The Effect of Financial Resources on Homeownership, Marriage, and Fertility: Evidence from State Lotteries*

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Abstract

This paper leverages U.S. tax data and state lottery wins among young adults to estimate the effect of resources on three key lifecycle outcomes and evaluate the role of financial constraints. We find large and persistent effects on homeownership, with a response that exhibits substantial concavity but a high upper bound, and larger responses among higher-income individuals. Resources generate persistent increases in marriage for single men and women but do not preserve existing marriages. Fertility is modestly accelerated by a lottery win, but there is little effect on total fertility. Our results inform theories of housing demand and the family.

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I. INTRODUCTION

Buying a house, getting married, and having children are three major milestones that collectively bear on economic growth and social mobility (Furlong, 2016; Paciorek, 2016; Hamilton et al., 2019). Notable gaps in reaching these milestones by socioeconomic status (SES) have widened over time (e.g., Goodman and Mayer, 2018; Reeves and Pulliam, 2020), with poorer families increasingly less likely to be married and own their homes but more likely to have children. These patterns suggest wealth plays a causal role.[1] A more complete understanding of wealth's influence on each of these outcomes is essential for policy development and economic models but has thus far remained elusive, largely due to the difficulty in ruling out other channels. Namely, wealth rarely varies in isolation of both its many correlates and changes in incentives to own a house, be married, or have children.

Our study pursues this more complete understanding by comprehensively examining the effects of an exogenous shock to financial resources on homeownership, marital status, and fertility among young adults in the United States. Specifically, linking federal tax records, we examine these outcomes in each of the five years after a state lottery win among 25 to 44-year-olds between 2000 and 2019. Effects are identified leveraging variation in win size, differences in the outcomes relative to before the win, and an additional control group of future lottery winners.[2] Using this triple-difference design, placebo effects in the years prior to the win are indistinguishable from zero, and the inclusion of a rich array of demographic and financial control variables has no effect on the magnitude of the estimates.[3]

The research design is well-poised to establish a rich picture of the causal effect of financial resources. Lottery wins are salient, liquid income shocks that do not load other factors. Most other

[1] These patterns are likely to stem in part from individual characteristics (e.g., education, childhood circumstances, race) that are correlated with both wealth and these pursuits (Taylor, 2010; Black et al., 2013; Lundberg, Pollak, and Stearns, 2016; Goodman and Mayer, 2018).

[2] Variation in lottery win amounts stems from randomness in lottery prizes as well as differences in the dates and types of lotteries played. Future lottery winners, whose current outcomes cannot be affected, can be used to account for unobserved age-specific differences between those who win smaller and larger lotteries. For example, when estimating the change in marital status of 25-year-olds who win small and large lotteries, we account for the analogous change at age 25 for those who subsequently win small and large lotteries at older ages. Bulman et al. (2021) similarly exploit the size and timing of lottery wins to study college outcomes, whereby children who graduated from high school prior to a parent's lottery win (and whose transitions to college could not have been affected) help form the control group for those who would not yet have graduated.

[3] Predetermined covariates are balanced in the design, and the estimates are robust to alternative parameterizations of lottery wins (e.g., linear and binned specifications) and to changing the range of lottery wins included in the sample.

studies in these areas use theoretically more complex sources of variation.[4] The combination of a wide range of win amounts (from $1,000 to millions of dollars), diversity in affected individuals, and national, third-party reported panel data with nearly full visibility into all state lottery winners enables precise estimates over different groups, periods, and changes in resources within a single, unified context, allowing us to evaluate theory and mechanisms behind these relationships that can help reconcile existing estimates.

Housing is the largest balance sheet item for most households. It has unique properties as an asset—providing both shelter and an important channel for building wealth, often through leverage—and is subsidized by considerable public resources.[5] Theory predicts a positive effect of financial resources on homeownership (e.g., Davis and Van Nieuwerburgh, 2015). To our knowledge, ours is the first study to recover causal estimates of this relationship.[6] In addition to validating theory, the estimates are useful for understanding the value young households place on homeownership, sizing wealth's contribution to gradients by SES, projecting the effectiveness of policy, and informing macroeconomic models.[7] Our ability to look granularly enables insight into persistence and mechanisms, including whether financial constraints and preferences for owned housing vary by group and macroeconomic conditions. Among those who did not own homes prior

[4] We are unaware of any studies estimating effects of financial resources on homeownership. Most leading studies of effects on marital status and fertility derive quasi-experimental estimates from earnings and employment opportunities which involve competing income and substitution effects (Burstein, 2007; Hoffman and Duncan, 1995; Smock and Manning, 1997; Burgess, Propper, and Aassve, 2003; Bitler et al. 2004; Gassman-Pines and Yoshikawa, 2006; Heckman and Walker, 1990; Del Bono, Weber, and Winter-Ebmer, 2012; Maclean, Covington, and Kessler, 2016; Hofmann, Kreyenfeld, and Uhlendorff, 2017; Lindo, 2010; Black et al., 2013; Huttunen and Kellokumpu, 2016; Kearney and Wilson, 2018) and house prices, typically contrasting homeowners and renters (Farnham, Schmidt, and Sevak, 2011; Klein, 2017; Lovenheim and Mumford, 2013; Dettling and Kearney, 2014; Daysal et al., 2021). A notable exception is Hankins and Hoekstra (2011), which estimates effects on marital status among Florida lottery winners. Otherwise, prior studies exploiting lottery win variation focus on effects on labor outcomes (Lindh and Ohlsson, 1996; Imbens, Rubin, and Sacerdote, 2001; Hankins, Hoekstra, and Skiba, 2011; Cesarini et al., 2017, and Picchio, Suetens, and van Ours, 2018; Golosov et al., 2021), health (Lindahl, 2005; Gardner and Oswald, 2007; Apouey and Clark, 2015; and Cesarini et al., 2016), children's test scores and mortality (Cesarini et al., 2016), and children's college-going (Bulman et al., 2021).

[5] Because of its unique properties as an asset and perceived positive externalities, housing receives preferential treatment through the tax code, direct subsidies, and loan guarantees. For example, federal initiatives include income tax deductions for mortgage interest and property tax payments and exclusions for imputed rental income, first-time homebuyer tax credits, Federal Housing Administration (FHA) insured loans, and U.S. Department of Housing and Urban Development (HUD) Housing Choice Vouchers homeownership program.

[6] To contextualize estimates of children's college-going, Bulman et al. (2021) includes a cursory analysis of effects of lottery wins on parental outcomes, including mortgages—a less complete measure of homeownership that excludes outright purchases—among parents of high school-aged children.

[7] Macroeconomic models have placed additional emphasis on housing since the financial crisis of 2007-2008. For example, the direct correspondence between lifetime income and homeownership is useful for disciplining lifecycle models (e.g., Bajari et al., 2013). Further, a separate literature models the accumulation of housing assets as part of a household's overall financial portfolio (e.g., Cocco, 2005; Yao and Zhang, 2004).

to the win, the effect on homeownership is large (over 5 p.p. per $100,000), predominantly mortgage-financed, and reaches 37 p.p. for wins exceeding $1,000,000. These estimates can explain all of the gap by SES and reveal that young adults place a high value on homeownership. And, while the estimates shrink somewhat over time, large positive effects remain five years after the win, consistent with a permanent shift in homeownership. Similar patterns emerge for measures of the value of the purchased home, with estimates implying that on average 14 percent of a lottery win is earmarked for housing. Strikingly, higher (e.g., above median) earners are more responsive and drive the magnitude and persistence of the estimates. A full tracing of effects reveals concavity in the region of win amounts where mortgage financing would generally be necessary to support the purchase of a home. This set of findings provides novel evidence that upfront costs associated with home mortgages prevent entry into homeownership, possibly permanently, among many young households that would otherwise have the resources to service a mortgage.[8] The muted effects among lower earners suggest that for this group, other mortgage requirements beyond upfront costs—e.g., qualifying income or credit history—bind as well.[9] Finally, we interpret our housing results within the broader household balance sheet by "capitalizing" estimated effects on income into wealth. The initial retention of lottery wins on the household balance sheet increases with earnings, which is nearly fully explained by wealth held in mortgage-financed housing. This pattern becomes more pronounced over time, reflective of the key role homeownership plays in wealth building and how differential access to mortgages likely exacerbates inequality.

Marriage is positively correlated with well-being along several dimensions and may offer positive externalities. However, the sign of the effect of resources on marriage is theoretically ambiguous and ultimately an empirical question, as there are several competing mechanisms. In the standard theory of the family where the gains from marriage predominantly stem from production complementarities and household specialization, resources should (modestly) decrease rates of marriage through the income effect (Becker, 1974 and 1991). More modern incarnations of this theory that emphasize consumption and leisure complementarities due to structural changes

[8] Goodman, Isen, and Yannelis (2021) find evidence consistent with upfront costs preventing student loan borrowers from securing mortgages.

[9] Supplemental findings support the interpretation that additional constraints to securing a mortgage are material to our results. In particular, gaps in homeownership (and housing values) by earnings converge for very large wins when housing is less likely to be debt-financed. We also estimate a smaller effect on mortgage-financed home purchases during the tighter lending conditions that prevailed after the Financial Crisis. Bhutta and Ringo (2021) find that mortgage debt-to-income requirements are a binding constraint for low SES homebuyers.

in household dynamics imply that resources increase the desirability of marriage (Aguiar and Hurst, 2007; Stevenson and Wolfers, 2007; Juhn and McCue, 2017).[10] Other theories bear more specifically on how resources interact with divorce. In particular, standard pooled-income and cooperative bargaining models of marriage (e.g., Manser and Brown, 1980; Becker, 1991) would predict no change in divorce. The few studies examining marital status using pure resource shocks have produced mixed results and implications for theory, and none considers marriage matches or heterogeneity by prevailing divorce law.[11] We find a positive effect on marriage for unmarried winners—about 2.7 p.p. per $100,000 one year after the win, both overall and by gender—and roughly half of this effect persists through the study horizon. The effects are larger and more persistent among younger winners, suggestive of a critical age range during which one's financial position is material to forming lasting partnerships. These findings support more modern theories of marriage based on consumption and leisure complementarities, rather than earlier incarnations in which partners specialize within the household. However, we find little evidence that matches are with more similar partners, though there is increased marriage to higher earning partners. Among married winners, we do not find that resources increase the likelihood of remaining married and, if anything, may increase divorce, with the effects driven by couples in states where the prevailing divorce law would not require an equal split of lottery winnings.[12] These results are inconsistent with pooled-income marriage models and suggest frictions in within-household bargaining (or otherwise ill-defined property rights), such that cooperative bargaining models of marriage may not fully hold.

Despite SES and children traditionally exhibiting a pervasive inverse relationship within and across countries and time and the emerging issue of below replacement rate fertility in many countries, neoclassical models describe children as a normal good (Becker, 1960).[13] Separately, financial constraints may stymie fertility due to the substantial resources that childrearing generally requires. Overall, our estimates reveal essentially no effect of resources on cumulative

[10] Resources might also affect the search process by, for example, increasing one's attractiveness on the marriage market (Chiappori, 2020), or satisfy sociocultural requirements for marriage (Edin, 2000; Schneider, 2011).

[11] Three studies have leveraged lottery wins (Hankins and Hoekstra, 2011; supplemental analyses in Cesarini et al., 2017 and Golosov et al., 2021). Two of these studies examine marriage, with one finding a negative effect (only among female winners) and the other finding a large positive effect. With respect to divorce, two find no effect, and one estimates a large decrease. Differences between these studies' designs and ours are discussed in the main text.

[12] In these equitable property states (as opposed to community property states), judges have more discretion in how to allocate marital property, such that a lottery win may alter the relative outside options available to each spouse.

[13] Becker (1960) argued that greater lifetime income would result in more spending on the quantity of children, but as initially conceived with a greater elasticity for spending on child quality than child quantity.

fertility. Five years after the lottery win, the effect on total births is close to zero, and we can rule out an increase in the number of children of 0.01 per $100,000. There are, however, two dimensions on which we find some evidence of an effect. First, results indicate a modest pull-forward effect on having children in the year following a win, concentrated among those without children previously.[14] Second, wins above 1 million dollars—among which wins are, on average, an order of magnitude greater than the estimated cost of raising a child (Lino et al., 2017)—produce a small, marginally significant effect on total births. These results imply modest financial constraints over the timing of having children. At the same time, the findings are not particularly consistent with the existence of permanently binding constraints or a strong consumption motivation over total fertility (i.e., not particularly consistent with the quantity of children being a normal good), and they are therefore easier to reconcile with fertility-income patterns (e.g., Jones and Tertilt, 2008). These findings fill an important gap that has emerged from recent empirical tests of the theory that children are normal goods. While several quasi-experimental approaches have found that labor and housing shocks affect contemporaneous fertility to varying degrees (Black et al., 2013; Lovenheim and Mumford, 2013; Dettling and Kearney, 2014; Kearney and Wilson, 2018; Cumming and Dettling, 2020; Daysal et al., 2021), generally pointing to children as normal goods, estimating the effect on total fertility and thus understanding the roles of preferences and short- and long-run constraints has been challenging. Further, we explore mechanisms behind the short-run constraints we detect. Our findings point to financial constraints over the ability to stay at home during the child's early years rather than over the ability to afford expenses that would enable critical investment in parental human capital (e.g., childcare).[15]

Finally, we consider the extent to which the effects of resources on our main outcomes occur jointly following a win. Financial constraints over multiple outcomes may bind, and there may be important complementarity in their benefits. Focusing on lottery winners who are unmarried and do not own a home or have children, we find evidence of the concurrent realization of each pair of outcomes as well as all three together. Specifically, the outcomes increase disproportionately in conjunction with each other, highlighting the joint nature of these decisions and the possibility of

[14] Further refinement reveals that among this subgroup, effects are driven by those who are young and more financially constrained.

[15] We examine joint outcomes and find the acceleration in timing is driven by winners who disproportionately neither work nor attend college when the child is very young.

multiple binding constraints. The estimates support the use of more complex models of these important decisions that endogenize and incorporate their interdependence.

