Missed Opportunities:
The Impact of Opportunity Zones on Small Business Development in New York City

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Abstract

In 2017, the Tax Cuts and Jobs Act introduced the Opportunity Zone (OZ) program to stimulate investments in low-income tracts across the United States through capital gains tax incentives. The goals of the program are to spur economic growth and job creation nationally, however, there is currently no consensus on the impact of place-based policies like OZs. Existing literature examines the impact of OZs on broad economic growth and real estate with few papers focusing on their impacts on job creation or in urban cities. Given that place-based policies like OZs are based on economic theories of agglomeration economies, OZs have unique effects on urban cities. Addressing this lacuna, this paper examines (1) the impacts of OZs on small businesses—significant sources of job creation in New York City—and (2) the impact of OZs on a high-density city like New York. A difference-in-differences regression analysis of small businesses in designated and in eligible but not designated census tracts is used to identify OZ impacts on key metrics like changes in the number of small businesses and the number of employees per census tract. Ultimately, I find that the OZ program has not had any statistically significant nor economically significant impacts on small business outcomes in New York City due to the profit-driven structure of the policy.

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Introduction

The 2017 Tax Cuts and Jobs Act is well-known for decreasing individual and corporate tax levels but embedded in the 185-page bill are just six pages on a lesser-known provision for "Opportunity Zones." Opportunity Zones (OZs) are designated low-income tracts across the United States. As the name suggests, the OZ program rebrands these economically distressed zones as opportunities for investment by using capital gains tax benefits as an incentive.[1] More specifically, the OZ program hopes that increased capital investments will spur "economic growth and job creation" (Internal Revenue Service, 2023). However, while the program's stated goals are noble, the program's actual impact is unclear and still up for debate.

My research builds on an existing body of literature around Opportunity Zones and the program's impact on jobs to fill gaps in (1) research about Opportunity Zone impacts on small businesses and (2) research on employment focused on high-density cities specifically. The key question guiding this research is: what is the impact of the Opportunity Zone policy on the development of small businesses in New York City? To answer the question, this project compares metrics like the number of small businesses and the number of employees at small businesses in eligible but not designated low-income census tracts to those in designated low-income Opportunity Zone tracts.

Despite the stated goal of increasing employment, there is limited empirical evidence to suggest that OZs have led to increases in work outcomes such as the number of jobs in low-income census tracts or the number of people employed by small businesses. However, given New York City's high density and significant investment and business activity, if OZs are to

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[1] Moving forward, "Opportunity Zone program" and "Opportunity Zone" will be used interchangeably because Opportunity Zones exist only as part of this program. Additionally, Opportunity Zone will be shortened to "OZ."

have an impact anywhere, it would be in New York City. And if OZs do not have a positive impact in New York City, they are much less likely to have a positive impact in cities that are receiving less investment or that are less dense. Thus, the OZ impacts in New York City can be extrapolated to the OZ impacts on a national level.

This project seeks to understand whether the program is making positive progress toward its initial goals of job creation, especially as it is expected to cost $1.6 billion in tax revenue from 2018 to 2027 (Eastman and Kaeding, 2019). Given this significant amount of lost tax revenue, this program should have a positive impact on small businesses and job growth. Otherwise, the lost revenue could have been collected as taxes and put directly towards social service programs that benefit low-income communities or programs and grants that directly and effectively support job training (Heinrich et al., 2013; Holzer, 2008; Card et al., 2010).

Ultimately, in conducting a difference-in-differences regression analysis on business directory data for New York City, I find limited evidence that OZs have had a statistically significant impact on small businesses. This non-impact is largely due to the profit-driven nature of the policy as a capital gains tax incentive rather than as a truly socially driven program.

Background and Context

What are Opportunity Zones?

The Opportunity Zone program is a national policy that utilizes capital gains tax benefits to spur investment in previously disinvested and economically distressed census tracts, called Opportunity Zones. Capital gains[2] are profits from selling an asset but if investors choose to

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[2] Short-term gains, assets sold within a year of purchase, are typically taxed at income tax rates while long-term gains, assets sold more than a year after purchase, are typically taxed at varying levels of 0%, 15%, or 20%, depending on the seller's income (Eastman and Kaeding, 2019).

reinvest their capital gains in Qualified Opportunity Funds (QOFs)—funds that pool money from several investors and reinvest at least 90% of those assets into Opportunity Zone properties or businesses as *equity* investments—the original investors can benefit from deferred or decreased taxes.

These zones are chosen based on government guidelines and some state government discretion. Low-income zones that are eligible to become OZs must have poverty rates of at least 20% or median household incomes no greater than 80% of the Area Median Income. Census tracts that are contiguous[3] to low-income zones, but not low-income themselves, can also be designated as OZs if their median household income does not exceed 125% of the level of the contiguous low-income tract. States are then able to nominate up to 25% of total eligible census tracts (where up to 5% of the total 25% can be eligible contiguous tracts) as OZs. Once governors nominate tracts, they are formally certified by the U.S. Secretary of the Treasury.

Income Inequality in New York

New York has the worst income inequality in the nation, driven by income disparities in New York City. In 2018, in Manhattan, the top 1% of earners earned 113 times as much as the bottom 99% of earners, on average (Sommeiller and Price, 2018). And while the top 1% lived in luxury, 19.1% of New Yorkers lived in poverty with household incomes below $35,044 and 41.3% were at risk of poverty with household incomes less than 150% of the poverty line, $52,566 (New York Office of the Mayor, 2020).

New York State also holds more than 21% of all extreme wealth (wealth over $30 million per household) in the country with much of this wealth developed through investment income (Davis et al., 2022). While the gains from these investments are supposed to be subject to taxes,

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[3] Contiguous tracts are non-low-income tracts that border a low-income tract.

there is an estimated $3.1 trillion of unrealized capital gains that will likely never be taxed due to special policies and loopholes in the city (Davis et al., 2022). Given New York's extreme income inequality and thus economic inequality, the city needs policies that truly support low-income communities. Given that this same inequality is propelled by the ultra-wealthy who evade significant taxes on their investment gains, this greater need for policy comes with a greater need for evaluation (Gusdorf and Perry, 2022). Thus, policies like the OZ program that offer tax benefits need to generate a real impact. Otherwise, they just make the rich richer when the tax money could have contributed to government programs and resources that directly support low-income populations.

Research Overview and Conceptual Framework

This project examines the potential impacts of the Opportunity Zone policy on the development of small businesses in New York, specifically looking at changes over time in the number of small businesses and the number of their employees across census tracts. While the OZ program aims to promote economic growth and job creation, this project focuses on the job creation component due to the importance of employment for financial security and stability.

Given analyses of small business data in designated and non-designated but eligible low-income tracts in New York City, I argue that the OZ program insufficiently promotes job creation for low-income communities in urban areas given a lack of statistically significant treatment effects. This lack of an effect is driven by the focus on OZs as an "incentive" to reduce taxes and increase profits rather than as a true program that holds investors accountable. Current OZ policy only considers whether the tract receiving investment is low-income and the amount of the investment and does not consider the investments' social impacts when offering

incentives. This encourages investors to prioritize profits and invest in areas and projects that do not need as much support, such as real estate in gentrifying communities.

This research is grounded in a quantitative methodology that uses the creation of small businesses as a proxy for job creation in New York City. While past research has used census data and online job postings to analyze job creation, census surveys have historically undercounted minority and immigrant populations (Kissam, 2017) and online job postings are often biased toward higher-paying roles or roles requiring greater education (Carnevale et al., 2014). On the other hand, all businesses have public records, such as registration documents, and small businesses also often hire locally so they are a better proxy of job creation for the marginalized communities that OZs aim to serve (Mori et al., 2020). This is especially true of New York where about 98% of all businesses are small businesses with fewer than 100 employees (Empire State Development, 2022). New York City is also an especially relevant target for OZ impacts because of the city's density which plays into agglomeration economy theories that back place-based policies and the large amount of OZ investment into New York (Kennedy and Wheeler, 2021). Thus, small businesses are a worthwhile proxy for employment outcomes and New York City is an especially interesting area to look at when it comes to OZ program impacts.

Literature Review

Overview

Opportunity Zones are a place-based policy driven by theories of agglomeration economies and spatial mismatch. However, despite this theoretical backing of place-based policies, there is no consensus in evidence on whether place-based policies aiming to support

low-income communities truly benefit incumbent residents. Given the novelty of the OZ

program, I ground conversations on place-based policy impacts in older policies like

Empowerment Zones, Enterprise Zones, and the New Markets Tax Credit before exploring

recent scholarship on OZs and their impact on employment. While existing research has explored

OZ impacts on job creation more broadly across the United States, small businesses and cities

offer a unique lens through which to examine OZ impacts on job creation for minority and

immigrant communities.

Place-Based Policies

The Opportunity Zone program is considered a place-based policy, policies that work to

improve economic outcomes in specific geographic areas, and these policies are rooted in urban

economic theories and hypotheses of agglomeration economies and spatial mismatch (Neumark

and Simpson, 2015; Glaeser and Gottlieb, 2008). Agglomeration economies propose that high-

density areas with a greater concentration of people and businesses promote increased

productivity (Glaeser, 2010). This theory is underscored by cost-cutting where dense populations

lead to decreased costs of transportation—both for tangible costs like money and intangible costs

like time. These decreased costs result in additional positive externalities like knowledge

spillovers where large numbers of people can more easily interact and share ideas, further

boosting productivity (Glaeser, 2010; Neumark and Simpson, 2015).

