The Targeting of Place-Based Policies: The New Markets Tax Credit Versus Opportunity Zones*

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Abstract

For a place-based policy to succeed, it must target the right areas—typically those with lower economic development and resident well-being. The U.S. has two major place-based tax policies: the New Markets Tax Credit (NMTC), where government-approved entities select investments, and Opportunity Zones (OZs), where private investors choose projects. Despite underlying design differences, both target census tracts with high poverty rates, lower median income and weaker labor markets. However, OZs tend to attract more investment in areas with higher pre-existing private investment, often located in prosperous counties and high-growth regions. Census tracts lacking investment from either program generally show lower private investment, less home value growth, and less population growth, suggesting that additional policies may be needed to reach areas less primed for investment.

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1 Introduction

Large and growing disparities across areas in the United States (Ganong and Shoag 2017), together with research showing that place matters for long run outcomes of their residents (Chetty et al. 2016; Chyn 2018), have motivated renewed attention on place-based policies that target distressed areas (Austin et al. 2018). The two largest and currently ongoing federal place-based tax policies are the New Markets Tax Credit (NMTC) and Opportunity Zones (OZs). The NMTC was enacted in 2000. The U.S. Department of the Treasury allocates tax credits to Community Development Entities (CDEs) which are in turn distributed to private investors in return for capital to invest in low income communities. The amount of tax credits is limited each year which effectively caps the amount of investment made under the program. OZs were implemented in 2018. Taxpayers with recently realized capital gains can invest in Qualified Opportunity Funds (QOFs) that in turn invest in low income census tracts designated by state governors as OZs. Investors are allowed to defer capital gains tax on their original investment, and any capital gains on the OZ investment itself is completely forgiven if held for at least 10 years. There is no limit on the amount of OZ investment each year in aggregate or to particular OZs.

The NMTC and OZs represent two distinct approaches to place-based tax policies: The NMTC centralizes power with the U.S. Department of Treasury, which is empowered to approve specific CDEs that direct investments into low-income communities. The OZ policy delegates ultimate authority to private investors who can invest unlimited amounts in any area, so long as it was approved as an OZ. The distinctly different approaches of these policies, along with the fact that they have been in effect simultaneously since 2018, provides a unique opportunity to evaluate how a more intentional, government-centered approach compares to a more decentralized, market-driven approach when it comes to one of the

most important metrics of a place-based policy—whether it targets distressed areas (see, for example, Neumark and Simpson 2015 for a discussion of the rationales for place-based policies).

We study this question using publicly available project-level investment data on the NMTC, confidential tax data on OZ investment, and an array of data sources capturing various dimensions of distress. We find that both the NMTC and OZs are generally targeted to more distressed areas, although the NMTC is somewhat more so. Over the four year period 2019–2022 when data on both programs are available, 65 percent of NMTC investment and 49 percent of OZ investment is allocated to census tracts in the bottom quintile of tract-level median income. We find similar targeting to the worst off quintile across other dimensions such as poverty (65 percent for the NMTC and 59 percent for OZs), employment to population ratio (48 percent for the NMTC and 31 percent for OZs), and high school graduates (49 percent for the NMTC and 40 percent for OZs). However, we find that NMTC and especially OZ investment is directed to census tracts with higher levels of pre-existing private investment, with 65 percent of OZ investment allocated to the top quintile of commercial investment and 55 percent of OZ investment allocated to the top quintile of multifamily housing investment. OZ investment is also concentrated in census tracts with growing populations and home values, in urban areas, within relatively prosperous counties, and in areas of the country experiencing more growth.

We also evaluate the factors that predict whether a given tract receives investment from one program, both or neither, potentially motivating multiple approaches to place-based policy in order to cover a larger set of distressed areas. Among all census tracts, as well as when considering only those tracts with low enough median incomes or high enough poverty rates to qualify for the NMTC and OZs, those most likely to receive investment from the

programs tend to have higher levels of pre-existing private investment, higher home values, and more population growth. This result is driven mostly by the larger scale of OZ investment compared to NMTC investment, and the fact that OZ investment is strongly associated with these factors. These results affirm the general conclusions from the univariate analysis that less dynamic areas with less demand are less likely to benefit from OZ investment in particular.

The targeting of these two distinct policy approaches offers important lessons for the future design of place-based policies. For example, a common critique of OZs is that it provides too much discretion to private investors who may simply invest in the least needy areas where the return on investment is expected to be highest (e.g., Theodos et al. 2023; Corinth and Feldman 2024). Across a number of static measures of distress, that does not appear to be the case, with OZs providing a large amount of investment to distressed areas. However, this concern may be more valid when focusing on the trajectory of tracts, with OZs directing more investment to places that are already improving. In addition, the fact that both programs leave out a large number of areas suggests that other types of policies beyond subsidies for private investment may be needed to help the areas least likely to succeed on their own.

2 Background

The NMTC is a federal initiative designed to stimulate economic development and investment in economically disadvantaged areas across the United States. Established by Congress in 2000 as part of the Community Renewal Tax Relief Act, the NMTC aims to attract private capital to areas with limited access to financing, thereby promoting the revitalization of dis-

tressed neighborhoods (Congressional Research Service 2022). The program is administered by the Community Development Financial Institutions (CDFI) Fund in the U.S. Department of the Treasury and provides tax credits to investors who make qualified equity investments in designated CDEs. The amount of annual investment authority allocated by the CDFI to CDEs is capped at $3.5 billion for the years 2010–2019 and $5 billion for 2020–2025.

To become a CDE, an entity must (1) have a primary mission of serving or providing investment capital for low-income communities (LICs) or low-income persons; (2) have representatives of LIC residents on the governing or advisory board of the entity; and (3) must be certified by the CDFI Fund. The CDEs that receive an allocation of investment authority from the CDFI Fund and qualified equity investments from private investors are required to deploy the invested capital in LICs. Generally, a census tract is an LIC if it has a poverty rate of at least 20 percent or the median family income of the tract is not greater than 80 percent of the applicable area median family income (either of the state or the metropolitan area).[1] Approximately 43 percent of census tracts are LICs, comprising around 40 percent of the US population (White 2022).

The CDFI Fund annually allocates NMTCs to CDEs under a competitive application process. Applications from CDEs are ranked by the CDFI Fund according to several factors, including business strategy and community outcomes during the Phase 1 evaluation. Priority points are given in Phase 1 for demonstrating a track record of serving disadvantaged businesses or communities and for investing in unrelated entities. Applicants that meet a minimum standard in Phase 1 are then evaluated in Phase 2 regarding management capacity, capitalization strategy, and if applicable, the consistency of the applicant's past NMTC activities with prior allocations (Congressional Research Service 2022; Joint Committee on

[1]There are special rules for designating targeted populations, census tracts with low population, and tracts within a high migration rural county as a LIC.

Taxation 2024).

Investors receiving tax credits for investing in CDEs are primarily corporations in the Finance and Insurance sector. These regulated financial institutions have an additional motivation for investing in NMTC as such investment also satisfies requirements in invest in low-income census tracts under the Community Reinvestment Act of 1977 and accompanying regulations (Joint Committee on Taxation 2024). For 2019-2021, such taxpayers accounted for approximately 95 percent of the NMTC reported on tax returns. Nearly 5 percent went to other types of corporations, and a negligible share (less than 1 percent) was reported on individual tax returns.[2] The NMTC is a component of the non-refundable general business credit and the amount used in a given taxable year depends on the amount of positive tax liability of the taxpayer. Amounts not used in a tax year are subject to a one-year carryback and a 20-year carryforward. The NMTC is 39 percent of the qualifying investment in nominal terms paid out over 7 years. To maximize the value of the credit, taxpayers investing in CDEs need sufficient positive tax liability over the next 7 years to fully use the credit.

The CDFI Fund (Community Development Financial Institutions Fund 2024) reports that CDEs made $66.6 billion in qualified low-income community investments (QLICI) reported by CDEs through fiscal year 2022. Of this total, 55 percent was directed to non-real estate businesses, 43 percent was directed to real estate businesses, and the remaining 2 percent went to other CDEs. The most common self-reported purpose of these QLICIs was for the rehabilitation or construction of commercial real estate (69 percent), with another 27 percent toward business and microenterprise financing, and less than 2 percent for residential real estate.[3] In addition, Joint Committee on Taxation (2024) reports that the top

[2]These shares were calculated by the authors using the corporate and individual annual stratified random samples of initial tax returns from the Statistics of Income division of the Internal Revenue Service.

[3]By statute, a QLICI is not allowed to fund residential rental property. The property can be mixed-use with a portion residential if the commercial component accounts for more than 20 percent of the rental

four industries receiving QLICIs through 2022 were Real Estate and Rental and Leasing (26 percent), Health Care and Social Assistance (19 percent), Manufacturing (14 percent), and Educational Services (9 percent). In this paper, we focus on 2019–2022 to provide a consistent comparison with Opportunity Zones. We calculate $13.2 billion in QLICLIs for those four years.[4]

Opportunity Zones (OZs) were enacted in 2017 as part of the Tax Cuts and Jobs Act with a similar goal of encouraging economic development and promoting resident wellbeing in lower income areas (Bernstein and Hassett 2015). The same census tracts that are eligible for the NMTC (LICs) were also made eligible to be OZs, of which state governors selected about 25 percent for OZ designation.[5] The fact that the NMTC and OZs share the same eligibility criteria ensures that investment for neither program will flow to the approximately half of census tracts that are not eligible due to higher median incomes and lower poverty rates. But the allocation of investment within these eligible tracts will depend more heavily on decisions by Treasury and CDEs in the case of the NMTC, and by state governors and private investors in the case of OZs (see for example Frank et al. 2022 who document political factors in OZ designations by governors).

Tax benefits for investing in an OZ through a QOF is only available for taxpayers who realize a capital gain, and the benefit is provided in three layers. First, taxpayers may defer the recognition of eligible gain until disposal of the ownership interest in the QOF, or until the end of 2026, whichever comes first. Second, if the investment in the QOF is held for at

income of the property.

[4]This total excludes NMTC investments made in territories and census tracts without sufficient population to generate values for the targeting variables we use in this paper.

[5]An additional group of census tracts were also potentially eligible under OZ rules—those census tracts that are contiguous to a designated tract and with median income no more than 125 percent of the designated tract to which it is contiguous. The designated contiguous tracts comprise about 2 percent of designated OZs.

least 5 years prior to the required inclusion date, then 10 percent of the deferred gain may be excluded from income (the excluded amount increases to 15 percent if the investment is held for 7 years). Third, if the QOF investment is held for at least 10 years, then gain from that investment is excluded from income.

The typical investor in a QOF looks quite different from the typical investor receiving the NTMC, a not surprising result given the different structure of the tax incentive. Individual investors, including estates and trusts, account for more than three-quarters of the amount of deferred gains invested in QOFs.

The total amount of investment flowing through QOFs to OZs through 2019–2022 is considerably greater than than the $13.2 billion flowing through CDEs and earning NMTCs during the same time period. Through tax year 2022, QOFs reported holding a total of $89 billion in Qualified Opportunity Zone (QOZ) Property, of which $82.1 billion is reported with sufficient detail to locate in a specific OZ. Note that the total for OZs includes $4 billion of investment made in the last half of 2018.