The rest of the paper is organized as follows. Section II introduces the data and sample of lottery winners. Section III describes the empirical design and identifying assumptions. Section IV discusses the results and situates them within the relevant literature. Section V investigates external validity. Section VI concludes.

II. SAMPLE CONSTRUCTION AND LOTTERY WINNER CHARACTERISTICS

We use the universe of federal tax records for the U.S. population to identify individuals who won state lotteries between 2000 and 2019. The full set of income tax filings and third-party reported information returns in the Internal Revenue Service (IRS) database for each winner is linked to their Social Security records for observation of their age, sex, and citizenship and the Social Security Card application records of their children.

Lottery winners are identified using the third-party reported Form W-2G, which includes the state, year, and amount of the win. We focus on winners between the ages of 25 and 44 years old, enabling the analysis of effects within an age range that satisfies the dual objective of examining the most critical part of the lifecycle for the questions at hand and reducing potentially confounding factors such as college enrollment, dependent claiming by their parents, and infertility. Indeed, this age range follows the household formation and fertility literatures. Reporting of lottery wins by states is mandatory for all prizes in excess of $600. For each individual in the sample, we classify the win year and amount using the first year in which they are observed winning a lottery.[16] Lottery wins are adjusted to account for federal income taxes and all dollar values are denominated in 2010 dollars.

The primary outcomes of interest are homeownership, marital status, and fertility. Homeownership is measured using the presence of either mortgage interest from Form 1098 or a property tax deduction from Form 1040. Form 1098 is a mandatory third-party reporting form filed by lenders receiving at least $600 in mortgage interest during the calendar year. We link each

[16] We do not include lottery wins reported in 1999, the first year for which there is data, as it is not possible to determine if the win was part of a multi-year payout and therefore not the year of the lottery win. We similarly do not include those who may have won more than one lottery in the year, given the inability to determine which win occurred first, or (rare) multi-year payouts, given assumptions required to compute the lump-sum equivalent, but later show the results are unchanged with their inclusion.

lottery winner to their mortgages in each year, as well as the mortgages of their spouses.[17] While a mortgage indicates homeownership for nearly all first-time homebuyers, some individuals may buy their homes outright in cash without a mortgage, particularly those with very large lottery wins. To capture homeownership in these cases, we supplement mortgage records with itemized state and local real estate tax deductions reported on Schedule A of the Form 1040.[18] Using both mortgages and property taxes provides a more complete measure of homeownership status. Because of the large reduction in the share that itemize their taxes after the Tax Cuts and Jobs Act was enacted in 2018, we focus on outcomes through 2017. Furthermore, the primary analysis focuses on those who did not own a home prior to the lottery win, revealing new homeownership. In addition to the extensive margin, we analyze two measures of home value. Form 1098 includes the amount of mortgage interest paid, a proxy for the amount of the loan and thus the value of the home for those with mortgages. Additionally, we link each homeowner to their zip code's median home value index from Zillow, an approach that abstracts from concerns that mortgage interest is a function of the (plausibly endogenous) down payment amount and will not identify outright purchases.

Marital status is measured using filing status reported on the Form 1040, with those filing as "married filing jointly" classified as married, those filing as "single," "head of household," or "married filing separately" classified as single, and non-filers classified as missing.[19] Marital status in prior periods allows for the observation of new marriages and divorces over the analysis horizon. We also merge spousal characteristics—such as age and earnings—to examine the nature of matching.

Fertility is measured by linking each lottery winner to the Social Security Card applications for their children, which are typically filled out by a parent at the hospital after childbirth. We

[17] To abstract from effects on marriage and divorce, we only include mortgages held by a spouse from the year prior to the win. However, results are extremely similar with alternative formulations.

[18] Only taxpayers whose itemized deductions--primarily property taxes, state income taxes, charitable contributions, mortgage and investment interest, and medical expenses--exceed the standard deduction will typically file Schedule A. This can lead to upward bias (if existing homeowners are more likely to itemize after a lottery win) or downward bias (if some cash purchasers do not itemize). We conduct several tests of these issues as described in Section IV and Appendix A and find that they do not meaningfully change our estimates.

[19] We alternatively classify "married filing separately," claimed less than 2 percent of the time, as married due to ambiguous use of this filing status, which has little effect on the estimates. In addition, because tax filing is potentially endogenous to the size of the lottery win, we examine the sensitivity of the estimates to the exclusion of non-filers by generating two alternative measures of marriage which provide bounds for the bias. Specifically, we alternately assume that: a) all non-filers are single; and b) all non-filers are married. Except in the year of the win, the bounds are narrow and informative.

construct outcomes for having any child during the period of interest, the birth of a child in each year, and the cumulative number of births. We also document whether each winner had a child prior to the lottery win in order to differentiate the effects on new family formation from the growth of existing families.

We merge a rich set of variables measured prior to the lottery win to conduct heterogeneity analysis, to test for balance, and to include as controls in robustness checks. In addition to pre-period characteristics derived from variables already noted, we measure employment status, wage earnings, and total income from the employer-reported Form W-2 and Form 1040. Classification of winners by their pre-win earnings and total income levels is normalized by age and tax year. The presence of savings is inferred from taxable interest and dividends reported by financial institutions on the Forms 1099-INT and 1099-DIV, respectively—mandatory for those earning more than $10 in either category—and self-employment income from 1099-MISC, required reporting for businesses on behalf of non-employee workers paid an amount exceeding $600 over the period we study. A measure of college attendance is constructed from Form 1098-T, required reporting by post-secondary institutions for each student they enroll and for whom a reportable transaction for educational expenses is made.

The analysis is based on the universe of lottery wins of $1,000 or more reported by states to the IRS between 2000 and 2019, with attention restricted to individuals aged 25 to 44 at the time of the lottery win. The resulting sample includes more than 888,000 lottery winners with a wide range of win amounts, instrumental to recovering the distribution of resource effects (Table A1).[20] Appendix Table A2 provides summary statistics for the sample two years prior to the win. Among lottery winners, 54 percent are men, the average age is 35.8, 91 percent are U.S. citizens, 33 percent are married, and the average number of children is 1.07. With respect to financial characteristics, 84 percent are employed (i.e., had nonzero earnings), average individual earnings are $27,490, 29 percent receive investment income, average total income is $38,968, and 30 percent have a mortgage.

III. EMPIRICAL DESIGN

[20] In an alternate sample, we restrict attention to wins of $5,000 or more in order to ensure that the results are not being driven by the large number of small winners in the primary sample. Results are also similar when we reduce the minimum win to $600, the smallest win we can observe.

Our empirical strategy exploits changes in the outcomes over time as well as the size and timing of lottery wins within a triple-differences design. Specifically, we identify effects from changes in homeownership, marital status, and fertility following a win, comparing those winning smaller and larger amounts and current and future winners:

$$\Delta y_{it} = \delta_t + \delta_a + X_i\gamma + \beta_1 treat_i + \beta_2 winamt_i + \beta_3 winamt_i * treat_i + u_{it}$$

Changes in outcomes, y_{it}, in each of the 5 years after a lottery win are measured relative to two years prior to the win. This year-by-year analysis allows for flexibility in the timing of effects and reveals the extent to which a win pulls forward events that would otherwise happen eventually or generates persistent differences. The identifying assumption is that unobserved differences in the change in outcomes across win sizes at a given age are the same for current and future winners.[21]

It is important that we use three sources of variation to estimate effects. While variation in lottery win size stems from randomness in prize payouts, it can also reflect the type of lottery played or the specific date it was played (about which data are not collected in the U.S.).[22] In a difference-in-differences design comparing pre-post changes across win size, the identifying assumption would be that winners of smaller and larger amounts have, conditional on observables, the same change in their propensities to buy a home, marry, and have children.[23] Bias can emerge if those who win larger and smaller lotteries differ on unobservable age-specific dimensions that are correlated with changes in these propensities. Hence, we rely on same-aged future winners, whose current outcomes could not be affected by their wins, to absorb any such differences. Similarly, in a difference-in-differences design comparing pre-post changes across current and future lottery winners, we would lose random variation in lottery win amounts and rely on the assumption that the timing of the lottery win is orthogonal to lifecycle outcomes. This assumption is violated if those who win earlier and later in life differ on unobservable time-specific dimensions. In practice, we find evidence of such bias, highlighting the importance of also exploiting the size of lottery wins.

[21] A secondary assumption of our design is that, conditional on observables, responsiveness to resources is similar for individuals across the win size distribution. If this assumption is violated, it could lead to incorrect conclusions about the size of the linear estimates and concavity of responses to increasing win amounts. We explore this assumption and find evidence that it holds.

[22] The literature has noted differences in the characteristics of households playing different types of lotteries (Oster, 2004), and we observe differences across those winning smaller and larger lotteries in our data.

[23] For example, the design accounts for differences in the propensity to purchase a new home across smaller and larger lottery winners, as long as the differences are similar for current and future winners. The design does not require an assumption that current and future lottery winners are equally likely to experience changes in the outcomes, only that the unobservable differences across win sizes are the same.

To maximize the similarity of later winners to earlier winners but also be able to consider changes in outcomes in the 5 years after the lottery win while keeping this control group constant, we use those who win the lottery when they are 6 years older than the treated group of interest.[24] For example, when considering effects on marriage one year after a win among 25-year-old lottery winners, changes in marriage at age 26 among 31-year-old winners are included in the sample and receive zero for the treatment assignment indicator, *treat*.

Lottery win amounts, *winamt*, are measured in hundreds of thousands of dollars, so the coefficient β_3 represents the effect of $100,000 of after-tax winnings on the outcome of interest. The inclusion of year and age fixed effects, δ_t and δ_a, as well as pre-win control variables, X_i, such as gender, citizenship, pre-win employment status, earnings, self-employment, and investments absorb changes that are common across all lottery winners in these characteristics. Standard errors are clustered at the winner level. This design is most suitable for a range of lottery wins over which the effects are approximately linear. The main tables present estimates for wins of up to $500,000, but we replicate the design varying this threshold to $100,000, $250,000, $1,000,000, and $5,000,000. Similarly, the main tables present estimates for all wins exceeding $1,000, but we replicate the design while restricting attention to wins of at least $5,000 and $10,000. Documenting the size of the wins that do and do not induce changes helps to highlight concavity in the effects and potential mechanisms, such as binding financial constraints.

We also implement a design that classifies wins by their size to further explore the levels of resources necessary to generate effects, to document the extent to which responses are concave in resources, and to measure the upper bounds generated by very large wins. This design adds flexibility by abstracting from strong functional form assumptions. We classify wins according to six cutoffs—$10,000, $50,000, $100,000, $250,000, $500,000, and $1,000,000—and estimate:

$$\Delta y_{it} = \delta_t + \delta_a + X_i\gamma + \theta treat_i + \sum_j \alpha_j(size = j) + \sum_j \beta_j treat_i(size = j) + u_{it}$$

The coefficients of interest, β_j, capture the effects of winning larger lotteries relative to wins of less than $10,000, which average about $2,000, the omitted range. Analogous to above, the α_j coefficients capture unobserved age-specific differences between those who win smaller and larger

[24] Results are robust to an alternative construction using a rolling control group that, for each outcome year, uses a closer future winning cohort in terms of age (not shown). In this configuration, when considering, for example, the marriage outcomes of 25-year-old lottery winners, we use 27-year-old winners as the control group when examining marriage in the year of the win, 28-year-old winners when examining marriage 1 year later, and so forth.

lotteries using future lottery winners. Estimates for modest wins (e.g., $50,000 to $100,000) could shed light on the presence of financial constraints, while those for large wins (exceeding $500,000 or $1,000,000) speak to potential upper bounds.

The primary outcomes are homeownership, marital status, and fertility. These outcomes are defined, and the sample is sometimes restricted, to address natural questions of interest as well as those guided by the literature. To estimate effects on new homeownership, we restrict attention to individuals who did not own a home in the year prior to the lottery. (The appendix examines effects on those who had mortgages prior to the win.) For marital status, we examine the effect on marital status overall and separately for those who were unmarried or married in the year prior to the lottery win to identify effects on new marriages and divorce, respectively. For fertility, we examine births in each year as well as cumulatively over time. To paint a rich picture of the effects, we consider heterogeneity by demographic characteristics (e.g., age, gender, marital status) and pre-win financial characteristics (e.g., savings, earnings). Prior studies of marriage and family formation imply responses to financial resources vary by gender, and resources may be more influential in shaping outcomes for particular age groups. Differentiating effects by baseline earnings and savings sheds light on financial constraints, the presence of other barriers, and the potential for means-tested policies.

Before turning to the main results, we examine balance in predetermined variables. In particular, we estimate a non-differenced version of our primary specification for 1) the three primary dependent variables (homeownership, marriage, and births) in the baseline period two years prior to the win, 2) the variables used for sample stratification measured one year prior to the win, 3) pre-win trends in the dependent variables, and 4) pre-win control variables. Note that any cross-sectional imbalance would not necessarily invalidate our design because it also leverages variation from within-winner changes over time. Nonetheless, not only are pre-win changes in our outcomes insignificant but we recover insignificant effects for all six lagged dependent variables and all but one of the 12 covariates as presented in Table A3, supporting the validity of the design. Additionally, we show later that estimates are not sensitive to the exclusion of the baseline demographic and financial characteristics.

IV. THE EFFECT ON HOMEOWNERSHIP, MARRIAGE, AND FERTILITY

i. Homeownership, Estimates

Table 1 reveals that the fraction of lottery winners who have a mortgage increases by 4.6 p.p. per $100,000 in the year after the win, and 3.6 p.p. per $100,000 five years later. Including those who buy their homes outright produces slightly larger estimates of 5.4 p.p. and 4.2 p.p. per $100,000 one and five years after the win, respectively. While reductions in the effect over time reflect some catch-up by those in the control group, the majority of the effect persists, implying wins generate lasting differences in homeownership. Figure 1 shows these homeownership effects in an event study framework and includes each of the 5 years prior to the win, revealing precise null estimates preceding the win.[25] The high rate of spending of lottery wealth on housing is also evident when considering the value of the newly owned houses. Lottery winners convert, on average, $100,000 of prize money into $14,027 of housing value two years after the win, and $11,986 five years after the win.