Spatial mismatch theory also informed place-based policies, arguing that the lower

employment rates of disadvantaged minorities are due to a mismatch between where people live

and where jobs are available (Neumark and Simpson, 2015). Minorities, immigrants, and

economically disadvantaged people often live in residentially segregated areas that have fewer

employment opportunities, forcing them to commute to other areas for jobs. However, these long

commutes are often unsustainable, making it difficult for people to maintain quality, long-term

jobs (Neumark and Simpson, 2015). Thus, in theory, place-based policies would increase

positive agglomeration externalities by encouraging more firms and people to invest in and move

to low-income areas, increasing their density and thus productivity, and would also counter

spatial mismatch by bringing investments and thus jobs to the low-income areas that people live

in (Neumark and Simpson, 2015).

These theories have informed other place-based policies before the OZ program, such as

Empowerment Zones and the New Markets Tax Credit. The Empowerment Zone (EZ) Program

started in the early 1980s and is one of the largest place-based policies in the United States. It is

also one of the most similar policies to the current OZ program since EZs also use spatially

targeted tax incentives to encourage investment in the neediest areas of America. However, one

key difference is that EZs also include grant funding while OZs are funded through private

investment. While Empowerment Zones exist on the federal level, there is a, mostly, state-level

version of this program, Enterprise Zones, although there are a few federal Enterprise Zones as

well.[4] While urban economic theory underscores such place-based policies, there is no consensus

on the impact of EZs on employment and community development. Studies have found that EZs

had positive effects on job creation, employment, and poverty reduction including substantial

increases in employment for local workers without increased costs of living (Busso et al., 2013;

Couch et al., 2005; Oakley et al., 2007; O'Keefe, 2004). However, the increased investment in

low-income areas can also cause higher-income individuals to move into these areas, magnifying

positive impacts on employment. When controlling for this potential movement to isolate effects

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[4] Much of the literature on this topic discusses Empowerment and Enterprise zones in tandem with each other, often using "EZ" to refer to either or both—I follow that convention.

on zone residents, studies found that the program has no significant effect (Bondonio and Engberg, 2000; Elvery, 2009; Neumark and Young, 2019; Reynolds and Rohlin, 2015).

The New Markets Tax Credits (NMTC) is another example of a place-based policy working to uplift economically distressed communities, although with a different structure from that of OZs. Established in 2000, the NMTC offers investors tax credits to support investments in businesses. Community development entities, intermediaries that can make loans or investments, need to apply to the Treasury Department to receive tax credits, a selective process where only about 25% of applicants receive credits (New Markets Tax Credit Coalition, 2018), which they then sell to investors and invest the funds from sales in low-income community businesses. While money is invested in businesses, these investments can be used to finance real estate financing (if the space is used by the business), equipment, operations, and more. Community Development Financial Institutions (financial institutions registered with the U.S. Treasury Department that provide financial resources to underserved markets and populations) and similar mission lenders were awarded the highest shares of tax credits, with the second highest shares going to mainstream financial institutions, and the third highest shares going to government and quasi-governmental entities (Tax Policy Center, 2024).

Despite the increased restrictions for NMTCs and the large shares of social-impact-minded investors, there's a similar lack of consensus on the program's impact. A program evaluation report written by Martin Abravanel et al. (2013) from the Urban Institute for the U.S. Department of the Treasury, found that the NMTC program encouraged projects that would not have happened otherwise and most projects (58%) produced community amenities, services, or

facilities, [5] and supported job development with 91% of early NMTC Projects creating or retaining new permanent positions. [6] Kaitlyn Harger and Amanda Ross (2016) find positive employment outcomes in industries like retail and manufacturing but not in transportation, services, and others. However, while there seems to be a higher number of firms and jobs because of the program, studies that controlled for socioeconomic changes—since these programs often attract higher-income people to the area—found limited impact on low-income, incumbent residents (Freedman, 2012; Freedman, 2015; Theodos et al., 2022).

Robertson et al. (2023) examine federal place-based policies more broadly, including and beyond the NMTC and EZs, to determine their impacts on formerly redlined communities. They find that formerly redlined areas receive the largest proportional share of federal place-based funding, correlated with increases in home prices. However, the growth in home values is not evenly spread across racial-ethnic groups with some investments in formerly redlined areas associated with decreases in Black homeownership. Thus, Robertson et al.'s findings are similarly nuanced where there is no clear answer to whether place-based policies truly support low-income and marginalized communities. While the economic bases of place-based policies are reasonable, the actual impacts of such policies are unclear, whether looking at Enterprise and Empowerment Zones, the New Markets Tax Credit program, or broader place-based programs.

The examination of Opportunity Zones in New York City could help to address this lack of clarity. New York City has, in theory, all the traits that would make it a successful recipient of place-based investment and given that the OZ program has come after earlier programs, the

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[5] In the context of the report, community amenities, services, or facilities are defined as retail amenities, human capital amenities, quality of life amenities, and infrastructure amenities where retail amenities include shopping centers, hotels, grocery stores, financial services, and more. Human capital amenities include healthcare facilities, childcare centers, employment training centers, and more. Quality of life amenities include parks, arts and cultural institutions, community centers, and more. Infrastructure amenities include parking lots, public transportation, environmental cleanup, and more.

[6] The report did not include jobs that were moved from one place to another in this metric.

program has ideally learned from the shortcomings of earlier programs. Thus, if OZ impacts on New York City are not significant, it could imply fundamental faults with place-based policies. After all, if the program is not able to succeed in the uber-dense areas of New York that urban economic theories claim support productivity, then where else can it succeed? And what changes need to be made to improve its impact?

The Impact—or Lack Thereof—of Opportunity Zones

There is limited evidence of Opportunity Zones having a positive impact on the socioeconomic outcomes of low-income incumbent residents and OZs have been critiqued for incentivizing profit-oriented investments rather than impact-oriented investments. Money is disproportionately invested in neighborhoods in metropolitan areas (95% of OZ investments are in urban areas) and in areas already seeing economic improvement before the policy (Kennedy and Wheeler, 2021; Lemar, 2020; Kurban et al., 2022). While Chen et al. (2023) find that OZs do not raise housing prices, often associated with gentrification and displacement, this is likely because most investments are going into already gentrifying tracts that already have high house prices and costs of living. However, Kurban et al. (2022) find that in the case of gentrifying tracts, OZs can accelerate that gentrification. Within neighborhoods that do receive investment, most OZ investments have been funneled into real estate projects that are often luxury developments with no intention to uplift low-income residents (Theodos et al., 2020; Eldar and Garber, 2022; Bekkerman et al., 2021). Thus, OZ investments often do not go to the communities and projects with the most need.

Additionally, while business investments, especially small business investments, are often more impactful than real estate investments, less than 4% of all OZ investments go to operating businesses (Theodos, et al., 2020). This lack of investment in operating businesses is

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driven by real estate investments being easier and often more profitable. Exit strategies for

business investments are more complicated than for real estate—businesses might need new

partners or existing investors might need to repurchase equity—and businesses might physically

move during the investment period, which becomes a problem if they move outside of an OZ

tract (González and Theodos, 2020; Eldar and Garber, 2022). Real estate projects also often have

more predictable, fixed returns, and are often more profitable than small business investments

(Eldar and Garber, 2022; Theodos, et al., 2020). Furthermore, smaller businesses do not have the

structure for equity investments and would benefit more from debt investments, which the OZ

program does not incentivize (Eldar and Garber, 2022).

And even when there is investment, the results are mixed. Jiajie Xu (2021) finds that

while private investment in OZs increased, this increased investment is associated with a

decrease in entrepreneurship, especially for firms with smaller employment sizes. She reasons

that this association stems from investors targeting older, more established firms for investment,

and as these more established businesses improve and expand, they dissuade potential new

entrepreneurs and start-ups from competing in the space. Kevin Corinth and Naomi Feldman

(2023) use MasterCard data to examine business activity and spending and find no evidence of

increases in either. Michael Snidal and Guanglai Li (2022) find that OZs have had no statistically

significant effects on business or residential loan growth. Ultimately, investments in operating

businesses are likely to be higher risk than real estate investments and since this higher risk does

not necessarily guarantee higher returns, investors favor real estate investments.

There is also limited evidence that OZs have positive impacts on employment for

incumbent residents. Alina Arefeva et al. (2023) examine establishment-level employment data

from Your-economy Time Series (YTS) and, controlling for potential poaching of employment

from nearby tracts, initially find that OZs increase employment growth relative to comparable tracts by 3%-4.5% in metropolitan areas but had no effect on rural ones. However, they do concede that the jobs described by these numbers were likely taken by people who moved into the tracts after the creation of the program rather than incumbent residents, implying a lack of significant creation of jobs for incumbent residents. Mathew Freedman et al. (2023) examine microdata from the American Community Survey and find positive but not significant effects of OZs on the employment, earnings, or poverty of zone residents. Rachel Atkins et al. (2023) examine online job postings to study the effect of OZs on employment outcomes and come to a similar conclusion to Freedman et al., finding positive but statistically not significant differences between job vacancies and income in OZs versus non-OZ areas.

Thus, while Arefeva et al. did initially find significant impacts from OZs on employment, they did not isolate the effects on incumbent residents. And when the effect is isolated, as in the case of Freedman et al.'s research, the impact of OZs becomes negligible.