OZ investment is highly concentrated in real estate. Approximately 75 percent of OZ investment was in the Real Estate and Rental Leasing sector through 2022.[6] Another 6 percent went to the Finanace and Insurance sector, and 3 percent went to the Accommodation and Food Services sector (mostly hotels). Notably, manufacturing accounts for less than 2 percent of OZ investment, a significant contrast with NMTC investment. Another difference with NMTCs is that OZ investment is largely in residential rental real estate. Examining the depreciation by type of property reported on tax returns indicates that a little more than half of the investment in structures done by QOZBs or directly by QOFs is in residential

[6]OZ investment by sector is determined using self-reported business activity codes on electronically filed tax returns aggregated to the 2-digit NAICS codes level for qualified investments by QOFs in Qualified Opportunity Zone Businesses (QOZBs) and direct investments by QOFs in QOZ business property.

rental property.

The NMTC and OZ tax incentive share similarities in the structure and targeting of the eligible areas. Both provide federal tax benefits to equity investors in specialized investment vehicles that are in turn required to invest in the targeted areas. However, within this similar structure, there are also important differences. As already mentioned, there are substantial requirements placed on CDEs, such as having representatives of LIC residents on the board of the entity and being certified by the CDFI Fund. On the other hand, QOFs self-certify by attaching Form 8996 to their federal tax return and attesting that they are a QOF. Investors in a CDE will only be able to receive a tax credit to the extent the CDE received allocation of investment authority from the CDFI Fund. Investors in QOFs are only limited by the amount of recently realized qualified gains that they wish to defer. In large part due to these differences, QOFs vastly outnumber CDEs. There were approximately 12,000 QOFs that filed Form 8996 in 2022 compared to only 345 different CDEs that reported making QLICIs from 2003–2022, and only 187 CDEs that made QLICIs from 2019–2022. In recent years, the CDFI Fund received applications from approximately 200 CDEs for an allocation of investment authority in a year, and approximately 100 are usually chosen.

3 Data and Methodology

Our data include "investment" from the NMTC and OZs by census tract, and an array of area characteristics to evaluate the targeting of each program. Throughout this paper we use the terms "NMTC investment" and "OZ investment" to refer to the flow of money from tax-preferred financing vehicles, (CDEs and QOFs, respectively) into qualified businesses or property located in eligible census tracts. We believe our data provides a reasonable

representation of the geographic dispersion of these funds, though for reasons described below, the actual level of investment in a particular census tract related to those funds may be greater or less than the reported amount of funding from a CDE or QOF.

Investment data for the NMTC are publicly available from the CDFI Fund of the U.S. Treasury. This dataset contains the amount of QLICIs and total investment in each project, and the specific census tract in which the investment was made. NMTC investment data are available from 2003, soon after the program began, through 2022.[7] Investment data for OZs are not public as they are assembled from confidential tax data filed by QOFs (see Coyne and Johnson 2023). From these tax forms we compute the total amount of dollars invested in each census tract through 2022.

While our data allow us to compare the census tract location of investment from the NMTC and OZ tax incentive, there are several features to keep in mind when interpreting the comparisons. First, the NMTC data are reported as a flow, while the OZ data represent a stock. We compare the flow of NMTC from 2019-2022 with the stock of QOZ property held at the end of 2022. A small percentage (5 percent) of the OZ assets are from investment in the last half of 2018. Second, the vast majority of NMTC investment is in the form of a loan by the CDE to a qualified active low-income business (QALICB), while OZ investment represents the value of equity holdings by QOFs in a QOZB or QOZ business property directly held by the QOF (for example, a building owned by the QOF). Third, a portion of the OZ reported investment represents sources of money other than deferred gains that receive preferential tax treatment. A primary example of this is that a QOF that directly holds QOZ

[7]NMTC investment is reported at the census tract level. NMTC investment through 2021 is reported for census tracts as defined in 2010, while NMTC investment in 2022 is reported for census tracts as defined in 2020. Because our targeting variables are reported for census tracts as defined in 2010, we assign 2022 NMTC investment to census tracts as defined in 2010 as well. To do so, we assign 2022 NMTC investment in a given census tract as defined in 2020, to the census tract as defined in 2010 with the most overlapping land area.

business property, e.g., building an apartment complex, will often finance the construction by combining equity (deferred gains from QOF investors) with a loan. Our calculations indicate that approximately $6 billion of the $82 billion in QOZ property reported by QOFs is financed by debt, other than deferred gains from equity investors.

The amount of true investment in a particular census tract may be greater or less than the QLICI amount or QOZ Property value found in our data. The most common reason for the investment level to be higher would be that QLICI or QOF equity investment is only one source of financing, and the qualified business is likely to use financing from other, possibly non-tax preferred sources.[8] The most common reason for the investment level to be lower is when the qualified business uses the funds to purchase existing property, for example, an existing building. There are rules that limit that type of circumstance for both of the incentives. In the case of OZs, existing property can be qualified property only if the QOF or QOZB substantially improves the property by making improvements that at least double the original basis of the property within 30 months. A similar rule applies for the NMTC in the case of real estate or rental businesses. However, it is possible for a non-rental QALICB to use a loan from a CDE to purchase a pre-existing building and the loan would count as a QLICI.[9]

Subject to these caveats, we evaluate the targeting of NMTC and OZ investment across a number of variables that reflect the baseline economic development of an area and the well-being of its residents. We focus on characteristics of areas in the five-year period ending in 2017, in order to distinguish targeting from the effect of investment in 2019–2022 on

[8]In the CDFI Fund data for 2019-22, QLICIs accounted for just over half of the reported total project cost.

[9]Another example is land. Suppose a QOF makes a $3 million equity investment in a QOZB and the QOZB uses those funds to purchase a building worth $1 million on a piece of land worth $1 million and then makes $1 worth of improvements to the building. This would count as $3 million of QOZ Property, though the amount of economic investment is just $1 million.

distressed areas. Whenever the data allow it, we report targeting at both the census tract and county level, recognizing that while census tracts represent the geographic units targeted by policymakers with the NMTC and OZs, counties offer insight into the broader areas targeted by each program.

We capture many of our targeting variables related to the well-being of residents from the American Community Survey (ACS), using the five-year pooled sample from 2013–2017, including median income, official poverty rate, educational attainment, student share of the population, racial and ethnic group shares of the population, and home values. We additionally rely on the five-year pooled sample from the 2006–2010 ACS to capture the growth in population and home values. We also use data from Opportunity Insights, based on the universe of tax records in the United States, that reflect economic mobility of each census tract, indicating the extent to which children from poor backgrounds have higher incomes when reaching adulthood (Chetty et al. 2018). Finally, we capture aspects of the social well-being of residents. This includes county-level data on suicides and drug overdose deaths from the Centers on Disease Control and Prevention, WONDER database.

Our other targeting variables reflect the economic development of areas. We use proprietary data from Real Capital Analytics, which contains the universe of commercial and multi-family housing real estate transactions in the United States, for transaction of $2.5 million or above (for a description of these data see Corinth and Feldman 2023). We consider commercial real estate and multifamily real estate investment transactions separately. We also compare investment in urban (metropolitan areas) versus rural areas.

Our analysis of the targeting of the NMTC and OZs proceeds in two parts. First, we measure the targeting of NMTC and OZs compared to one another. Second, we analyze the areas that received investment from both, just one, or neither program to draw lessons

about the coverage of each program and their gaps.

We measure the targeting of OZ and NMTC investment across each individual targeting variable. For these comparisons, we divide all census tracts, excluding territories, into national population deciles for the variable of interest, and then determine the share of investment dollars from the NMTC and OZ tax incentive flowing into each of those deciles. We do a similar comparison at the county level. The amount of investment for each decile is the result of a combination of eligibility determination of census tracts and actual investment decisions, and so these comparisons evaluate the policies as a whole. We then show multivariate comparisons of the relationship of investment amounts from the NMTC and OZs and each of our targeting variables.

We next evaluate the coverage of NMTC and OZ investment. We determine the census tracts benefiting from both programs, just one program, or neither program. This allows us to determine the characteristics of areas that are conducive to investment from one program or the other, and the characteristics of tracts that receive no investment from either program. We then use a multinomial logit model to provide multivariate comparisons of the factors associated with coverage by both, one, or neither program.

4 Targeting Results

We first report the share of NMTC and OZ investment allocated to census tracts and counties in each decile of each targeting variable. Then we report results from a multivariate regression indicating the targeting variables most associated with each form of investment.

4.1 Univariate targeting

Our main univariate targeting results are broken down into several groups, including (i) median income and poverty, (ii) labor market conditions, (iii) educational attainment, (iv) pre-existing investment, and (v) conditions associated with strong demand. We also show how investment is targeted geographically across urban and rural areas, and across states. In the appendix we show supplementary targeting results by other variables including race and ethnicity, economic mobility, and suicide and drug overdose mortality.

4.1.1 Median income and poverty

We begin our univariate targeting analysis by focusing on median income and official poverty rates. The fact that Congress defined eligibility for each program on the basis of census tracts' income and poverty rates is evidence that they consider them important measures of distress. Comparisons of the NMTC and OZs on these measures indicate the extent to which each program directed investment to areas with lower economic well-being. While we would expect the highest deciles of median income and lowest deciles of poverty to receive little to no investment due to likely ineligibility for both programs, the programs may target the close to half of census tracts that are eligible differently.

Figure 1 shows the share of NMTC and OZ investment allocated to each decile of the median income and poverty distribution, on the basis of census tracts (left side) and counties (right side). At the census tract level, NMTC and OZs are both targeted to census tracts with lower median incomes and higher poverty rates, though NMTC is somewhat more so. For example, the bottom two deciles of census tract median income receive 65 percent of total NMTC investment compared to 49 percent of OZ investment. Similarly with poverty, NMTC targets 65 percent of its investment funds in the two highest poverty deciles, compared with

59 percent of OZ investment.

The commonality between NMTC and OZs of a strong inverse relationship between economic well-being and investment at the census tract level no longer holds when zooming out to counties. At the county level, NMTC investment is still targeted at counties with lower levels of median income, though not to the extent of targeting at the census tract level. The bottom two deciles of counties ranked by median income received about 40 percent of NMTC investment. However, they received only 18 percent of OZ investment. A similar phenomenon holds for poverty. The top two deciles of counties ranked by poverty rate receive about 37 percent of NMTC investment compared to only 23 percent of OZ investment. These results suggest that while both NMTC and OZ investment target census tracts with lower levels economic well-being, the relationship is somewhat weakened for NMTC and mostly eliminated for OZs at the county level. In general terms, OZ investment flows to low-income census tracts within higher income counties. NMTC investment flows to low-income census tracts within not quite as low-income counties.

