control variables

Table 6 displays the mean and standard deviation of the variables used in our multivariate analysis. There are some notable differences between the PSID and HRS samples. The likelihood of transitioning to homeownership and receiving a large transfer is lower in the PSID sample. The economic conditions during the post-recession period and the underreporting issue discussed in McGarry and Schoeni (1995) may explain the differences in these variables between the two samples.⁷ The age distribution in the PSID is more concentrated in younger ages, while age is more evenly distributed in the HRS sample. In the HRS, children are more likely to be married than in the PSID sample, while differences in education attainment are less apparent between the two samples. The PSID sample suggests that the young renters have accumulated some wealth, which might not be enough for many to buy a home, considering a conventional 20% mortgage down payment and median housing value of \$194,500 in 2015.

While the parents in the PSID have slightly higher educational attainment, the parents in the HRS are more likely to be homeowners and have greater income and wealth. About 72.3% of HRS parents are homeowners versus 53.0% of PSID parents, and their income and wealth are slightly greater than those among the parents in the PSID. The differences in these samples, as well as differences in homeownership attainment by age, race, and parental wealth, point to the importance of controlling for these factors using multivariate analysis.

5.4. Multivariate analysis: health and retirement study

We estimate linear probability models of the transition to homeownership using ordinary least squares. Table 7 displays the results of three models of home buying. Across models, the likelihood of

⁷ When we restrict the PSID sample to a comparable period (1999–2005), the likelihood of home buying is 20.1%.

Table 6

Descriptive statistics of covariates (HRS and PSID).

	HRS 1998–2004		PSID 1999–2015	
	Mean	Std. dev.	Mean	Std. dev.
Become home-owners	20.5	(40.3)	15.4	(36.1)
Transfer over \$5000	5.3	(22.3)	2.1	(14.2)
Child characteristics				
<i>Age group (%)</i>				
25–29	19.8	(39.8)	36.3	(48.1)
30–34	26.1	(43.9)	26.1	(43.9)
35–39	29.2	(45.5)	20.2	(40.2)
40–44	25.0	(43.3)	17.5	(38.0)
<i>Race/Ethnicity (%)</i>				
NH White	55.5	(49.7)	40.6	(49.1)
NH Black	26.6	(44.2)	47.7	(49.9)
Hispanic	14.9	(35.6)	8.6	(28.0)
Other	2.9	(16.8)	3.1	(17.3)
<i>Marital status (%)</i>				
Not married	59.5	(49.1)	61.9	(48.6)
Married	36.2	(48.0)	27.8	(44.8)
Partnered	3.0	(17.0)	10.2	(30.3)
Other	1.3	(11.4)		
<i>Education attainment (%)</i>				
Less than HS	15.9	(36.5)	14.8	(35.5)
HS Grad/Some college	61.4	(48.7)	63.5	(48.2)
BA plus	20.3	(40.2)	17.3	(37.9)
Missing	2.5	(15.6)	4.4	(20.6)
Family income (in 2015 dollars)	–		45,808	(41,088)
Family wealth (in 2015 dollars)	–		18,196	(156,354)
Parent characteristics				
Parental homeownership (%)	72.3	(44.8)	53.0	(49.9)
Parent family income (in 2015 dollars)	61,138	(131,000)	50,001	(86,512)
Parental family wealth (in 2015 dollars)	287,661	(835,715)	279,487	(2,239,190)
<i>Parental education (%)</i>				
Less than HS	37.0	(48.3)	17.6	(38.1)
HS Grad/Some college	50.4	(50.0)	58.1	(49.3)
BA plus	12.6	(33.1)	20.7	(40.6)
Missing	–		3.5	(18.3)
N	32,868		14,275	

Note: The sample is restricted to those who are between the ages of 25 and 44 and are not owners at the beginning of the interval and who are also observed at the end of the two-year interval. All child and parental characteristics are those observed at the beginning of the two-year interval. The HRS is reported at individual level, while the PSID is at household level. Child family income excludes parental financial assistance.

transitioning to homeownership is increased with the receipt of a transfer over \$5000; however, the effect of the transfer is progressively moderated as additional explanatory factors (child and parent characteristics) are added across successive models. The results are consistent with previous literature (e.g., Engelhardt and Mayer, 1998; Guiso and Jappelli, 2002) but also demonstrate the importance of controlling for child and parental characteristics in examining the role of financial transfer in home buying.