The papers that are most similar to my project are those by Arefeva et al., Freedman et al., and Atkins et al. I use establishment-level data, like Arefeva et al., but focusing on small businesses is a scope that will help me capture data that Arefeva et al., Freedman et al., and Atkins et al. could not. Using Atkins et al.'s research as an example, online postings are likely biased towards higher-wage jobs that are looking for more educated employees (Carnevale et al. 2014). Lower-paying jobs in urban areas are often spread through social networks and other informal methods, especially in immigrant, minority, and low-income communities, and thus will not be captured by data like online job postings (Livingston, 2006; Rankin, 2003). However, since small businesses must register their establishment to operate in New York, I can extrapolate job creation trends from trends in small business creation where more businesses

correspond to more employees. Furthermore, since small businesses often hire locally and hire minority and immigrant populations, the analysis of small business outcomes can reveal patterns about OZ impacts on the low-income populations the policy is meant to serve.

While the above research shows that OZs do not have statistically significant impacts on employment and job creation, Arefeva et al.'s positive impacts were found in *metropolitan* areas specifically. Similarly, while Atkins et al. found that, on average, OZs had no significant impact on employment, they posit that "if there is a positive effect of the OZ program, it occurs in urban areas." This research, in combination with agglomeration economies and spatial mismatch theory, implies that in focusing on New York City, I can capture unique effects that come from the city's high density.

How are Opportunity Zones Chosen?

For census tracts that are declining due to a lack of economic activity, OZ designation can tip the scales of investment. An OZ's presence could spark economic growth and development in historically overlooked tracts. However, given the discretion that is often involved in designating OZ tracts, potential biases in this process can significantly affect outcomes for census tracts in need of support.

One especially potent example of such bias comes from the 2019 New York Times investigation into the designation of a Nevada Opportunity Zone, Storey County (Drucker and Lipton, 2019).[7] Storey County, home to a Tesla factory and Google facility in Nevada was initially ineligible for OZ status due to the affluence of its residents (below-average poverty rates

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[7] While the New York Times is not an academic source, this investigative article contains an internal IRS memo on the designation of Storey County and was referenced by Richard E. Neal, the Chair of the U.S. House of Representatives' Committee on Ways & Means, and Ron Wyden, a Ranking Member of the U.S. Senate's Committee on Finance in official communications to Steven T. Mnuchin, the Secretary of the Department of the Treasury about potential abuse of Opportunity Zone program: https://www.finance.senate.gov/ranking-members-news/wyden-neal-investigate-abuse-of-opportunity-zone-program.

and above-average incomes) but was later designated as one of the largest OZs in Nevada after a private event between financiers and the Treasury Secretary. Storey County was the only tract allowed to deviate from OZ guidelines and while its designation was eventually reversed following scrutiny from the New York Times and Congress, it speaks to the potentially dangerous role of politics in OZ designation.

James Alm et al. (2021) and Mary Margaret Frank et al. (2020) more broadly examine the impact of politics on OZ tract selection at the national level, finding that political affiliations did influence the selection of OZs. Alm et al. find that Democratic representation in a census tract is negatively associated with OZ nomination while representation by local politicians of the same party as the governor is positively associated with OZ nomination. Frank et al. similarly find that when a tract's state representative is a member of the governor's political party, governors are 7.6% more likely to nominate that tract on average. Nonetheless, while Alm et al. and Frank et al. recognize significant impacts from political affiliations, they all concede that the strongest factors impacting OZ designation are demographic factors such as median income, unemployment, and welfare receipt. Thus, while politics can play a role in the designation of OZ tracts, it is not as significant as many of the other factors that influence OZ selection and Storey County is a one-off case of politics being the key determinator of designation. Furthermore, even if politics do have some impact, given that New York State's governors, the city's mayors, and the majority of the city's council members are Democrats, it is unlikely that political affiliations played a meaningful role in OZ designation in New York City.

Brett Theodos et al. (2018) examine other trends in OZ designation compared to non-designation, ultimately finding that across a sample of all OZs (urban and rural), designated tracks tend to have lower incomes, higher poverty rates, (slightly) higher unemployment rates,

and more people of color than eligible non-designated tracts. Similarly, Oder Eldar and Chelsea Garber (2022) find that governors are more likely to choose more distressed tracts and tracts on an upward trajectory. While this upward trajectory component may read as choosing already gentrifying areas, the literature is divided as Haydar Kurban et al. (2022) specifically investigate the role of gentrification on OZ designation and find no evidence that gentrifying areas are more likely to be selected. Thus, most OZs were selected by governors based on more objective factors of need (e.g. income, poverty, and unemployment) and likelihood of success.

The Case of Opportunity Zones in New York

In New York State, there are 514 approved and designated Opportunity Tracts, of which 497 tracts are qualified low-income tracts and 17 are non-low-income contiguous tracts. New York City contains 306 of the statewide total, including 14 non-low-income contiguous tracts. The Citizens Budget Commission, a nonpartisan, nonprofit civic organization analyzed which of the eligible tracts in New York were designated as OZs and found that most of the tracts selected have high poverty rates and low median incomes (*Graph 1; Table 1*). However, within the eligible contiguous tracts selected, four tracts are extremely high income (median income greater than a hundred thousand) and low poverty (poverty rates less than 20%). And in the city, OZ tracts are mostly located in areas with low incomes and high poverty in Brooklyn with many OZ tracts in the Bronx and Queens (*Figures 1 and 2*). Thus, OZ designation in New York City was based on more objective factors of greater need (low income, high poverty). However, while these tracts tend to be lower income with higher poverty rates, many of these tracts are also currently gentrified, in the process of gentrification, or at risk of gentrification (*Tables 2 and 3*). OZs could accelerate these processes through the high proportions of market-rate real estate investments.

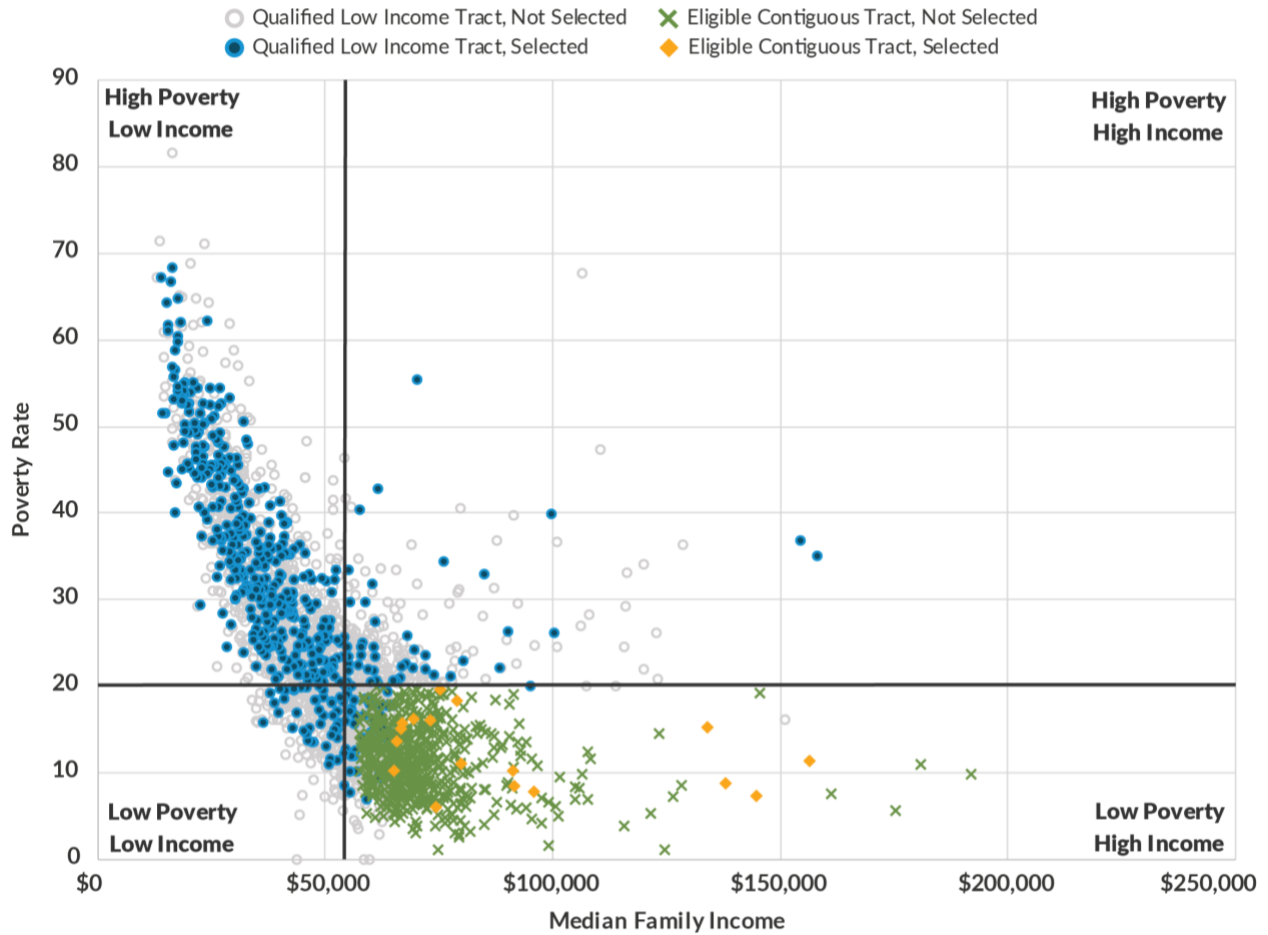*Graph 1*: Graph of Opportunity Zone Selection in New York State

Table 1: Table of Opportunity Zone Selection in New York State

	Selected	Not Selected	Total Eligible Tracts	Share Selected	Share of All OZs
High Poverty/Low Income	379	870	1,248	30%	74%
Low Poverty/Low Income	89	561	650	14%	17%
High Poverty/High Income	29	194	223	13%	6%
Low Poverty/High Income (Contiguous Tracts)	17	569	586	3%	3%
TOTAL	**514**	**2,194**	**2,707**	**10%**	**100%**

Source: U.S. Department of the Treasury, Community Development Financial Institutions Fund, "Opportunity Zones Resources: List of Designated Qualified Opportunity Zones" (December 14, 2018), https://www.cdfifund.gov/Documents/Designated%20QOZs.12.14.18.xlsx.

