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AFFORDABLE HOUSING DURING CHILDHOOD IMPROVES LONG-TERM OUTCOMES OF WOMEN AND THEIR CHILDREN

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ABSTRACT

The Low Income Housing Tax Credit (LIHTC) Program is the largest federal affordable housing program in the U.S. Yet, little is known about its impacts on children and families. This paper shows how LIHTC exposure during childhood affects women's health outcomes in early-adulthood, as well as the health of their infants. Using geocoded Florida Natality data for 1980-2024 and addresses for LIHTC units we study women born to mothers without any college education between 1980-1999. We use a matching model to compare women born into Census tracts that receive LIHTC during their childhoods to women born into Census tracts without LIHTC during their childhoods. These women and their infants are then observed in adulthood when they first give birth in Florida. We find that a standard deviation increase in childhood LIHTC exposure improves the maternal health index and the infant health index by a small but statistically significant 0.007 standard deviations, and improves an index of maternal SES by 0.005 standard deviations. Given that the average treated tract in our sample has only 0.023 LIHTC units per resident, there is considerable room for increasing exposure. LIHTC exposure during childhood improves outcomes the most for Black women, consistent with Black women being more likely to live in LIHTC units, and also more likely to live in Census tracts that receive LIHTC.

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1. Introduction

There is increasing evidence that economic supports for families can help to break the intergenerational transmission of poverty by improving children's adult outcomes (Almond et al. 2018; Bailey et al. 2024; Hoynes et al. 2015). Housing assistance is a large transfer to families who are lucky enough to get it and can be comparable or greater in magnitude than assistance from SNAP (the Supplemental Nutrition Assistance Program) or the EITC (Earned Income Tax Credit). There are many reasons that housing subsidies could affect children's outcomes. In addition to easing family budget constraints by reducing rent burden, the subsidies might reduce household stress levels and enable families to live in better units or in better neighborhoods. Affordable housing for families may be particularly important for children since they thrive on stability (Bures 2003).

Yet the relationship between affordable housing in childhood and future outcomes is still poorly understood. Currie and Yelowitz (2000) find positive effects of residence in a public housing project on a measure of children's educational attainment, other things being equal. Lindberg et al. (2010) review the literature on housing programs and health and find limited evidence of positive effects of Section 8 housing vouchers. However, both conventional public housing projects and voucher programs have been declining in importance relative to housing subsidized under the Low Income Housing Tax Credit (LIHTC) program. The LIHTC program is now the largest federal affordable housing program in the U.S. (Congressional Research Service Report #RL34591 2009). It provides approximately 15 billion dollars in tax credits annually to developers of new or renovated housing who set aside units for low-income renters. By 2022, about 2% of households were living in units that received LIHTC credits, which is larger than the number of households who received housing vouchers in that year, and greater than the largest number that ever lived in conventional public housing projects (Soltas 2024).

Despite the LIHTC's program size, its impacts on families have not been well studied. Research shows that the LIHTC program affects low-income neighborhoods by increasing house prices, decreasing crime rates, and making neighborhoods more racially and ethnically diverse (Baum-Snow and Marion 2009, Schwartz et al. 2006, Diamond and McQuade 2019, Voith et al. 2022, Center for Housing Policy 2009) though some of these effects may reflect gentrification that does not necessarily benefit incumbent residents of neighborhoods that receive LIHTC units. There is relatively little research connecting LIHTC exposure during childhood to low-income children's current or future adult outcomes. One recent exception is Derby (2021) who uses tax records to study children whose families moved into newly constructed LIHTC housing at various ages. She finds that every additional year in a LIHTC unit increases the probability of enrolling in college by 4.2-4.3% and increases earnings by 5.7%, suggesting very large effects for a typical stay of around seven years. Additionally, Gensheimer et al. (2022) show that children living in LIHTC units are more likely to have well-child and dental visits. [2]

This paper addresses this gap in the literature using data on the locations of LIHTC-funded units combined with Vital Statistics Natality data from Florida. We compare women who were born in Census tracts that received LIHTC-funded units during their childhoods to women who lived in a sample of matched Census tracts that did not receive such units, and we focus on effects on their health and the health of their children as well as on measures of adult socioeconomic status. The types of outcomes that can be observed at the time of the first birth include indicators of the mother's health such as diabetes or high blood pressure, indicators of infant health such as birth weight and premature delivery, and indicators of adult socioeconomic status such as her education and marital status.

We construct several measures of exposure to LIHTC. At the neighborhood level, we leverage both the number of units per capita (0.023 in the average treated tract) and the number of years of childhood (6.48) that the mother could have been exposed in her Census tract, given her age at the time of the development, to create measures of overall LIHTC exposure. Models estimated using these measures capture both the direct benefits of living in a LIHTC unit during childhood, and the indirect benefits of any neighborhood improvements caused by the LIHTC program. At the individual level, it is possible to observe the number of years that the address where the mother was born was a LIHTC unit during her childhood. If LIHTC affects families only through the direct provision of a housing subsidy, then this individual-level measure of LIHTC exposure can be instrumented using

[2] Gensheimer et al. (2024) shows that adults living in LIHTC units are in worse health than adults who do not live in LIHTC, though some of the health differences could be due to differences in socioeconomic status across the two populations.

the neighborhood-level measure in order to estimate a "treatment on the treated" effect that can be compared to the estimated effects of other types of direct-to-family assistance taken from the literature.

We find that neighborhood exposure to LIHTC has consistently significant positive effects on indices of maternal health, infant health, and maternal socioeconomic status. A one standard deviation increase in LIHTC exposure, which would involve roughly tripling the number of LIHTC units per capita in a treated neighborhood, would lead to an increase of 0.007 standard deviations in the maternal health and infant health indices and 0.005 in the index of maternal socioeconomic status. Examining the components of these indices, the effects appear to be broad based with reductions in risk factors for pregnancy, better health behaviors (less smoking and more prenatal care), lower probabilities of low birth weight, preterm birth, and infant mortality, and higher maternal education as well as lower participation in Medicaid and WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children). The effects are small, consistent with the small number of units per capita in treated Census tracts and the limited years of exposure. Instrumental variables estimates of the treatment on the treated suggest that each year a woman's birth address is a LIHTC unit, her maternal health index improves by 0.032-standard deviations, her infant's health index improves by 0.031 standard deviations, and her adult SES index improves by 0.024 standard deviations. The implied effect of a dollar of subsidy is large compared to other estimates in the literature, suggesting that in addition to the direct effect of subsidies to households, LIHTC effects on neighborhoods may also be important.

In addition to the overall estimates, effects are estimated separately by race and ethnicity. We estimate that Black women are three times more likely to live in LIHTC units when they first give birth compared to non-Black women, and hence they may be more likely to live in LIHTC units at any age. We also find that LIHTC units are more likely to be placed in neighborhoods with a higher share of Black residents. Previous research finds that LIHTC has more positive spillover effects in low-income neighborhoods with high concentrations of racial/ethnic minorities (Diamond and McQuade 2019). Hence, Black women may benefit more from LIHTC because they are more likely to live in the affordable housing units than non-Black women, and because LIHTC developments may have more positive spillovers in their neighborhoods.

Consistent with these expectations, the estimates by race and ethnicity suggest that LIHTC exposure during childhood improves outcomes the most for Black women. A one standard deviation increase in LIHTC exposure increases the indices of maternal health, infant health, and maternal SES by 0.011, 0.009, and 0.010 standard deviations, respectively.

The main models estimated focus on exposure during the first 10 years of the mother's life. These estimates are compared to those from alternative models that consider exposure up to age 18. This comparison shows that the estimated effects are roughly doubled when exposure at ages 11 to 18 is considered, suggesting that exposure over adolescence is equally beneficial to exposure in early childhood.

Finally, because LIHTC exposure has a small negative effect on the probability that a woman born in Florida is later observed giving birth in the Florida natality records, we use Lee bounds to consider the robustness of our estimates to selection into the birthing sample. These bounds suggest that the estimated effects are robust to even extreme assumptions about those women missing from the birth sample (e.g. that all the missing women are the least healthy, or all the missing women are the most healthy).

The rest of the paper proceeds as follows. We first provide some additional background about the operation of the LIHTC program. Second, we describe the data and how we construct indices of the outcome variables. Third, we provide an overview of models and estimation methods, and describe our measures of LIHTC exposure in some detail. Then we describe the results. The paper concludes with a discussion of implications for both the literature on the long-term effects of early childhood intervention, and the efficacy of the LIHTC program.

2. Background

The Low Income Housing Tax Credit (LIHTC) was created as part of the Tax Reform Act of 1986. Initially a temporary program, it became permanent under the Omnibus Budget Reconciliation Act in 1993. The federal government gives each state a quota of federal tax credits to be used to subsidize LIHTC housing. The state tax credit amount depends on state population, subject to a small state minimum amount.[3] States are respon-

[3]The tax credits available to each state in 2025 are shown here: https://www.novoco.com/resource-centers/affordable-housing-tax-credits/2025-federal-lihtc-information-by-state#F

sible for allocating tax credits to private developers. Developers apply for tax credits from state housing authorities via a competitive process. LIHTC developments are either new construction or renovations of existing housing stock. Developments are eligible for tax credits if they meet affordability requirements: either (i) at least 20% of renters earn below 50% of area median income (AMI) or (ii) at least 40% of renters earn below 60% of AMI. In addition, rents for these units must be less than 30% of the low-income renter's AMI threshold (50% or 60%).

These AMI thresholds are typically computed at the municipality or non-municipal county level. For example, in Orlando County, the current AMI is around $65,000, so 50% AMI in Orlando is $32,500. Rent would be capped at one third of this amount, yielding a rent cap of $812.50 per month. The value of the subsidy then depends on how much an apartment would normally rent for. An informal search of two-bedroom apartment listings in Orlando suggests that there is little available below $900 per month, but more available at the $1,000 price point. Hence, a reasonable estimate of the current subsidy might be approximately $100-200 a month. This example shows that the subsidies available to families are likely to be smaller than those available under older housing assistance programs, which cap rents at 30% of *the recipient's income.*

In Florida, the Florida Housing Finance Corporation (FHFC) is responsible for soliciting applications from developers for LIHTC credits. Demand from developers exceeds the supply of credits, so the application process is highly competitive. Only about 20% of all applications are funded each year (Gupta 2024). Moreover, the FHFC tends to award credits to developments that will maintain their affordability provisions for longer periods of time and/or are sited in "Qualified Census Tracts (QCTs)." QCTs are Census tracts where at least 50% of the households have incomes below 60% of the AMI, or where the poverty rate is at least 25%. The affordability provisions must remain in place for at least 15 years for the development to continue to qualify for tax credits, but may extend beyond 30 years.