4.1.2 Labor market

We next turn to targeting on the basis of labor market variables in Figure 2, including the labor force participation rate (LFP), employment to population ratio (EPOP) and unemployment rate. The pattern mirrors the results for median income and poverty: NMTC and OZ investment flows to census tracts that are worse off in terms of each labor market measure, with somewhat stronger targeting to worse off areas for NMTC than OZs. But when zooming out to the county-level, the targeting of NMTC investment is maintained, though weakened, while the targeting of OZs is generally eliminated. Thus, NMTC investment goes to census tracts in counties with weak labor markets, while OZ investment goes to census

tracts in counties with strong labor markets.

For example, the weakest two deciles of census tracts in terms of labor market conditions receive 41 percent of NMTC investment when ranked by LFP, 48 percent when ranked by EPOP, and 50 percent when ranked by unemployment rate. The corresponding shares are somewhat lower for OZs, with the weakest two deciles receiving 27 percent of OZ investment when ranked by LFP, 31 percent when ranked by EPOP, and 39 percent when ranked by unemployment rate. When turning to counties, the weakest two deciles of counties receive 27 percent of NMTC investment when ranked by LFP, 26 percent when ranked by EPOP, and 34 percent when ranked by unemployment rate. However, they receive a lower share of OZ investment, 13 percent when ranked by LFP, 16 percent when ranked by EPOP, and 24 percent when ranked by unemployment rate. Thus, the weakest 20 percent of counties receives significantly more than 20 percent of NMTC investment but around 20 percent or less of OZ investment.

4.1.3 Educational attainment

Focusing next on education, Figure 3 shows that investment in both programs is decreasing with the educational attainment of the adult population of the census tract. Census tracts in the bottom two deciles of the share of the population with at least a high school degree receive 49 percent of NMTC investment and 40 percent of OZ investment. The relationship between investment and the share of the population with at least a college degree is more starkly different between the two programs, with 45 percent of NMTC investment received by the bottom two deciles compared to 24 percent of OZ investment. The county-level patterns are substantially less negative, and in the case of college graduates, OZ investment is more likely in highly educated counties than less educated ones. Counties in the top half of

the distribution of college graduates receive 42 percent of NMTC investment but 62 percent of OZ investment. This provides further evidence that OZ investment is concentrated in economically weaker census tracts within more prosperous counties.

4.1.4 Pre-existing investment

We next turn to pre-existing investment transactions. Policymakers may seek to encourage new investment in areas with little or no pre-existing investment. To the contrary, as shown in Figure 4, both NMTC and OZ investment in 2019–2022 are more likely in census tracts with higher levels of investment in 2013–2017. Half of census tracts have no commercial investment from 2013–2017. These tracts receive about 40 percent of all NMTC investment but only 14 percent of OZ investment. Similarly, 60 percent of census tracts have no multifamily housing investment from 2013–2017. These tracts receive 57 percent of NMTC investment but only 32 percent of OZ investment.[10] In contrast, about 65 percent of OZ investment—more than double that of NMTC—is received by the top two deciles of census tracts ranked by commercial investment. Similarly, 55 percent of OZ investment—again, more than double that of NMTC—is received by the top two deciles of census tracts ranked by multifamily housing investment.

The county results are again less pronounced than the census tract level findings, though they continue to show a modest upward trend over the deciles for OZ investment and more of mild U-shape for NMTC investment. It is also important to notice that there are significantly fewer counties that have no commercial or multifamily housing as compared to the more disaggregated data at the census tract level such that even the lowest decile has some positive

[10]We take the bottom 5 percentiles for commercial property and bottom 6 percentiles for multifamily housing that all have zero investment and divide the amount of NMTC and OZ investment by 5 or 6, respectively to average it over the bottom deciles.

commercial property or multifamily housing investment. Overall, the specific tracts targeted by OZ investment tend to be the tracts within counties with higher levels of pre-existing investment, rather than spreading new investment to other census tracts with less pre-existing investment within the county.

4.1.5 Strong investment demand

The annual median income and poverty rate in a census tract, while commonly used, are imperfect measures of economic distress. A census tract may have an unusually large concentration of relatively prosperous individuals who are in a stage in their life cycle with low annual earnings, such as students or retirees (Gelfond and Looney 2018). In addition, two census tracts with similar annual measures of median income and poverty may be on difficult trajectories (Freedman et al. 2023). Our final set of targeting variables in Figure 5 focuses on census tract and county characteristics reflective of strong demand not necessarily captured by static measures of distress like median income and poverty. We consider student population, which may connote in-demand areas artificially deemed poor due to large student bodies, and two measures of growth over time reflected in growing median home values and population. Beginning with student population, we see that NMTC and especially OZ investment is particularly concentrated among census tracts in the highest decile. This could suggest investment for both programs gravitating toward less risky environments with strong demand from a student population. When viewing growth in home values and population, we see that investment from both programs exhibits a U-shaped pattern, reflecting that investment is more heavily concentrated in deciles with the lowest and highest growth. For the NMTC, the bottom two deciles of median home value growth account for 29 percent of investment while the top two deciles account for another 25 percent. For OZs, 24 percent

of investment goes to the bottom two deciles while 31 percent goes to the top two deciles. Population growth reveals a similar pattern, especially for OZs. OZ investment in the bottom two deciles account for 22 percent of OZ investment and the top two deciles account for 38 percent. High median home value growth and population growth are characteristic of areas in demand, which increases the likelihood of profitable investments, particularly in multifamily housing.

These patterns are consistent with insights from Wessel (2021), suggesting two types of investors who take advantage of the OZ tax incentive: those who are altruistically and socially minded, aiming to improve the socioeconomic status of individuals in distressed neighborhoods, and those who use the programs to subsidize profitable investments that would have occurred even without the programs. It is unclear whether these latter investments align with the spirit of the legislation, which was intended to assist distressed and neglected neighborhoods.

4.1.6 Geography

While we have focused on targeting over various measures of economic well-being of residents and economic development of areas, it is instructive to place these results in the context of the geographic targeting of investment. Table 1 shows that OZ investment is more likely to go to metro (i.e., urban) areas (93 percent) in contrast to NMTC investment (72 percent).[11] This difference is driven in part by a statutory requirement for the NMTC that "non-metropolitan counties receive a proportional allocation of qualified equity investments."[12] The CDFI Fund uses 20 percent as the benchmark for ensuring a proportional allocation of QLICIs in non-metro areas (Community Development Financial Institutions Fund 2024). States differ on

[11] In this paper we define a census tract as being in a metro area if it is in a Metropolitan Statistical Area.
[12] See section 45D(i)(6) of the Internal Revenue Code.

the breakdown between metro and non-metro areas and so some of these differences are likely driven by state heterogeneity in the usage of the programs.

Figures 6 and 7 illustrate the geographic dispersion of NMTC and OZ investment across states. Figure 6 is normalized by state population and Figure 7 is normalized by the population living in low income communities that were generally eligible for investment from the programs in the first place. For both NMTCs and OZs, investment is widely dispersed across different regions of the country, with all states and the District of Columbia receiving OZ investment and NMTC investment from 2019–2022.[13] Figure 6 shows that NMTC is mostly concentrated in the Midwest and southern states, but with a number of other states with high levels of per-capita investment. In contrast, OZ investment is most strongly concentrated in the West as well as Florida and Tennessee, and to a lesser extent the east coast. The concentrated OZ investment in growing regions of the country lends further support to the bottom two panels of Figure 5 that show a greater tendency for OZ investment to go to areas with high population and median home value growth.[14] In contrast, the higher concentration of NMTC investment across the Midwest and South is consistent with the tendency for NMTC spread investment to less prosperous and more stagnant census tracts, many of which are located in de-industrialized regions of the Midwest and poorer regions of the South.

Figure 7 presents broadly a similar picture but with subtle differences. Once normalizing by the LIC population rather than state population, the northern states show intense usage of the NMTC program, whereas some states, like California, decrease their intensity. This

[13]For the maps we also include NMTC investment that we could match to a particular state that we dropped from our earlier analysis that required a sufficient population to calculate census tract targeting variables.

[14]Of the 10 fastest growing states in population from 2010-17, seven are in the top 10 in OZ investment per capita.

may be a result of relatively higher income states having a smaller number of low income communities over which to spread investment from the two programs. OZ investment per resident of low income communities continues to be concentrated in the Mountain West and other growing states.

4.2 Multivariate targeting

We next evaluate which targeting variables are most predictive of each type of investment in a multivariate context. While the results are not causal, they illustrate which factors are independently associated with investment in each program after adjusting for other observed factors.

In Table 3, columns (1) and (2) show these relationships among all census tracts in the United States, akin to the univariate targeting analysis presented above. Columns (3) and (4) restrict the sample to LICs only, focusing the analysis on tracts that were eligible for both programs. These columns evaluate the factors associated with investment decisions by CDEs in the case of the NMTC and the combination of governors and private investors in the case of OZs. Columns (5) and (6) further restrict the sample to LICs that were selected by governors as OZs. This analysis compares the decisions of CDEs and private investors of where to invest, solely among tracts that were eligible to receive investment from both programs. Thus, the first two columns reflect decisions by Congress, governors and investors, the second two columns reflect decisions by governors and investors, and the final two columns reflect decisions by investors only. The dependent variable in Table 3 is standardized NMTC or OZ investment. Independent variables are standardized as well, and so the coefficients indicate the effect of a one standard deviation increase in the independent

variable on standard deviations of investment.[15]

We see that OZ investment is inversely related to median income among all tracts, but that relationship weakens and disappears as we move to more targeted samples. This suggests that while lower income tracts were designated as OZs, investors did not choose to invest in the eligible census tracts with lower incomes. In contrast, the association between NMTC investment and median income is negative and strengthens as the samples become narrower. Both existing commercial investment and multifamily investment become a stronger predictor of OZ investment as our sample narrows, while there is no statistically significant relationship between existing investment and NMTC investment. This suggests that OZ investors may "chase" existing investment as a signal of potential capital gains, or otherwise observe the same underlying factors of an area that make private investment attractive, while NMTC investors do not share that same incentive.

In a similar vein, OZ investment is positively associated with population growth in the all tracts and LIC samples. However, this effect is smaller at the LIC and designated OZ level. This suggests that tracts with high population growth were targeted for OZ designation, but population growth was less of a deciding factor for investors among those tracts that were designated as OZs. NMTC investment has a similar but smaller relationship with population growth at the all tracts and LIC levels, while becoming statistically insignificant at the LIC and designated OZ level.

The two investment types also have similar relationships with college educated population and economic mobility. A higher share of college educated people increases both types of investment, though the association is larger for OZs. Increased economic mobility is associated with lower investment from both sources. Given that the mobility measure is

[15]Metro area is an exception, which is dummy variable with a value of 1 if the census tract is within a Metropolitan Statistical Area.

based on conditions of neighborhoods decades ago when current adults were children, caution is warranted in interpreting this result. Being in a metro area is positively correlated with OZ investment but negatively correlated with NMTC investment. This is likely due to program requirements for the NMTC that direct investment into both urban and rural areas according to their relative population shares.