Graph visual and table summary of the graph from the Citizens Budget Commission (CBC) of New York mapping selected low-income and contiguous tracts in New York State over eligible but not selected tracts based on tract poverty rate and incomes. In New York, most selected low-income tracts were high-poverty and low-income, although several tracts were either high- poverty or low-income (2019).

Figure 1: Opportunity Zone Tracts & Median Income Across New York City
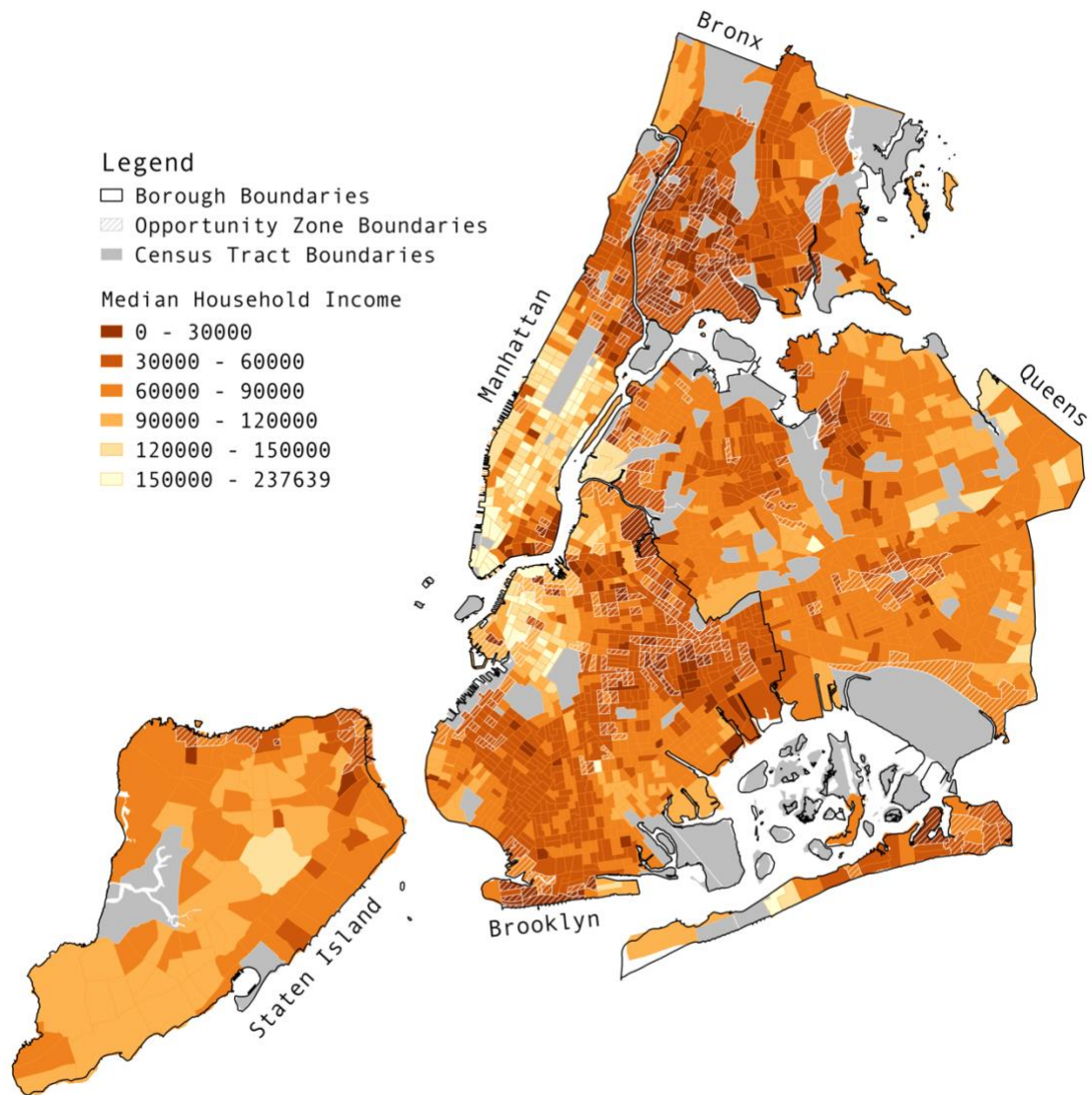
Visualization created in QGIS mapping OZ selection in New York City over median income ranges based on 2018 data. Overall, the majority of designated OZ tracts in New York City are located in the Bronx, Brooklyn, and Queens in lower-income areas. In 2018, $35,044 was the poverty-level household income in New York City. *Data Sources*: Shapefiles from the CDFI Fund and Baruch CUNY. Data for income distributions from ACS 5-Year Estimates for 2018.

Figure 2: Opportunity Zone Tracts & Poverty Rates Across New York City
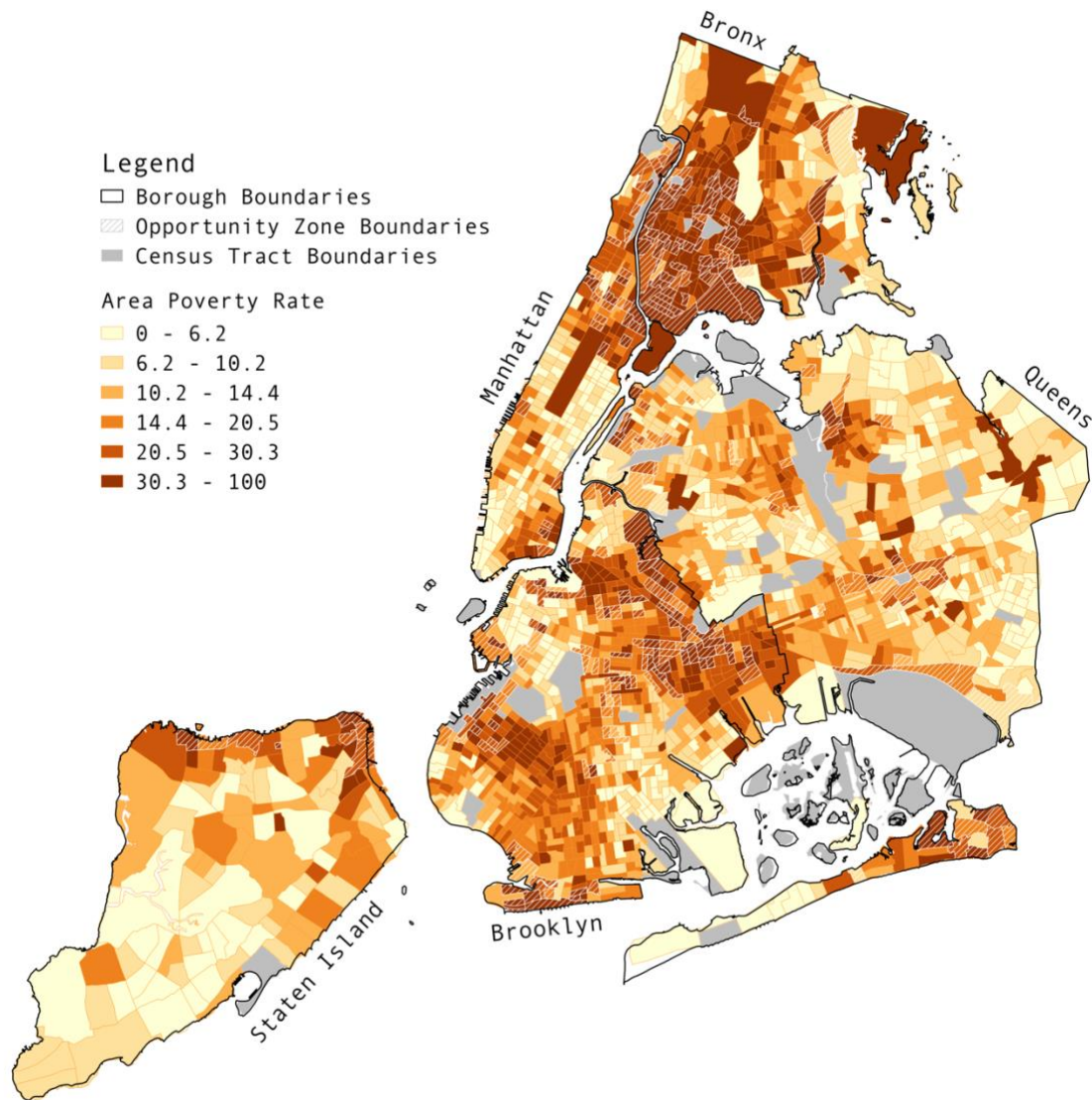
Visualization created in QGIS, mapping OZ selection in New York City over poverty rates based on 2018 data. While a significant portion of designated OZ tracts in New York City are located in tracts with high poverty rates (>20%), especially in the Bronx and Brooklyn, many are also located in lower-poverty rate areas, pointing to income levels being a bigger factor in OZ designation than poverty rates. *Data Sources*: Shapefiles from the CDFI Fund and Baruch CUNY. Data for poverty rates from ACS 5-Year Estimates for 2018.