When a development receives tax credits, the developer usually sells the credits in financial markets to raise capital for the project. Since 1986, over 3 million affordable housing units have received LIHTC credits nationwide and more than 223,965 LIHTC units have been placed into service in Florida (Gupta 2024). The Urban Institute estimates that approximately 25% of all new housing stock built between 2000-2019 was financed in part by LIHTC (Freemark and Scally 2023).

3. Data

This project uses four sources of data. The first is information about LIHTC affordable housing units from the National Housing Preservation Database (NHPD).[4] The second source is tract-level Census data for 1980-2012 harmonized by Logan et al. (2012) so that all tracts have constant 2010-defined boundaries over time. The main source of outcomes data is the confidential Florida Vital Statistics Natality (birth) and Mortality files from 1980-2024 which have information about individuals' addresses. Finally, we also use Florida voter registration records from May 2020 as an additional way to track residence in the state of Florida. Each of these data sets and the analysis sample are described below.

The LIHTC data includes property-level information on all units that came into service between 1986-2017.[5] In order to focus on units that were available to families with children, approximately 10% of units earmarked for the disabled and/or elderly were excluded. Following Soltas (2024), we further focus on LIHTC developments that received "9% tax credits" from the Florida Housing Finance Corporation (FHFC). The FHFC has a limited number of "9% credits" that it awards each year, making the application process competitive. The 9% credits are designed to subsidize up to 70% of the development's costs.[6] Given the competitive nature of the credits, the state has more control over where the developments will be located and it can prioritize criteria such as a higher share of units allocated for low-income tenants (i.e., the size of the set aside) and set asides that are even longer than 30 years.[7] We focus on the competitive "9% credit" developments because they are more likely to be located in high-poverty areas compared to the "non-competitive 4% credits," which only fund up to 30% of a development's cost. The 9% credit developments are also more likely to be new construction or substantially rehabilitated properties.

We geocode the LIHTC development addresses to match 2010 Census

[4]The data was downloaded in May 2020 and is available here: https://preservationdatabase.org/.

[5]We chose 2017 as the endpoint because women born in 1999 turned 18 in 2017.

[6]The 9% credit applies to the qualified basis amount of the project (dollar value) that investors can use to offset their federal tax liability for up to 10 years.

[7]The FHFC's minimum duration for set asides is already 30 years: https://www.floridahousing.org/programs/developers-multifamily-programs/low-income-housing-tax-credits

tract boundaries, and merge to information on Census tracts. The Logan et al. (2012) data include tract population, demographic characteristics, median income, percentage of the population employed, median rent, etc. We use the Logan et al. (2012) data from 1990 to show which Census tracts in Florida received a LIHTC development between 1989-2017. Census tracts that had not received any LIHTC as of 2017 serve as control tracts. Figure 1 shows the number of LIHTC units placed into service over time. The first development was placed into service in 1990 and the last development was placed into service in 2017 (by definition). The most LIHTC units were placed into service in the 1990s, with 1995 being the single year with the most units built ($> 8,000$). Figure 2 shows the geographical distribution of LIHTC units per capita across counties in Florida. The dark blue shaded counties received the most LIHTC units per capita. Those counties include Charlotte, Collier, Columbia, Desoto, Duval, Flagler, Gadsden, Hardee, Hillsborough, Indian River, Jackson, Manatee, Miami-Dade, Monroe, Orange, Osceola, and Suwanee.

We use two extracts from the Florida Vital Statistics Natality data corresponding to the birth of the mother's themselves and the later birth of their infants. The first extract covers females born between 1980-1999 to mothers with a high-school degree or less. Women born to less educated mothers are arguably more likely to be affected by LIHTC than college-educated women; Cook et al. (2025) estimate that only 11% of LIHTC heads of household have college degrees. In what follows, this sample will be referred to as the female birth cohort. The confidential Natality data has the mother's mailing addresses at the time of birth, which can be geocoded to match 2010 Census tracts. This geocoding allows us to determine which women were born into Census tracts that received LIHTC developments during their childhoods.

Next, the female birth cohort was merged to Vital Statistics Mortality files for 1980-2024 using the birth record number provided in both files. Cohort members who died in infancy or childhood before age 11 were dropped because they did not have the opportunity to be exposed to LIHTC throughout childhood. However, mortality after age 10 is included as an outcome variable in the analysis.

The female birth cohort was then merged to Vital Statistics Natality records for 1989-2024 to identify cohort members who later became mothers in Florida. This merge was performed using the cohort member's birth date and name at birth, matched to the maiden name and birth date of the mother on the 1990-2024 Natality records. Approximately 47% of the female birth cohort had given birth in Florida by 2024. The Vital Statistics Natality records include information about the mother's background (education, race, marital status, use of Medicaid, and use of WIC); maternal health at birth (hypertension, diabetes, body mass index (BMI)); maternal health behaviors (smoking, use of prenatal care), and infant health at birth (birth weight, gestational age, APGAR scores, congenital anomalies and neonatal intensive care usage). The information from a woman's first birth provides a snap shot of her socioeconomic status and her health status in early adulthood, while the infant health records provide evidence about potential intergenerational effects of LIHTC.

Outcomes in early adulthood are only observed in the Natality data for women who give birth and it is important to determine the extent to which this sample is representative of the female birth cohort. For this purpose, we also make use of the Florida voter registration file, as of May 2020. An additional 27% of the female birth cohort do not appear as mothers in Florida, but are registered to vote in Florida in 2020. Hence, approximately 25% of the female birth cohort cannot be found in either the natality data or the voter rolls subsequently. Section 4.2 below asks whether LIHTC exposure during childhood affects the probability of becoming either a mother or a registered voter in Florida. We find that LIHTC exposure does not affect the probability of being found at all (in either the birth or the voter registration data) but does have a very small negative correlation with the probability of becoming a mother in Florida. Therefore, in robustness tests, we use Lee bounds to show how our main results change under different assumptions about how LIHTC exposure affects selection into motherhood in Florida.

Since there are many possible health outcomes in the Natality records, and since many outcomes are binary, they are summarized using three indices: (1) a maternal health index, (2) an infant health index, and (3) a maternal socioeconomic status (SES) index. A complication is that some variables (e.g., mother BMI, WIC receipt) are only measured beginning in 2004. Table 1 uses stars to indicate which outcomes are only available starting in 2004. Conditioning on outcomes that are only available post 2004 reduces the sample size significantly. [8] Hence, we create two versions of each index; one that includes only variables available for the full follow-up period

[8] The oldest women in our sample (born 1980) are 24 years old in 2004, and may have given birth prior to age 24.

(1990-2024), and the other using a smaller sample but including all variables including those that start in 2004.

The maternal health index includes information about whether the woman (i) died after age 10, (ii) had any pregnancy risk factors, (iii) received inadequate prenatal care, defined as fewer than 10 visits total, (iv) smoked during pregnancy, (v) had hypertension before or during pregnancy, (vi) had diabetes before or during pregnancy, and/or (vii) had a high BMI (BMI > 35) before pregnancy (2004+). Each of the seven measures is first standardized by subtracting the mean of the control group and dividing by the standard deviation. Then the standardized variables are averaged to create a "poor maternal health index."

The infant health index is constructed similarly. It includes indicators for whether the infant (i) died within the first year of life, (ii) was low birth weight (birth weight $< 2,500$ grams), (iii) was pre-term (gestation < 37 weeks), (iv) had a low APGAR score at birth (APGAR< 3 on a scale of $1-5$), and/or (v) had a congenital abnormality or any other birth complications (2004+).

The index of maternal socioeconomic status is constructed using the following outcomes for women when they first give birth in Florida: (i) whether the woman was a teenage mom (< 18 years old), (ii) was a single mother (i.e., not living with the father at the time of birth), (iii) had less than a high school degree, (iv) received WIC (2004+) and/or (v) received Medicaid and/or was uninsured ("self-pay") (2004+).

Table 1 shows overall means for each outcome variable in the female birth cohort, as well as means by race/ethnicity, where race/ethnicity is defined using the woman's mother's self-identification. We show results for Black women, non-Black Hispanic women, and non-Black non-Hispanic women.[9] Table 1 shows that this sample of mothers who were born between 1980-1999, and giving birth in 1990-2024, were relatively unhealthy. Almost a third had a risk factor for the pregnancy, 11.5% received inadequate prenatal care, and 9.4% had hypertension while 12.45% had high BMI. Infant health outcomes

[9]Race and ethnicity are recorded separately in the Florida Vital Statistics Natality data so that it is possible for a mother to be both Black and Hispanic. If a woman is both Black and Hispanic, we code her as Black only to ensure that we have 3 mutually exclusive groups when we estimate the heterogeneous effects of LIHTC exposure by race/ethnicity. We do not use the father's race/ethnicity because the field is missing for women whose fathers are not listed on their birth certificates.

were also relatively poor with 11.5% low birth weight and almost 15% with newborn complications. About half were single mothers and 27% had less than a high school degree. About two thirds were on WIC and 69% had their births paid for by Medicaid or were uninsured. There were substantial differences by race and ethnicity with Hispanic women doing better on all three indices, while Black women had lower infant health and socioeconomic status. It is notable that White women had high rates of smoking during pregnancy, a known risk factor for poor infant health outcomes. Finally, we find that 2.8% of Black women from the birth cohort lived in a LIHTC unit when they gave birth, which was three times higher than the rate for non-Black mothers (0.9%).

4. Methods

The empirical analysis proceeds in four steps. First, a matching model is used to ask which kinds of tracts received LIHTC between 1990-2017 given the demographic and economic characteristics of tracts in 1990. This model is then used to select "control" tracts that are the nearest neighbors (in probability, sampled without replacement) to tracts that received LIHTC units. Second, we investigate the selection of members of the female birth cohort into motherhood by asking whether LIHTC exposure during childhood affects the probability that women later give birth in Florida. Third, we estimate models that show how LIHTC exposure during childhood affects outcomes at the time of the first birth. Fourth, we estimate instrumental variables models to convert our intent-to-treat (ITT) estimates into treatment-on-the-treated (TOT) estimates, and compare these TOT estimates to the literature on how cash transfers affect maternal and infant health. Each of these steps is discussed further below.