Alternative specifications confirm the robustness of the results. For example, as shown in Table A4, the point estimates are essentially unchanged when excluding demographic and financial characteristics from the specification. Reweighting the sample of lottery winners to reflect the characteristics of the population reveals short- and long-run increases in homeownership of 5.4 p.p. and 4.0 p.p. per $100,000.[26] In addition, we do not evidence that using property tax itemization to identify cash purchases, which cannot otherwise be measured, produces meaningful bias in our estimates.[27] Finally, restricting the range to wins of $100,000 or less produces somewhat larger

[25] The lack of pre-win effects or trends and sharp change at the time of the win are evident in event-study figures (Figure 1) and when considering small and large wins separately (Figure A2). Wins decrease the likelihood of having a mortgage among those who initially did, consistent with a deleveraging response to a win (Figure A1).

[26] Table A4 reveals that the magnitude and pattern of results are robust to several other alternative specifications and sample restrictions. In addition to weighting the overall sample to match the population, we reweight households in each win size range to match the population. This sheds light on whether differences in characteristics across those who win small and large lotteries, in conjunction with treatment heterogeneity, meaningfully affect the magnitude of the estimates. This produces estimates of 5.2 p.p. and 3.9 p.p. per $100,000 in the first and fifth years after the win. Restricting attention to wins of at least $5,000 produces slightly more persistent effects of 4.7 p.p. per $100,000 five years after the win. The results are also robust to using a balanced sample of households that can be observed for five years after the win, using three years prior to the win as the baseline to measure changes in the outcome, and eliminating the restrictions on lottery wins described in the data section. Excluding homeownership that coincides with rental income (suggesting that the home might be rental property rather than a primary residence) has no effect on the estimates.

[27] The average lottery win in our sample is not large enough to buy a house outright, so most purchases are captured by the mortgage data. That said, measuring cash purchases using property tax itemization may suffer from two sources of (differently signed) bias. Upward bias can occur when an individual who already owns a home outright does not itemize their property taxes prior to the lottery win but begins itemizing due to the win. To address this, we exclude individuals who newly itemized after the win but had pre-win estimated state income taxes that were not large enough to have itemized in the pre-win period even if they had paid the same level of property taxes as subsequent to the win. Excluding these individuals has only modest effects on the estimates (Table A7). Downward bias can occur when an individual who does not itemize at baseline buys a home outright, but the itemized deductions, including property

estimates of about 8 p.p. per $100,000 in the years immediately after a win, while expanding the range to include larger wins results in smaller per-dollar estimates (Table A5). These results suggest concavity, as modest wins induce sizable changes in home purchases and the per-dollar effects diminish in win size.

The binned design allows us to investigate effects of more modest resource shocks that might reduce frictions in qualifying for a mortgage and to explore the range of potential upper bound effects of very large wealth shocks. Table 2 shows that wins of $50,000 to $100,000 increase homeownership in the year after the win by 6.8 p.p. and the likelihood of having a mortgage by 6.1 p.p. These results indicate that a substantial fraction of smaller lottery winners use their new wealth to buy a home, and nearly all who do finance the purchase with a mortgage. The effects increase in the amount of the win but reveal concavity over the region of wins between $100,000 and $500,000—that is, within the range of national median home prices—with houses purchased with mortgages accounting for a large and constant portion of the effect, consistent with wins relaxing financial constraints to obtaining a mortgage (e.g., easing down payment constraints) but decreasing effects once a mortgage can be obtained. Above this level, responses continue to increase in win size (though not as a sharply as for wins under $100,000), more typical of a normal consumer good, and a much larger portion of the effect comes from cash purchases. Effects reach a very high level of 37 p.p. for wins exceeding $1,000,000, with mortgages used in less than one-third of these purchases. The pattern of homeownership effects revealed by the bin specification is also evident in a Lowess plot fit to estimates for a large number of narrower win ranges (Figure 2).[28] Estimating the binned design five years after the lottery win reveals that the positive effects across win sizes are highly persistent, except for the smallest wins (Table A6).

Table 2 also sheds light on housing on the intensive margin. As wins increase, the average size of mortgages increases. For example, wins of $100,000 to $250,000 increase the likelihood of having mortgages by approximately the same amount as wins exceeding $1,000,000, but these larger wins generate four times higher levels of mortgage interest, consistent with larger wins being used to purchase much more expensive homes (which may be understated due to likely larger

taxes, are not large enough to trigger subsequent itemization. Based on analyses of only winners who itemized prior to the lottery win (Table A7) and changes in tax law that led to a sharp reduction in the share itemizing, we conclude that this issue is not materially influencing our main estimates (in part because outside of very large lottery wins, buying a home in cash is rare). See Appendix A for additional discussion.

[28] The effects are plotted for increments of $5,000 up to $100,000, $25,000 up to $500,000, and $50,000 up to $1,000,000. The figure exhibits concavity for win up to $500,000 and increasing effects up to $1,000,000.

down payments arising from larger wins). Likewise, the price of the purchased house, proxied with the zip code median, increases more with the size of the win than the rate of homeownership.

Table 3 explores heterogeneity. Effects are nearly identical for men and women and the older and younger segments of the sample. Further, there is some evidence that married winners are more responsive initially, but by the end of the horizon effects are similar by baseline marital status. The pattern of effects is similar for those with and without financial assets prior to the win, though the effects are more persistent for those without assets (likely reflecting catchup over time for those in the control group who have savings) and larger for those with smaller levels of (nonzero) assets than those with greater levels of assets.[29]

The most striking aspect of the heterogeneity analysis is that responsiveness increases with earnings. One year after the lottery win, those with above median earnings see an increase in homeownership of 7.9 p.p. per $100,000, relative to 3.4 p.p. for those with below median earnings and 3.4 p.p. for those with no earnings, and these differences extend through the analysis horizon. A similar pattern emerges for greater refinements of the earnings distribution and more expansive definitions of income. For example, the estimated effect for those in the top quartile of total income is 9.4 p.p. per $100,000 one year after the win but is only 2.1 p.p. for those in the bottom quartile of income. We find evidence that the heterogeneity by earnings is not driven by the correlation between household earnings and baseline savings and local housing prices.[30]

Differential effects on homeownership by initial earnings could reflect requirements for mortgages binding beyond down payment requirements and other upfront costs—e.g., qualifying income to make monthly payments, a sufficient credit score to be eligible for a loan—or differences in spending priorities and preferences. To evaluate these alternatives, we first examine how those in different segments of the earnings distribution respond to small lottery wins, which likely require a mortgage, and large wins, which can be used to buy a home outright. We find that approximately 90 percent of the home purchases generated by wins of less than $250,000 were financed with mortgages (Table A10). In this range, the effect on homeownership for those with no or low earnings is less than half as large as for higher earners. In contrast, only one-quarter of

[29] Further refinements of heterogeneity by baseline assets reveals the largest effects for those with small, but non-zero levels of assets. Specifically, among those with estimated assets between $1,000 and $25,000 prior to the win, the estimate effect on homeownership in the year after the win is 7.5 p.p. per $100,000.

[30] Table A9 examines heterogeneity by earnings while allowing for differential responses by baseline savings levels and average zip code housing values. The response for above-median earners remains between 4.2 and 4.5 p.p. per $100,000 higher than for lower earners when including one or both of the mediating factors.

homes purchased by those winning $1,000,000 or more were mortgage financed, and the effect of these large wins on homeownership is similar for low and high earners. These results suggest that other mortgage requirements reduce the response for smaller wins among low earners. When looking at home value, we see a similar pattern, with effects for smaller wins substantially smaller for lower-earnings winners but effects for the largest win of similar magnitude. That said, we do see a smaller response in homeownership and housing values by lower earners to wins between $500,000 and $1,000,000, which should be adequate to buy a home in full, suggesting that competing spending priorities may also play a role in the observed heterogeneity.[31]

Another way to evaluate the role of these other constraints is to examine whether effects are smaller amid the notably tighter mortgage lending conditions that prevailed after the Financial Crisis. In particular, in response to the Crisis, the Dodd-Frank Act stipulated that creditors must make a good faith effort to determine a borrower's ability to pay their mortgage based on their credit history, current income, expected income, current obligations, debt-to-income ratio, employment status, and other financial resources. Table A11 splits the sample based on whether the win occurred after 2007 and indicates that effects are indeed meaningfully smaller during the tighter credit regime, consistent with other important constraints binding. Further, the estimates indicate that that constraints to obtaining a mortgage are driving the intertemporal heterogeneity and that the implied effects on outright purchases are similar across the two periods.

A last consideration is the unique position housing occupies within the household balance sheet with respect to wealth-building. To examine lottery win retention more holistically, we estimate effects on types of income that would originate from assets and use a capitalization framework—similar to those proposed by Saez and Zucman (2016) and Smith, Zidar, and Zwick (2020)—to

[31] Several other factors may contribute to the smaller homeownership response of lower-earning lottery winners, particularly for small wins, but the overall set of evidence is not fully consistent with those explanations. First, these lottery winners may have weaker financial literacy, including less information about the process of obtaining a mortgage and the benefits of doing so. However, for the largest wins we see similar increases in mortgage rates for lower and higher earners. This pattern suggests that being able to satisfy reserve requirements is a way to overcome other constraints in qualifying for a mortgage beyond upfront costs. Second, lower earners may be eligible for fewer homeownership and mortgage-based tax benefits or may be eligible for rental subsidies that make owning a home less desirable. Yet, the mean tax differences for lower and higher earners are unlikely to be sufficient to generate such large differences in homeownership, and a tax-based differential could not explain the similar effects for large wins. Moreover, the existence of rental subsidies could lead to larger effects among lower-earning winners if they lose eligibility in the short run, and we continue to find significant heterogeneity by income after splitting the sample into those who are and are not eligible for rental subsidies.

translate these estimates into suggestive effects of wins on total wealth and home equity.[32] Table A12 displays the results for one and five years after a win, overall and by initial earnings. The top row indicates that winning households dedicate about one-third of their savings to housing, quite similar to housing's share of the average household balance sheet in the United States (Bricker, Moore, and Thompson, 2019). This finding affirms both that lottery win wealth has similar features to other wealth (discussed further in Section V) and, more generally, that housing is a popular and prominent asset in which household wealth is stored. The results in the bottom part of the table imply that lower-earning households retain much less of their win than higher-earning households, and a much smaller share of the wealth that gets retained is held in housing.[33] In fact, initial differences in win retention are almost entirely explained by the differential patterns of debt-financed investment in housing that were also apparent in the exercises above. Over time, win wealth among higher-earners is stable, while among lower-earners, it nearly fully erodes, such that the wealth gap increases. This is consistent with housing's role in wealth-building and disparities in access to mortgages across the income distribution.

ii. Homeownership, Interpretation and Reconciliation with the Literature

Homeownership plays a key role in economic independence and represents a primary channel for young adults to build wealth. However, many potential homebuyers identify upfront costs as a major impediment. For example, 21 percent of young adults without a mortgage list not having funds for a down payment as the reason (Navient, 2015).

Altogether, our estimates reveal persistent increases in homeownership that are large in magnitude when compared to cross-sectional differences by lifetime income, which strongly suggests the presence of financial constraints.[34] Indeed, the analysis also reveals effects that are

[32] The exercise leverages scaling factors similar to these models, including for housing debt, with the exception that we impute housing values using median house prices in the zip code in that year. The method will not account for deleveraging of non-housing consumer debt and, as a result, likely understates overall retention. Drawing from Bulman et al.'s (2021) examination of debt, deleveraging is unlikely to explain much, if any, of the differences by SES we detect. We discuss other limitations with using a capitalization model in Section V.

[33] Imputed housing equity for lower-income winners could be systematically underestimated if they tend to live in low-cost areas and are more likely to buy houses that are significantly more expensive than the median homes in their zip codes. However, using within-zip code property tax deductions as a proxy for home value, we do not find evidence that this is the case. Specifically, lottery winners across low- and high-cost zip codes are equally likely to buy houses that are above or below the zip code median value.

[34] For example, our estimates are substantial when compared to differences in homeownership across the earnings distribution. Prior to the lottery win, additional earned income of $10,000 per year is associated with a 7 p.p. higher likelihood of having a mortgage, approximately equal to the effect of a one-time lottery win of $50,000 to $100,000. When converted to a measure of discounted lifetime income, our estimate either equals or exceeds cross-sectional differences under reasonable assumptions.

highly concave over the region of wins where a mortgage would generally be necessary to acquire a home, indicating many potential homeowners are constrained by qualifying terms to obtain a mortgage. Potentially surprising is that higher earners are consistently more responsive than lower earners, and effects for this group both persist over the analysis horizon where we might expect to see catch-up and exhibit concavity in the lower-win region. All in, this pattern suggests that higher earners' home purchase activity is being constrained by mortgage qualifying criteria, likely down payments, closing costs, or reserve requirements; moreover, lower earners, even with proper upfront financing, may still be unable to qualify. We find suggestive evidence that these differences help generate gaps in wealth that widen over time.

There are no prior estimates of the causal relationship between lifetime income (or resources) and homeownership. The most closely related estimates come from parents of high school-aged children in Bulman et al. (2021), which, to help contextualize estimates on children's college-going, explored parental outcomes in a supplemental analysis and found more modest effects of lotteries on mortgages, without examining outright purchases. Two recent studies examine how liquidity and pricing affect housing demand among young households. Goodman, Isen, and Yannelis (2021) estimates effects on mortgages of financial aid among student loan borrowers that are several times ours. Berger, Turner, and Zwick (2016) estimate a housing price effect among similar age ranges and cohorts to those we examine using the First-Time Homebuyer Credit (FTHC). They find that the more generous phases of this program—during which the maximum credit was $8,000—induced as many as 546,000 home sales, which, based on our calculations, implies a 2.3 p.p. increase in homeownership, several times our estimated effect of resources.[35] An earlier literature links intergenerational transfers and broader socioeconomic factors to the acquisition of homes (Engelhardt and Mayer, 1998; Charles and Hurst, 2002; Grinstein et al., 2013; Blickle and Brown, 2019).