Table 3: Urban Displacement Project Displacement and Gentrification Census Tract Typologies

Typology (tract income level)	Typology Criteria
Not Losing Low-Income Households (Low Income)	• Pop in 2000>500 • Low Income Tract in 2016 • Not classified as At Risk or Ongoing Gentrification or Displacement
At Risk of Gentrification (Low Income)	• Pop in 2016 > 500 • Low Income Tract in 2016 • Vulnerable in 2016 • Hot market" from 2000 to 2016 • Not currently undergoing displacement or ongoing gentrification
Displacement of Low-income Households (Low income)	• Pop in 2000 > 500 • Low Income Tract in 2016 • Loss of Low Income households 2000-2016 (absolute loss) • Few signs of gentrification occurring
Ongoing Gentrification (Low Income)	• Pop in 2000 or 2016 > 500 • Low Income Tract in 2016 • Gentrified in 1990-2000 or 2000-2016
Advanced Gentrification (Moderate to High Income)	• Pop in 2000 or 2016 > 500 • Moderate to High Income Tract in 2015 • Gentrified in 1990-2000 or 2000-2016
Stable Exclusion (Moderate to High Income)	• Pop in 2000>500 • Moderate to High Income Tract in 2016 • Not classified as Ongoing Exclusion
Ongoing Exclusion (Moderate to High Income)	• Pop in 2000 > 500 • Moderate to High income Tract in 2016 • Loss of Low Income households 2000-2016 (absolute loss) • Low Income migration rate (percent of all migration to tract that was Low Income) in 2016 < in 2009
Super Gentrification or Exclusion (Very High Income)	• Pop in 2000 > 500 • Median household income > 200% of regional median in 2016 • Indicators of Gentrification or Exclusion

UC Berkeley's Urban Displacement Project typology examines gentrification and displacement in low-income neighborhoods (median household income at 80% of the regional median) and exclusion in moderate-to-high-income neighborhoods (80% of the regional median or above). Neighborhoods are exclusionary when rents are so expensive that low-income people are excluded from moving in (Chapple et al., 2016).

Small Business Impacts on Employment

Small businesses are known to have a significant positive impact and are often touted as being an integral part of community development. Small business ownership can help narrow the racial wealth gap and improve the economic mobility of underserved communities. Minorities who own small businesses can accumulate assets and thus often make significantly more than their non-business-owner counterparts (Howard, 2019; Yellen, 2014; Mills, 2018). Furthermore, small businesses are crucial to job creation, frequently described as creating the most net new jobs in the United States (Dennis et al., 1994; Wilmoth, 2022; Neumark et al., 2011). Minority small businesses also hire more minority employees than White-owned businesses, sometimes even training them to become future business owners themselves (Stoll et al., 2001; Portes and Schafer, 2007; Zhou and Cho, 2010; Theodos and Su, 2023; Mori et al., 2020).

Small businesses are especially relevant to New York and the city. In 2021, 98% of New York State's businesses were businesses with fewer than 100 employees and these businesses accounted for nearly 40% of employment (Empire State Development, 2022). Furthermore, while immigrants make up about one-third of New York City's population, they own 47% of all small businesses in the city (Mori et al., 2020). Minority-owned businesses also account for about one third of all New York City small businesses and account for nearly half of all small businesses in the Bronx and Queens, especially diverse boroughs in New York (Mori et al., 2020; Dvorkin et al., 2020). In New York, minority-owned small businesses are also more likely to hire locally (Mori et al., 2020). Thus, the creation and development of small businesses can have significant positive implications for the employment of historically underserved populations and communities.

Furthermore, in New York City, nearly all designated OZs are immigrant communities, and many are ethnic enclaves (*Figure 3*; Li et al., 2022). This implies significant overlap between the minority and immigrant communities that small businesses employ and serve and the immigrant and low-income communities that the OZ programs aim to support. The impacts of OZs on small businesses thereby also imply impacts on employment outcomes for the underserved populations that OZs try to target.

Discussion

Opportunity Zone investments are not evenly distributed throughout the country with most investments going into areas and projects that do not have the most need, such as gentrifying tracts or market-rate commercial properties. As a result, there is limited evidence that OZs truly support the low-income residents they claim to support, especially when it comes to employment outcomes. However, if the program is to succeed anywhere, it would be in New York City which has the density necessary to satisfy the theoretical economic backings for place-based policies, especially given Atkins et al. and Arefeva et al.'s findings that metropolitan areas are more inclined to see positive impacts.

Furthermore, although investments in operating businesses were minimal, it is still worthwhile to explore whether the program encouraged the development of new small businesses because of the significant impact they have on employment in New York and for the low-income minority and immigrant communities the OZ program is meant to serve.

Thus, my research fills key gaps in Opportunity Zone literature by examining employment in a high-density metropolitan city and by using small businesses as an indicator for job creation targeting low-income and marginalized communities.

Figure 3: Typology of Opportunity Zone Clusters in New York City
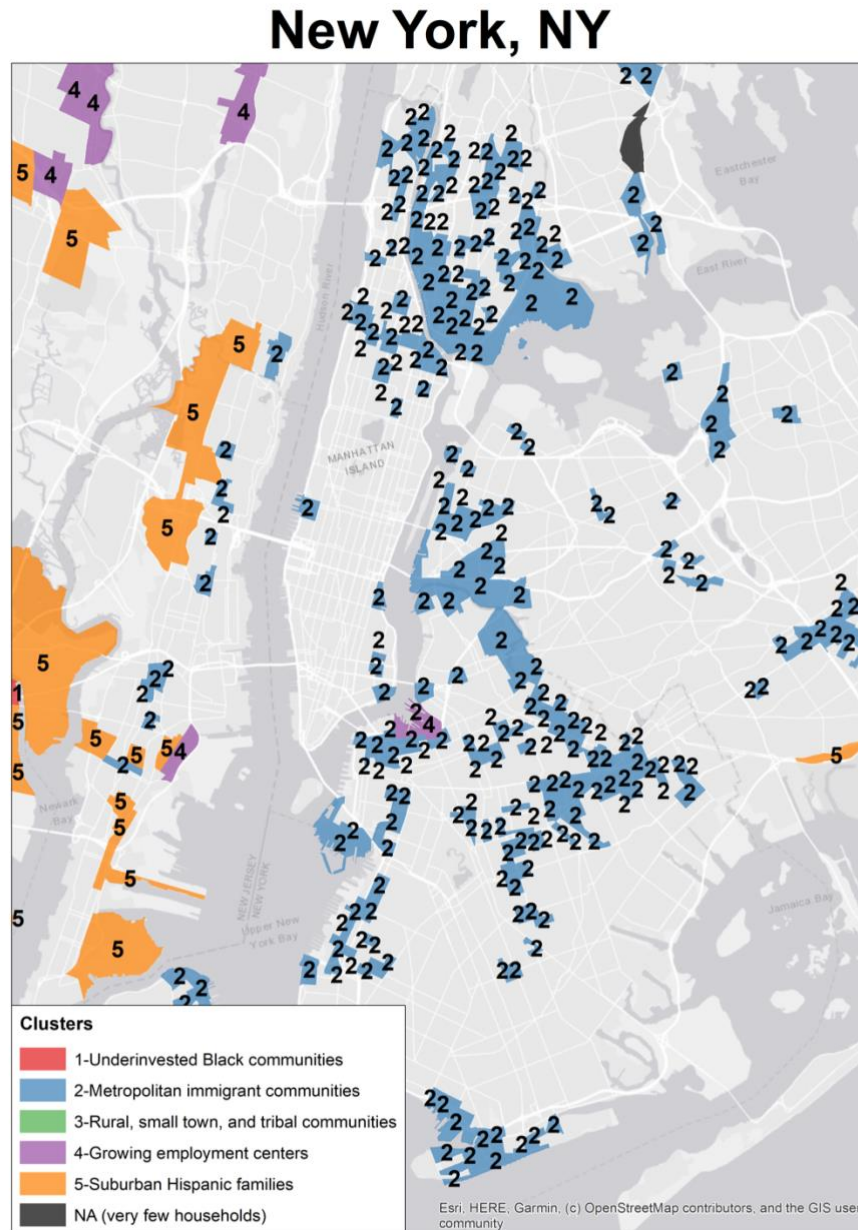
Janet Li, Richard Duckworth, and Erich Yost from the U.S. Department of Housing and Urban Development develop a typology of Opportunity Zones based on designated tracts' characteristics around socioeconomics and housing markets. Metropolitan immigrant communities have median home values (absolute and relative to regional median income), higher rates of commuting by transit, higher population and job density, HUD Fair Market Rent, regional median home value, more people living in large multifamily buildings, large foreign-born and/or Asian population, median rent, and more people with college degrees. They also have much lower ownership rates and cases of people living in detached houses or commuting by driving alone (2022).