5 Coverage of census tracts

We next evaluate the coverage of census tracts in receiving NMTC and OZ investment. In particular, we divide census tracts into four groups: (1) received investment from neither NMTC nor OZs, (2) received NMTC investment only, (3) received OZ investment only, and (4) received NMTC and OZ investment.[16] We first report the characteristics of each group of census tracts. Then we estimate multinomial logit models to determine the characteristics most associated with each group in a multivariate context.[17]

5.1 Characteristics of tracts with and without investment

In Table 2 we restrict the sample to eligible tracts since both the NMTC and OZs have broadly the same eligibility requirements.[18] The most apparent difference between tracts without investment and tracts with investment from at least one program is the share with

[16]Group (1) includes census tracts from two potential groups—those not selected as OZs and also did not receive NMTC, those selected as OZs and did not receive OZ investment nor NMTC investment.

[17]See the appendix for the average marginal effects from a logit model on what factors influence whether a tract receives NMTC or OZ investment.

[18]There are some differences. Under the OZ legislation, census tracts that are contiguous to an otherwise eligible tract and have median income no more than 125 percent of the eligible tract are also eligible to be selected. No more than 5 percent of selected tracts are eligible to be selected according to this criterion. In addition, there is a small number of census tracts that are eligible for NMTC investment that do not satisfy either the poverty or income requirements.

commercial and multifamily housing investment. Census tracts that received investment from neither program were much less likely to have prior commercial investment (38 percent) compared to other tracts that received either NMTC investment only (52 percent), OZ investment only (55 percent) or both (67 percent). This suggests there are likely underlying factors of census tracts that we do not necessarily observe but drive both unsubsidized investment and investment through the NMTC and OZ programs. NMTC and OZ investment may simply be more likely to be successful in areas where other private investments have succeeded. Multifamily housing shows a similar pattern, likely reflecting the same drivers of investment. Again, tracts that received investment from both programs are much more likely to have private investment in multifamily housing compared to those that received no investment from either program (46 percent compared to 33 percent). However, the difference between census tracts that received investment from just one program and census tracts that received investment from neither program is less stark.

Other variables that show major differences between the different groups are population growth and median home value growth. Population and home values are stagnant in tracts that received investment from neither program, as well as in tracts that received only NMTC investment. In contrast, in census tracts receiving OZ investment only, population and home values each grew by 2 percent, and census tracts receiving both NMTC and OZ investment experienced 2 percent population growth and 10 percent home value growth. These statistics are consistent with Figure 5, which showed a higher share of OZ investment in particular in areas with more growth.

5.2 Multinomial logit models

The multinominal logit model indicates which factors are associated with tracts falling into each of our four groups—having neither investment from NMTC nor OZ, having only NMTC investment, having only OZ investment, or having both NMTC and OZ investment—after adjusting for other observed factors.

We estimate these models for three samples. First, Table 4 includes all tracts in the United States.[19] This takes the widest view of the programs and describes which factors are correlated with whether a tract receives investment. These results obfuscate the stage of the investment decision for which the factors matter. For example, median income is negatively correlated with the probability of receiving investment. But that could be because high income tracts are less likely to be designated as OZs and less likely to have NMTC projects approved within their borders, or because projects in that tract are unattractive to investors. To separate these stories, we next restrict the sample to LICs in Table 5. This is the baseline set of tracts eligible for investment under either policy. This analysis shows which social and economic factors are correlated with a higher probability of investment exclusively among eligible tracts. Note that for OZs, this incorporates decisions made by state governors to designate about a quarter of the LICs in the state as an OZ, as well as private investors who decide which of those designated OZs in which to invest. Finally, we restrict the sample further to include only LICs that were designated as OZs in Table 6. This restricts the analysis only to tracts that could actually receive investment from both CDEs (under the NMTC) and private investors (under OZs).

From Table 4, we see that only 9 percent of all census tracts in the United States (among

[19] We exclude tracts in territories and tracts without sufficient population to generate tract characteristics such as median income or poverty.

census tracts for which each of our variables are available) received investment from at least one of the NMTC and OZs, including 1 percent from the NMTC only, 7 percent from OZs only, and 1 percent from both the NMTC and OZs. The much larger scale of OZs plays an outsized role in expanding the reach of place-based tax incentives. Table 5 shows that among only eligible census tracts, 4 percent received NMTC investment, either on its own or together with OZ investment. A much larger 18 percent received OZ investment, which is substantial given that governors could designate only about a quarter of eligible tracts as OZs. In fact, we see from Table 6 that two thirds of designated OZs received OZ investment. Had governors been allowed to select a larger number of OZs, it is conceivable that the coverage of OZ investment could have increased considerably.

The coefficients indicate the factors that explain which census tracts received investment one, both or neither program. Across all samples, median income is inversely related to receiving investment from one or both programs. This relationship is not surprising when considering all census tracts in Table 4, because eligibility for both programs was defined in part on the basis of having a sufficiently low median income. However, the negative association between median income and investment in each program is notable in the restricted samples in Table 5 and Table 6. CDEs were more likely to invest in lower income tracts among those that were deemed eligible for the NMTC program. And private investors were more likely to invest in lower income tracts designated as OZs. This is consistent with the targeting of NMTC and OZ investment dollars on the basis of median income reported in the previous section, though again when the sample is limited to designated OZs, then the relationship between OZ investment and median income is weaker.

Pre-existing private investment plays an important role in predicting whether a census tract will receive investment from each program, and especially OZs. Among designated

OZs, a one standard deviation increase in pre-existing commercial investment is associated with a 31 percentage point increase in the probability of receiving OZ investment only. Other characteristics indicative of greater demand also tend to predict more investment, especially for OZs. Higher home values predict a higher likelihood of OZ investment in all three samples. A higher share of the population with at least a college degree, population growth, and home value growth are significant predictors of OZ investment, alone or together with NMTC, in some samples.

6 Discussion

Despite different designs, investment made through both the NMTC and OZs is targeted to more distressed areas on key dimensions including median income, poverty, labor market conditions, and educational attainment. While NMTC is somewhat more targeted to distressed areas than OZs, it is important to emphasize that the scale of OZ investment is larger, and so total OZ investment (in dollars) is actually larger than NMTC investment in the most distressed areas. For example, there was over four times as much OZ investment than NMTC investment in the bottom quintile of census tracts ranked by median income from 2019–2022, even though the share of OZ investment (49 percent) was smaller than the share of NMTC investment (65 percent). The OZ program also vastly expanded the scope of the areas previously covered by the NMTC. Among low-income tracts eligible for investment in the programs, 1,259 census tracts received NMTC investment while 5,669 census tracts received OZ investment, including 5,149 tracts that did not receive any NMTC investment. Because of the introduction of the OZ policy, the share of LICs receiving investment from at least one of the two policies increased from 4 percent to 21 percent.

At the same time, we find that OZ investment in particular tends to flow to census tracts with greater pre-existing private investment and other conditions reflective of strong demand, within prosperous counties, and in areas of the country experiencing greater growth. This pattern is consistent with OZ investment flowing to places that may have received the investment in the absence of the program. As Corinth and Feldman (2024) point out, this reflects the design of the OZ tax incentive, which induces marginal investment only if it still has a relatively strong rate of return in absence of the subsidy, and offers the largest incentives to investment that would have occurred regardless. This can be seen in Figure 8, drawn from Corinth and Feldman 2024. The solid line represents the percentage point difference in the return on investment between an investment in an OZ relative to an investment in a non-OZ that offers a normal rate of return. Thus, the OZ investment is only worthwhile if the solid line is greater than zero. The return on investment on the OZ investment exceeds the return in the non-OZ only if the rate of return is within 2 percentage points of the non-OZ investment, that is, 5 percent versus the 7 percent normal rate of return in this example. The vertical lines in the figure represent the magnitude of the OZ subsidy, as a share of the initial investment. The subsidy is larger for OZ projects with a higher pre-tax rate of return, and is the largest for projects that would have occurred in the absence of the program. We should thus expect OZ investment to be concentrated in areas with sufficiently strong demand and pre-existing private investment made in the absence of the program, consistent with the patterns we find in the data.

7 Conclusion

Using data on NMTC and OZ investment, we compare the targeting of two alternative tax policies intended to promote private investment in distressed areas. Both programs target more distressed areas, and the scale of OZs substantially builds on the relatively small coverage of NMTC over low-income communities. However, OZ investment in particular targets areas with more pre-existing investment and other characteristics associated with more demand, consistent with the OZ tax incentive rewarding investment that would have occurred in the absence of the program. Ultimately, assisting distressed areas not ripe for productive investment on their own likely requires alternative policies.

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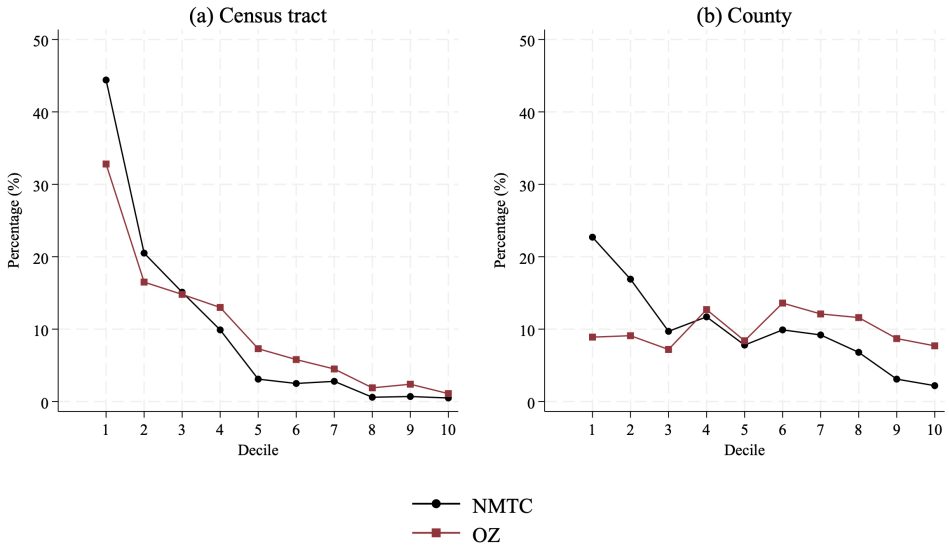
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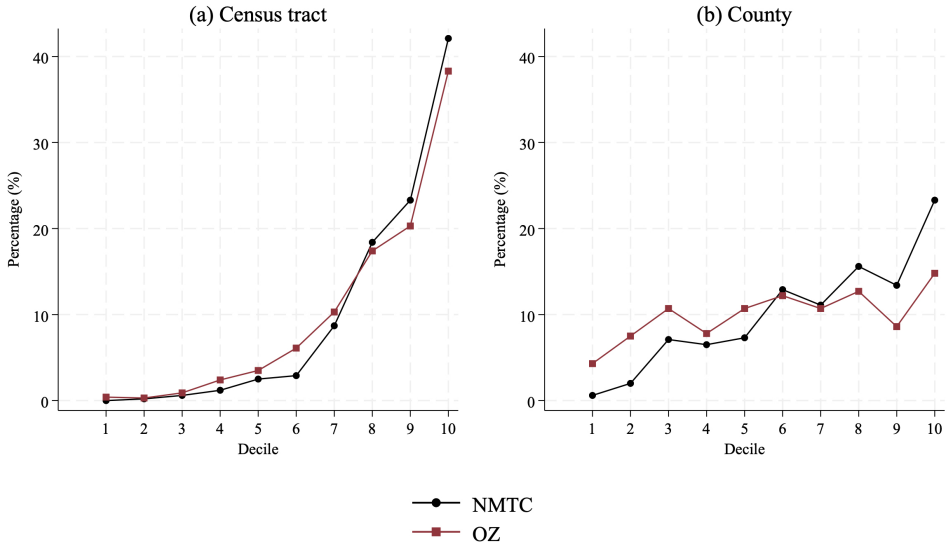
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Figure 1: NMTC and OZ investment by median income and poverty deciles, 2019-2022