The new insights we deliver on mechanisms that influence housing demand unite several strands of the literature. For one, our finding that upfront costs associated with home mortgages prevent entry into homeownership, possibly permanently, among many young households that would otherwise have the resources to service a mortgage helps connect studies that have concluded that a significant fraction of homeowners, especially those who are young, are liquidity

[35] The denominator for this calculation is the number of tax returns filed by 26- to 35-year-olds in 2008 published by the IRS Statistics of Income in July 2010.

constrained (Mian and Sufi, 2011; Bhutta and Keys, 2016; Boar, Gorea and Midrigan, 2017); evidence from surveys and household expenditure patterns that down payment constraints may bind (Engelhardt, 1996; Fuster and Zafar, 2021); and studies that find that limited access to credit through other channels may restrict housing choices (Martins and Villanueva, 2010; Mezza et al., 2016; Bleemer et al., 2017; Dettling and Hsu, 2018; Goodman, Isen, and Yannelis, 2021; Bhutta and Ringo, 2021). Notably, Bhutta and Ringo (2021) find that debt payment-to-income thresholds, a common mortgage qualifying criterion, suppress homeownership, which is consistent with attenuated responses for low-earning lottery winners, particularly in the region of wins that are too small to preclude the need for mortgage-based financing. Finally, despite its reputation as a pathway to economic mobility, our results indicate that housing, potentially due to the role of initial credit conditions, appears to propagate early differences in resources. This phenomenon likely contributes to observed intergenerational persistence of economic well-being (e.g., Chetty et al., 2014; Davis and Mazumder, 2022).

iii. Marital Status, Estimates

Table 4 presents the estimated effects of wealth on marital status. The net effect on being married for the full sample is positive and statistically significant in the three years after the lottery win but becomes small and insignificant by the fourth year.

Differentiating by marital status prior to the win illustrates the nuance behind these results. Among single winners, there are moderate increases in the probability of getting married. In the first year after the win, the likelihood of being married increases by 2.7 p.p. per $100,000, approximately equal to one year of baseline new marriages. This effect diminishes somewhat over time but remains significant (Figure 3a). There are two potential explanations for the decline in effects over time. Marriages induced by the lottery win early in the analysis horizon could subsequently dissolve through divorce, or the effects capture marriages for individuals who would have nonetheless married in later years. Altering the outcome to consider whether single winners were ever married reveals a more persistent effect (Table A13) and that a little over half of the fadeout in the effect on new marriages reflects a subsequent dissolution of lottery-driven marriages, with the remainder catchup by the control group. Separately, we find that most of the new marriages that occur are not between individuals that were previously cohabitating (i.e., living at the same address).

Among married winners, our estimates do not indicate that resources preserve marriages in the short or long run. The estimates are statistically insignificant in the years immediately after the win and become slightly negative over time (Figure 3b). We note that in a design that ignores win size and exploits only timing, the estimates would suggest that winners are more likely to remain married. However, this relationship is apparent for lottery winners of all sizes (Figure A4), indicating that the increase is not due to the causal effect of resources.[36]

The validity of the triple-difference design and the robustness of the estimates is evident from the lack of pre-trends and a rich array of alternative specifications. Examining the effects of lottery wealth on marriage in the years prior to the win reveals no significant effects for those who were single or married (Figure 3). Excluding demographic and pre-win financial characteristics from the specification has essentially no effect (Tables A14 and A15). Thus, it does not appear that pre-trends or a lack of balance is shaping the results. Reweighting the sample to match the population produces nearly identical estimates, with increases in new marriages of 2.8 p.p. per $100,000 in the year after the lottery win that decrease to 1.3 p.p. five years later, and no evidence of reduced divorce rates for existing marriages.[37] The pattern of persistent, positive effects on new marriages holds when restricting the maximum wins to $100,000, $250,000, $1,000,000, and $5,000,000 (Table A16), though the per-dollar effect decreases as the threshold increases, implying concavity. Likewise, divorce effects remain insignificant or negative in the five years after the shock for most win thresholds. The primary analysis excludes individuals for whom marital status is not observed—i.e., those who did not file a tax return in the year of interest. Alternately assuming that all non-filers are unmarried and then assuming they are married, thus bounding the potential bias, does not change the pattern of results for marriage or divorce (Table A17).[38]

[36] Those who win a lottery of any size (even as little as $600) are more likely to marry and remain married. Our analysis reveals that this most plausibly stems from the effect of winning any lottery or the possibility of win timing not being completely orthogonal to lifecycle outcomes rather than from large causal responses to very small changes in resources. Specifically, for the observed changes in marriage to be causal, it would need to be the case that: marriage is not only sensitive to resources by an order of magnitude more so than the naïve OLS relationship, but the large effects are *increasing* in size for several years after the win. Moreover, this responsiveness to resources would have to be highly concave, which is inconsistent with empirical analyses of win size effects. Namely, for married winners, win amounts between $1,000 and $100,000 (Table A16), or even modest win amounts between $1,000 and $10,000 (results not shown), reveal no evidence of concavity (or that resources preserve marriages).

[37] Similarly, reweighting at the bin level, restricting the sample to wins of $5,000 or more, eliminating restrictions on lottery wins, and using a balanced panel of households across years each results in persistent positive effects on new marriages and insignificant or negative effects on existing marriages for the five years after the lottery win.

[38] This is true except in the year of the win where filing is mechanically elevated for lottery winners due to filing requirement income cutoffs. Table A17 also reveals that classifying those who file as married filing separately as married has no effects on the primary estimates.

Table 5 presents estimated effects on marital status one year after the lottery for varying sizes of wins. Overall, there is a positive effect on being married that year, driven by new marriages for those who were single at baseline. The smallest wins, which average less than $20,000, do not generate meaningful changes, but wins of $50,000 or more produce highly significant estimates that reach an upper bound of 9 p.p. That is, nearly one in ten unmarried winners of large lotteries marries as a result of the win, an increase equivalent to approximately three years of naturally occurring new marriages. The effects are quite concave, with no indication of significant increases beyond the $250,000 to $500,000 win range. For those married prior to the lottery win, there is little evidence of divorce effects for small or large wins in the short run. That is, the null effects on divorce in the linear design do not obscure significant effects for large changes in wealth.

We examine heterogeneity by age, financial status, and marital property state laws using the linear specification. Table 6 reveals that among those who were unmarried prior to the win, men and women have similar levels of responsiveness, while younger winners—that is, those aged 25 to 34 years old—have larger and more persistent increases in marriage than their counterparts aged 35 to 44 years old. Single winners without financial assets prior to the win exhibit large marriage responses—3.2 p.p. increase per $100,000 in the year after the win—and those without earnings see even larger and more persistent effects—4.8 p.p. increase per $100,000 in the year after the win and 3.9 p.p. five years later. By contrast, those with investments have small and short-lived marriage responses to wealth and the effects are modest for higher earners. Differentiating earnings heterogeneity across men and women reveals that new marriages are most common for both women and men with lower earnings (Table A18). Among those married in the baseline, the estimates do not reveal marriage preservation for younger or older winners, or those with and without financial resources prior to the lottery win (Table 7). There is some evidence that married women are more likely to divorce after a lottery win, and these effects are driven by women with low baseline earnings. We differentiate the estimates across states where the lottery win will necessarily be split 50-50 upon divorce (community property states) and those where the split may be unequal (equitable property states), which reveals marriage dissolution only in states where the split may be unequal (Table A19). On the other hand, we see no difference in effects on new marriages, where these laws would generally not be relevant as lottery winnings would be considered non-marital property under both regimes if the marriage were to dissolve.

Effects on new marriages may extend beyond the extensive margin and influence spousal characteristics, either absolutely or via assortative matching. To explore each of these possibilities, we compare a) the characteristics of winners' spouses to those typically observed for spouses of the control group (conditional on the winner's characteristics); and b) the characteristics of spouses to the characteristics of the winner. Among those who are unmarried in the baseline, we do not find a systematic shift in spousal characteristics in response to a win (Table A20) with two exceptions. New marriages are somewhat more common to partners who have higher earnings, and unions that persist to the end of the sample period are primarily with higher earners and those who are dissimilar in age.[39]

iv. Marital Status, Interpretation and Reconciliation with the Literature

Our results indicate that the level of resources one has is material to their marital status, and in particular, that the steepening gradients in marriage rates at least partially reflect a causal process. The effects on new marriages are substantial when compared to differences in the marriage rate across the earnings distribution, though are unable to explain all of the naïve correlation.[40] Moreover, the effects are quite concave, but still achieve a high upper bound, and are somewhat persistent over the analysis horizon, with the greatest persistence among those without financial assets initially and younger populations. This heterogeneity could suggest that financial resources are more important for younger and financially insecure couples in forming legal unions, and that the relationships they form are of higher quality and less likely to result in divorce. They also suggest that younger cohorts that have had relatively low marriage rates on account of their economic positions are unlikely to catch up to their predecessors over time. The year-by-year estimates and the nature of new matches is not consistent with marriage responses being driven primarily by tax avoidance.[41] Finally, effects principally arrive through those who were single at

[39] Examining winners who are married in the baseline does not indicate that the lack of marriage preservation overall obscures larger effects for couples who are mismatched in terms of earnings, age, or education (Table A21).

[40] Prior to the lottery win, $10,000 of earned income is associated with a 3 p.p. higher likelihood of being married in our sample, similar in size to one-time lottery winnings of $50,000-$100,000. Even diluting the sample by the share already married and accounting for the decline in the effect over time, the estimates imply that resources would close a non-trivial fraction of the SES marriage rate gap.

[41] Some couples may choose to marry in order to reduce their tax liability in the year of a lottery win. This can be viewed as an accelerated form of the natural incentives couples face to marry when one spouse has higher earnings than the other. However, several patterns in our analysis suggest that tax avoidance considerations may not play a dominant role in shaping the marriage results. First, not only is the effect on new marriages persistent, but the magnitude is larger in years 1, 2, and 3 than in year 0 (Table 4), when there is the greatest tax benefit. Second, given the progressive nature of the tax code, the greatest tax benefits would accrue to couples in which the lottery winner

the time of the win. We find no evidence that resources stabilize existing marriages and, if anything, may do the opposite.[42] Divorce increases are driven by couples in states where the prevailing divorce law does not require wins be split equally upon dissolution.

With respect to economic theories of marriage, it is likely that many mechanisms are at play, such that no single theory will fully explain a decision so varied and complex. On balance, our findings better support the more-recent emphasis on gains from marriage stemming from shared consumption, rather than returns to specialization. The evidence supporting this includes the large increase in new marriages, that this effect is concentrated among those younger and less financially secure, and matches are more likely to higher earners. However, that new marriages are not predominantly to those more observably similar and that married winners are not more likely to stay married are less consistent with this class of models.[43] The results are also consistent with sociocultural norms over a perceived need to have money before getting married (the flatness of new marriage effects once wins exceed $250,000 and concentration of responsiveness among those less financially secure is most supportive of this mechanism). Finally, in the context of search models, resources may increase attractiveness in the marriage market, accelerating marriages (though this may be offset by increases in search duration) and leading to higher quality partners. Within this context, our results are consistent with some acceleration and higher-earning partners. However, the results would also imply that resources matter only up to a degree and approximately equally so for men and women. With respect to economic theories that bear on the decision to divorce, both unitary, pooled-income models and cooperative bargaining models of marriage that apply the Coase theorem to marital relations would predict no change in divorce propensities. For bargaining models, even in contexts where there is a change in the relative outside options of the spouses, the Coase theorem should hold as partners renegotiate. The heterogeneity by state divorce law therefore suggests that frictions in this type of bargaining or that ill-defined property rights (i.e., discretion over the split of resources by judges in equitable property states) drive divorces.[44]

marries a partner with lower income, but we do not see evidence that new marriages are systematically more likely to such partners (Table A20).

[42] In a developing country context, Bobonis (2011) finds that wealth transfers to women increased divorce rates among those who were married in the baseline.

[43] We note that the assortative matching analysis could be missing unobservable dimensions of similarity and that the results could be driven in part by the underlying characteristics of who compliers tend to marry. Further, the effects on divorce hinge to some degree on the nature of the initial matches.

[44] Peters (1986) and Stevenson and Wolfers (2006) describe potential reasons why such bargaining may fail.

Within the literature that seeks to understand how economic factors affect marital status, the role of financial resources has remained mostly elusive. There are three studies that leverage lottery win variation that are theoretically best equipped to get at this question. Hankins and Hoekstra (2011) compare winners of $25,000 to $50,000 prizes to smaller prize winners within certain counties in Florida and find reduced rates of marriage for single female winners but no effect for single male winners and no effect on divorces for married winners of either sex. Differences between our findings and theirs could stem from the sources of variation (e.g., we exploit a control group composed of future winners), differences in the size of the lottery wins considered, and the populations being examined. At the same time, our significantly larger sample size allows us to deliver much more precise estimates, and the large confidence intervals associated with their estimates means we cannot reject the null that many of their estimates are the same as ours. In a paper after a different question, Cesarini et al. (2017) study the effects of Swedish lottery wins on individual and household labor supply for winners up to 64 years old and include an appendix figure estimating divorce by years since the win to validate their examination of couples. Consistent with our estimates, they find small but statistically insignificant increases in divorce that appear to peak four years after a win. A recent working paper, Golosov et al. (2021), studies earnings and savings behavior of U.S. state lottery winners up to 64 years old that won at least $30,000 and consider marriage and divorce in a supplemental analysis, without exploiting variation in win size. They estimate a larger increase in marriage among single winners than we do and a large *decrease* in divorce among married winners, which, consistent with the difference-in-differences estimates in the appendix that do not exploit win size (Figures A3 and A4), appears to be an artifact of increased marriage among both single and married winners (regardless of win amount) rather than a resource effect.[45]

Several related studies leverage variation from housing and labor markets, through which effects on marriage could materialize through multiple channels, and our estimates can help disentangle the direct role of resources. For instance, increased house prices have been found to reduce the rate of divorce among homeowners (e.g., Farnham, Schmidt, and Sevak, 2011; Klein,

[45] Exploiting only the timing of lottery wins (i.e., ignoring win-size) overstates the magnitude of increases in marriage for unmarried winners and indicates a positive effect on existing marriages. In the latter case, looking across a range of minimum and maximum win amounts reveals no evidence that additional resources preserve existing marriages (Tables A15 and 16). Additionally, while our analysis focuses on lottery winners who are 25 to 44 years old, we get similar marriage and divorce results to those presented in Tables A14 and A15 and Figures A3 and A4 when using the age range considered in their paper.