In the final model (Model 3) which controls for both the child and parents' characteristics, young adults that receive a transfer over \$5000 from their parents are 3.1 percentage points more likely to become homeowners. This is equivalent to a 15.1% increase from a baseline home buying rate of 20.5% among the individuals age 25 to 44 from the HRS sample.

Most of the covariates included in the HRS models have statistically significant effects on transitions to homeownership. Focusing first on characteristics of the children, we find that an adult child aged 25 to 29 is slightly less likely to become a homeowner than an older child, 30 to 44, by about 1.4 to 2.2 percentage points (Model 3). Race and Hispanic origin have a large effect in all models. Compared to non-Hispanic whites, Hispanics and blacks are 3.1 and

Table 7

The effect of transfers on home buying estimated by linear probability (OLS) regression, HRS.

	Model 1		Model 2		Model 3	
Transfer over \$5000	0.056	***	0.041	***	0.031	**
Child characteristics						
<i>Age group (ref. 25 to 29)</i>						
30 to 34	0.023	***	0.014	*	0.014	*
35 to 39	0.017	**	0.012	+	0.012	+
40 to 44	0.028	***	0.021	**	0.022	**
<i>Race/ethnicity (ref. NH White)</i>						
NH Black	-0.116	***	-0.087	***	-0.071	***
Hispanic	-0.050	***	-0.044	***	-0.031	***
Asian/Pacific Islander/Other	-0.031	*	-0.031	*	-0.022	
<i>Marital status (ref. not married)</i>						
Married			0.169	***	0.170	***
Partnered			0.056	***	0.059	***
Other			0.072	***	0.072	***
<i>Education attainment (ref. less than HS)</i>						
HS Grad/Some college			0.067	***	0.056	***
BA plus			0.170	***	0.154	***
Parent characteristics						
Parent homeowner					-0.004	
Parent family income (ln)					-0.001	
Parent family wealth (ln)					0.054	***
<i>Education attainment (ref less than HS)</i>						
HS Grad/Some college					0.002	
BA plus					-0.009	
<i>Year fixed-effects (ref. 1998)</i>						
2000	0.046	***	0.049	***	0.048	***
2002	0.020	***	0.021	***	0.020	***
Constant	0.202	***	0.059	***	-0.027	
N	32,868		32,868		32,868	
R2	0.019		0.075		0.078	

Note: + : $p < 0.10$, *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$. The sample is restricted to those who are between the ages of 25 and 44 and are not owners at the beginning of the interval and who are also observed at the end of the two-year interval. All child and parental characteristics are those observed at the beginning of the two-year interval. The cash transfers between surveys are reported at the end of the interval. Child family income excludes parental financial assistance. Standard errors are clustered at individual level. Indicators included for: missing education and marital status, and negative parental wealth and income.

7.1 percentage points, respectively, less likely to become homeowners in Model 3. These disparities are larger in Models 1 and 2, before controls were added for marital status and education, and then parental characteristics. Charles and Hurst (2002) argued that the transition gap across races can be explained by less mortgage applications among minorities and that parental assistance for down payment is the largest reason for the gap in the mortgage application. The findings indicate that monetary gifts by parents explain a portion of the gap, but that racial/ethnic differences persist even after controlling for the assistance.

Being married and having a college education are strongly associated with home buying, increasing the likelihood in a 2-year interval by 17 percentage points relative to not being married and by 15 percentage points if they have a BA degree compared to less than a high school education, consistent with previous literature (Haurin et al., 1996; Gyourko and Linneman, 1996).