4.1. Matching Census Tracts

Our goal is to determine whether LIHTC exposure during childhood affects health outcomes. One data challenge is that we do not know where members of the female birth cohort lived in childhood, only where their mothers lived at the time they were born. Therefore, the LIHTC exposure measure is defined at the birth tract level where a tract is coded as having LIHTC if it received its first LIHTC development from 1990-2017, and coded as 0 otherwise.

To construct a control group of Census tracts that did not receive any LIHTC units between 1990 and 2017, we estimate the following model:

$$P(Y_r = 1) = \beta_0 + \boldsymbol{X}_{r,1990}\boldsymbol{\beta} + u_r \quad (1)$$

where r indexes Census tracts in Florida ($N = 4,176$). The outcome variable, $Y_r = 1$ if the Census tract had any LIHTC developments open between 1990-2017, and 0 otherwise. The vector $\boldsymbol{X}_{r,1990}$ of baseline Census characteristics measured in 1990 includes total population (1,000s), median family income ($10,000s), %poverty, %college educated, %unemployed, %disabled, %married, %Black, %Hispanic, %speaking a foreign language at-home, %renters, median rent ($100s), %multi-family housing, %vacant housing, and %housing built prior to 1960 ($>$ 30 years old). Equation 1 is estimated as a logit model. The estimated marginal effects are computed at the sample means, and are shown in Table 2. Stata's "psmatch" nearest-neighbor matching algorithm without replacement is then used to construct the control group.

Of the $N = 4,176$ Census tracts in FL, 427 are "treated" with a least one "9% credit" LIHTC development between 1990-2017. The matching model yields 427 "match groups" where each group contains one tract with at least one LIHTC development and its nearest neighbor (selected using the propensity score) without any LIHTC developments. Following Cabral et al. (2025), match-group-cohort fixed effects are included in the models of maternal and child outcomes to eliminate any fixed, unobservable differences in outcomes across pairs of treated and control birthplace tracts.

4.2. Predicting Selection into Motherhood in Florida

To ask whether LIHTC exposure during childhood affects the probability that low-SES women select into the sample of women giving birth, we estimate the following Ordinary Least Squares model:

$$\begin{aligned} P(Mother_{i,r,m,c} = 1) &= \beta_1 Z \sum_{d=1}^{D} [LIHTC_{d,r,c} * Years_{d,r,c}] \\ &+ \boldsymbol{X}_i\boldsymbol{\theta} + \gamma_{m,c} + u_{i,r,m,c} \end{aligned} \quad (2)$$

where i indexes women born in tract r in match group m in cohort c$\in [1980, 1999]$. The primary outcome of interest is whether the woman became a mother in Florida, which determines whether health outcomes can be measured at the time of the first birth. Therefore, $Y_{i,r,m,c} = 1$ if woman i gave birth in Florida between 1990-2024, and 0 otherwise. We explore other outcomes related to follow-up including whether the woman was a registered Florida voter by 2020 (but not a mother), and whether she is entirely missing from follow-up (i.e. she cannot be found after her own birth in either the Vital Statistics Natality data, the Mortality data, or in voter registration records).

LIHTC exposure during childhood is measured in two ways. First, some tracts receive more LIHTC units per capita than others, and the LIHTC developments are placed into service in different years. Therefore, each woman receives a LIHTC per capita ($LIHTC_{d,r,c}$) measure that is specific to a LIHTC development d that is placed into service with ten years of her birth in her birth tract. This variable is constructed by counting the number of units per LIHTC development that a women is exposed to within 10 years of her birth as a fraction of the total population in her birth tract in 1990. This measure is then interacted with the number of years ($Years_{d,r,c}$) that a woman is potentially exposed to each LIHTC development. $Years_{d,r,c}$ also varies across developments, cohorts, and birth tracts, depending on when the LIHTC development is placed into service. The combined exposure measures (LIHTC units per capita × years exposed) are then summed across all LIHTC developments (D) that are placed into service in the woman's birth tract during her childhood (i.e., within 10 years of her own birth) ($\sum_{d=1}^{D} LIHTC_{d,r,c} * Years_{d,r,c}$). Finally, the exposure measure is standardized to have a mean equal to 0 and a variance equal to 1.

To illustrate, suppose that Tract A receives one LIHTC development with 100 units in 1990 and a second LIHTC development with 50 units in 1994 ($D = 2$). Tract A has 1,000 residents in 1990. A woman born in Tract A in 1981 would be exposed to 100 units for 1 year ($1991 - 1990$) and 50 units for 0 years $min[0, 1991 - 1994]$. Her total exposure is $\frac{100}{1000} * 1 + \frac{50}{1000} * 0 = 0.1$. A woman born in Tract A in 1990 receives 10 years of exposure to 100 units ($2000 - 1990$) and 6 years of exposure to 50 units ($2000 - 1994$) for a total exposure of $\frac{100}{1000} * 10 + \frac{50}{1000} * 6 = 1.3$. Meanwhile Tract B receive a single LIHTC development with 25 units in 2000, and it has 2,500 residents in 1990. A woman born in Tract B in 1981 is not exposed to LIHTC during the first 10 years of childhood. A woman born in 1999 in Tract B is exposed to 25 LIHTC units for 9 years ($2009 - 2000 = 9$), for a total exposure of $\frac{25}{2500} * 9 = 0.09$. Finally, Tract C has no LIHTC developments by 2017. Therefore, all women born in Tract C receive a value of 0. On average, women born in later cohorts and women born into Census tracts that receive LIHTC developments earlier have greater exposures. Table 4 shows that the average number of LIHTC units per capita for women born into tracts with LIHTC is 0.023, the average number of years of LIHTC exposure (max 10 in childhood) is 6.48. The average value for total exposure measure is 0.147.

The second measure of childhood LIHTC exposure replaces the variation in years exposed with variation in distance to the nearest LIHTC development during childhood. An advantage of this measure is that a woman can live close to a LIHTC unit, and potentially benefit from spillover effects, without living in the same Census tract. Specifically, the distance between each woman's birth address and each LIHTC development is geocoded (regardless of whether she was a born in a treated or control tract). Then we take the minimum distance across LIHTC developments and create a flag equal to one if the minimum distance is less than 1 mile and zero otherwise. This indicator is interacted with the #LIHTC units per capita in the tract (or in the ZIP Code for women in control tracts) ($\text{LIHTC}_{d,r,c} * < 1$ mile from LIHTC). This second measure is motivated by Diamond and McQuade (2019) who show that spillover effects of LIHTC developments on neighborhood house prices are largest within 1 mile of the developments. Table 4 shows that approximately 38% of women born into "treated" Census tracts were born within 1 mile of the nearest development, compared with only 3.1% of women born into tracts without LIHTC.[10] The table shows that the mean value of the exposure measure is 0.019 in treatment tracts and 0.001 in control tracts. Prior to estimating Equation 2 with this second measure, we standardize the $LIHTC_{d,r,c}$, so β_1 can be interpreted as the effect of a 1-standard deviation increase in the number of LIHTC units per capita for women born within 1 mile of a LIHTC development.

The vector $\boldsymbol{X}_i$ includes controls for the woman's parents' characteristics and her own birth outcomes, which can be viewed in Table 4. Her parents' characteristics include: whether her mother identified as Black, non-Black Hispanic, or non-Black non-Hispanic, whether her mother was born in the U.S., whether her mother was born in Florida, her mother's highest level of educational attainment (< high school or high school diploma), whether her parents were married, whether her father is missing from her birth record,

[10]Women born in tracts without LIHTC, but whose birth addresses are within 1 mile of a LIHTC development, typically live in a ZIP Code with a LIHTC development.

whether her father identified as Black, non-Black Hispanic, or non-Black non-Hispanic, whether her father was born in Florida, and her father's highest level of educational attainment ($<$ high school, high school diploma, some college, BA degree, advanced degree, or missing education information). For women whose fathers are missing from their birth records, the mean values of father Black, father non-Black Hispanic, father non-Black non-Hispanic, and father born in Florida are imputed so that people with missing father information can be retained in the sample. The woman's birth outcomes include her own birth weight, gestational age, and APGAR score. In addition, the model includes match group-cohort fixed effects ($\gamma_{m,c}$) so that comparisons focus on women in treatment tracts and in matched control tracts who were born in the same year. Standard errors are clustered at the tract-level to allow for unobserved tract-level determinants of outcomes.

4.3. Estimating the Health Effects of Childhood LIHTC Exposure

To investigate the effects of childhood LIHTC exposure on outcomes at first-birth, we estimate models of the form:

$$\begin{aligned} Y_{i,r,m,c} &= \beta_1 Z \sum_{d=1}^{D} [LIHTC_{d,r,c} * Years_{d,r,c}] \\ &+ \boldsymbol{A_i}\Psi + \boldsymbol{X}_i\boldsymbol{\theta} + \gamma_{m,c} + u_{i,r,m,c} \end{aligned} \quad (3)$$

The dependent variables, $Y_{i,r,m,c}$, include outcomes related to the adult woman's health at the time of her first birth, outcomes of her firstborn infant, and outcomes related to her socioeconomic status at first birth, all of which were summarized in Table 1. Equation 3 is similar to Equation 2, except that it includes a vector of five indicators for the woman's age at first birth ($\boldsymbol{A_i}$): before age 20, age 21-25, age 26-30, age 31-35, or over age 36.

In addition to estimating Equation 3, which shows the average intent-to-treat effect of childhood LIHTC exposure on mothers' outcomes, we also estimate heterogeneous treatment effects of LIHTC exposure by race. To do so, we interact the LIHTC exposure variables with indicators for Black race, Hispanic (non-Black) ethnicity, and non-Black and non-Hispanic race/ethnicity. The effects of LIHTC are allowed to vary by race/ethnicity because previous research has noted that (i) the average LIHTC household is 69% more likely to be Black compared to LIHTC-eligible households in market-rate units (Cook et al. 2025), and (ii) LIHTC's positive spillover effects primarily emerge in neighborhoods with relatively high shares of non-white residents (Diamond and McQuade 2019). Moreover, much of the research on cash transfers to families show that these transfers have the largest positive health effects on Black women and their infants (e.g., Hoynes et al. 2015, Komro et al. 2019).

4.4. Instrumental Variables Estimation

The empirical approach described thus far estimates the impact of neighborhood-level LIHTC exposure during childhood on later outcomes for first-time mothers and their infants. In this section, we describe the estimation of an instrumental variables model in which the neighborhood level exposure measure is used as an instrument for an estimate of individual-level exposure. This would be a valid estimate of the effect of individual-level exposure to LIHTC if the instrument satisfies the exclusion restriction; that is, if the effects of LIHTC come mainly through the direct effects of childhood participation in LIHTC rather than through indirect spillover effects of LIHTC on neighborhoods. The IV coefficient can be interpreted as an estimate of the effect of the "treatment on the treated" and benchmarked against estimates of the effects of cash transfers from the literature to see whether it is plausible that all of the effects are coming through direct participation in LIHTC.