2017), which our results reveal is most likely not driven by wealth, suggesting other mechanisms—e.g., changes in housing costs associated with marriage dissolution—play a dominant role. Further, many designs that exploit labor market variation yield heterogeneity by sex (Burstein, 2007; Hoffman and Duncan, 1995; Smock and Manning, 1997; Burgess, Propper, and Aassve, 2003; Bitler et al., 2004; Charles and Stephens, 2004; Gassman-Pines and Yoshikawa, 2006), and our results indicate this heterogeneity does not generalize to other resource shocks, suggesting that substitution effects stemming from the opportunity cost of time are indeed important and likely vary by sex.

v. Fertility, Estimates

Table 8 presents the estimated effect of wealth shocks on births in each of the five years after the lottery win, as well as the effect on having any child and the cumulative number of births over this period. The estimates indicate a modest 0.4 p.p. per $100,000 increase in the likelihood a child is born one year after the lottery win, but, in each subsequent year, estimates are indistinguishable from zero. Effects on having any child and cumulative births—that is, family size— during the sample period are small and insignificant. Five years after a win, we can rule out effects exceeding 0.01 births. Overall, the effect we see one year after the win reflects a short-run change in the timing of children, rather than a persistent increase in family size.

As costs and preferences can differ, we split the sample into those who did and did not already have children at baseline. The short-run increase in births is concentrated among those without children initially (Figure 4). However, the lack of effects on births in other years and longer-run family size is evident for both groups. We can rule out an increase in the likelihood of ever having a child over the analysis horizon of even 1.5 p.p. per $100,000 for those without children initially, revealing no evidence of new family creation.

The lack of long-run birth effects for the full sample and those with and without children in the baseline is evident across alternative specifications and win ranges. Replicating the design while weighting the sample to match the population similarly reveals short-run increases in fertility only for those with no children prior to the lottery win and no cumulative increase in family size (Tables A22 and A23). When omitting control variables from the specification, the coefficients are essentially unchanged.[46] Using alternative maximum win ranges produces similarly small and

[46] The pattern of estimates is also evident when restricting the sample to wins of $5,000 or more, using a balanced panel across years, and eliminating restrictions on the lottery wins included in the analysis.

statistically insignificant estimates for all but one year after the win, even when wins as large as $5,000,000 are included (Table A24).

One concern is that the lifetime cost of a child is quite large, and the linear design could obscure significant effects on cumulative fertility for larger wins. Table 9 examines cumulative births by the end of the analysis horizon using the binned specification. The estimates reveal that all win amounts up to $1,000,000 produce small and statistically insignificant effects, including when splitting the sample according to whether a lottery winner did or did not have children initially. However, the largest wins, exceeding $1,000,000, lead to a somewhat larger, marginally significant increase in family size (though small relative to the size of such wins). Overall, the analysis indicates that, except for wins that are large enough to dramatically alter a family's financial position, resources have essentially no effect on family size.[47]

Table 10 differentiates the effects on having a child in each year across demographic and socioeconomic characteristics. We do not find evidence of important heterogeneity in cumulative fertility by gender, age, or financial status.[48] The pull-forward effects for the full sample are statistically significant for those who were single and had no investments prior to the win. Focusing on those without children prior to the lottery win reveals stronger effects in the year after the win among the young, male, and those with low or no earnings (Table A26). However, early increases are offset by small negative effects in subsequent years resulting in small and statistically insignificant cumulative changes for each of these groups. Focusing on those who already have children reveals little evidence of heterogeneous effects along any of these dimensions (Table A27).

Finally, to explore mechanisms behind the short-run effects on fertility, we estimate effects on the joint outcome of having a child in the year after the win and working or attending college in that year and each of the two subsequent years (i.e., early years of the child's life). Compared to

[47] As with marriage, we note that the timing of all lottery wins is correlated with a small increase in total fertility regardless of win size. However, the implied magnitude, concavity, and persistence of the effects cannot plausibly be interpreted as capturing resource effects. In particular, there is no evidence that differences in win amounts at modest levels are concave, which would be necessary to explain significant effects for very small wins, let alone increase total fertility at all (Tables A22 to A24). Further, it is doubtful that very small win amounts would continue to increase fertility for several years after the wins (Figure A5). These results highlight the importance of exploiting both lottery win timing and size to estimate robust causal effects of resources.

[48] Table A25 replicates the linear estimates while restricting attention to lottery winners aged 20 to 24, who are younger than those included in the primary sample, and 20 to 39, shifting the age range to be 5 years younger. The resulting estimates do not reveal larger effects as a result of focusing on these younger winners who may be more likely to have children.

the respective means of each possible state, we find that the pull-forward is occurring disproportionately among those who neither work nor attend school after the win (Table A28). This is true overall and when restricting attention to female winners or those without children prior to the win. While these results could be an artifact of increased consumption of leisure that would occur whether or not a lottery winner is induced to have a child, accounting for this does not change the conclusion that parents induced to retime fertility are less likely to work or be in school after a win.[49]

vi. Fertility, Interpretation and Reconciliation with the Literature

Financial well-being and fertility are strongly negatively correlated both within and across countries and time. However, theory describes children as normal goods (Becker, 1960), such that the number of children in a household should increase with lifetime income. Our results indicate that the level of resources one has is primarily (yet only modestly) material to the timing of children, bringing the timeline forward, and has little impact on overall fertility, even for those without children and those who were initially financially constrained. Pull-forward effects are concentrated among those without children initially, among whom effects are driven by the young and those with lower earnings, suggesting there are financial constraints that cause delays in fertility, which are driven by the fixed costs of having children. Further, only very large wins, at least an order of magnitude beyond the estimated lifetime cost of raising a child, modestly increase family size.

In general, our findings are not particularly consistent with child quantity being a normal good (or with declines in aggregate fertility reflecting a wealthier nation).[50] Further, while the timing at which one becomes a parent is sensitive to financial position, which is likely driven by liquidity, financial constraints do not appear to independently reduce total fertility in a manner that would suggest pecuniary cost is a major factor in the decision to have children. Our findings on jointly accelerating fertility and working or attending college provide a deeper understanding of the mechanisms underlying transitory financial constraints. It is possible that financial constraints stem from expenses that would enable critical investment in parental human capital (e.g., childcare), the cost of staying at home during the early years of the child's life, or the costs of a

[49] In additional analysis, we find that the relative increase in the likelihood of having a child while not working or attending school is three times as large as the increase in the likelihood of not having a child while not working or attending school. We also find no evidence that this result is an artifact of the particular compliers who retime fertility.
[50] Our results, of course, cannot rule out that spending on child *quality* meets the criteria for a normal good.

young child unrelated to time allocation. The results speak most directly to the first two mechanisms and favor resources making it possible to stay at home during the early years of the child's life, due to factors such as preferences or investment in the child's human capital (or parent's health capital), over relaxing constraints around investment in parental human capital.[51]

The most closely related causal evidence on this question comes from a supplemental analysis within a recent study of effects of Swedish lottery wins on adult health and children's development (Cesarini et al., 2016). To examine selection into their sample of children of lottery winners, they examine effects on family size for winners under 50 years old. While there are good reasons to suspect their results may not extend to our context—e.g., they examine a wider age band, Sweden is in extreme contrast to the U.S. with respect to the marginal cost of children—they find small positive, but marginally significant effects overall and do not detect effects for female winners (implying larger effects for men).

Several recent studies have uncovered positive effects of labor and housing market shocks on contemporaneous fertility (Black et al., 2013; Lovenheim and Mumford, 2013; Dettling and Kearney, 2014; Kearney and Wilson, 2018; Cumming and Dettling, 2020; Daysal et al., 2021), generally reaching the conclusion that child quantity is a normal good. Our analysis confirms a similar (but smaller) relationship holds in the short run in our setting. A challenge in this literature has been measuring effects on total fertility and the resulting difficulty in disentangling a preferences versus a (short or long-term) financial constraints mechanism.[52] Given the nature of our empirical design and data, we are able to take a longer view on fertility and find that our initial effects of resources on fertility wash out over time, which points to short-run financial constraints and is easier to reconcile with the longstanding inverse relationship between resources and fertility. Other phenomena frequently cited in the literature—e.g., the implied value of household time increasing with earnings—can still help explain the inverse relationship between SES and fertility but need not be as large (so as to offset positive income effects).

[51] In a general sense, if the constraints stem from factors that affect parental human capital accumulation, we would expect the share of the fertility effect arising from those also working or attending college to exceed its baseline share (as measured by the control group). If the constraints were primarily related to the costs of a young child unrelated to time allocation, we would expect the relative treatment effects to match their baseline shares.

[52] Papers in this literature have largely pointed to the positive effects of resource shocks on fertility for women in different age ranges as suggestive that there may be positive cumulative effects. Our analysis also finds positive effects for younger and older women, but these effects fade over time after the initial resource shock.

Our results also have implications for the broader procyclicality of fertility (e.g., Sobotka et al., 2011; Dettling and Kearney, 2023). To the extent this relationship is driven by resources (as opposed to other factors that vary with the business cycle), our findings suggest that the reductions (increases) during recessions (expansions) are unlikely to be permanent. Finally, studies leveraging variation in earnings find differential responses between men and women, with female earnings increases delivering negative effects and male earnings increases delivering positive (or zero) effects (Heckman and Walker, 1990; Del Bono, Weber, and Winter-Ebmer, 2012; Maclean, Covington, and Kessler, 2016; Hofmann, Kreyenfeld, and Uhlendorff, 2017; Lindo, 2010; Black et al., 2013; Huttunen and Kellokumpu, 2016; Kearney and Wilson, 2018). As with marriage, these differences are often attributed to competing income and substitution effects associated with the opportunity cost of time (Jones, Schoonbroodt, and Tertilt, 2010), which is consistent with the broad stability of our estimates across men and women.

vii. Joint Outcomes

Homeownership, marriage, and fertility are plausibly jointly determined. While we do not generate exogenous variation in these variables and therefore cannot look at the effect of one outcome on the others, we can examine whether the documented effects of financial resources on homeownership, marriage, and fertility occur together. There are several reasons to suspect that these outcomes may be concurrently realized. Financial constraints over multiple outcomes may bind and there may be important complementarity in their benefits. For example, a lottery win may allow a couple to afford a mortgage down payment and costs associated with having a child, or, alternatively, a couple that marries may in turn be more likely to purchase a home and have a child.

To explore these questions, we estimate if there are concurrent changes in each pair of outcomes. For example, we estimate if there are simultaneous changes in marital status and fertility in the year following a lottery win. To focus on new family formation, attention is restricted to individuals who were not married and did not have children prior to the lottery win. This exercise is replicated for homeownership and fertility jointly as well as homeownership and marriage.[53] We then estimate the effect of lottery wins on all three outcomes simultaneously, focusing on those

[53] For each pair of outcomes, we restrict attention to those who had not taken either step toward household formation prior to the lottery win. Estimates for individuals who were already married, had children, or owned a home, are trivially small. This is due to the fact that few individuals become divorced or stop owning a home as a result of a lottery win.

who were not married, did not have children, and did not own a house prior to the win. The results are interpreted both in terms of their overall magnitude and relative to baseline rates.

Overall, the estimates reveal clear evidence that changes in marital status, fertility, and homeownership in response to financial resources occur in conjunction (Table A29). More than half of the pull forward in birth timing is driven by those who also married in response to the lottery win, which is approximately double the effect that would be expected if the outcomes were uncorrelated. Similarly, there is a strong relationship between the impact of resources on childbirth and homeownership, with more than half of the pull forward in birth timing occurring along with new homeownership. In contrast, there is no significant increase in fertility among those who did not also buy a home in response to the win. The resource effects on getting married and buying a home have an even stronger correlation. Specifically, there is a 1.6 p.p. per $100,000 increase in getting married and buying a house in the year after a lottery, which is approximately six times more likely than would be expected given baseline rates.

Examining all three outcomes concurrently provides additional insight. The pull forward in the timing of fertility is driven by those who also got married and bought a home. The joint effect on all three changes occurring simultaneously is a statistically significant 0.5 p.p. per $100,000, while there is no significant increase in fertility among those who did not get married, buy a home, or both. And, while there are significant increases in both marriage and homeownership independent of each other and independent of having children, there is a disproportionate positive effect of financial resources on concurrent marriage and homeownership (with or without having children).

Altogether, the results indicate that short-run increases in fertility occur in conjunction with marriage and homeownership, and there is no increase absent these additional changes. In partial contrast, marriage and homeownership increase independent of the other outcomes, but increase disproportionately in conjunction with each other (and having children). The results reveal that financial resources affect multiple markers along the transition to adulthood concurrently, highlighting the joint nature of these decisions. This supports the use of richer models of these important decisions that endogenize, and incorporate the interdependence of, all three despite the added complexity.

V. *External Validity*

The external validity of our analysis depends on the extent to which 1) the responsiveness of lottery winners in the sample to financial resources is representative of the responsiveness of the broader population and 2) lottery money is treated similarly to other types of resources.