Data and Methods

Introduction

      To examine the role that Opportunity Zone policy plays in the development of small businesses, I compare trends in the number of small businesses, in their number of employees, and in patterns of the industries these small businesses are part of across census tracts in New York City. More specifically, I apply a difference-in-differences model to compare outcomes in eligible but not designated low-income census tracts and in OZ-designated low-income census tracts to isolate the impact of the OZ program. Given the short turnarounds for research and nomination of tracts, this designation process largely serves as a natural control (not designated low-income tract) and treatment group identifier (OZ-designated low-income tract).

Study Area

    While prior research and discussion of Opportunity Zones and employment use national-level data (Atkins et al., 2023; Freedman et al., 2023; Arefeva et al., 2023), my research focuses on New York City specifically. The city's density uniquely addresses the agglomeration economies and spatial mismatch theories that inform place-based policies such as OZs and can offer a new lens to OZ impacts. New York also received the greatest amount of Opportunity Zone investment, with more than two billion dollars of investment, compared to other urban commuting zones (Kennedy and Wheeler, 2021).

    Since OZs are designated on a census tract level, the geographic data I use for New York City will also be at the census tract level. Additionally, while both low-income tracts and tracts contiguous to low-income tracts were able to be designated as OZs, my research will focus on low-income tracts only. Ultimately, this project examines OZ effects on communities in need and contiguous tracts are not communities in need.

Data

My research uses two key types of spatial data: 2010 New York City census tract boundaries and designated OZ boundaries. The census tract boundary data, originally produced by Baruch CUNY, is a subset of the Census TIGER census tract file for New York City specifically (*Figure 4*). Additionally, since OZs were designated in 2018, using 2010 census tract boundaries rather than 2020 boundaries ensures that OZ and small business data are aligned with the correct census tracts. Data for OZ boundaries was taken from the U.S. Department of the Treasury, Community Development Financial Institutions Fund's Opportunity Zone Resources (*Figure 4*).

In addition to spatial OZ data, I use the List of Designated Qualified Opportunity Zones and the Opportunity Zones Information Resource from the Community Development Financial Institutions Fund's Opportunity Zone Resources, both created in 2018. The List of Designated Qualified Opportunity Zones dataset contains the complete list of designated OZs in the United States and includes each zone's state, county, census tract, and tract type. The tract types are either "Low-Income Community" if it is a low-income tract or "non-LIC Contiguous" if it is a tract that is not low-income but adjacent to a low-income tract. The Opportunity Zones Information Resource contains a list of all low-income community tracts—tracts eligible to be an Opportunity Zone—organized by state.

Figure 4: New York City Census Tracts & Opportunity Zones
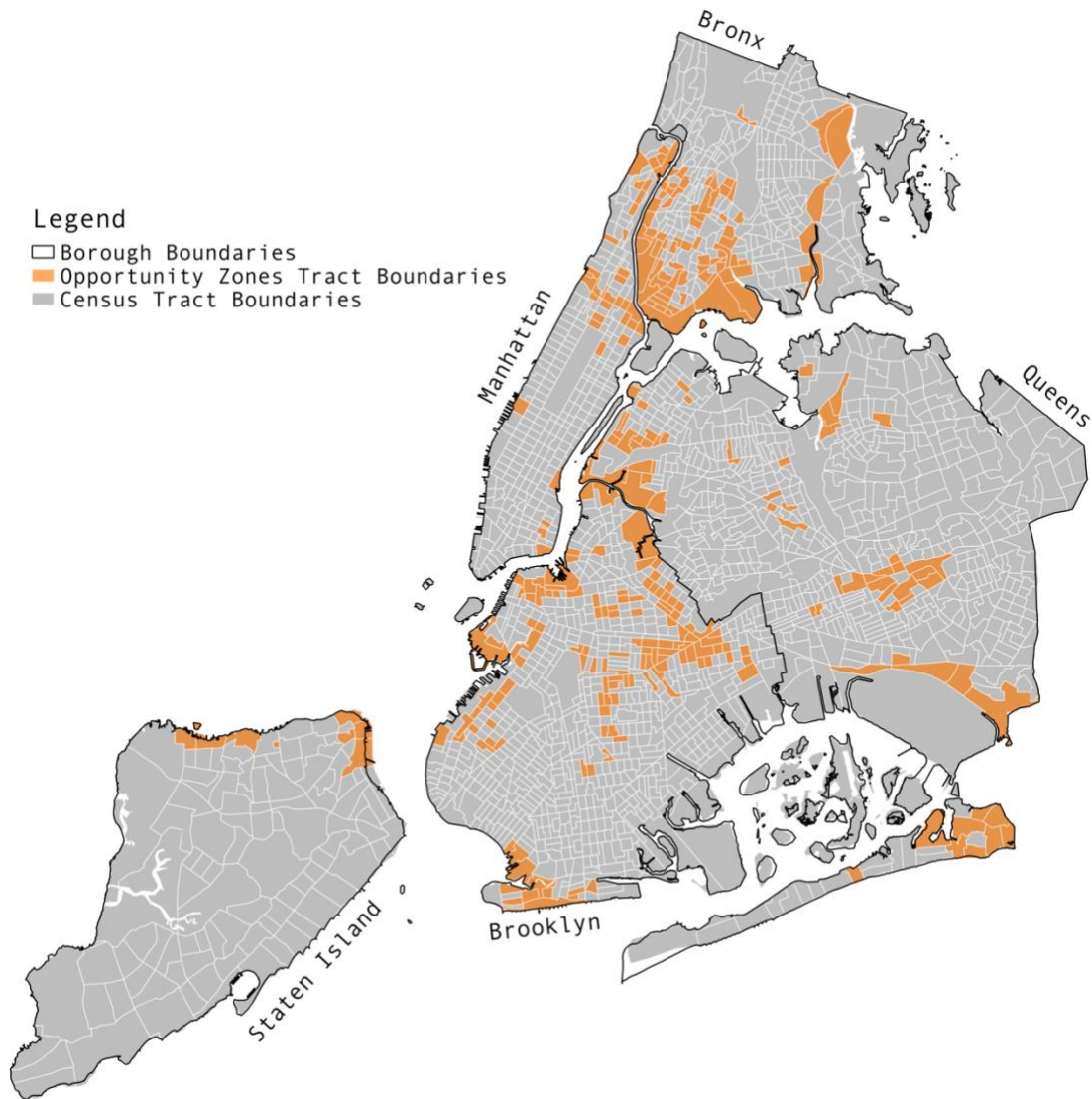
Map created by Regina Shen in QGIS depicting OZ tracts in New York City. Data of 2010 New York City Census Tract Boundaries created by Baruch CUNY's GeoData library. Data for OZ boundaries was taken from the U.S. Department of the Treasury, Community Development Financial Institutions Fund's Opportunity Zone Resources.

The raw data I use to understand small business development over time are the InfoGroup historical files which contain directory data on virtually all businesses across the United States including business names, addresses, estimated sales volumes, employee numbers, industries, census tracts, and more. The data I use spans 2012 to 2023. Data analyses are conducted on census-level aggregates of the InfoGroup historical files for businesses with 100 or fewer employees. The key metrics I use are:

1. Total Businesses per Census Tract: The total number of small businesses (with 100 or fewer employees) within a given census tract.

2. Total Employees per Census Tract: The total number of employees working in small businesses (with 100 or fewer employees) within the same census tract.

3. Median Employees per Census Tract: The median value of the number of employees at each small business (with 100 or fewer employees) in the same census tract.

Given these metrics, a descriptive summary of the data used in this study is below.

Summary of Aggregated New York City Small Business Data

(≤ 100 employees per business)

Variable	Count	Mean	Median	Std. Dev.	Min	Max
Census Tracts	1083	--		--	--	--
Designated Opportunity Zone Tracts	248	--		--	--	--
Eligible but not Designated Low Income Tracts	835	--		--	--	--
	Count of Obs.					
Total Businesses per Census Tract	12996	90.802	69	93.770	1	1450
Total Employees per Census Tract	12996	582.935	405	767.722	6	14531
Median Employees per Census Tract	12996	3.623	3	1.586	1	48

One key limitation of my analysis is that while there are 1221 eligible low-income tracts and 306 OZ tracts in the city, the Infogroup Historical Datafiles did not have consistent data for

all tracts across all eleven years. Starting in 2017 and continuing to 2023, several additional

tracts not represented in prior data became included in the datasets. Analyses run on datasets

with uneven data can be unbalanced and significantly skewed, causing overblown coefficient

sizes (especially for the time variable). Thus, the aggregate data that I used is only representative

of 1083 of the 1221 low-income tracts and 248 of the 306 OZ tracts.

  The following table displays some descriptive statistics for the omitted tracts. The median

values are calculated based on the number of businesses or the number of employees across the

set of included tracts and across the set of omitted tracts. Generally, omitted tracts tend to have

greater numbers of businesses per census tract, greater median employees across stores per

census tract, and greater numbers of total employees per census tract than the included tracts. As

a result, the non-inclusion of these tracts could lead to underestimations of OZ impacts which

will be expanded upon later in the limitations section.

Descriptive Statistics for Included Tracts vs. Omitted Tracts

	Included Tracts	Omitted Tracts
Total Number of Tracts	1083	138
Number of Designated OZ Tracts	248	44
Number of Eligible but Not Designated Tracts	835	94
Median of Total Businesses Per Census Tract	69	78
Median of Total Employees Per Census Tract	405	488
Median of Median Employees Per Census Tract	3	4

Methods

  This project employs an observational case study focused on New York City's

Opportunity Zones (OZs) using inferential statistical techniques to compare small business

outcomes (business and employment numbers) across different tracts across time. More

specifically, I will apply a difference-in-differences (DiD) analysis to compare outcomes in

designated OZs and in eligible but not designated tracts before and after 2018[9] to isolate the

effect of OZ designations on the creation of small businesses while also accounting for time

effects (*Figure 5*). While the Infogroup Historical Datafiles also include relevant information on

business sales volumes, this data does not exist consistently for all business observations and its

analysis would likely be biased. As such, my analysis of small businesses will focus on the

following three outcomes: (1) the total number of small businesses per census tract, (2) the total

number of employees per census tract, and (3) the median number of employees per census tract.