Since each woman's birth address is known, it is possible to determine whether each birth address became a LIHTC development at any point during a woman's childhood. We find that about 4.4% of women in treated tracts had a birth address that became a LIHTC unit. We multiply that indicator by the number of years the birth address was a LIHTC unit (the range is between 0-10). This variable, # Years Birth Address in LIHTC, is the endogenous individual-level measure of LIHTC exposure. Ordinary least squares estimation of the effect of the endogenous variable on outcomes is likely to be biased – we know that women living in LIHTC units are likely to be economically disadvantaged even compared to their neighbors (Cook et al. 2025). Moreover, the proxy for individual-level exposure, # Years Birth Address in LIHTC, is measured with considerable error for three reasons: (i) even if a woman's birth address becomes a LIHTC development at some point during her childhood, her family could have moved away prior to that event, (ii) women may have moved to LIHTC units during childhood even if their birth address never became a LIHTC development, and (iii) the endogenous variable may be measured with error due to the issues with geocoding and the matching of addresses. These issues motivate the use of an instrumental variables model.

The first stage equation takes the following form:

$$\begin{aligned} \#Yrs\_Birth\_Address\_in\_LIHTC_{i,r,m,c} &= \alpha_1 Z \sum_{d=1}^{D} [LIHTC_{d,r,c} * Years_{d,r,c}] \\ &+ \boldsymbol{A_i}\Psi + \boldsymbol{X}_i\boldsymbol{\theta} + \gamma_{m,c} + u_{i,r,m,c} \quad (4) \end{aligned}$$

where the primary neighborhood-level LIHTC exposure measure (# LIHTC units per capita * Years exposed) is the instrument for the number of years the woman's birth address was in LIHTC during her childhood.

The second stage model takes the form:

$$\begin{aligned} Y_{i,r,m,c} &= \tau_1 \#Yrs\_Birth\_\widehat{Address}\_in\_LIHTC_{i,r,c} \\ &+ \boldsymbol{A_i}\Psi + \boldsymbol{X}_i\boldsymbol{\theta} + \gamma_{m,c} + u_{i,r,m,c} \end{aligned} \quad (5)$$

where our outcomes $Y_{i,r,m,c}$ are defined as in Equation 3, our covariates are defined in the first stage, and we use the predicted values of $\#Yrs\_Birth\_Address\_in\_LIHTC_{i,r,c}$ that are produced by the first stage estimation. We estimate the model using Stata's *ivreghdfe* package, and cluster the standard errors at the tract-level.

5. Estimation Results

The results below are divided into four sections. The first section describes the results of the matching procedure and compares the characteristics of treatment and control tracts. The second section investigates selection into the birth sample, and shows that although LIHTC exposure during childhood has no effect on the probability that a woman is found at all (i.e. in either the birth data or the voting data), the second measure of neighborhood-level LIHTC exposure (i.e. whether there are LIHTC units within a mile of the birth address) is weakly negatively correlated with whether a woman later gives birth in Florida. The third section presents the main findings about the effects of LIHTC exposure during childhood on maternal health, infant health, and maternal socioeconomic status. We find that childhood LIHTC exposure has significant positive effects on all three sets of outcomes, with the strongest effects among Black women. While the main estimates focus on exposure up to age 10, we also find positive effects of exposure during adolescence. We show that the effects are robust to different assumptions about how LIHTC exposure affects selection into motherhood in Florida. Finally, we show IV estimates and compare the magnitudes of the estimated effects to other work on transfer payments to families in order to ask whether it is plausible that the estimates reflect the direct effects of housing subsidies to families.

5.1. Matching Census Tracts

Table 2 shows estimates from a logit model that predicts which Census tracts received LIHTC developments between 1990–2017. Census tracts were more likely to receive LIHTC if they had higher population, higher percentages in poverty, higher percentages of Black residents, higher percentages of renters, or higher percentages of vacant housing stock. Tracts were less likely to receive LIHTC units if they had more college graduates, higher median rents, a higher percentage of multi-family buildings, or a higher percentage of the housing stock built before 1960.

Table 3 shows summary statistics for "treated" and "control" tracts after matching. Treated and control tracts are generally balanced on observable characteristics. Both types of tracts have populations that are 38% Black; about 20% of residents speak a foreign language at home; however, tracts with LIHTC have slightly larger Hispanic populations (15% vs. 13%). Average household income is similar (about $21,000 in 1990 dollars), 25% of the population lives in poverty, 11% of the population has a college degree or more, and 7% of the population is unemployed. Housing characteristics, such as the share of renters, median rents, and the share of vacant units are also similar. Tracts with LIHTC have slightly more multi-family housing stock (36% vs. 33%) and slightly less old housing stock compared to tracts without LIHTC (30% vs. 32%).

Table 4 shows summary statistics for members of the female birth cohort who were born in the treatment (column 1) and control tracts (column 2). There are approximately 169,000 low-SES women born into tracts that received LIHTC between 1990–2017 (column 1) and approximately 144,000 low-SES women born into similar tracts that did not receive LIHTC during this time period (column 2). Women born in treated tracts have an average of 0.023 LIHTC units per resident placed into service within their first 10 years of childhood, and the average number of years of LIHTC exposure per woman is 6.48. Multiplying the average number of LIHTC units per capita by the number of years of potential exposure, and then summing across developments for each woman yields an expected exposure variable with a mean of 0.147 and a standard deviation of 0.408 (standard deviations are not shown in Table 4).

Low-SES women born in treated tracts look the same as, or perhaps slightly more disadvantaged than, low-SES women born in control tracts. 46% of the treated sample is Black, 38% is Non-Black Non-Hispanic, and 15% is Hispanic, compared with 44%, 42%, and 14% of the control sample, respectively. The race and ethnicity measures for fathers also suggest slightly more Black and Hispanic fathers in the treatment vs. control samples. By construction, these low-SES women are born to mothers without much education, and yet the women in the treated sample have parents with slightly less education than the women in the control sample: in the treatment sample 45% of their mothers have less than a high school degree and 21% of their fathers have less than a high school degree compared with 42% and 20% in the control sample, respectively. However, average birth outcomes for the women in the two samples are similar: each sample has a mean birth weight of about 3,200 grams, with a mean gestation of about 38.6 weeks, and an APGAR score of 3.07. As discussed in the methods section, all of the women's own birth characteristics and their parents' characteristics are included as control variables in the models of outcomes (i.e., all "Birth Record Characteristics" in Table 4). The estimates are not sensitive to their exclusion however.

5.2. Predicting Selection into Motherhood in Florida

Table 5 shows the relationship between LIHTC exposure during childhood and whether women later give birth in Florida. Overall, about 47% of the matched sample of low-SES women appear as mothers in the Florida Vital Statistics Natality data between 1990-2024. By 2024, the women in the female birth cohort are between 25 and 44 years old, so they are of childbearing age. Approximately 1% died after age 10. By 2020, another 27% are registered Florida voters, but not mothers, which shows that they remained in Florida but did not give birth. The remaining 24% of women cannot be found in the Florida Natality, Mortality, or voter registration data sets.

Table 5 shows that our first measure of neighborhood-level LIHTC exposure during childhood has no statistically significant effect on a whether a woman born into our low-SES sample is later observed giving birth Florida (column 1). However, the alternative definition of childhood LIHTC exposure (#LIHTC Units Per Capita × birth address is less than 1 mile from LIHTC) suggests that a 1-standard deviation increase in exposure reduces the probability of becoming a mother in Florida by a statistically significant 0.62% ($= \frac{-0.00292}{0.47} \times 100\%$). Columns 3 and 4 show that LIHTC's negative effects on the probability of becoming a mother in Florida are offset by an increased probability of becoming a (non-mother) registered voter in Florida. Therefore, as Columns 5 and 6 show, there is no consistent relationship between childhood LIHTC exposure and the probability of being missing from the combined Florida Natality, Mortality, and voter registration databases. However, given that there is some indication of changes in the pool of mothers giving birth, we will use "Lee bounds" (Lee 2009) to bound our estimates under different assumptions about how LIHTC affects selection into motherhood (e.g., does LIHTC exposure reduce fertility more among the healthiest or the least healthy women?).

5.3. Health and SES Effects of Childhood LIHTC Exposure

Table 6 shows the estimated effects of childhood LIHTC exposure on maternal health, infant health, and maternal socioeconomic status at the time of the first birth. The table shows estimates using each of the two neighborhood-level LIHTC exposure measures, and each of the two different ways to construct our indices (all years vs. 2004+). Columns (1)-(4) show that regardless of how the "poor maternal health index" or childhood LIHTC exposure is defined, greater exposure reduces the poor maternal health index. The column (1) estimate suggests that a 1-standard deviation increase in childhood LIHTC exposure reduces the poor maternal health index by 0.007-standard deviations. Similarly, columns (5)-(8) show that regardless of how we define the "poor infant health" index or the childhood LIHTC exposure, greater exposure translates into better infant health for the next generation. The column (5) estimate suggests that a 1-standard deviation increase in a mother's childhood LIHTC exposure reduces her infant's poor health index 0.007-standard deviations. The maternal SES estimates in columns (9)-(12) show a negative relationship between childhood LIHTC exposure and the "low maternal SES" index; however, these results are only precisely estimated using the sample that starts in 2004 and the index that includes WIC receipt and Medicaid/Uninsured status. These estimates suggest that a 1-standard deviation increase in childhood LIHTC exposure reduces the index of low SES by 0.005 standard deviations. All of the estimated magnitudes in Table

6 are small, but the table shows intent-to-treat estimates in a context where very few people in treated units actually live in LIHTC units (recall that there are 0.023 LIHTC units per capita in the average treated tract). In the next section, we calculate treatment on the treated effects assuming that all effects are driven purely by the direct benefits of living LIHTC units.

Appendix Table 1, Appendix Table 2, and Appendix Table 3 show the relationships between childhood LIHTC exposure and women's outcomes at first birth and each component of the three indices – the poor maternal health index (Appendix Table 1), the poor infant health index (Appendix Table 2), and the low socioeconomic status index (Appendix Table 3). These estimates suggest that LIHTC exposure improves women's health through reductions in pregnancy risk factors, reductions in inadequate prenatal care, and reductions in smoking. LIHTC exposure improves infant health primarily through reductions in infant mortality, preterm birth, and low birth weight. Finally, LIHTC exposure improves women's SES primarily through reductions in having less than a high school degree and increases in the probability of having private insurance (vs. being on Medicaid or being uninsured).