Focusing next on the results on parental variables in Model 3 of Table 7, we find that parents' socio-economic status has a direct and independent effect on the likelihood of an adult child becoming a homeowner. The strongest effects are for parental wealth, where we find that as parents' wealth increases by 1%, the likelihood of children transitioning to homeownership in the interval between surveys increases by 5.4 percentage points. Unlike prior work (Aratani 2011; Galster et al., 2007; Henretta 1984), however, we do not find direct influence of parental homeownership on the likelihood that a child

Table 8

The effect of transfers on home buying estimated by linear probability (OLS) regression, PSID.

	Model 1 1999–2015		Model 2 1999–2007		Model 3 2007–2015	
Transfer over \$5000	0.029		-0.021		0.073	*
Child characteristics						
<i>Age group (ref. 25 to 29)</i>						
30 to 34	-0.002		-0.001		-0.002	
35 to 39	-0.011		0.001		-0.020	+
40 to 44	-0.013		-0.021		0.001	
<i>Race/Ethnicity</i>						
NH-Black	-0.060	***	-0.063	***	-0.056	***
Hispanic	-0.000		0.027		-0.017	
Other	-0.014		-0.049	+	0.018	
<i>Marital status (ref. not married)</i>						
Married	0.059	***	0.049	**	0.065	***
Partnered	-0.014		-0.009		-0.015	
<i>Education (ref less than HS)</i>						
HS Grad/Some college	0.033	***	0.035	**	0.028	**
BA plus	0.111	***	0.152	***	0.089	***
Child family income (ln)	0.035	***	0.053	***	0.026	***
Child family wealth (ln)	0.020	***	0.021	***	0.018	***
Parental characteristics						
Parental homeownership	0.013		0.031		0.006	
Parent family income (ln)	0.004		0.014		-0.001	
Parent family wealth (ln)	0.001		-0.005		0.004	
<i>Parental education (ref less than HS)</i>						
HS Grad/Some college	-0.016	+	-0.016		-0.024	*
BA plus	-0.013		-0.016		-0.016	
Regional characteristics						
Value-to-rent ratio	-0.004	***	-0.004	**	-0.005	***
% homeownership (child's place)	0.003	***	0.004	***	0.003	***
% homeownership (parents' place)	0.000	+	0.001		0.000	
Constant	-0.633	***	-0.930	***	-0.464	***
Year FE	Yes		Yes		Yes	
N	14,275		6,210		8,065	
R2	0.087		0.089		0.074	

Note: + : $p < 0.10$, *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$. The sample is restricted to householders who are between the ages of 25 and 44 and are not owners at the beginning of the interval and who are also observed at the end of the two-year interval. All child and parental characteristics are those observed at the beginning of the two-year interval. The cash transfers between surveys are reported at the year before each survey. Child family income excludes parental financial assistance. Standard errors are clustered at individual level. Indicators included for: missing child education, missing parental education, and negative child income/wealth, negative parental income/wealth, and dummy for the householders with no parental information available.

transitions to homeownership after accounting for parental income and wealth. Parental income and parental education do not have independent impact on the likelihood that a child will become a homeowner, after accounting for wealth.

5.5. Multivariate analysis: panel study of income dynamics

While the results from the HRS provide evidence of the positive relationship between parental assistance and home buying, the period the analysis covers is limited to pre-recession years (from 1998 to 2004). As mortgage credit availability has dramatically tightened after the Great Recession, the role of parental assistance might have substantially changed in the mortgage lending market. To test whether there is a difference between pre- and post-recession periods in the role of parental assistance, we repeated the regression models with the 1999–2015 PSID including some additional variables available from the data (Table 8).

The model results using the PSID data covering the entire period yield statistically similar results to those obtained in the HRS data, but the PSID has smaller sample sizes and the estimated coefficient on cash

transfers is not statistically significant at conventional levels (Model 1).^{8,9} For other control variables, the relationships generally mirror those relationships found in the HRS sample. While most of the coefficients on age are not significant, African American tend to have about 6 percentage points lower probability of transitioning into homeownership, and married couple households are more likely to become home buyers than non-married householders by 6 percentage points. The PSID data also indicate strong positive effects of the child's own income and wealth, as would be expected.