(a) Median income



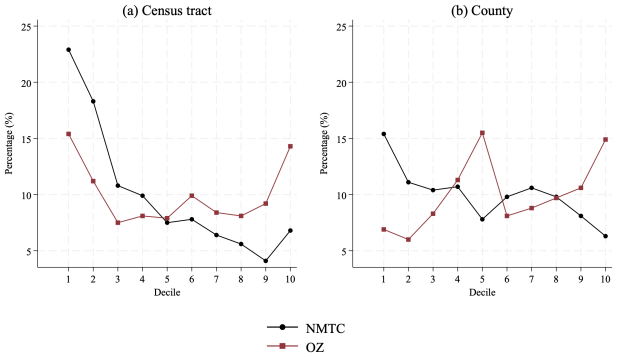
(b) Poverty



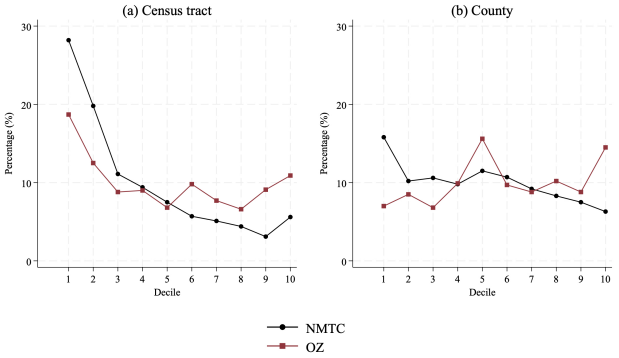
Notes: NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Figure 2: NMTC and OZ investment by labor market deciles, 2019-2022

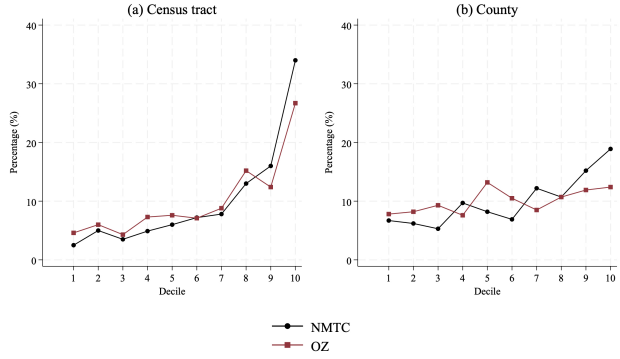
(a) Labor force participation



(b) Employment to population ratio



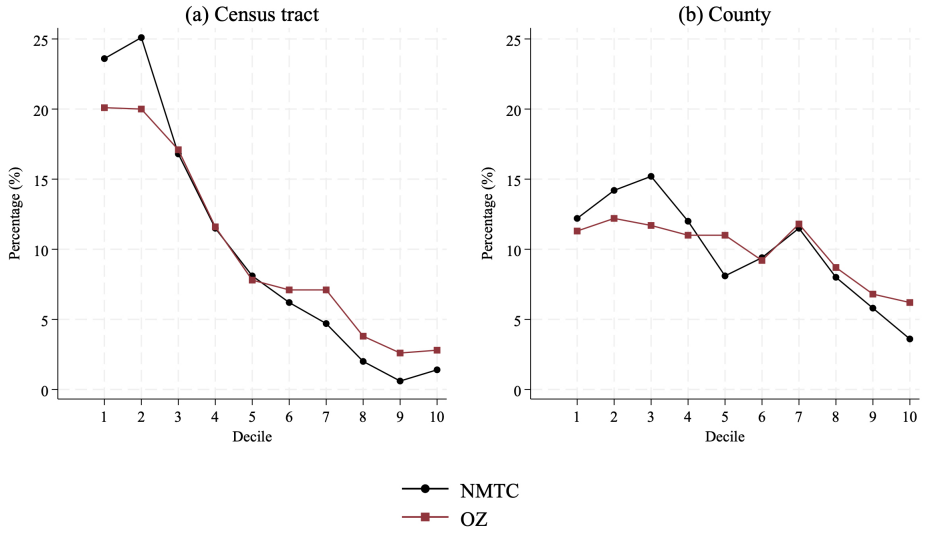
(c) Unemployment



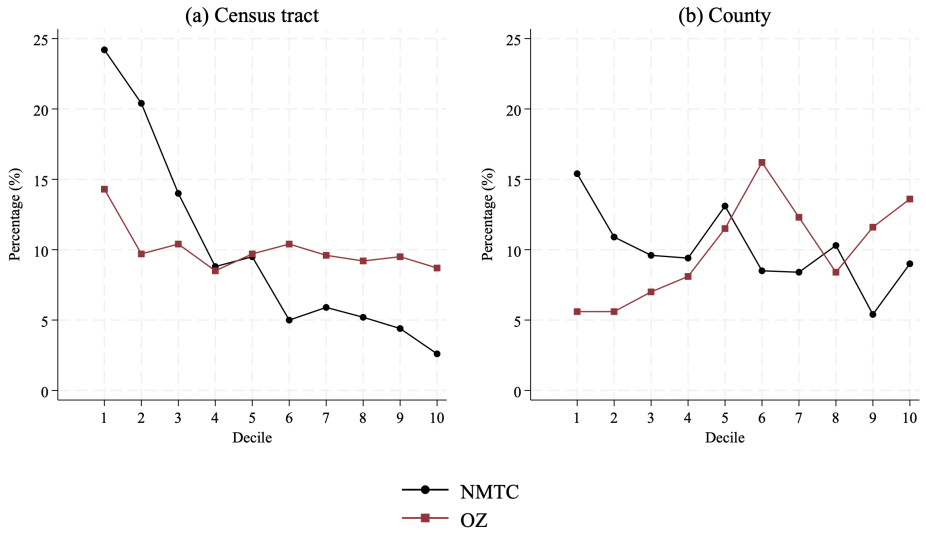
Notes: NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Figure 3: NMTC and OZ investment by educational attainment deciles, 2019-2022

(a) High school degree or more, 2019-2022



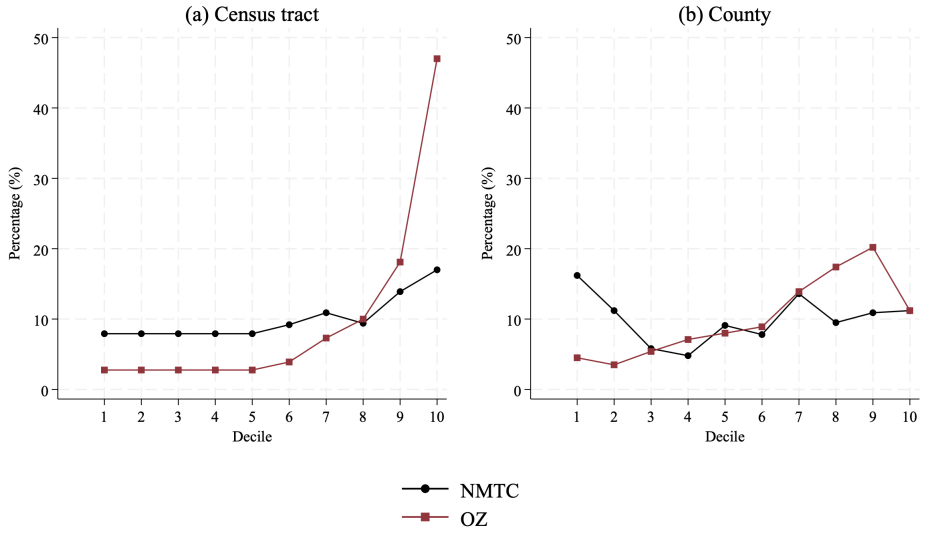
(b) College degree or more, 2019-2022



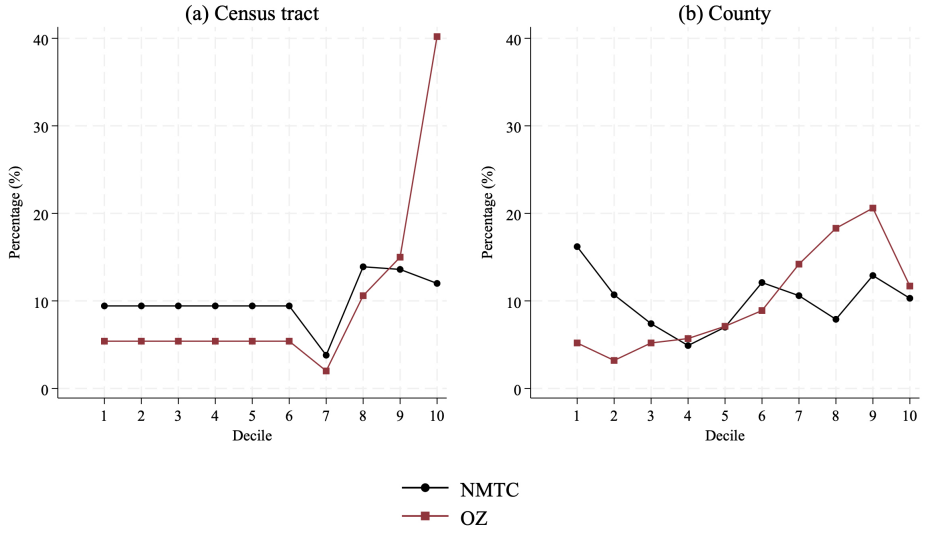
Notes: NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Figure 4: NMTC and OZ investment analysis by investment deciles, 2019-2022

(a) Commercial investment



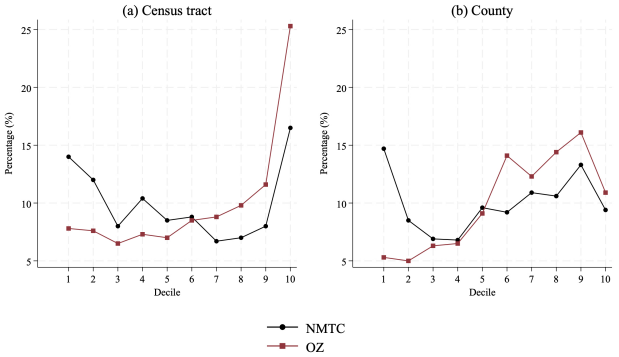
(b) Multifamily housing



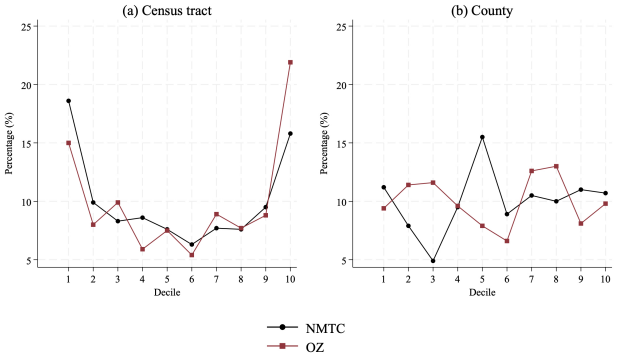
Notes: NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: Real Capital Analytics data, 2013-2017; U.S. Department of the Treasury, IRS Tax Data; Community Development Financial Institutions Fund.