Table 7 explores the heterogeneous effects of childhood LIHTC exposure by race/ethnicity. This table focuses on the indices that include outcome variables that are available in all years. We find positive effects of childhood LIHTC exposure for Black women and for non-Black non-Hispanic women. The point estimates for Hispanic women are negative but not statistically significant. The magnitudes of the estimates are largest for Black women. Columns (1), (3), and (5) show that a 1-standard deviation increase in childhood LIHTC exposure reduces poor maternal health for Black women by 0.01-standard deviations, reduces poor infant health for Black infants by 0.009-standard deviations, and reduces the low-SES index among Black women by 0.01-standard deviations. These results are consistent with prior research showing the largest effects of cash and in-kind transfers on Black women and their infants (e.g., Hoynes et al. 2015).

Next, we show that the estimates are larger when LIHTC exposure during childhood is defined over a longer time horizon. All of the estimates reported thus far have only counted LIHTC exposure that occurs within the first ten years of a woman's birth. But it is possible that exposure between ages 11-18 also matters. Appendix Table 4 shows the results redefining the neighborhood-level LIHTC exposure measures counting any LIHTC developments placed into service within 18 years of a woman's birth. The sample size in Appendix Table 4 is slightly larger than in Table 6 because we can add an additional cohort – women born in 1979 - when we include 18 years of exposure.[11] The results in Appendix Table 4 are qualitatively similar to the main results in Table 6, but the magnitudes of the estimates are about twice as large for the primary neighborhood-level exposure measure that utilizes years of potential exposure to LIHTC. In contrast, estimates using the second neighborhood-level measure of LIHTC exposure, which does not use years of exposure but only uses the number of LIHTC units within a mile, are similar to the estimates in Table 6, as one might expect. Taken together, these estimates suggest that LIHTC exposure in adolescence also matters for future outcomes.

Finally, we explore the robustness of the estimates to different assumptions about how LIHTC affects selection into motherhood in Florida. Table 5 showed that in the specification using LIHTC exposure defined using the number of units in a one mile radius, LIHTC exposure during childhood had small negative effect on the probability that a woman became a mother in Florida. We follow the approach described by Lee (2009) to bound the estimates under different assumptions about how LIHTC affects selection into motherhood. The first assumption is that LIHTC exposure deters the least healthy and lowest SES women from becoming mothers in Florida. In this case, the treatment group is likely to be missing women who would have had the highest scores on the poor maternal health index, the poor infant health index, and the low SES index. In this case, the estimates would be biased away from zero. To adjust for this type of potential selection, the 0.42% least healthy women were dropped from the control group and Equation 3 was re-estimated. The figure 0.42 was obtained by taking the coefficient in the first column of Table 5 and dividing by the dependent variable mean (0.00197/.47). This procedure should yield a conservative upper bound estimate. On the other hand, it is possible that LIHTC exposure deters the healthiest/highest SES women from becoming mothers in Florida (or perhaps causes them to delay child bearing), in which case the estimates would be biased toward zero. To adjust for this type of selection, we drop the 0.42% healthiest women from the control group and re-estimate Equation 3. This procedure creates a lower bound estimate. These bounds are shown in Appendix Table 5. The table shows that all of the estimates remain neg-

[11] Women born in 1979 complete their first 10 years of childhood in 1989. Figure 1 shows that the first LIHTC units were not placed into service until 1990.

ative although the upper bound estimates for the infant health index are small and not statistically significant. Hence, it is possible that maternal childhood LIHTC exposure prevents the infants who would have been in the poorest health from being born, and that is what leads to the improvements that were observed in Table 6. However, it is possible that we are trimming the control sample too much in this exercise given the very weak effects of LIHTC on selection into motherhood that were observed in Table 6. Indeed, when we estimate the effects of childhood LIHTC exposure on the probability of becoming a mother in FL by race/ethnicity or by using 18 years of childhood exposure, we do not find any statistically significant relationships (results available upon request).

5.4. Direct vs. Indirect Effects of LIHTC

The estimates shown so far could be interpreted as intent-to-treat (ITT) estimates; they show how women born near LIHTC units fare in adulthood compared to women born farther away from LIHTC developments. These estimates capture both the direct effects of living in LIHTC units during childhood and any additional indirect effects of living *near* LIHTC developments during childhood. If we believed that the main effects of LIHTC on outcomes were due to the direct effects of receiving housing subsidies, then it would be possible to estimate a treatment-on-the-treated (TOT) effect via instrumental variables as discussed above. These TOT effects could then be compared to the impacts of receiving cash assistance that have been estimated in other studies to see whether the magnitudes are plausible.

Tables 8 and 9 show the first stage and reduced forms, respectively, where the endogenous variable is the number of years a woman's birth address spent in LIHTC during her childhood. The endogenous variable is instrumented using our first LIHTC exposure measure, namely the number of LIHTC units per capita in the tract times the number of years a woman was potentially exposed to the LIHTC development, summed across developments within the first 10 years of a woman's birth. This instrument satisfies the relevance criteria as it is highly correlated with the number of years the woman's birth address was a LIHTC unit. For each one unit increase in the instrument, the number of years the woman's birth address spent as a LIHTC unit increases by 0.7. The F-statistic is 44. The reduced form estimates in Table 9 show that, a 1-unit increase in the instrument decreases both the poor maternal health index and the poor infant health index by 0.022-standard deviations, and decreases the low maternal SES index by 0.017-standard deviations (only significant at 10% level). These estimates are larger than those in Table 6 because a one unit change in the instrument is larger than a one standard deviation increase. In addition, column 4 of Table 9 shows that a 1-unit increase in childhood LIHTC exposure increases the probability of living in LIHTC at the time of the first birth by 53% ($\frac{0.01}{0.019} \times 100\%$), suggesting significant persistence in LIHTC program take-up. Columns 5 and 6 show the reduced form effects of LIHTC exposure on the probability of having a low birth weight infant and the probability of the mother having less than a high school degree at first-birth. We include these outcomes to compare the magnitudes of our estimates to papers in the cash assistance literature, namely Hoynes et al. (2015), Komro et al. (2019), Ruffini (2023), and Bastion and Michaelmore (2023).

Table 10 shows OLS and IV estimates of the effects of the number of years that a woman's birth address was a LIHTC unit during her childhood. The OLS estimates (Columns 1, 3, and 5) are statistically insignificant which may reflect either the disadvantages faced by LIHTC recipients or measurement error in the endogenous variable. The IV estimates (Columns 2, 4, & 6) show that for each year a woman's birth address is a LIHTC unit, her maternal health index improves by 0.032-standard deviations, her infant's health index improves by 0.031-standard deviations, and her adult SES index improves by 0.024-standard deviations.[12] Moreover, her probability of living in a LIHTC unit when she first gives birth in Florida increases by nearly 77% ($= \frac{0.0147}{0.019} \times 100\%$).

Assuming that the main effect of LIHTC is through direct housing subsidies, how do the estimated treatment-on-the-treated effects of the LIHTC program compare to the health effects of other direct transfer programs? Several comparisons are possible. First, Hoynes et al. (2015) find that a $1k Earned Income Tax Credit (EITC) transfer to low-SES mothers reduces the probability their infants are low birth weight by 1.6-2.9% (among mothers

[12]In contrast to these findings of positive subsidy effects, Noble et al. (2025) report on a large-scale randomized experiment that offered families about $300 per month in unrestricted cash transfers. As of the time the children were four years old, they had found no statistically significant effects. Possible explanations include the fact that the pandemic occurred early in the experiment, that the amounts were not large enough to make a difference, or that unrestricted transfers are less effective than targeted transfers tied to specific uses, like LIHTC.

from 1984-1998). If LIHTC units saved tenants \$80/month,[13] on average, then 1 year of LIHTC tenancy equals \$960/year. Column 10 in Table 10 shows that 1 year of LIHTC tenancy reduces the probability of low birth weight by 8.8% ($= \frac{-1.02}{11.5} \times 100\%$). A 95% CI for the effect is [-16%, -2%]. Therefore, our TOT estimates are about 3 times larger than the largest Hoynes et al. (2015) estimate, but our 95% confidence interval includes the estimate. Moreover, the Hoynes et al. (2015) estimate is smaller than more recent estimates. For example, Komro et al. (2019) show that state EITCs reduce the probability of low birth weight by 5-11.7% for Black infants, and by 3-11.7% for White infants. Ruffini (2023) finds that an additional \$1k transfer to pregnant women during the COVID-19 pandemic reduced the probability of low birth weight by 20-30%.

Second, we compare our results to the effects of EITC transfers during childhood and children's educational attainment. Bastion and Michaelmore (2023) find that a \$1k transfer at ages 13-18 increases the probability children complete high school by 1.3%. Our estimate in column 12 of Table 10 is slightly larger; an additional year of LIHTC tenancy during childhood decreases the probability that women have less than a high school degree at first-birth by 5% ($= \frac{-0.0149}{0.272} \times 100\%$), where the 95% confidence interval is [-1%, -10%]. Overall, our TOT estimates are slightly larger than those found in the literature, but arguably not implausibly large to represent the direct effects of housing subsidies alone.

Finding positive effects of LIHTC subsidies does not prove that the LIHTC program is an efficient way to subsidize low-income families with children. While the LIHTC program provides modest support to families, there is concern that most of the credits are captured by developers, or wasted through developer competition for subsidies (Soltas 2024). It has also been argued that despite the large number of units that have received LIHTC funding, the program has added little to the overall stock of affordable housing because most LIHTC units would have been constructed in any case (Glaeser and Gyorko 2008). These considerations suggest that the LIHTC program would have to create large positive spillover effects on neighborhoods for it to be an efficient use of public funds. While we cannot rule out the existence of

[13] \$80/month amounts to a 25% discount off median rents in 1990 in our sample (Table 3), a 18% discount off median rents in 2000, and a 11% discount in 2012. If \$80/month savings were an underestimate for the average housing subsidy per tenant, then our TOT estimates would be closer to Hoynes et al. (2015).

modest spillovers on the basis of the IV exercise, the relatively small effects we find even if we assume that all of the effects are through direct transfers, and the consistency of these estimates with previous estimates of the effects of targeted direct transfers, suggest that any neighborhood-level spillovers on the health of women and children are likely to be small.