When conducting DiD analyses, one crucial assumption is parallel trends— the

assumption that without treatment, the difference between the trends in the outcome for the

control and treatment groups would be constant. In this specific case, parallel trends would imply

that, without treatment, the difference in the changes in small business numbers would be the

same across the years (similar slopes for the lines graphing business numbers—parallel lines).

However, since the counterfactual—business outcomes for designated tracts after 2018 if the

policy was not implemented—does not exist, parallel trends tests are based on pre-treatment

trends for the treatment and control groups—eligible but not designated and designated tracts.

Data at the New York City level satisfies the parallel trends condition.[10] Thus, I conduct a

simple difference-in-differences analysis comparing eligible but not designated tracts with
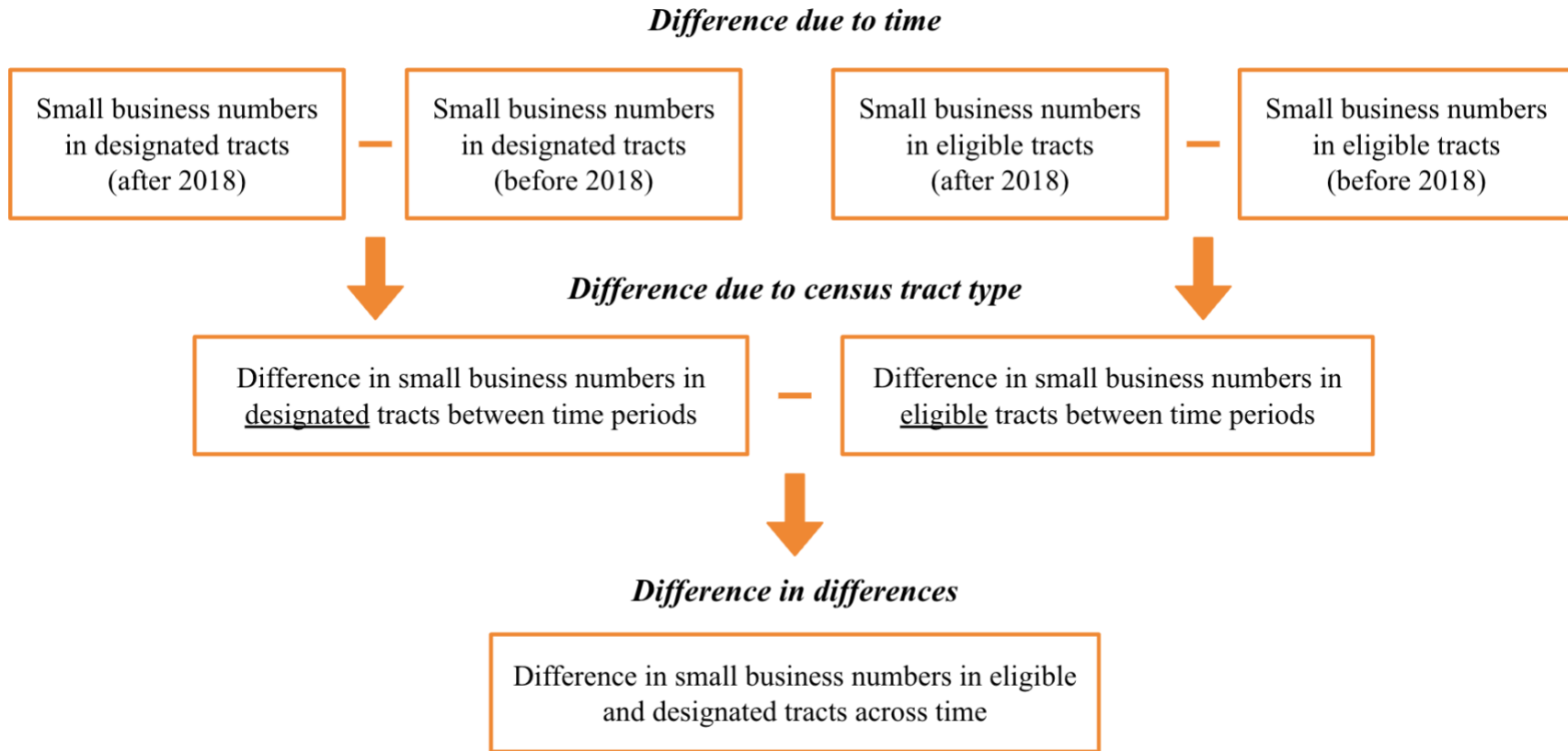
designated OZ tracts.[11]

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[9] While OZs were created as part of a 2017 policy, states did not start designating OZs until 2018 which is why my analysis focuses on differences before and after 2018.

[10] For graphs confirming that the data satisfies parallel trends, see the Appendix.

[11] Since parallel trends are satisfied, I can avoid the more complicated estimation techniques used by Freedman et al. (2023) and Arefeva et al. (2023).

Figure 5: Difference-in-Differences Conceptual Breakdown

Difference due to time

| Small business numbers in designated tracts (after 2018) | − | Small business numbers in designated tracts (before 2018) | | Small business numbers in eligible tracts (after 2018) | − | Small business numbers in eligible tracts (before 2018) |

Difference due to census tract type

| Difference in small business numbers in <u>designated</u> tracts between time periods | − | Difference in small business numbers in <u>eligible</u> tracts between time periods |

Difference in differences

| Difference in small business numbers in eligible and designated tracts across time |

While I used small business numbers per census tract for this conceptual breakdown of the difference-in-differences regression analysis, this similarly applies to the difference-in-differences analyses of the other business outcomes such as employment numbers.

The difference-in-differences regression model I use follows this equation:

$$y = \beta_0 + \beta_1 time \times \beta_2 \, oztract \times \beta_3 \, DiD$$

$$time = \begin{cases} 1 & \text{after treatment (post} - 2018) \\ 0 & \text{before treatment (pre} - 2018) \end{cases}$$

$$opportunityzone = \begin{cases} 1 & \text{for treatment group (designated opportunity zone tract)} \\ 0 & \text{for control group (eligible but not designated tract)} \end{cases}$$

Time is a dummy variable that identifies whether the observation is in the post or pre-treatment period, *oztract* is a dummy variable that identifies whether the census tract data point is in the treatment (designated tract) or control group (eligible but not designated tract), and *DiD* is an interaction term between the *time* and *oztract* variables. The *DiD* interaction term is calculated as $time \times oztract$ and is thus equal to 1 when the observation is for a designated OZ tract after treatment implementation in 2018. It equals 0 otherwise, if the observation is for the pre-treatment period and/or if the observation is for an eligible but not designated tract. β_0 is the coefficient of the intercept which captures baseline business outcomes for eligible but not designated tracts before 2018. $\beta_1, \beta_2, and \, \beta_3$ are the coefficients of the *time*, *oztract*, and *DiD* variables, respectively.

The *DiD* variable is the most relevant. A positive and statistically significant β_3 implies that OZs have had a beneficial impact on small business outcomes while a negative or not statistically significant β_3 implies that OZs have had a detrimental impact or no impact on small business outcomes.

Data Analysis

While the Opportunity Zone program was passed in hopes of lifting economically distressed communities, existing literature on the impact of the program on operating businesses

and job creation find minimal positive impacts, if any at all. My research follows that trend, finding that OZs have had minimal and not statistically significant effects on small business outcomes across New York City. More specific analyses of microbusinesses and on the borough level similarly reveal results that are not statistically significant nor economically significant.

City Wide Impacts

The key coefficient that captures the impact of the OZ program on small business outcomes in New York is the *DiD* coefficient, also known as the average treatment effect on the treated. I investigate effects at three different levels of business size: (1) small businesses with fewer than 100 employees, (2) microbusinesses with 25 or fewer employees, and (3) microbusinesses with 10 or fewer employees.

For small businesses with fewer than 100 employees, the coefficients of the *DiD* variable for the total number of small businesses per census tract, the total number of employees per census tract, and the median number of employees per census tract are 1.531, -3.400, and –0.008, respectively (*Table 4*). The *DiD* coefficients for the number of small businesses and the median number of employees are both small and not statistically significant, implying that, on average, the number of small businesses and median employees per census tract does not differ significantly from what it would have been without the implementation of the OZ program. Ultimately, these coefficients imply that the OZ program has not significantly impacted small business outcomes of small business numbers or employment numbers in New York City for small businesses with 100 or fewer employees.

New York also has a significant number of businesses with 25 or fewer employees, known as microbusinesses, about 98% of small businesses in New York State, and a significant portion of small businesses also have under 10 employees (Empire State Development, 2022).

These businesses could offer a unique lens for the impact of the OZ program since their small sizes could allow them to benefit even more from lower amounts of capital.

For businesses with 25 or fewer employees, the *DiD* coefficients for total number of businesses per census tract, total number of employees per census tract, and median number of employees per census tract are 1.565, 1.675, and -0.032, respectively (*Table 5*). These numbers are all small and not statistically significant implying that the OZ program has not significantly impacted small business outcomes for businesses with 25 or fewer employees.