To assess the representativeness of lottery winners, the literature appeals to the high rates of lottery playing in the population, the similar characteristics of players and non-players in the population, and the extent to which the lottery winners being studied resemble the population from which they are drawn.[54] In the context of our design, we look to see whether prior to the win, lottery winners' rates of homeownership, marriage, and fertility look similar to the greater population's rates of these variables, and in particular, after accounting for any possible differences in pre-win income. To make this comparison, we draw a random sample from the population of individuals aged 25 to 44 who filed a tax return or had an information return in any of the prior 3 years. Table A30 reveals that lottery winners have a similar number of children as the same-aged population but are somewhat less likely to be married or to have a mortgage. As shown in the table, baseline differences in mortgage and marriage rates are almost fully explained by differences in baseline income, suggesting that unobservable differences in these variables are minimal. Moreover, as discussed earlier, the results are very similar when reweighting our sample to match the random sample for each outcome. Altogether, based on observable characteristics, there is little reason to suspect that lottery winners differ in their responsiveness to financial resources from the general population.

A second concern in analyzing lotteries is that lottery win wealth might be consumed differently than other types of resources. While resources are treated the same no matter the source in standard economic models, a concern may be that lottery money might be, for example, spent relatively frivolously, and thus its effects on short- and long-run outcomes might not hold more generally. Several pieces of evidence support external validity in this respect. For one, earnings decreases after lottery wins are fairly persistent (Figure A6), which is consistent with predictions of a shock to lifetime income in a standard lifecycle model.[55] Second, the persistent increase in homeownership we find (Table 1) is also consistent with predictions from lifecycle models. Third,

[54] Kearney (2005) documents that 56 percent of the U.S. population plays the lottery each year, the National Opinion Research Center Survey on Gambling finds that 51 percent of adults play, and Gallup Polls find that 57 percent play. Bulman et al. (2021) document similar characteristics, including in the propensities to spend and save, between lottery playing and non-playing families in the Consumer Expenditure Survey.

[55] These results are similar to studies that focused on labor supply effects, such as Imbens, Rubin, and Sacerdote (2001) and Cesarini et al. (2017), as well as findings in Bulman et al. (2021) for households with college-aged children.

the implied marginal propensity to consume (MPC) from our capitalization estimates (Table A12) is within the range of leading empirical estimates for other types of liquid resource shocks (Carroll et al., 2017; Gelman et al., 2021). While some of these estimates tend to rely on smaller shocks, which could generate relatively high MPCs, our capitalization estimates likely overstate the MPC from a lottery win.[56,57] Fourth, an examination of receipt of debt cancellation, which occurs in high financial distress situations, including bankruptcy, is persistently lower in the years after a win (Table A31).

VI. CONCLUSION

This paper examines the effect of financial resources on homeownership, marriage, and fertility in the United States. The results shed light on the extent to which gradients by SES reflect a causal relationship, revealing that financial resources alone can explain the variation in homeownership and much of the variation in marriage, but do not contribute meaningfully to differences in fertility.

With respect to housing, while declining homeownership among younger adults has been attributed to the American dream of homeownership falling out of favor (Schuetz, 2019), the high per-dollar responsiveness and upper bound effects reveal the high value that Americans continue to place on homeownership.[58] The concavity and persistence of the housing effects among higher-earners, in conjunction with our capitalization estimates that showed much of the lottery win was retained in housing, underscores down payments and other upfront costs associated with mortgages as important barriers to homeownership and building wealth. Further, the inability of lower-earners

[56] The income capitalization estimates do not account for durable purchases and the possibility that the funds are kept disproportionately liquid. Additionally, capitalization estimates do not account for non-housing consumer debt and thus will understate changes in wealth in the presence of deleveraging, which could be high in our setting (Figure A1; Coibion, Gorodnichenko, and Weber, 2020; Cookson, Gilje, and Heimer, 2020). In particular, the analysis focuses on younger adults, and credit report data reveals that individuals aged 18-39 years old hold about 40 percent of non-housing consumer debt (Federal Reserve Bank of New York, 2021). Further, consistent with the literature that finds households deleverage in response to windfalls, Figure A1 indicates winners who initially held mortgages were 4 p.p. less likely to have a mortgage per $100,000 win in the year following a win.

[57] We find that one-quarter of the win is retained initially and that by the end of the analysis horizon, about one-fifth of it remains (Table A12). Bulman et al. (2021) conducted a similar imputation exercise among lottery-winning parents of college-aged children, focusing on prizes up to $5 million, and found even smaller initial consumption estimates, namely that three-quarters was retained in the year after the win and that half of a lottery win was retained five years later. When we expand the range of lotteries to include these large prizes, we obtain similar results.

[58] The average age of first-time homebuyers increased by about 5 years over the past two decades (HUD, 2021).

to attain mortgages even with a down payment in hand results in suppressed homeownership and limited wealth building.

For marriage, the persistence in effects among single winners and the high upper bound confirm that widening gaps in legal unions in part reflect the causal effect of greater wealth inequality. Finding similar increases in new marriages for men and women in this context highlights the role of other factors, such as substitution effects, in prior studies that examine more complex treatments and document significant heterogeneity. Our results are not fully consistent with basic predictions from any one economic theory of marriage but, on balance, favor more modern theories that emphasize consumption complementarities, as opposed to those that emphasize specialization, and seem to indicate that resources, at least to some extent, increase one's value on the marriage market, as standard search models would imply. With respect to divorce, we find no evidence that wealth sustains existing marriages and some evidence that, when relative outside options for the spouses change, it increases divorce, which is not particularly consistent with predictions from pooled-income or cooperative bargaining models.

For fertility, the lack of cumulative effects indicates that quantity of children is not a normal good and that the costs of having children are not independently prohibitive. Moreover, there is no evidence that the causal effect of resources, rather than correlated factors, explains the negative relationship between SES and fertility in the U.S. or declining fertility rates in developed countries. While the response in timing of births to resources could be rationalized as alleviating constraints around childbirth that otherwise negatively affect female human capital accumulation, labor supply, and career progression (Hotz et al., 1997), it is notable that the timing effect is not concurrent with increases in job- or education-related human capital investment, suggesting that the inability to afford early childcare to make these investments is not driving the decision to delay having children.

There is clear evidence that changes in homeownership, marriage, and fertility in response to increased financial resources are interdependent events. Indeed, buying a home and marrying are six times more likely to occur in conjunction, while changes in the timing of fertility are only observed among those who also marry and buy a home.

The results also illuminate spaces where policy could be effective. Alongside widening gaps by SES that served as motivation for our analysis, overall homeownership, marriage, and fertility rates among the young adult population have been declining (e.g., Choi et al., 2018), bolstering

the interest in policy interventions in these areas. Housing subsidies that lower the upfront costs of purchasing a home are likely to be effective in boosting homeownership and promoting wealth building but may not reach those toward the bottom of the income distribution. Thus, policies that reduce both upfront costs and other barriers to mortgage access may be more effective at reducing wealth inequality. While the literature finds evidence that promoting female employment and earnings (e.g., through income tax policies) or providing relatively fewer benefits to married women is likely to reduce marriage, our estimates suggest that government transfers that are neutral to employment and marriage are unlikely to reduce marriage rates, on net, and may modestly increase them. Lastly, unconditional government transfers may slightly accelerate fertility rates but are unlikely to meaningfully increase total fertility.

Our findings point to several potentially fruitful avenues for future research. For example, identifying the factors that attenuate the homeownership response of lower-income households seems particularly important for understanding barriers to wealth accumulation and social mobility. Similarly, additional analysis could shed light on the dynamics by which resources promote new marriages but do not preserve existing ones. Future studies might alternatively consider whether child quality, in contrast to child quantity, is sensitive to resources, and further explore the dynamics among resources, fertility, and employment decisions. Finally, our results indicated homeownership, marriage, and fertility decisions are not made in isolation of each other, highlighting that the literature would benefit from a better understanding of their interdependence and incorporation of their joint nature into economic models.

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Table 1: The Effect of Resources on New Homeownership

Year Relative to Lottery Win	T=0	T=1	T=2	T=3	T=4	T=5
			Has Mortgage			
Win amount (100k)	0.0243***	0.0463***	0.0459***	0.0437***	0.0391***	0.0359***
	(0.0026)	(0.0033)	(0.0037)	(0.0039)	(0.0041)	(0.0044)
Mean Dep	0.0191	0.0483	0.0721	0.0914	0.1075	0.1207
Observations	911,769	882,441	852,707	824,232	798,201	748,043
			Mortgage Interest			
Win amount (100k)	30.21*	258.40***	287.34***	271.04***	204.73***	170.95***
	(17.84)	(29.96)	(35.89)	(40.04)	(42.72)	(47.72)
Mean Dep	41.63	273.83	462.16	620.85	744.73	843.73
Observations	911,409	882,143	852,381	823,794	797,625	747,315
			Owns Home: Mortgage or Property Tax Deduction			
Win amount (100k)	0.0346***	0.0536***	0.0534***	0.0501***	0.0454***	0.0423***
	(0.0029)	(0.0035)	(0.0039)	(0.0042)	(0.0044)	(0.0046)
Mean Dep	0.0157	0.0465	0.0722	0.0935	0.1113	0.1261
Observations	902,360	871,787	839,808	809,600	782,666	732,152
			Estimated Home Value			
Win amount (100k)	7,939***	13,304***	14,027***	13,619***	11,826***	11,986***
	(873)	(1,460)	(1,675)	(1,850)	(1,791)	(2,400)
Mean Dep	4,045	11,866	19,105	25,446	30,948	34,884
Observations	900,364	869,412	837,174	806,922	780,110	729,615

Note: Estimates show the effect of lottery winnings, measured in hundreds of thousands, on new homeownership outcomes in the year of the lottery win and each of the subsequent five calendar years. The four panels present the effect of lottery wins on having a mortgage, mortgage interest, having a mortgage or claiming a property tax deduction, and estimated home value. Attention is restricted to those without a home prior to the lottery win. Changes in each outcome are measured relative to the pre-win period. Home values are estimated using zip code means. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 2: The Effect of Resources on New Homeownership: Bin Design

	Has Mortgage	Mortgage Interest	Owns Home (mtg or tax)	Home Value
Win amount 10k-50k	0.0137***	48.89**	0.0150***	4,587***
	(0.0026)	(24.92)	(0.0028)	(867)
Win amount 50k-100k	0.0614***	313.68***	0.0680***	15,280***
	(0.0066)	(52.33)	(0.0070)	(1,946)
Win amount 100k-250k	0.0915***	544.22***	0.0979***	21,605***
	(0.0093)	(96.39)	(0.0099)	(2,903)
Win amount 250k-500k	0.0964***	485.97***	0.1252***	36,580***
	(0.0168)	(141.41)	(0.0179)	(9,127)
Win amount 500k-1,000k	0.1285***	860.07***	0.1979***	54,144***
	(0.0207)	(191.72)	(0.0229)	(7,128)
Win amount 1,000k or more	0.1107***	1,940.12***	0.3706***	170,007***
	(0.0275)	(410.25)	(0.0343)	(18,913)
Observations	884,436	884,135	873,695	871,305

Note: Estimates show the effect of lottery winnings on new homeownership outcomes in the year after the lottery win. The four columns present the effect on having a mortgage, mortgage interest, having a mortgage or claiming a property tax deduction, and estimated home value. Attention is restricted to those without a home prior to the lottery win. Changes in each outcome are measured relative to the pre-win period. Home values are estimated using zip code means. The bin specification interacts six win size ranges with an indicator for being a current, rather than future, lottery winner. Win sizes are classified according to five cutoffs: $10,000, $50,000, $100,000, $500,000, and $1,000,000 or more. The specifications include year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 3: The Effect of Resources on New Homeownership: Heterogeneity

Years Relative to Lottery Win	T=0	T=1	T=2	T=3	T=4	T=5
			Demographics			
Age 25-34	0.0325***	0.0541***	0.0542***	0.0524***	0.0441***	0.0399***
	(0.0041)	(0.0050)	(0.0056)	(0.0060)	(0.0063)	(0.0068)
Age 35-44	0.0385***	0.0555***	0.0528***	0.0476***	0.0483***	0.0471***
	(0.0045)	(0.0052)	(0.0057)	(0.0059)	(0.0063)	(0.0067)
Married	0.0577***	0.0758***	0.0668***	0.0647***	0.0556***	0.0489***
	(0.0087)	(0.0097)	(0.0106)	(0.0111)	(0.0115)	(0.0123)
Single	0.0333***	0.0536***	0.0552***	0.0514***	0.0484***	0.0464***
	(0.0036)	(0.0045)	(0.0050)	(0.0053)	(0.0055)	(0.0058)
Non-filer	0.0059	0.0140***	0.0164***	0.0165**	0.0105	0.0102
	(0.0041)	(0.0046)	(0.0054)	(0.0066)	(0.0070)	(0.0075)
Female	0.0385***	0.0582***	0.0532***	0.0528***	0.0441***	0.0414***
	(0.0050)	(0.0059)	(0.0065)	(0.0070)	(0.0072)	(0.0076)
Male	0.0325***	0.0510***	0.0537***	0.0488***	0.0463***	0.0430***
	(0.0036)	(0.0044)	(0.0049)	(0.0052)	(0.0055)	(0.0058)
			Financial Status			
No investments	0.0325***	0.0525***	0.0521***	0.0512***	0.0479***	0.0450***
	(0.0031)	(0.0037)	(0.0041)	(0.0044)	(0.0047)	(0.0050)
Has investments	0.0427***	0.0570***	0.0568***	0.0439***	0.0334***	0.0306***
	(0.0079)	(0.0095)	(0.0103)	(0.0108)	(0.0109)	(0.0114)
Earnings: below median	0.0199***	0.0341***	0.0311***	0.0322***	0.0262***	0.0223***
	(0.0041)	(0.0050)	(0.0057)	(0.0062)	(0.0066)	(0.0070)
Earnings: above median	0.0539***	0.0794***	0.0797***	0.0697***	0.0648***	0.0611***
	(0.0053)	(0.0065)	(0.0071)	(0.0074)	(0.0076)	(0.0079)
Earnings: none	0.0208***	0.0340***	0.0359***	0.0359***	0.0334***	0.0337***
	(0.0054)	(0.0062)	(0.0067)	(0.0075)	(0.0084)	(0.0094)
Income: below median	0.0113***	0.0252***	0.0247***	0.0245***	0.0214***	0.0188***
	(0.0032)	(0.0038)	(0.0044)	(0.0049)	(0.0054)	(0.0058)
Income: above median	0.0536***	0.0768***	0.0762***	0.0694***	0.0636***	0.0599***
	(0.0046)	(0.0056)	(0.0061)	(0.0064)	(0.0066)	(0.0069)
Income: bottom quartile	0.0095**	0.0208***	0.0181***	0.0160**	0.0116*	0.0035
	(0.0040)	(0.0046)	(0.0055)	(0.0062)	(0.0068)	(0.0074)
Income: top quartile	0.0693***	0.0941***	0.0914***	0.0800***	0.0736***	0.0695***
	(0.0073)	(0.0084)	(0.0091)	(0.0095)	(0.0096)	(0.0100)