6. Discussion

This paper leverages the maternal and child health outcomes observed in Vital Statistics Natality data to provide a snapshot of the long-term effects of childhood LIHTC exposure on women and their newborns. Using five decades of birth records allows us to observe women at the time of their own births and when they give birth for the first time themselves. We use variation in the availability of LIHTC across women's birth tracts to estimate each woman's potential childhood LIHTC exposure. We find that a 1-standard deviation increase in LIHTC exposure during the first 10 years of childhood increases an index of maternal health at time of first birth by 0.007-standard deviations, improves an index of infant health by 0.007 standard deviations, and improves an index of maternal socioeconomic status by 0.005 standard deviations. There are larger effects for Black women, consistent with Black women being more likely to live in LIHTC units, as well as with previous findings of greater improvements in Black neighborhoods following the introduction of LIHTC. A 1-standard deviation increase in childhood LIHTC exposure reduces poor maternal health for Black women by 0.01-standard deviations, reduces poor infant health for Black infants by 0.009-standard deviations, and reduces the low-SES index among Black women by 0.01-standard deviations. We also find effects that are roughly twice as large when we consider LIHTC exposure up to age 18, suggesting that exposure during adolescence is also beneficial.

The estimated effects of neighborhood-level measures of LIHTC exposure are consistently and robustly estimated but small, which is consistent with low per capita numbers of LIHTC units in treated neighborhoods. Using instrumental variables to estimate the treatment on the treated requires us to assume that the main effect of LIHTC is through direct housing subsidies rather than through indirect effects on neighborhoods. Nevertheless, this exercise suggests that if the main effect of LIHTC is through direct subsidies, then receiving a LIHTC subsidy increases the maternal health index improves by 0.032-standard deviations, increases the infant's health index by 0.031-standard deviations, and improves a woman's adult SES index by 0.024-standard deviations. These TOT estimates are shown to be broadly consistent with the EITC literature, which also shows that targeted cash transfers can have long-term positive effects on children.

Overall our results are consistent with previous research on LIHTC, but are less consistent with other research on gentrification and health. For example, Diamond and McQuade (2019) show that LIHTC developments primarily increase house prices in low-income neighborhoods with high concentrations of non-white residents ($> 50\%$). We similarly find the largest positive effects of childhood LIHTC exposure among Black women. Unlike our results, Smith et al. (2020) summarize six studies on the health effects of gentrification, and they find that gentrification generally worsens health among Black residents. However, those six studies were mostly based in New York City, Philadelphia, and California, where gentrification may be more extreme than in Florida, and the studies did not consider the mediating effects of creating affordable housing. Our paper suggests that neighborhood changes that are induced by the introduction of affordable housing (e.g., LIHTC) can benefit low-SES residents, and particularly low-SES Black residents.

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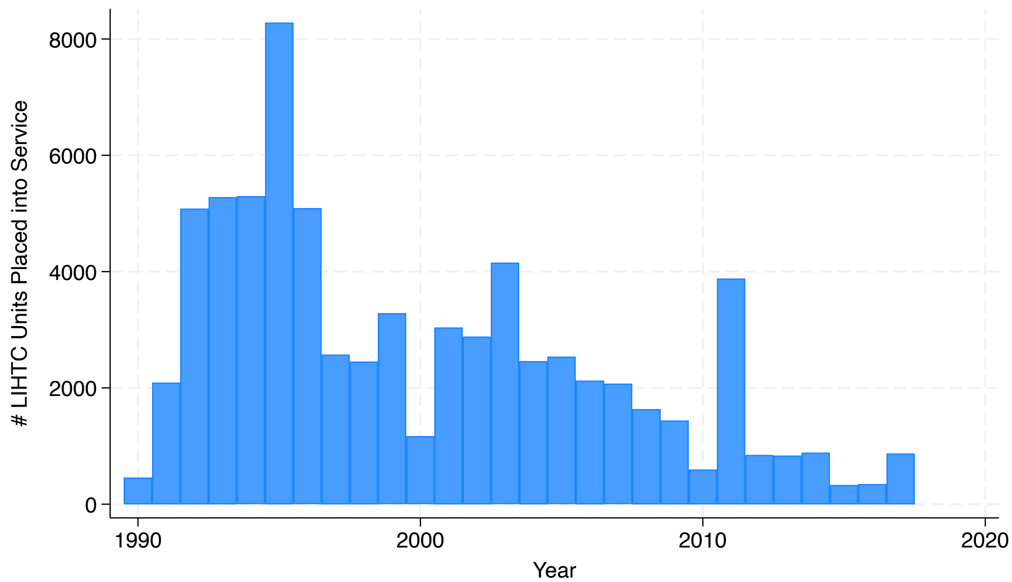
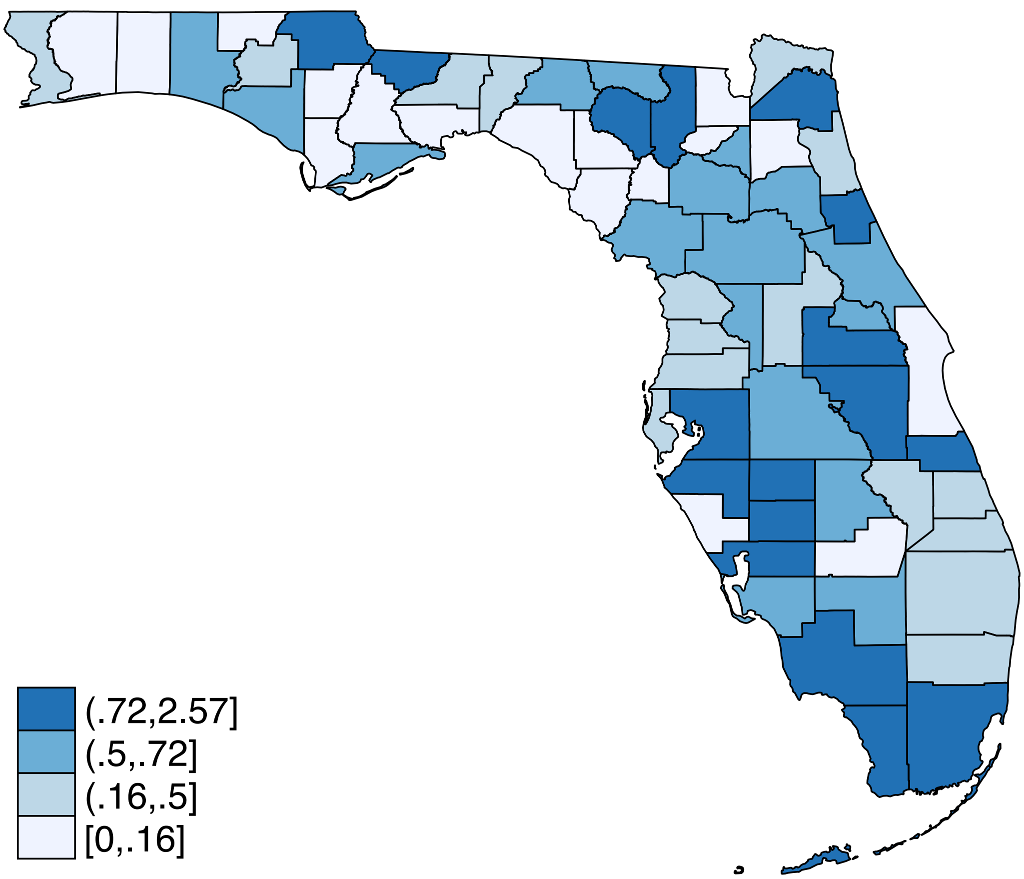
Figure 1: Number of LIHTC Units Created in Florida Over Time



Notes: Chart shows the number of LIHTC units placed into service by year in Florida from 1989-2017. Units reflect the total number of apartments set aside for low-income renters in developments that qualified for "competitive 9% credits." We exclude units that were specifically earmarked for the elderly, the homeless, or people with disabilities.

Source: National Housing Preservation Database (NHPD), downloaded in 2020.

Figure 2: LIHTC Units Per Capita by County: Developments Placed into Service Between 1989–2017



Notes: Average number of LIHTC units per 100 residents in Florida counties. The numerator, or total number of LIHTC units per county, includes all LIHTC units placed into service for developments that received competitive "9% credits" between 1989–2017. The denominator is the county population in 1990 (in 100s).

Source: National Housing Preservation Database (NHPD) and Census tract characteristics (1980-2012) from Logan et al. (2012).

Table 1: Outcomes at First-Birth for Female Birth Cohorts, 1980–1999

	(1) All Low-SES Women	(2) Black Women	(3) Hispanic Women	(4) Non-Black Non-Hispanic Women
Follow-up				
P(Mother in Florida)	0.467	0.539	0.405	0.410
P(Voter (non-mother) in Florida (2020))	0.273	0.272	0.311	0.260
P(Missing from Florida)	0.250	0.177	0.279	0.322
Outcomes at First-Birth				
Maternal Health				
Z-Poor Maternal Health Index	0.00	-0.03	-0.13	0.10
Z-Poor Maternal Health Index 2004+	-0.00	-0.00	-0.13	0.05
Mortality (after age 10) in Florida per 100	0.94	1.16	0.46	0.86
% Pregnancy Risk Factor(s)	32.46	32.84	30.44	32.63
% Late Prenatal Care	11.52	14.04	9.06	8.79
% Smoked During Pregnancy	5.56	1.81	1.19	12.65
% Hypertension	9.41	9.67	7.87	9.57
% Diabetes	3.76	3.33	4.18	4.25
% High BMI*	12.45	14.18	11.22	10.59
Infant Health				
Z-Poor Infant Health Index	-0.000	0.077	-0.108	-0.071
Z-Poor Infant Health Index 2004+	0.000	0.078	-0.101	-0.069
Infant Mortality per 100	1.144	1.490	0.570	0.841
% Low Birthweight	11.460	14.834	8.428	7.625
% Pre-Term Birth	11.164	12.995	9.305	9.162
% Low APGAR Score	14.655	14.879	11.814	15.353
% Newborn Complications*	14.841	15.894	13.633	13.845
Socioeconomic Status				
Z-Low SES Index	-0.000	0.256	-0.222	-0.297
Z-Low SES Index 2004+	-0.000	0.325	-0.202	-0.368
Age at First Birth	22.437	21.707	23.064	23.283
% Teenage Pregnancy	11.707	14.928	10.720	7.328
% Single Mother	47.329	64.993	30.013	27.597
% Less than High School Degree	27.165	30.592	23.865	23.317
% WIC*	66.494	77.970	61.369	52.752
% Medicaid or Uninsured*	68.897	79.155	63.981	56.694
% Lives in LIHTC at First-Birth^{+}	1.923	2.832	1.888	0.573
N = # Low SES Mothers, Born 1980-1999	146,359	76,023	18,592	51,744

Notes: Table shows average outcomes for women who become mothers in Florida. The sample in the "Follow-up" panel includes all low-SES women born in Florida between 1980-1999 in our matched treatment and control tracts. The sample in the "Outcomes at First-Birth" panel includes the subset of low-SES women in the "Follow-up" panel who later become mothers in Florida.