Figure 5: NMTC and OZ investment by home value and population growth, 2019-2022

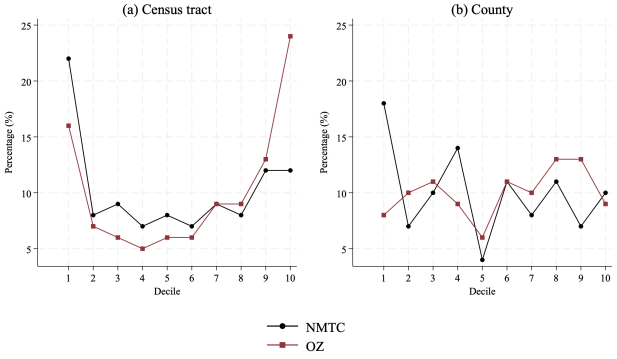
(a) Student population



(b) Median home value growth



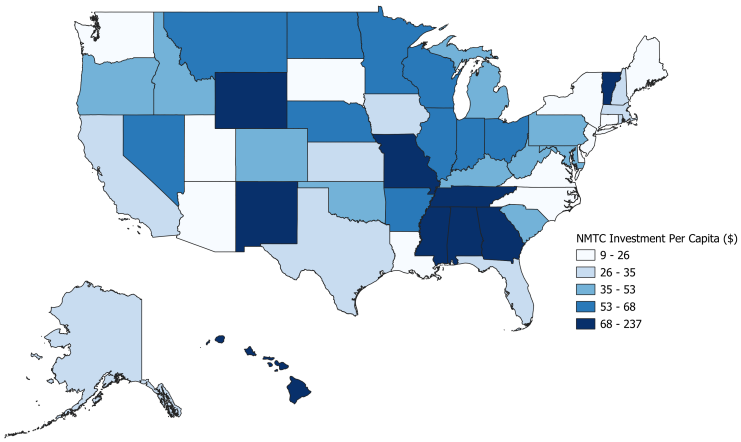
(c) Population growth



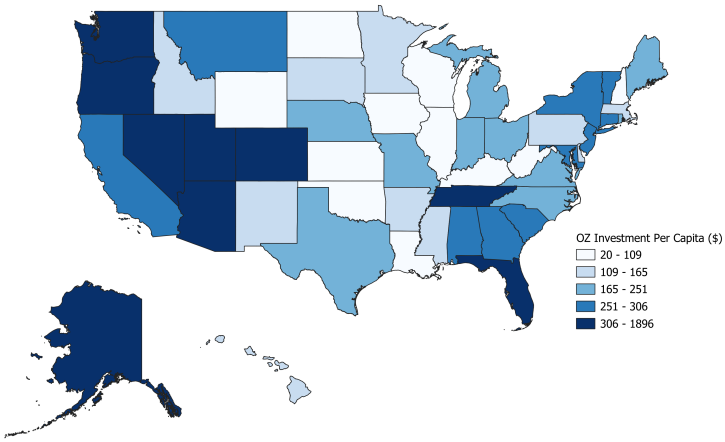
Notes: Student population is the fraction of individuals enrolled in college, graduate and professional schools living in group quarters. NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury, IRS Tax Data; Community Development Financial Institutions Fund.

Figure 6: Per capita NMTC and OZ investment by state, 2019-2022

(a) NMTC



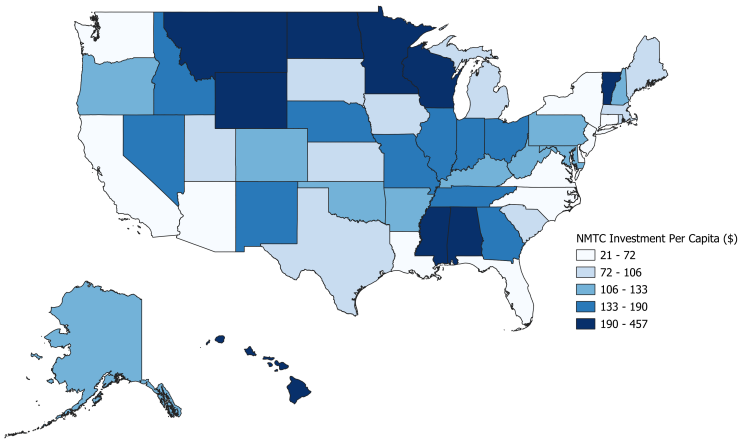
(b) OZ



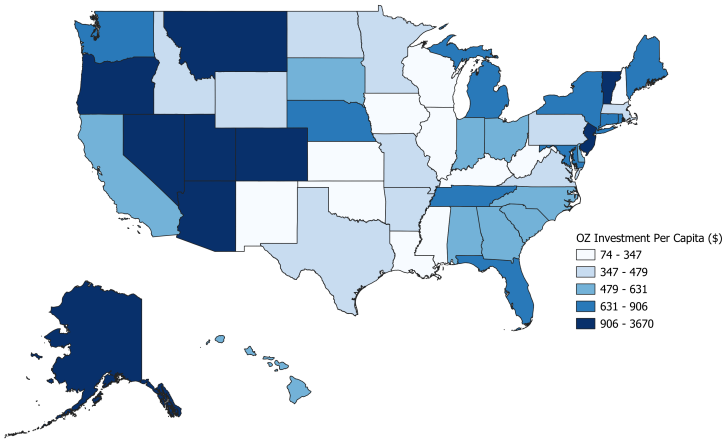
Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury, IRS Tax Data; Community Development Financial Institutions Fund.

Figure 7: NMTC and OZ investment per LIC population by state, 2019-2022

(a) NMTC

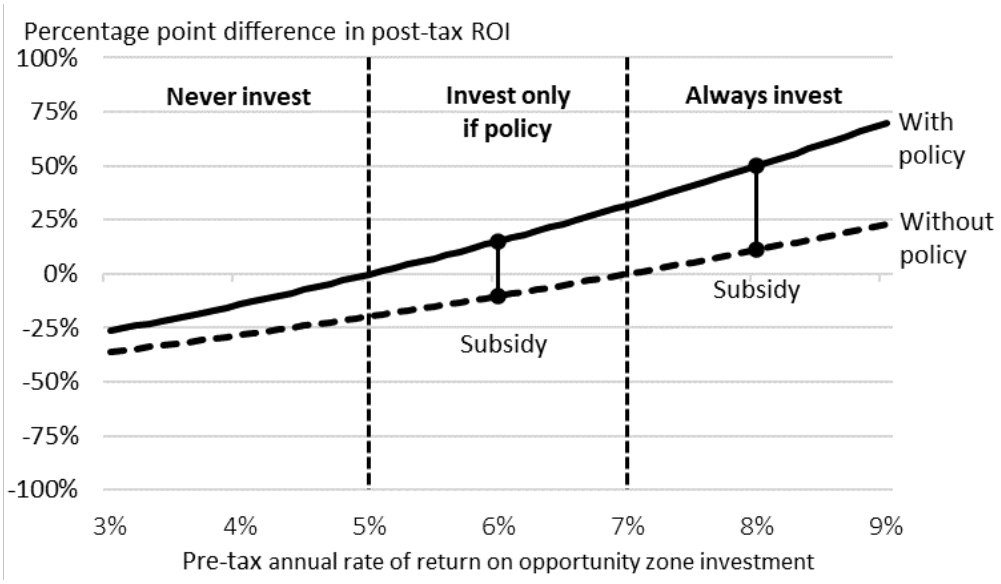


(b) OZ



Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury, IRS Tax Data; Community Development Financial Institutions Fund.

Figure 8: Percentage point difference in post-tax return on investment from investing in Opportunity Zone versus Non-Opportunity Zone, by pre-tax rate of return on Opportunity Zone investment



Source: Corinth and Feldman (2024)
Notes: Capital gains are assumed to be taxed at a rate of 20 percent, except when otherwise reduced by the Opportunity Zone tax provisions. Pre-tax annual rate of return is assumed to be 7 percent in non-Opportunity Zones, and as shown by the horizontal axis for Opportunity Zones. Post-tax rate of return in Opportunity Zones and non-Opportunity Zones accounts for taxes paid on original capital gain and any taxes on gain from the new investment. Investment is assumed to be made in 2019 and thus qualify for the full 15 percent reduction in the original gain subject to taxation when paid in 2026. Investment held in Opportunity Zones for 10 years or more qualifies for the elimination of capital gains tax on the new investment. Vertical axis indicates the difference in the post-tax return on investment in Opportunity Zones versus the post-tax return on investment in non-Opportunity Zones, per dollar of original capital gains.

Table 1: NMTC and OZ Investment (Dollars and Share) from 2019-2022 by Metropolitan Statistical Area

Decile	NMTC ($)	NMTC (%)	OZ ($)	OZ (%)
Metro	9,513	72	76,375	93
Non-metro	3,736	28	5,772	7
Total	13,249	100%	82,147	100%

Notes: NMTC and OZ investment is for the period 2019-2022. Sources: Census Bureau; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Table 2: Summary Statistics by Presence of Any NMTC and OZ Investment Among Low-Income Communities, 2019-2022

Statistic	Neither (1)	NMTC Only (2)	OZ only (3)	Both (4)
Mean tract median income	41,230	36,329	36,855	33,482
Mean poverty rate	24	29	28	32
Share with commercial investment	38	52	55	67
Share with multifamily investment	33	35	39	46
Mean income at age 35 among poor children	30,223	27,489	28,599	26,599
Mean home value	170,259	137,683	164,264	152,050
Home value growth	0	-1	2	10
Share metro	82	72	77	77
Population growth	0	1	2	2
Share black	22	31	26	33
Share Hispanic	24	20	24	18
Share with high school degree or more	80	79	78	79
Share with college school degree or more	19	19	18	20
Student share	8	8	8	9
Mean suicide rate	3	3	3	3
Mean drug overdose death rate	4	4	4	4
Number	24,573	739	5,149	520

Notes: NMTC and OZ investment is for the period 2019-2022. Upward mobility measured as mean income of adults whose family income was at 25th percentile as a child in given census tract. Includes only tracts that are considered low-income communities. Growth measures are percent growth between the 2010 Census and the 2013-2017 ACS. Sources: American Community Survey, 2013-2017; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Table 3: Regressions of NMTC and OZ investment amounts with standardized dependent and independent variables