Note: Estimates show the effect of lottery winnings, measured in hundreds of thousands, on new homeownership in the year of the lottery win and each of the subsequent five calendar years differentiated by demographic and financial characteristics. Homeownership is measured using mortgages and property tax deductions. Age is measured in the year of the lottery win, while marital status and financial characteristics are measured prior to the win. Attention is restricted to those without a home prior to the lottery win. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year fixed effects. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 4: The Effect of Resources on Marriage by Baseline Status

Year Relative to Lottery Win	T=0	T=1	T=2	T=3	T=4	T=5
Unmarried	0.0189***	0.0266***	0.0243***	0.0205***	0.0172***	0.0118**
	(0.0032)	(0.0039)	(0.0043)	(0.0046)	(0.0049)	(0.0051)
Mean Dep	0.0484	0.0862	0.1163	0.1417	0.1622	0.1798
Observations	729,924	699,519	676,881	650,941	626,696	603,162
Married	-0.0042	0.0047	-0.0018	-0.0060	-0.0103**	-0.0098**
	(0.0034)	(0.0039)	(0.0042)	(0.0044)	(0.0046)	(0.0048)
Mean Dep	0.9428	0.9074	0.8785	0.8549	0.8359	0.8195
Observations	463,748	453,466	443,717	431,965	420,039	409,040
Overall	0.0070***	0.0162***	0.0115***	0.0073**	0.0037	0.0010
	(0.0023)	(0.0028)	(0.0031)	(0.0034)	(0.0036)	(0.0037)
Mean Dep	0.3915	0.4045	0.4132	0.4212	0.4275	0.4333
Observations	1,224,621	1,185,650	1,154,648	1,117,131	1,080,999	1,046,110

Note: Estimates show the percentage point effect of lottery winnings, measured in hundreds of thousands, on being married in the year of the lottery win and each of the subsequent five calendar years. Changes in marital status are measured relative to the pre-win period. The estimates are differentiated across those who were and were not married prior to the lottery win, revealing the effect on new marriages and divorces. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 5: The Effect of Resources on Marriage: Bin Design

	Unmarried Before	Married Before	Overall
Win amount 10k-50k	0.0055	0.0002	0.0035
	(0.0035)	(0.0041)	(0.0027)
Win amount 50k-100k	0.0275***	0.0060	0.0179***
	(0.0083)	(0.0087)	(0.0061)
Win amount 100k-250k	0.0421***	0.0082	0.0254***
	(0.0102)	(0.0096)	(0.0072)
Win amount 250k-500k	0.0880***	0.0111	0.0516***
	(0.0203)	(0.0204)	(0.0147)
Win amount 500k-1,000k	0.0625***	0.0034	0.0325**
	(0.0237)	(0.0203)	(0.0160)
Win amount 1,000k or more	0.0864**	-0.0399	0.0171
	(0.0343)	(0.0260)	(0.0214)
Mean Dep	0.0863	0.9076	0.4096
Observations	701,131	455,221	1,156,352

Note: Estimates show the percentage point effect of lottery winnings on being married in the year after the lottery win. Changes in marital status are measured relative to the pre-win period. The estimates are differentiated across those who were and were not married prior to the lottery win, revealing the effect on new marriages and divorces. The bin specifications interact six win size ranges with an indicator for being a current, rather than future, lottery winner. Win sizes are classified according to five cutoffs: $10,000, $50,000, $100,000, $500,000, and $1,000,000 or more. The specifications include year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 6: The Effect of Resources on Marriage if Unmarried Before Win: Heterogeneity

Year Relative to Lottery Win	T=0	T=1	T=2	T=3	T=4	T=5
			Demographics			
Age 25-34	0.0220***	0.0340***	0.0302***	0.0276***	0.0302***	0.0244***
	(0.0050)	(0.0061)	(0.0070)	(0.0075)	(0.0078)	(0.0081)
Age 35-44	0.0176***	0.0222***	0.0209***	0.0176***	0.0090	0.0030
	(0.0045)	(0.0052)	(0.0056)	(0.0060)	(0.0064)	(0.0069)
Female	0.0194***	0.0302***	0.0267***	0.0212***	0.0133*	0.0066
	(0.0047)	(0.0055)	(0.0062)	(0.0067)	(0.0070)	(0.0076)
Male	0.0188***	0.0243***	0.0232***	0.0203***	0.0196***	0.0149**
	(0.0043)	(0.0053)	(0.0059)	(0.0063)	(0.0067)	(0.0069)
			Financial Status			
No investments	0.0207***	0.0323***	0.0302***	0.0278***	0.0244***	0.0168***
	(0.0038)	(0.0046)	(0.0052)	(0.0056)	(0.0059)	(0.0063)
Has investments	0.0161***	0.0156**	0.0131*	0.0066	0.0043	0.0034
	(0.0056)	(0.0069)	(0.0075)	(0.0081)	(0.0085)	(0.0087)
Earnings: below median	0.0177***	0.0288***	0.0273***	0.0229***	0.0172**	0.0161**
	(0.0047)	(0.0058)	(0.0064)	(0.0069)	(0.0072)	(0.0078)
Earnings: above median	0.0180***	0.0218***	0.0183***	0.0158**	0.0117*	0.0050
	(0.0046)	(0.0054)	(0.0060)	(0.0064)	(0.0068)	(0.0071)
Earnings: none	0.0312**	0.0478***	0.0478***	0.0390**	0.0614***	0.0392*
	(0.0141)	(0.0166)	(0.0185)	(0.0196)	(0.0207)	(0.0217)
Income: below median	0.0155***	0.0259***	0.0249***	0.0187***	0.0147**	0.0120*
	(0.0039)	(0.0049)	(0.0054)	(0.0059)	(0.0062)	(0.0067)
Income: above median	0.0219***	0.0257***	0.0215***	0.0204***	0.0176**	0.0089
	(0.0054)	(0.0062)	(0.0068)	(0.0072)	(0.0077)	(0.0079)
Income: bottom quartile	0.0142***	0.0248***	0.0297***	0.0239***	0.0228**	0.0110
	(0.0053)	(0.0070)	(0.0079)	(0.0086)	(0.0091)	(0.0099)
Income: top quartile	0.0215**	0.0168	0.0197*	0.0204	0.0219*	0.0127
	(0.0098)	(0.0109)	(0.0116)	(0.0126)	(0.0131)	(0.0137)

Note: Estimates show the percentage point effect of lottery winnings, measured in hundreds of thousands, on being married in the year of the lottery win and each of the subsequent five calendar years. Attention is restricted to those who were unmarried prior to the win, revealing the effect on new marriages, and changes in marital status are measured relative to the pre-win period. The effects are differentiated by demographic and financial characteristics. Age is measured in the year of the lottery win, while financial characteristics are measured prior to the win. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year fixed effects. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 7: The Effect of Resources on Marriage if Married Before Win: Heterogeneity

Year Relative to Lottery Win	T=0	T=1	T=2	T=3	T=4	T=5
			Demographics			
Age 25-34	-0.0066	0.0063	-0.0017	-0.0107	-0.0123	-0.0098
	(0.0077)	(0.0091)	(0.0096)	(0.0101)	(0.0103)	(0.0109)
Age 35-44	-0.0047	0.0019	-0.0025	-0.0061	-0.0112**	-0.0104**
	(0.0037)	(0.0041)	(0.0045)	(0.0048)	(0.0051)	(0.0053)
Female	-0.0112**	-0.0025	-0.0080	-0.0120*	-0.0171**	-0.0157**
	(0.0053)	(0.0062)	(0.0066)	(0.0071)	(0.0075)	(0.0078)
Male	0.0000	0.0094*	0.0023	-0.0019	-0.0058	-0.0058
	(0.0044)	(0.0049)	(0.0053)	(0.0057)	(0.0059)	(0.0061)
			Financial Status			
No investments	-0.0046	0.0088*	0.0020	-0.0048	-0.0080	-0.0052
	(0.0045)	(0.0053)	(0.0057)	(0.0060)	(0.0063)	(0.0065)
Has investments	-0.0039	-0.0020	-0.0080	-0.0085	-0.0141**	-0.0163**
	(0.0050)	(0.0055)	(0.0059)	(0.0064)	(0.0067)	(0.0070)
Earnings: below median	0.0019	0.0040	0.0010	-0.0027	-0.0095	-0.0100
	(0.0045)	(0.0050)	(0.0055)	(0.0058)	(0.0062)	(0.0064)
Earnings: above median	-0.0120*	0.0037	-0.0076	-0.0118	-0.0132	-0.0163*
	(0.0063)	(0.0072)	(0.0076)	(0.0082)	(0.0083)	(0.0089)
Earnings: none	-0.0087	0.0100	0.0024	-0.0046	-0.0063	0.0076
	(0.0083)	(0.0102)	(0.0108)	(0.0115)	(0.0122)	(0.0125)
Income: below median	-0.0121	0.0059	-0.0070	-0.0173	-0.0214*	-0.0187
	(0.0091)	(0.0106)	(0.0110)	(0.0115)	(0.0118)	(0.0123)
Income: above median	-0.0017	0.0046	-0.0002	-0.0024	-0.0068	-0.0068
	(0.0034)	(0.0039)	(0.0043)	(0.0046)	(0.0049)	(0.0051)
Income: bottom quartile	0.0157	0.0278	0.0234	0.0105	-0.0003	-0.0193
	(0.0148)	(0.0178)	(0.0178)	(0.0185)	(0.0186)	(0.0195)
Income: top quartile	0.0006	0.0074*	0.0038	0.0008	-0.0039	-0.0060
	(0.0036)	(0.0042)	(0.0046)	(0.0051)	(0.0054)	(0.0057)

Note: Estimates show the percentage point effect of lottery winnings, measured in hundreds of thousands, on being married in the year of the lottery win and each of the subsequent five calendar years. Attention is restricted to those who were married prior to the win, revealing the effect on remaining married, and changes in marital status are measured relative to the pre-win period. The effects are differentiated by demographic and financial characteristics. Age is measured in the year of the lottery win, while financial characteristics are measured prior to the win. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year fixed effects. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 8: The Effect of Resources on Births

	Births by Year Relative to Lottery Win						Any	Total
	T=0	T=1	T=2	T=3	T=4	T=5	Child	Children
No children prior	0.0010	0.0090***	0.0023	-0.0004	-0.0042	-0.0017	0.0051	0.0046
	(0.0023)	(0.0024)	(0.0025)	(0.0026)	(0.0027)	(0.0027)	(0.0049)	(0.0071)
Mean Dep	0.0444	0.0447	0.0470	0.0476	0.0463	0.0441	0.2127	0.2747
Observations	523,318	511,760	499,848	483,164	466,170	449,795	449,795	449,795
Children prior	0.0026	0.0014	-0.0010	0.0020	-0.0036	-0.0004	-0.0033	-0.0015
	(0.0038)	(0.0038)	(0.0038)	(0.0037)	(0.0040)	(0.0038)	(0.0050)	(0.0061)
Mean Dep	0.0549	0.0509	0.0430	0.0355	0.0297	0.0244	0.2022	0.2391
Observations	648,087	633,370	617,935	597,529	576,594	556,745	556,745	556,745
Overall	0.0015	0.0044*	-0.0001	0.0003	-0.0045	-0.0016	0.0000	0.0007
	(0.0024)	(0.0024)	(0.0024)	(0.0024)	(0.0028)	(0.0025)	(0.0036)	(0.0047)
Mean Dep	0.0502	0.0482	0.0448	0.0409	0.0371	0.0332	0.2069	0.2550
Observations	1,171,405	1,145,130	1,117,783	1,080,693	1,042,764	1,006,540	1,006,540	1,006,540

Note: Estimates show the effect of lottery winnings, measured in hundreds of thousands, on fertility. Columns 2 through 7 present the estimated effect on births in the year of the lottery win and each of the subsequent five calendar years. Column 8 is the effect on having had at least one child since the win by year 5. The last column presents the estimated change in the cumulative number of births since the lottery win by year 5. The estimates are differentiated across those who did and did not have children prior to the lottery win, revealing the effect on new family formation and family growth. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 9: The Effect of Resources on Total Births After 5 Years: Bin Design

	No Prior Children	Prior Children	Overall
Win amount 10k-50k	-0.0010	-0.0035	-0.0025
	(0.0069)	(0.0061)	(0.0046)
Win amount 50k-100k	-0.0256	-0.0040	-0.0159
	(0.0157)	(0.0136)	(0.0104)
Win amount 100k-250k	0.0286	0.0043	0.0139
	(0.0186)	(0.0164)	(0.0125)
Win amount 250k-500k	0.0225	-0.0118	0.0032
	(0.0368)	(0.0308)	(0.0243)
Win amount 500k-1,000k	0.0087	0.0203	0.0155
	(0.0410)	(0.0369)	(0.0277)
Win amount 1,000k or more	0.0617	0.0735	0.0695*
	(0.0595)	(0.0472)	(0.0388)
Mean Dep	0.2748	0.2391	0.2551
Observations	451,112	558,271	1,009,383