Once child income/wealth and local housing market conditions are introduced into the model, the effects of the parental wealth, which was significant in the HRS models, disappear. It might be not surprising, as many studies find intergenerational transmission of advantages (Taubman, 1989; Oreopoulos et al., 2006; Black et al., 2005), and income and wealth of a household has consistently found to be important determinants of homeownership (Gyourko and Linneman, 1996; Haurin et al., 1996; Painter et al., 2001; Coulson, 1999). Again, parental homeownership, net of all other factors, is found to be not statistically significantly associated with child's home buying.

5.6. Transfers and home buying over time

Home buying slowed substantially after 2007, and the key questions are how the child and parental factors supporting home buying may have shifted between pre- and post-recession periods. One of the advantages of the PSID is that it provides data for estimating the associations in the recent boom and bust housing cycles. We stratified the PSID sample into pre-recession (1999–2007) and post-recession periods (2007–2015), with the results shown in Table 8, Model 2 and Model 3 columns, respectively. The most striking differences across housing market conditions is found in the roles of inter vivos transfers. Unlike pre-recession period, receiving a substantial transfer over \$5000 increases a household's probability of home buying by 7.3 percentage points, controlling for parental and neighborhood characteristics.¹⁰ This finding of a larger positive association between transfers and home buying is consistent with previous theoretical and empirical studies (e.g., Cox, 1990; Engelhardt and Mayer, 1998; Guiso and Japelli, 2002) that demonstrate inter vivos financial transfers relax financial constraints for young adults by reducing time and money for homeownership (e.g., down payment).

6. Conclusion

This paper confirms the finding in the literature that parental resources are positively linked to the likelihood young adults become homeowners. However, this paper also demonstrates that financial transfers are directly associated with the home buying of children, net of parental resources. We find parental financial transfers are associated with 3.1 percentage point increase in the likelihood of home buying. This is equivalent to a 15.1% increase from a baseline of 20.5% for individuals ages 25 to 44 based on analysis using data from the Health and Retirement Study and in a time period preceding the Great Recession. The results from the PSID sample suggest that the role of financial assistance by parents to child became even more crucial in the

post-recession period, when mortgage credit availability dramatically tightened.

The estimates are the first to utilize longitudinal data from nationally representative samples of young adults and their parents to estimate the impact of financial transfers on movements into homeownership independent of the demographic, social and economic characteristics of both generations. However, there remain limitations in this analysis. The models include controls for parents' income and wealth, though transfers may be from other family members such as grandparents and their characteristics are not included. About 85% of inter vivos transfers are from parents (Gale and Scholz, 1994) and high correlation in income and wealth across generations somewhat mitigate this concern. Even with extensive controls, there still may be unobserved variation in financial transfers that is correlated with homeownership and limits our ability to draw causal inferences.

Housing is the most valuable asset for many households and ownership allows credit-constrained individuals to borrow against accumulated home equity. The requirement of down payment is a borrowing constraint that requires substantial savings and a reduction of consumption early in life to accumulate enough savings to cover this expense. Most individuals in the U.S. face this constraint at some point in their life because at some point, most own a house. Transfers from family members may relax this constraint allowing for an earlier home purchase or a higher value home reducing the welfare loss associated with a sub-optimal consumption path. The significant influence of parental resources found in this paper indicates the benefits of homeownership (and subsequent wealth) are likely accruing disproportionately to children of parents with higher socioeconomic status, perpetuating wealth inequality across generations.

Understanding the impact of parental financial transfers on homeownership and how those private transfers interplay with public transfers is vital for formulating effective policies related to not only mortgage markets but also educational financing, unemployment benefits and other policies that affect the consumption and constraints of young adults and their well-being across the lifecycle.

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⁸ In results not shown, the coefficient on cash transfers is significant and has greater magnitude if we choose the transfer threshold of \$6000 or greater.

⁹ In results not shown, we also estimated models that include transfers with a linear and squared term. Results are qualitatively similar and available upon request.

¹⁰ When we change the threshold to greater values, the effects of the transfer remain insignificant for the pre-recession sample, while the magnitude and statistical significance increase for the post-recession sample. The difference between the HRS sample and the PSID sample during the pre-recession period might be due to the underreporting issue in the PSID transfer variable (McGarry and Schoeni, 1995).

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