Table 2: Marginal Effects Estimates from Logit Matching Model

Tract Characteristics in 1990	Any LIHTC 1990-2017
Population (1000s)	0.168***
	(5.16)
Median Household Income ($10,000s)	0.161
	(1.11)
% in Poverty	0.0257*
	(2.31)
% College Degree or Higher	-0.377***
	(-4.45)
% Unemployed	-0.603*
	(-2.13)
% Disabled	-0.124
	(-0.74)
% Married	-0.221
	(-1.86)
% Black	0.0833*
	(2.40)
% Hispanic	0.0544
	(0.49)
% Speaking Foreign Language	-0.0682
	(-0.59)
% Who Rent	0.359***
	(5.12)
Median Rent (100s)	-0.218*
	(-2.49)
% Buildings Multi-Family	-0.110*
	(-2.17)
% Buildings Vacant	0.264***
	(3.35)
% Buildings Built Before 1960	-0.167***
	(-4.71)
Constant	-1.571
	(-1.75)
Observations	4,176

Notes: Table reports marginal effects estimated at the means of all variables. T-statistics for tests of statistical significance appear in parentheses and use robust standard errors. The unit of observation is the Census tract. Covariates are characteristics of the tracts, measured in 1990.

Table 3: Characteristics of Matched Florida Census Tracts with and without LIHTC

1990 Tract Characteristics	(1) Tracts with LIHTC	(2) Matched Tracts- No LIHTC
Population in 1990	4,333	4,591
% Black	0.38	0.38
% Hispanic	0.15	0.13
% Speaking Foreign Language	0.20	0.19
Median Household Income	$20,927	$21,133
% in Poverty	0.26	0.25
% College Degree or Higher	0.11	0.10
% Unemployed	0.07	0.07
% Disabled	0.18	0.18
% Married	0.34	0.35
% Who Rent	0.43	0.42
Median Rent in 1990	$322	$329
% Buildings Multi-Family	0.36	0.33
% Buildings Vacant	0.13	0.13
% Buildings Built Before 1930	0.30	0.32
# Census Tracts	427	427
# Low-SES Women Born 1980-1999	169,300	143,940

Notes: Average Census tract characteristics for tracts that received at least one LIHTC development between 1989-2017 in Florida (column 1) vs. matched tracts that did not receive any LIHTC developments between 1989-2017 (column 2).

Table 4: Characteristics of Matched Female Birth Cohorts, 1980–1999

	(1) Birth Tract Receives LIHTC	(2) Birth Tract Matched Tracts- No LIHTC
LIHTC Exposure Measures		
# LIHTC Units Per Capita	0.023	0.00
# Years Exposed to LIHTC	6.48	.
# LIHTC Units Per Capita * Years exposed	0.147	0.00
Birth Address < 1 Mile from LIHTC	0.376	0.031
# LIHTC Units Per Capita * < 1 Mile from LIHTC	0.019	0.001
Birth Address in LIHTC	0.044	0.00
# Years Birth Address in LIHTC	0.226	0.00
Lives in LIHTC at First-Birth	0.021	0.014
Birth Record Characteristics		
Mother Black	0.46	0.44
Mother Non-Black	0.38	0.42
Mother Hispanic	0.15	0.14
Mother Less Than High School	0.45	0.42
Mother High School Degree	0.54	0.57
Mother Born in US	0.79	0.80
Mother Birth State FL	0.45	0.42
Parents Married	0.47	0.50
Missing Father	0.18	0.17
Father Black	0.29	0.27
Father Non-Black	0.45	0.47
Father Hispanic	0.16	0.14
Father Less Than High School	0.21	0.20
Father High School Degree	0.34	0.36
Father Some College	0.07	0.08
Father BA Degree	0.02	0.02
Father Advanced Degree	0.01	0.01
Missing Father Education	0.29	0.29
Father Birth State FL	0.18	0.18
Birthweight (grams)	3,177	3,186
Month Prenatal Care Began	3.12	3.11
Gestation Age (weeks)	38.55	38.58
APGAR Score (1-5)	3.06	3.08
N = # Low SES Women Born 1980-1999	169,300	143,940

Notes: Average LIHTC exposure and birth characteristics for females born in Census tracts that received at least one LIHTC development between 1989-2017 in Florida (column 1) vs. females born into matched tracts that did not receive any LIHTC developments between 1989-2017 (column 2).

Table 5: Childhood LIHTC Exposure and the Probability of Giving Birth in Florida

	(1) Mother in Florida	(2) Mother in Florida	(3) Voter in Florida (2020)	(4) Voter in Florida (2020)	(5) Missing from Florida	(6) Missing from Florida
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00196		0.00218*		-0.000131	
	(-1.56)		(2.38)		(-0.11)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00291*		0.00160		0.00137
		(-2.39)		(1.63)		(1.08)
Dependent variable mean	0.47	0.47	0.27	0.27	0.25	0.25
Observations	313,240	313,240	313,240	313,240	313,240	313,240

Notes: The table reports results from estimating Equation 2. Standard errors are clustered at the tract-level. T-statistics appear in parentheses. Sample is matched, low-SES female cohorts born between 1980-1999 in tracts that either received LIHTC or in matched tracts that did not receive LIHTC between 1990-2017. Outcomes include the probability the woman becomes a mother in Florida, the probability she becomes a non-mother registered voter in Florida, and the probability that the woman is missing from the Florida Natality, Mortality, and Voter registration databases. The first LIHTC exposure measure interacts the number of LIHTC units per capita per LIHTC development in the tract by the number of years during childhood (first 10 years after birth) a woman was exposed to the LIHTC development. The measure sums across all LIHTC developments built in the tract within the first 10 years of the woman's birth, and then is standardized to have mean=0 and variance=1. The second LIHTC exposure measure calculates the number of LIHTC units per capita in the birth tract (or in the birth ZIP, for women in control tracts), sums across developments in the tract (or ZIP) within the first 10 years of childhood, and then is standardized to have mean=0 and variance=1. That standardized variable is then interacted with an indicator variable that equals 1 when the woman's birth address is within 1 mile of a LIHTC development at any point within the first ten years of her childhood, and equals 0 otherwise. $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Table 6: Childhood LIHTC Exposure and Maternal Outcomes at First-Birth

	(1) Z-Mother Poor Health All Years	(2) Z-Mother Poor Health All Years	(3) Z-Mother Poor Health 2004+	(4) Z-Mother Poor Health 2004+
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00677**		-0.00505*	
	(-2.75)		(-2.13)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00676*		-0.00489+
		(-2.49)		(-1.88)
Observations	137,824	137,824	111,900	111,900
	(5) Z-Infant Poor Health All Years	(6) Z-Infant Poor Health All Years	(7) Z-Infant Poor Health 2004+	(8) Z-Infant Poor Health 2004+
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00672**		-0.00595**	
	(-3.15)		(-2.69)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00656*		-0.00778**
		(-2.51)		(-2.88)
Observations	142,583	142,583	123,022	123,022
	(9) Z-Mother Low SES All Years	(10) Z-Mother Low SES All Years	(11) Z-Mother Low SES 2004+	(12) Z-Mother Low SES 2004+
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00527+		-0.00564**	
	(-1.93)		(-2.61)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00462		-0.00437*
		(-1.59)		(-2.04)
Observations	146,359	146,359	121,273	121,273

Notes: The table reports results from estimating Equation 3. Standard errors are clustered at the tract-level. T-statistics appear in parentheses. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Childhood LIHTC exposure is defined in the data section. Outcomes include indices for poor maternal health, poor infant health, and maternal low-SES at first-birth, as defined in the data section. $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Table 7: Heterogeneous Effects of Childhood LIHTC Exposure by Race/Ethnicity

	(1) Z-Mother Poor Health All Years	(2) Z-Mother Poor Health All Years	(3) Z-Infant Poor Health All Years	(4) Z-Infant Poor Health All Years	(5) Z-Mother Low SES All Years	(6) Z-Mother Low SES All Years
Black * Z-(#LIHTC Per Capita * #Years Exposed)	-0.0112**		-0.00870*		-0.00998*	
	(-2.98)		(-2.22)		(-2.32)	
Non-Hispanic Non-Black * Z-(#LIHTC Per Capita * #Years Exposed)	-0.00632*		-0.00730**		-0.00268	
	(-2.39)		(-2.70)		(-0.86)	
Hispanic * Z-(#LIHTC Per Capita * #Years Exposed)	-0.00125		-0.00314		-0.00285	
	(-0.46)		(-0.86)		(-0.83)	
Black * Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.0131**		-0.0109*		-0.00842+
		(-3.24)		(-2.51)		(-1.91)
Non-Hispanic Non-Black * Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00425+		-0.00387		-0.000213
		(-1.65)		(-1.26)		(-0.07)
Hispanic * Z-#LIHTC Per Capita * <1 mile from LIHTC		0.000606		-0.00376		-0.00672+
		(0.18)		(-0.70)		(-1.65)
Observations	137,824	137,824	142,582	142,582	146,359	146,359

Notes: The table reports results from estimating Equation 3, where childhood LIHTC exposure is fully interacted with the mother's race/ethnicity. Standard errors are clustered at the tract-level. T-statistics appear in parentheses. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Childhood LIHTC exposure is defined in the data section. Outcomes include indices for poor maternal health, poor infant health, and maternal low-SES at first-birth, as defined in the data section. $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Table 8: First Stage

	(1) #Yrs Birth Address in LIHTC
#LIHTC Per Capita * #Years Exposed	0.701***
(range 0-10)	(6.67)
Dependent variable mean	0.104
Observations	146,090

Notes: The table reports the result from estimating Equation 4. The childhood LIHTC exposure is not standardized, so it ranges from 0-10. The outcome variable is the number of years the woman's birth address was a LIHTC unit within 10 years of her birth. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Standard errors are clustered at the tract-level. T-statistic appears in parentheses. $^{***}p = 0.001$