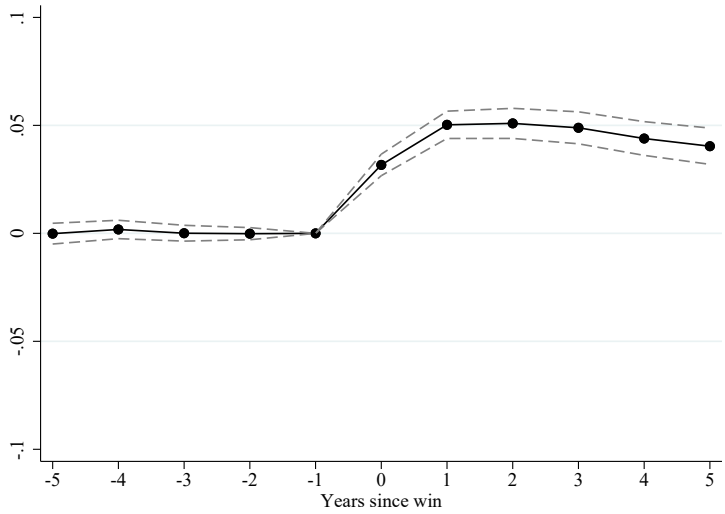
Note: Estimates show the effect of lottery winnings on the cumulative number of births five years after the lottery win. The estimates are differentiated across those who did and did not have children prior to the lottery win, revealing the effect on new family formation and family growth. The bin specifications interact six win size ranges with an indicator for being a current, rather than future, lottery winner. Win sizes are classified according to five cutoffs: $10,000, $50,000, $100,000, $500,000, and $1,000,000 or more. The specifications include year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Table 10: The Effect of Resources on Births: Heterogeneity

	Births by Year Relative to Lottery Win						Total
	T=0	T=1	T=2	T=3	T=4	T=5	Children
				Demographics			
Age 25-34	0.0022	0.0057	0.0008	-0.0023	-0.0089**	-0.0018	0.0070
	(0.0039)	(0.0040)	(0.0040)	(0.0040)	(0.0044)	(0.0042)	(0.0082)
Age 35-44	0.0010	0.0031	-0.0000	0.0015	0.0001	-0.0010	-0.0016
	(0.0028)	(0.0029)	(0.0028)	(0.0028)	(0.0029)	(0.0027)	(0.0049)
Married	0.0007	0.0002	0.0006	-0.0016	-0.0088*	-0.0019	0.0016
	(0.0048)	(0.0047)	(0.0046)	(0.0045)	(0.0050)	(0.0045)	(0.0080)
Single	0.0006	0.0063**	-0.0006	0.0001	-0.0036	-0.0030	0.0030
	(0.0029)	(0.0029)	(0.0031)	(0.0030)	(0.0033)	(0.0031)	(0.0064)
Non-filer	0.0056	0.0069	-0.0031	0.0032	-0.0007	-0.0015	-0.0020
	(0.0053)	(0.0059)	(0.0059)	(0.0060)	(0.0063)	(0.0060)	(0.0116)
Female	0.0016	0.0041	-0.0010	0.0024	-0.0039	0.0031	-0.0029
	(0.0039)	(0.0039)	(0.0040)	(0.0038)	(0.0045)	(0.0039)	(0.0071)
Male	0.0010	0.0048	0.0008	-0.0007	-0.0043	-0.0040	0.0031
	(0.0029)	(0.0030)	(0.0030)	(0.0030)	(0.0035)	(0.0031)	(0.0063)
				Financial Status			
No investments	0.0031	0.0054*	0.0007	0.0022	-0.0029	-0.0005	0.0026
	(0.0027)	(0.0028)	(0.0028)	(0.0028)	(0.0031)	(0.0029)	(0.0055)
Has investments	-0.0029	0.0018	-0.0023	-0.0048	-0.0090*	-0.0050	-0.0035
	(0.0046)	(0.0045)	(0.0048)	(0.0045)	(0.0054)	(0.0047)	(0.0091)
Earnings: below median	0.0019	0.0017	-0.0019	0.0006	-0.0073*	-0.0025	0.0038
	(0.0037)	(0.0036)	(0.0037)	(0.0036)	(0.0041)	(0.0036)	(0.0071)
Earnings: above median	0.0008	0.0059	0.0029	-0.0012	-0.0018	-0.0028	-0.0022
	(0.0037)	(0.0037)	(0.0039)	(0.0039)	(0.0041)	(0.0041)	(0.0076)
Earnings: none	0.0013	0.0078	-0.0032	0.0024	-0.0030	0.0024	-0.0031
	(0.0054)	(0.0057)	(0.0055)	(0.0056)	(0.0063)	(0.0058)	(0.0108)
Income: below median	0.0009	0.0056*	0.0026	0.0000	-0.0044	-0.0006	0.0025
	(0.0032)	(0.0033)	(0.0034)	(0.0034)	(0.0038)	(0.0035)	(0.0069)
Income: above median	0.0021	0.0036	-0.0020	0.0006	-0.0045	-0.0026	0.0003
	(0.0033)	(0.0033)	(0.0034)	(0.0032)	(0.0037)	(0.0033)	(0.0064)
Income: bottom quartile	0.0040	0.0012	-0.0038	0.0024	-0.0044	-0.0006	0.0007
	(0.0043)	(0.0046)	(0.0045)	(0.0046)	(0.0050)	(0.0047)	(0.0090)
Income: top quartile	-0.0014	0.0008	-0.0036	-0.0021	-0.0064	-0.0067	0.0035
	(0.0050)	(0.0048)	(0.0048)	(0.0046)	(0.0053)	(0.0047)	(0.0091)

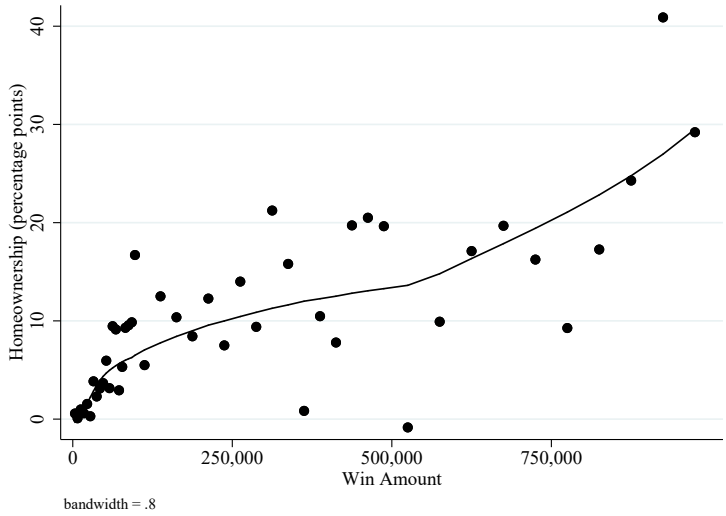
Note: Estimates show the effect of lottery winnings, measured in hundreds of thousands, on births in the year of the lottery win and each of the subsequent five calendar years, as well as the cumulative effect on births over the five year period. The effects are differentiated by demographic and financial characteristics. Age is measured in the year of the lottery win, while marital status and financial characteristics are measured prior to the win. The sample includes lottery wins ranging between $1,000 and $500,000. The specifications interact the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and include year fixed effects. Errors are clustered at the winner level. The symbols *, **, and *** represent statistical significance at 10, 5, and 1 percent respectively.

Figure 1: The Effect of Lottery Wins on New Homeownership



Note: The figure presents the estimated change in new homeownership per $100,000 of lottery winnings in the years before and after the win. Attention is restricted to those who did not own a home in the year prior to the win. The figure includes 95 percent confidence intervals for the estimates. The sample includes lottery wins ranging between $1,000 and $500,000. Point estimates are based on a specification interacts the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and includes year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level.

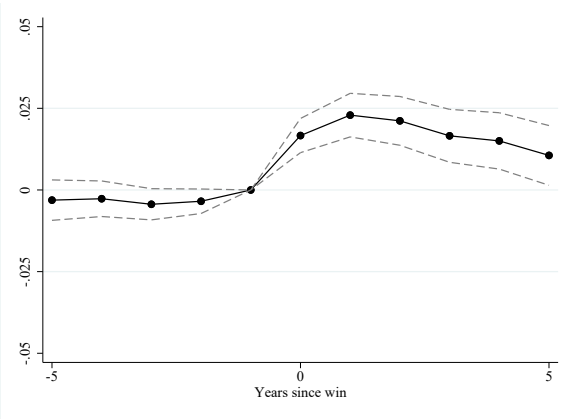
Figure 2: LOWESS Plot of Lottery Win Effects on New Homeownership



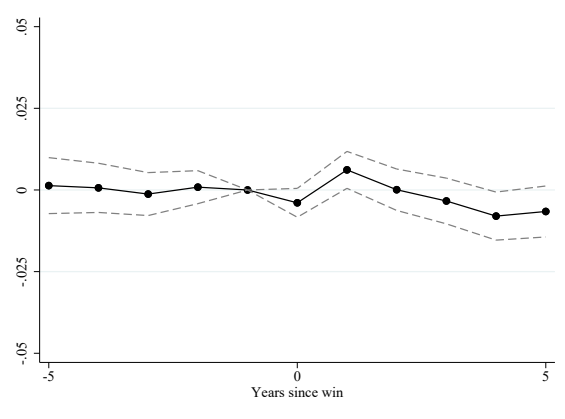
Note: The figure is a LOWESS plot fitted to the effects of lottery wins on new homeownership in the year after the lottery win. Attention is restricted to those who did not own a home in the year prior to the win. The estimates are plotted for increments of $5,000 up to $100,000, $25,000 up to $500,000, and $50,000 up to $1,000,000. The effects are based on a specification that interacts the win size with an indicator for being a current, rather than future, lottery winner and includes year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Smoothing is based on a bandwidth of 0.8.

Figure 3: The Effect of Lottery Wins on Marriage and Divorce

(a) Married (if unmarried prior to win)



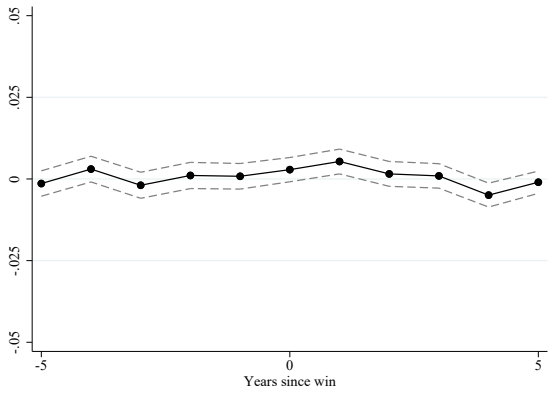
(b) Married (if married prior to win)



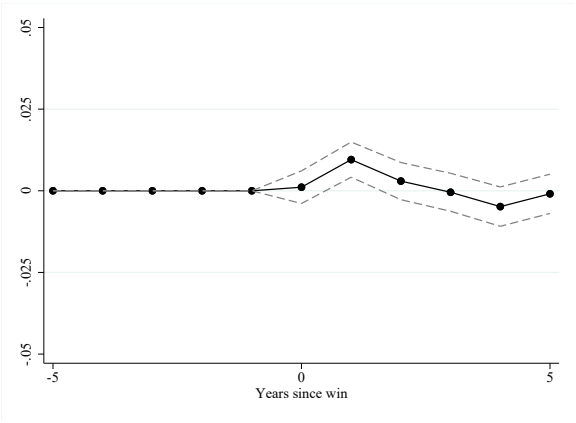
Note: The figures present the estimated change in being married per $100,000 of lottery winnings in the years before and after the win. In figure (a), attention is restricted to those who were unmarried in the year prior to the win, revealing new marriages. In figure (b), attention is restricted to those who were married in the year prior to the win, revealing the likelihood of divorce. The figures include 95 percent confidence intervals for the estimates. The sample includes lottery wins ranging between $1,000 and $500,000. The specification interacts the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and includes year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level.

Figure 4: The Effect of Lottery Wins on Fertility by Year

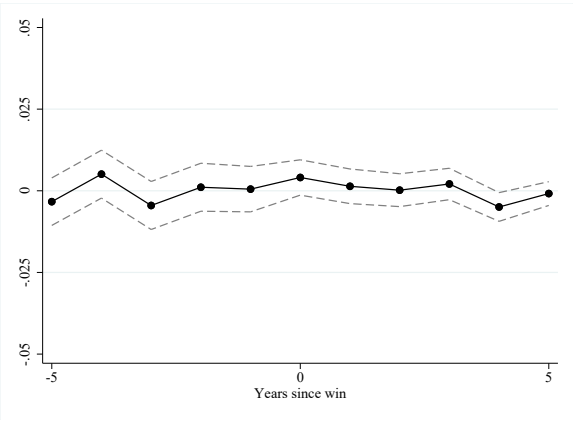
(a) Overall



(b) No Children Prior to Win



(c) Children Prior to Win



Note: The figures present the estimated change in births per $100,000 of lottery winnings in the years before and after the win. Figure (a) presents the overall effect of lottery wins on births for those with and without children prior to the win. In figure (b), attention is restricted to those who did not have children prior to the win, revealing new family formation. In figure (c), attention is restricted to those who had children prior to the win, revealing family growth. The figures include 95 percent confidence intervals for the estimates. The sample includes lottery wins ranging between $1,000 and $500,000. The specification interacts the win amount (in hundreds of thousands of dollars) with an indicator for being a current, rather than future, lottery winner and includes year and age fixed effects, as well as controls for gender, citizenship, pre-win employment status, earnings, self-employment, and investments. Errors are clustered at the winner level.