	All tracts		LICs		LIC ∩ OZ	
	(1)	(2)	(3)	(4)	(5)	(6)
	NMTC	OZ	NMTC	OZ	NMTC	OZ
Economic characteristics						
Median income	-0.014*	-0.032***	-0.032***	-0.024	-0.059**	0.012
	(0.006)	(0.005)	(0.009)	(0.016)	(0.022)	(0.023)
Poverty	0.081***	0.039***	0.017	0.023	0.011	0.016
	(0.009)	(0.005)	(0.011)	(0.013)	(0.028)	(0.020)
Commercial investment	0.013	0.026	0.040	0.130**	0.074	0.274***
	(0.010)	(0.014)	(0.021)	(0.050)	(0.050)	(0.049)
Multifamily investment	0.008	0.031*	0.016	0.100*	0.011	0.222***
	(0.009)	(0.013)	(0.015)	(0.042)	(0.016)	(0.061)
Economic mobility	-0.015*	-0.009**	-0.047***	-0.048***	-0.041	-0.065**
	(0.006)	(0.004)	(0.008)	(0.008)	(0.021)	(0.023)
Home value	0.004	0.014**	0.008	0.016	-0.002	-0.021
	(0.005)	(0.004)	(0.007)	(0.010)	(0.015)	(0.029)
Home value growth	0.006	0.016***	0.006	0.019*	0.009	0.017
	(0.005)	(0.005)	(0.006)	(0.010)	(0.010)	(0.028)
Metro area	-0.099***	0.022***	-0.145***	0.022	-0.125**	0.068*
	(0.015)	(0.005)	(0.020)	(0.011)	(0.043)	(0.028)
Demographics						
Population	0.004	-0.009*	0.011	-0.012	-0.000	-0.021
	(0.004)	(0.004)	(0.007)	(0.010)	(0.012)	(0.016)
Population growth	0.042*	0.074***	0.069*	0.166***	0.026	0.050*
	(0.019)	(0.016)	(0.028)	(0.040)	(0.017)	(0.021)
Share black	0.039***	0.003	0.023**	-0.011	0.025	-0.017
	(0.007)	(0.003)	(0.008)	(0.006)	(0.026)	(0.019)
Share Hispanic	0.004	0.010**	0.012	0.016*	0.002	0.048*
	(0.006)	(0.003)	(0.008)	(0.008)	(0.023)	(0.019)
Education						
Share high school	-0.015	-0.002	-0.006	-0.011	-0.005	-0.027
	(0.009)	(0.006)	(0.010)	(0.011)	(0.022)	(0.019)
Share college	0.031***	0.026***	0.041***	0.078***	0.076**	0.174***
	(0.006)	(0.006)	(0.009)	(0.015)	(0.028)	(0.034)
Student share	-0.006	0.005	-0.014	-0.028*	-0.020	-0.037
	(0.007)	(0.005)	(0.009)	(0.012)	(0.018)	(0.020)
Deaths of despair						
Suicide death rate	-0.000	0.005*	-0.003	0.019***	-0.013	0.037*
	(0.004)	(0.002)	(0.006)	(0.006)	(0.014)	(0.016)
Drug death rate	0.016**	0.001	0.017*	-0.003	0.058**	-0.007
	(0.005)	(0.002)	(0.007)	(0.005)	(0.018)	(0.011)
Constant	0.085***	-0.022***	0.117***	-0.016	0.121**	-0.024
	(0.015)	(0.004)	(0.011)	(0.019)	(0.038)	(0.027)
N	70049	70049	29785	29785	7290	7290
Adj. R2	0.014	0.019	0.010	0.046	0.018	0.215

Standard errors in parentheses, clustered by state.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Average marginal effects from multinomial logit with standardized covariates for all tracts

	(1) No Investment	(2) NMTC Only	(3) OZ Only	(4) NMTC & OZ
		Economic characteristics		
Median income	0.123***	-0.011***	-0.099***	-0.014***
	(0.010)	(0.002)	(0.009)	(0.002)
Poverty	-0.008**	0.001*	0.006*	0.001
	(0.003)	(0.001)	(0.003)	(0.001)
Commercial investment	-0.006**	0.001*	0.005*	0.001**
	(0.002)	(0.000)	(0.002)	(0.000)
Multifamily investment	-0.003**	0.000**	0.002*	0.000
	(0.001)	(0.000)	(0.001)	(0.000)
Economic mobility	0.038***	-0.006***	-0.026***	-0.005***
	(0.005)	(0.002)	(0.004)	(0.001)
Home value	-0.024***	-0.001	0.023***	0.001*
	(0.005)	(0.001)	(0.004)	(0.001)
Home value growth	-0.001	-0.000	0.001	0.001***
	(0.001)	(0.001)	(0.001)	(0.000)
Metro area	0.033***	-0.009***	-0.020***	-0.004***
	(0.005)	(0.002)	(0.005)	(0.001)
		Demographics		
Population	-0.013***	0.002***	0.010***	0.001**
	(0.002)	(0.000)	(0.001)	(0.000)
Population growth	-0.017**	0.003	0.013**	0.002
	(0.005)	(0.002)	(0.004)	(0.001)
Share black	-0.001	0.001	-0.001	0.000
	(0.003)	(0.001)	(0.002)	(0.000)
Share Hispanic	-0.005	0.001	0.003	0.000
	(0.005)	(0.001)	(0.004)	(0.001)
		Education		
Share high school	0.005	-0.001	-0.003	-0.001
	(0.004)	(0.001)	(0.003)	(0.001)
Share college	-0.007	0.005**	-0.003	0.005***
	(0.007)	(0.001)	(0.006)	(0.001)
Student share	-0.000	-0.000	0.002	-0.001*
	(0.002)	(0.000)	(0.002)	(0.000)
		Deaths of despair		
Suicide death rate	-0.006**	-0.000	0.006**	0.001
	(0.002)	(0.001)	(0.002)	(0.000)
Drug death rate	0.003	0.001*	-0.006**	0.001**
	(0.002)	(0.001)	(0.002)	(0.000)
Share of tracts	0.91	0.01	0.07	0.01
N	70049	70049	70049	70049

Notes: Standard errors in parentheses, clustered by state.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Average marginal effects from multinomial logit with standardized covariates for LICs

	(1) No Investment	(2) NMTC Only	(3) OZ Only	(4) NMTC & OZ
		Economic characteristics		
Median income	0.049***	-0.003*	-0.037***	-0.009***
	(0.010)	(0.002)	(0.009)	(0.002)
Poverty	-0.023***	0.002	0.018***	0.002
	(0.005)	(0.001)	(0.005)	(0.001)
Commercial investment	-0.021*	0.003*	0.016*	0.002*
	(0.010)	(0.001)	(0.008)	(0.001)
Multifamily investment	-0.003	0.001	0.002	0.000
	(0.005)	(0.001)	(0.004)	(0.001)
Economic mobility	0.042***	-0.006**	-0.028***	-0.007***
	(0.006)	(0.003)	(0.006)	(0.002)
Home value	-0.019*	-0.004	0.022***	0.001
	(0.008)	(0.002)	(0.006)	(0.001)
Home value growth	-0.004	-0.001	0.004	0.002***
	(0.004)	(0.002)	(0.003)	(0.000)
Metro area	0.070***	-0.019***	-0.043***	-0.008***
	(0.011)	(0.004)	(0.010)	(0.002)
		Demographics		
Population	-0.030***	0.003**	0.024***	0.003**
	(0.004)	(0.001)	(0.003)	(0.001)
Population growth	-0.028*	0.005	0.019	0.005
	(0.014)	(0.005)	(0.011)	(0.004)
Share black	0.000	0.003	-0.003	0.000
	(0.007)	(0.002)	(0.006)	(0.001)
Share Hispanic	0.004	0.001	-0.005	-0.000
	(0.012)	(0.002)	(0.010)	(0.002)
		Education		
Share high school	0.009	-0.002	-0.006	-0.001
	(0.009)	(0.002)	(0.008)	(0.002)
Share college	-0.025*	0.007***	0.009	0.009***
	(0.010)	(0.002)	(0.009)	(0.002)
Student share	0.012*	-0.002	-0.006	-0.004**
	(0.006)	(0.002)	(0.005)	(0.001)
		Deaths of despair		
Suicide death rate	-0.017**	-0.001	0.016***	0.001
	(0.005)	(0.002)	(0.005)	(0.001)
Drug death rate	0.008	0.003	-0.013**	0.003***
	(0.004)	(0.001)	(0.004)	(0.001)
Share of tracts	0.79	0.02	0.16	0.02
N	29785	29785	29785	29785

Notes: Standard errors in parentheses, clustered by state.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

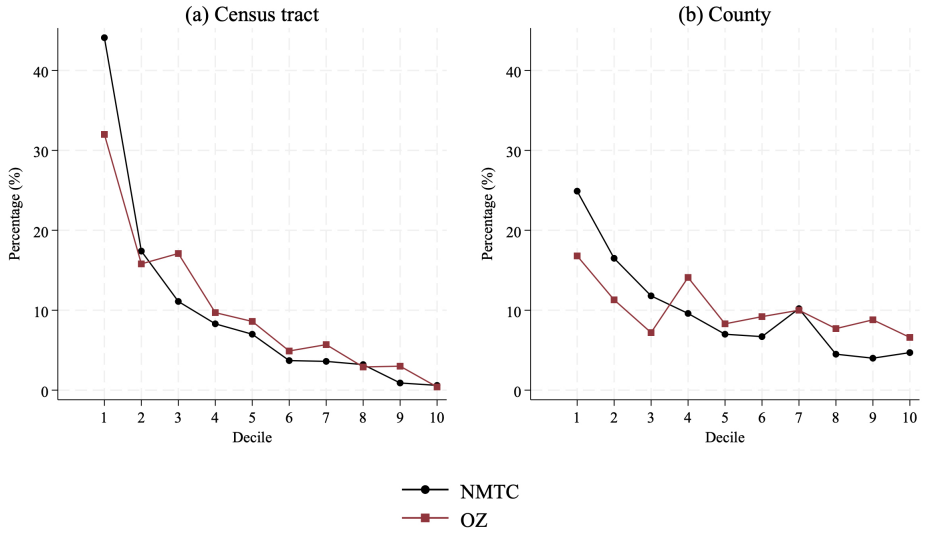
Table 6: Average Marginal Effects from multinomial logit with standardized covariates for OZ ∩ LICs