Table 9: Reduced Form without Standardization

	(1) Z-Mother Poor Health All Years	(2) Z-Infant Poor Health All Years	(3) Z-Mother Low SES All Years	(4) P(Mother lives in LIHTC) All Years	(5) P(Low Birth Weight) All Years	(6) P(< HS Degree) All Years
#LIHTC Per Capita * #Years Exposed	-0.0219**	-0.0218**	-0.0171+	0.0103***	-0.00716*	-0.0104*
(range 0-10)	(-2.75)	(-3.16)	(-1.93)	(6.92)	(-2.43)	(-2.39)
Dependent variable mean	0	0	0	0.019	0.115	0.271
Observations	137,530	142,307	146,090	137,328	145,029	146,090

Notes: The table reports results from estimating Equation 3 using least squares, without standardizing the childhood LIHTC exposure variable (range is 0-10). The outcome variables include the poor maternal health index, the poor infant health index, the maternal low-SES index, the probability the woman lives in a LIHTC unit when she first gives birth, the probability the woman has a low birth weight infant, and the probability the woman has less than a high school degree at first-birth. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Standard errors are clustered at the tract-level. T-statistic appears in parentheses. $^{***}p = 0.001$ $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Table 10: #Years Birth Address was in LIHTC and Outcomes at First-Birth: OLS vs. IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Z-Mother Poor Health	Z-Mother Poor Health	Z-Infant Poor Health	Z-Infant Poor Health	Z-Mother Low SES	Z-Mother Low SES
	OLS	IV	OLS	IV	OLS	IV
#Years Birth Address in LIHTC	-0.00134	-0.0321**	0.00223	-0.0311**	0.00162	-0.0243*
(range 0-10)	(-1.05)	(-3.13)	(1.25)	(-3.29)	(0.88)	(-2.06)
Dependent variable mean	0	0	0	0	0	0
Observations	137,530	137,530	142,307	142,307	146,090	146,090
	(7)	(8)	(9)	(10)	(11)	(12)
	P(Mother Lives in LIHTC)	P(Mother Lives in LIHTC)	P(Low Birth Weight)	P(Low Birth Weight)	P(< HS Degree)	P(< HS Degree)
	OLS	IV	OLS	IV	OLS	IV
#Years Birth Address is in LIHTC	0.00277***	0.0147***	0.00216**	-0.0102*	0.00140	-0.0149*
(range 0-10)	(4.15)	(5.33)	(2.60)	(-2.58)	(1.30)	(-2.39)
Dependent variable mean	0.019	0.019	0.115	0.115	0.272	0.272
Observations	137,238	137,238	145,029	145,029	146,090	146,090

Notes: The even columns in the table report results from estimating Equation 5 using instrumental variables, where the endogenous variable is the number of years a woman's birth address was a LIHTC unit (range is 0-10). The odd columns in the table report OLS results. The outcome variables include the poor maternal health index, the poor infant health index, the maternal low-SES index, the probability the woman lives in a LIHTC unit when she first gives birth, the probability the woman has a low birth weight infant, and the probability the woman has less than a high school degree at first-birth. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Standard errors are clustered at the tract-level. T-statistic appears in parentheses. $^{***}p = 0.001$ $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Appendix

Appendix Table 1: Childhood LIHTC Exposure and Maternal Health Outcomes

	(1) Z-Poor Maternal Health Index	(2) P(Mortality (after age 10))	(3) P(Mother Has Risk Factors)	(4) P(Late Prenatal Care)
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00677**	-0.0000894	-0.00782**	-0.00383*
	(-2.75)	(-0.99)	(-2.94)	(-2.50)
Dependent variable mean	0	0.009	0.324	0.115
Observations	137,824	313,240	146,359	138,360

	(5) P(Smoked During Pregnancy)	(6) P(Hypertension)	(7) P(Diabetes)	(8) P(High BMI)*
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00261***	-0.00122	0.0000275	0.00104
	(-3.67)	(-0.96)	(0.04)	(1.12)
Dependent variable mean	0.056	0.094	0.038	0.124
Observations	145,990	146,015	146,015	116,290

Notes: The table reports results from estimating Equation 3 using least squares. Standard errors are clustered at the tract-level. T-statistics appear in parentheses. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Childhood LIHTC exposure is defined in the data section. Outcomes include the index for poor maternal health, the probability the woman died after age 10 in Florida, the probability she had pregnancy-related risk factors, the probability she received inadequate prenatal care, the probability that she smoked during pregnancy, the probability that she had hypertension before/during pregnancy, the probability that she had diabetes before/during pregnancy, and the probability that she had a high BMI before pregnancy (available 2004-onward).
$^{***}p = 0.001$, $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Appendix Table 2: Childhood LIHTC Exposure and Infant Health Outcomes

	(1) Z-Poor Infant Health Index	(2) P(Infant Mortality)	(3) P(Pre-Term Birth)
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00672**	-0.000648*	-0.00343***
	(-3.15)	(-2.51)	(-3.40)
Dependent variable mean	0	0.011	0.112
Observations	142,583	146,359	145,020

	(4) P(Low Birth Weight)	(5) P(Low APGAR Score)	(6) P(Infant Has Complications)*
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00221*	-0.000812	0.00979
	(-2.43)	(-0.55)	(0.05)
Dependent variable mean	0.115	0.147	0.148
Observations	145,299	143,795	123,568

Notes: The table reports results from estimating Equation 3 using least squares. Standard errors are clustered at the tract-level. T-statistics appear in parentheses. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Childhood LIHTC exposure is defined in the data section. Outcomes include the index for poor infant health, the probability the infant died within the first year of birth, the probability the infant was born pre-term, the probability the infant was low birth weight, the probability the infant had a low APGAR score, and the probability the infant had a birth complication or congenital anomaly (available 2004-onward). $^{***}p = 0.001$, $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Appendix Table 3: Childhood LIHTC Exposure and Maternal Socioeconomic Outcomes

	(1) Z-Low SES Index	(2) P(Teenage Pregnancy)	(3) P(Single Mother)
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00527+	-0.00178	-0.00206
	(-1.93)	(-1.54)	(-0.95)
Dependent variable mean	0	0.117	0.221
Observations	146,359	146,359	146,359

	(4) P(< High School Degree)	(5) P(WIC)*	(6) P(Medicaid / Uninsured)*
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00322*	-0.00149	-0.00393*
	(-2.39)	(-0.70)	(-2.28)
Dependent variable mean	0.272	0.665	0.689
Observations	146,359	121,486	122,444

Notes: The table reports results from estimating Equation 3 using least squares. Standard errors are clustered at the tract-level. T-statistics appear in parentheses. Sample is matched, low-SES female cohorts born between 1980-1999 who became mothers in Florida between 1990-2024. Childhood LIHTC exposure is defined in the data section. Outcomes include the index for maternal low-SES index, the probability the woman was a teenage mother, the probability the woman was a single mother, the probability the woman had less than a high school degree, the probability the woman received WIC (available 2004-onward), and the probability the woman received Medicaid or was uninsured (available 2004-onward). $^{***}p = 0.001$, $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Appendix Table 4: LIHTC Exposure During First 18 Years of Life and Maternal Outcomes at First-Birth

Cohorts 1979-1999 with 18 year exposure	(1) Z-Mother Poor Health All Years	(2) Z-Mother Poor Health All Years	(3) Z-Mother Poor Health 2004+	(4) Z-Mother Poor Health 2004+
Z-(#LIHTC Per Capita * #Years Exposed)	-0.0140**		-0.0101*	
	(-3.06)		(-2.30)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00593*		-0.00378
		(-2.34)		(-1.51)
Observations	144,066	144,066	113,601	113,601
	(5) Z-Infant Poor Health All Years	(6) Z-Infant Poor Health All Years	(7) Z-Infant Poor Health 2004+	(8) Z-Infant Poor Health 2004+
Z-(#LIHTC Per Capita * #Years Exposed)	-0.0129***		-0.0126**	
	(-3.36)		(-2.89)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00811***		-0.00977***
		(-3.96)		(-3.77)
Observations	148,887	148,887	124,935	124,935
	(9) Z-Mother Low SES All Years	(10) Z-Mother Low SES All Years	(11) Z-Mother Low SES 2004+	(12) Z-Mother Low SES 2004+
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00929+		-0.00969*	
	(-1.76)		(-2.47)	
Z-#LIHTC Per Capita * <1 mile from LIHTC		-0.00438		-0.00460*
		(-1.39)		(-1.98)
Observations	153,323	153,323	123,131	123,131

Notes: This table is the same as Table 6, except the LIHTC exposure measures include LIHTC units that were placed into service within 18 years of each woman's birth (instead of within the first 10 years). $^{***}p = 0.001$, $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$

Appendix Table 5: Childhood LIHTC Exposure and Maternal Outcomes at First-Birth, Adjusting for Differential Selection into Motherhood

	(1) Z-Mother Poor Health All Years Lower Bound Estimate	(2) Z-Mother Poor Health All Years Upper Bound Estimate	(3) Z-Mother Poor Health 2004+ Lower Bound Estimate	(4) Z-Mother Poor Health 2004+ Upper Bound Estimate
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00707**	-0.00454*	-0.00527*	-0.00347
	(-2.84)	(-1.96)	(-2.21)	(-1.56)
Observations	137,378	137,378	111,551	111,551
	(5) Z-Infant Poor Health All Years Lower Bound Estimate	(6) Z-Infant Poor Health All Years Upper Bound Estimate	(7) Z-Infant Poor Health 2004+ Lower Bound Estimate	(8) Z-Infant Poor Health 2004+ Upper Bound Estimate
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00703**	-0.00169	-0.00658**	-0.00184
	(-3.24)	(-0.95)	(-2.98)	(-0.85)
Observations	142,123	142,123	122,637	122,637
	(9) Z-Mother Low SES All Years Lower Bound Estimate	(10) Z-Mother Low SES All Years Upper Bound Estimate	(11) Z-Mother Low SES 2004+ Lower Bound Estimate	(12) Z-Mother Low SES 2004+ Upper Bound Estimate
Z-(#LIHTC Per Capita * #Years Exposed)	-0.00564*	-0.00399	-0.00603**	-0.00415*
	(-2.06)	(-1.55)	(-2.75)	(-2.04)
Observations	145,885	145,885	120,894	120,894

Notes: This table is re-creates the results in the odd columns of Table 6, after adjusting for how LIHTC may affect selection into motherhood in Florida. We follow the approach described in Lee (2005) to construct lower bound and upper bound estimates for the effects of LIHTC on maternal and infant outcomes in the presence of selection.
$^{***}p = 0.001$, $^{**}p = 0.01$, $^{*}p = 0.05$, $^{+}p = 0.10$