	(1) No Investment	(2) NMTC Only	(3) OZ Only	(4) NMTC & OZ
		Economic characteristics		
Median income	0.048***	-0.004	-0.024	-0.021***
	(0.012)	(0.003)	(0.013)	(0.006)
Poverty	0.036***	0.004*	-0.039**	-0.001
	(0.011)	(0.002)	(0.012)	(0.007)
Commercial investment	-0.342***	-0.004	0.309***	0.037***
	(0.049)	(0.009)	(0.049)	(0.006)
Multifamily investment	-0.040	-0.006	0.041	0.005
	(0.024)	(0.006)	(0.023)	(0.004)
Economic mobility	0.040***	0.001	-0.024*	-0.017**
	(0.010)	(0.003)	(0.011)	(0.006)
Home value	-0.026	-0.005	0.035*	-0.004
	(0.016)	(0.004)	(0.014)	(0.004)
Home value growth	-0.010	-0.003	0.006	0.006**
	(0.010)	(0.002)	(0.011)	(0.002)
Metro area	0.019	-0.007	0.009	-0.021*
	(0.023)	(0.004)	(0.022)	(0.010)
		Demographics		
Population	-0.061***	-0.002	0.056***	0.007*
	(0.008)	(0.002)	(0.009)	(0.003)
Population growth	-0.007	0.003	0.001	0.002
	(0.007)	(0.002)	(0.007)	(0.004)
Share black	0.016	-0.000	-0.016	0.001
	(0.010)	(0.003)	(0.010)	(0.006)
Share Hispanic	0.010	-0.002	-0.006	-0.002
	(0.014)	(0.003)	(0.014)	(0.006)
		Education		
Share high school	0.025	0.001	-0.020	-0.006
	(0.014)	(0.003)	(0.014)	(0.006)
Share college	-0.067***	0.003	0.034*	0.031***
	(0.015)	(0.002)	(0.014)	(0.006)
Student share	-0.006	-0.002	0.017	-0.009*
	(0.010)	(0.003)	(0.009)	(0.004)
		Deaths of despair		
Suicide death rate	-0.042***	-0.005	0.043**	0.003
	(0.013)	(0.003)	(0.014)	(0.004)
Drug death rate	-0.006	0.002	-0.012	0.015***
	(0.009)	(0.002)	(0.010)	(0.003)
Share of tracts	0.25	0.01	0.67	0.07
N	7290	7290	7290	7290

Notes: Standard errors in parentheses, clustered by state.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix

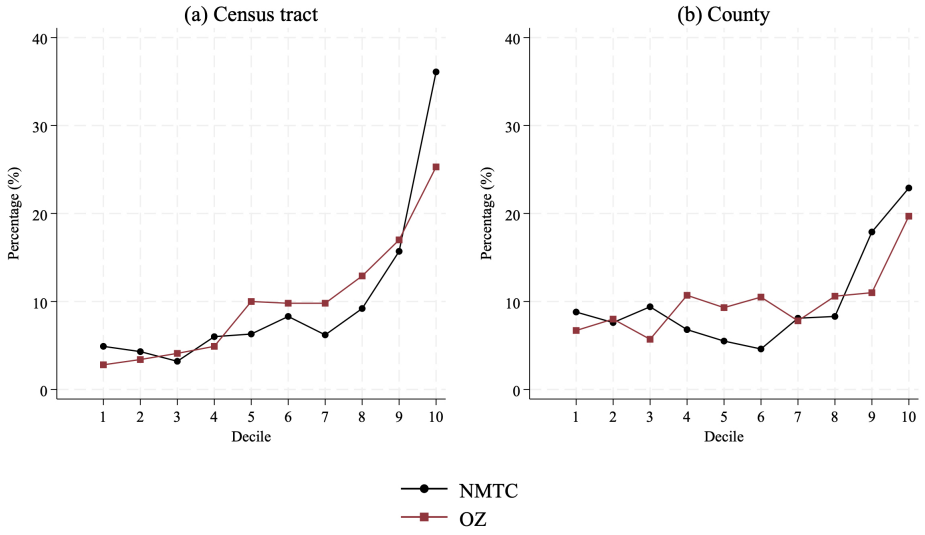
Figure A1: NMTC and OZ investment by upward mobility deciles, 2019-2022



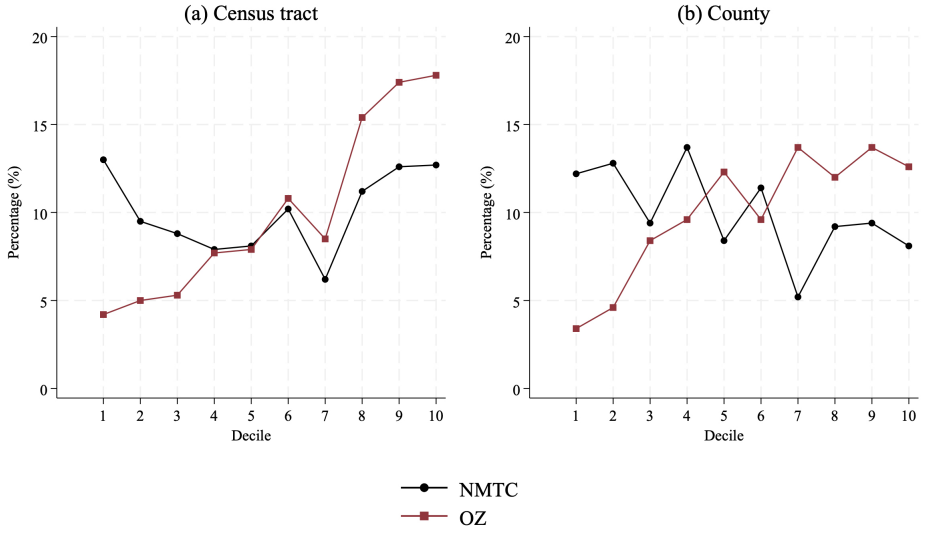
Notes: Upward mobility measured as mean income of adults whose family income was at 25th percentile as a child in given census tract. NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: Opportunity Insights, 2013-2017; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Figure A2: NMTC and OZ investment by race deciles, 2019-2022

(a) Black

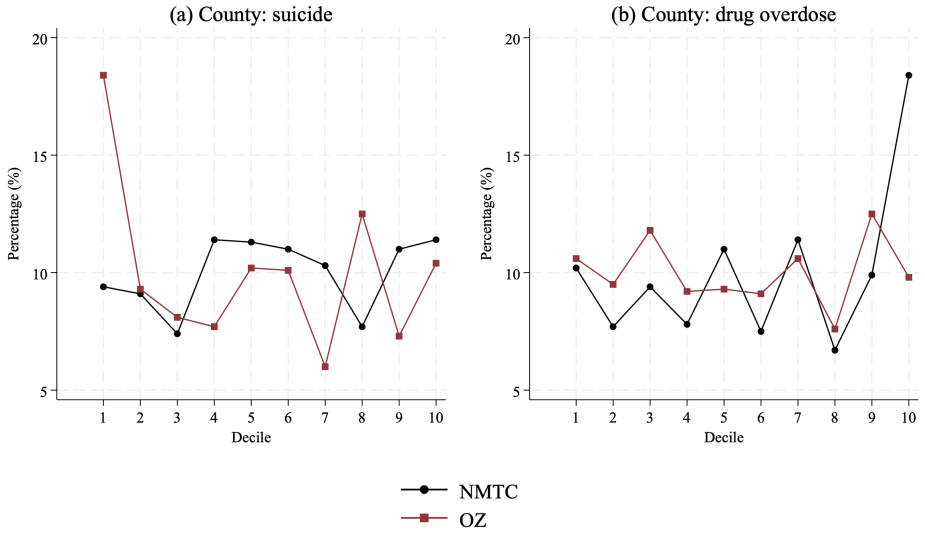


(b) Hispanic



Notes: NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: American Community Survey, 2013-2017, 5-year pooled sample; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Figure A3: NMTC and OZ investment by deaths of despair deciles, 2019-2022



Notes: NMTC and OZ investment is for the period 2019-2022. Total NMTC investment: $13.2 billion; Total OZ investment: $82.1 billion. Sources: CDC WONDER, 2013-2017; U.S. Department of the Treasury. IRS Tax Data; Community Development Financial Institutions Fund.

Table A1: Average marginal effects from logit of probability of NMTC and OZ investment on standardized covariates

	All tracts		LICs		LIC ∩ OZ	
	(1)	(2)	(3)	(4)	(5)	(6)
	NMTC	OZ	NMTC	OZ	NMTC	OZ
Economic characteristics						
Median income	-0.027***	-0.114***	-0.013***	-0.045***	-0.024***	-0.045***
	(0.004)	(0.010)	(0.003)	(0.009)	(0.006)	(0.012)
Poverty	0.001	0.007*	0.004	0.020***	0.003	-0.041***
	(0.001)	(0.003)	(0.002)	(0.005)	(0.006)	(0.011)
Commercial investment	0.001	0.005*	0.004**	0.016*	0.010**	0.343***
	(0.001)	(0.002)	(0.001)	(0.007)	(0.003)	(0.055)
Multifamily investment	0.001**	0.003*	0.001	0.002	0.001	0.046
	(0.000)	(0.001)	(0.001)	(0.004)	(0.003)	(0.026)
Economic mobility	-0.012***	-0.032***	-0.014***	-0.035***	-0.016**	-0.041***
	(0.003)	(0.004)	(0.003)	(0.006)	(0.006)	(0.010)
Home value	0.000	0.025***	-0.003	0.023**	-0.008	0.030
	(0.002)	(0.004)	(0.003)	(0.007)	(0.005)	(0.016)
Home value growth	0.001	0.002	0.002	0.006	0.006*	0.013
	(0.000)	(0.001)	(0.001)	(0.003)	(0.003)	(0.011)
Metro area	-0.013***	-0.025***	-0.027***	-0.051***	-0.027*	-0.011
	(0.002)	(0.005)	(0.005)	(0.010)	(0.011)	(0.024)
Demographics						
Population	0.003***	0.011***	0.006***	0.026***	0.005	0.063***
	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)	(0.009)
Population growth	0.005	0.015**	0.010	0.024*	0.005	0.003
	(0.002)	(0.005)	(0.007)	(0.012)	(0.004)	(0.007)
Share black	0.001	-0.001	0.003	-0.003	0.001	-0.015
	(0.001)	(0.003)	(0.003)	(0.007)	(0.007)	(0.010)
Share Hispanic	0.002	0.004	0.001	-0.005	-0.003	-0.007
	(0.001)	(0.004)	(0.003)	(0.011)	(0.008)	(0.014)
Education						
Share high school	-0.002	-0.003	-0.003	-0.008	-0.005	-0.026
	(0.001)	(0.004)	(0.003)	(0.009)	(0.007)	(0.016)
Share college	0.009***	0.003	0.016***	0.019	0.033***	0.065***
	(0.002)	(0.007)	(0.003)	(0.010)	(0.007)	(0.014)
Student share	-0.001	0.001	-0.006**	-0.010	-0.012**	0.008
	(0.001)	(0.002)	(0.002)	(0.006)	(0.004)	(0.009)
Deaths of despair						
Suicide death rate	0.000	0.006**	0.001	0.017***	-0.001	0.046**
	(0.001)	(0.002)	(0.002)	(0.005)	(0.004)	(0.015)
Drug death rate	0.002**	-0.004	0.006**	-0.009*	0.017***	0.004
	(0.001)	(0.002)	(0.002)	(0.004)	(0.004)	(0.009)
Mean of DV	0.02	0.08	0.04	0.18	0.08	0.74
N	70049	70049	29785	29785	7290	7290

Notes: Standard errors in parentheses, clustered by state.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$