Additionally, for businesses with 10 or fewer employees, the *DiD* coefficients for total number of businesses per census tract, total number of employees per census tract, and median number of employees per census tract are 1.551, 2.030, and -0.026, respectively (*Table 6*). These numbers are also small and not statistically significant, so the OZ program also has not significantly impacted small business outcomes for businesses with 10 or fewer employees. Thus, even at different levels for the size of small businesses in New York City, the OZ program does not have a significant impact on business outcomes.

However, while the *DiD* coefficient is the most relevant to understanding the impact of the OZ program on small businesses in New York City, it is worthwhile to interpret the other coefficients as well. Using *Table 4* as an example and focusing on the *Total Businesses* outcome, the coefficient of the intercept, or β_0, is significant and positive—on average, the number of small businesses per census tract in eligible but not designated tracts before 2018 is 88.313 businesses.[12] The *time* coefficient or β_1 of -4.030 is significant and negative—on average, the number of small businesses per census tract decreased from before 2018 to after 2018. Given that the median number of businesses per census tract is about 59 businesses, while this decrease in

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[12] Think of β_0 as the baseline number of businesses a census tract will have.

small businesses is statistically significant, it is modest as it is about a 7% decrease in small

business numbers per tract.[13] The average number of small businesses per census tract after 2018

is then *88.313 + (− 4.030) = 84.238.* The *OZTract* coefficient, or β_2, of *18.903* is positive and

significant—on average, the number of small businesses in designated tracts is greater than the

number of small businesses in eligible tracts before 2018.[14] The average number of small

businesses per census tract before 2018 in designated OZ tracts is *88.313 + 18.903= 107.216.*

Thus, while the *DiD* coefficient that isolates program impacts are insignificant, time has a

significant impact on a tract's business numbers and there is also a significant difference between

small business numbers in OZ tracts compared to eligible but not designated tracts.[15]

The above analyses use Stata's built-in *reg* command to provide insight into the non-*DiD*

coefficients. I also use the *xtdidregress* command to make sure the results are stable and to check

for pre-trends more formally. With the *xtdidregress command,* the results are the same as above,

and the formal test for pre-trends is satisfied.

Graphs 2 to 4 break down the treatment effects by year for all three business outcomes

for small businesses and microbusinesses. While each graph shows some statistically significant

increases in the number of businesses and *Graph 4* shows some statistically significant increases

in the total number of employees, these increases are small in magnitude. Given their small

magnitude and the pooled results from the above analyses which show no statistically significant

effects, these changes are likely spurious and not economically meaningful.

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[13] β_1 is the change in the number of businesses a census tract has simply due to time.

[14] β_2 is the change in the number of businesses a census tract has due to whether or not it is an OZ tract.

[15] By adding the coefficients for $\beta_{1,2, \text{ or } 3}$ to the intercept coefficient β_0, you can find the absolute number of business numbers per census tract (rather than changes in business numbers). These interpretations work similarly for the total and median employment regressions and the microbusiness regressions as well.

Table 4: Coefficient Table for Small Business Outcomes in NYC (< 100 employees)

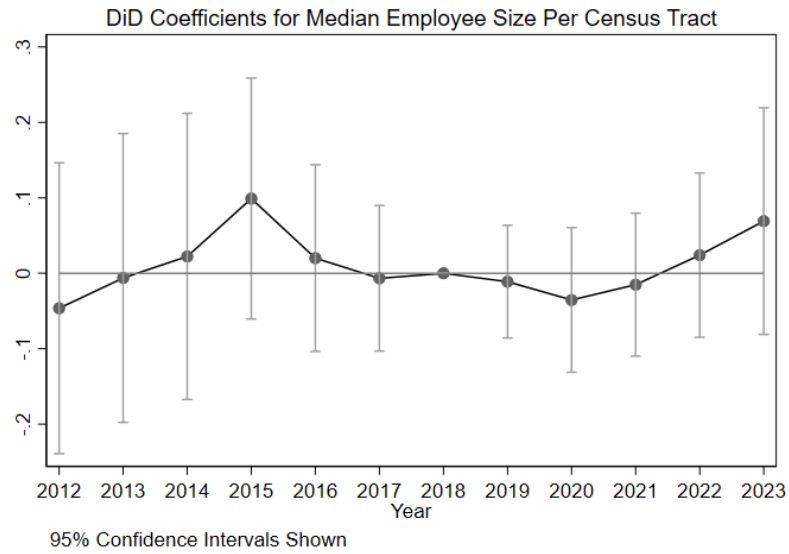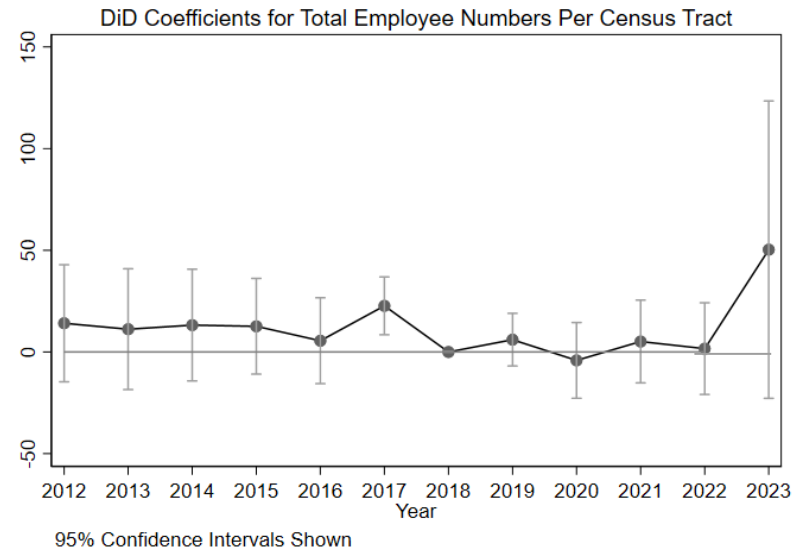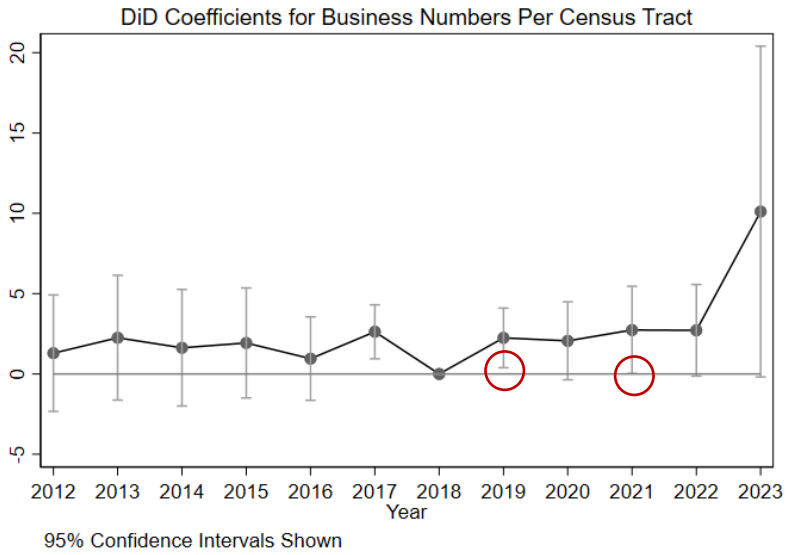| Variable	(1) Total Businesses^	(2) Total Employees^	(3) Median Employees^^
Intercept β_0	88.313*** (1.360)	544.986*** (11.068)	3.492*** (.026)
Time β_1	-4.030** (1.835)	-15.808 (15.495)	0.226*** (.034)
OZTract β_2	18.903*** (2.802)	201.937*** (21.124)	0.084* (.037)
DiD β_3	1.531 (4.051)	-3.400 (30.606)	-0.008 (.053)
Number of Observations	12996	12996	12996
R-squared	0.008	0.012	0.005

^per census tract, ^^per small business per census tract
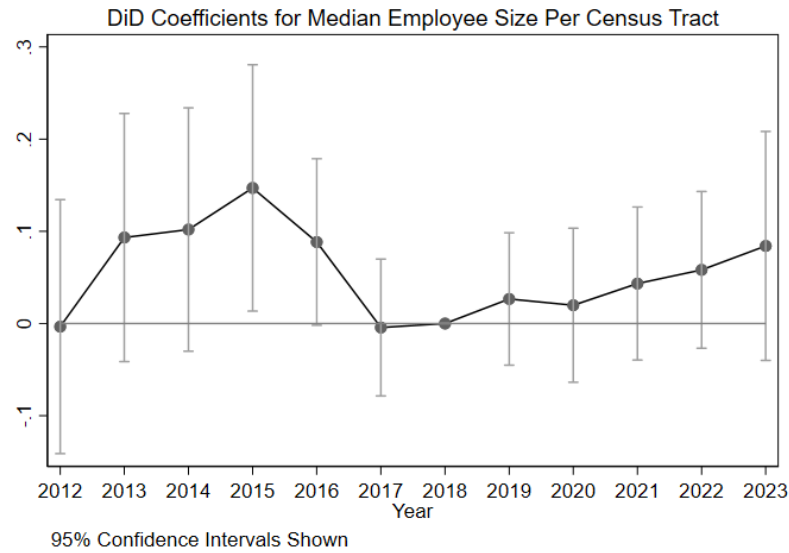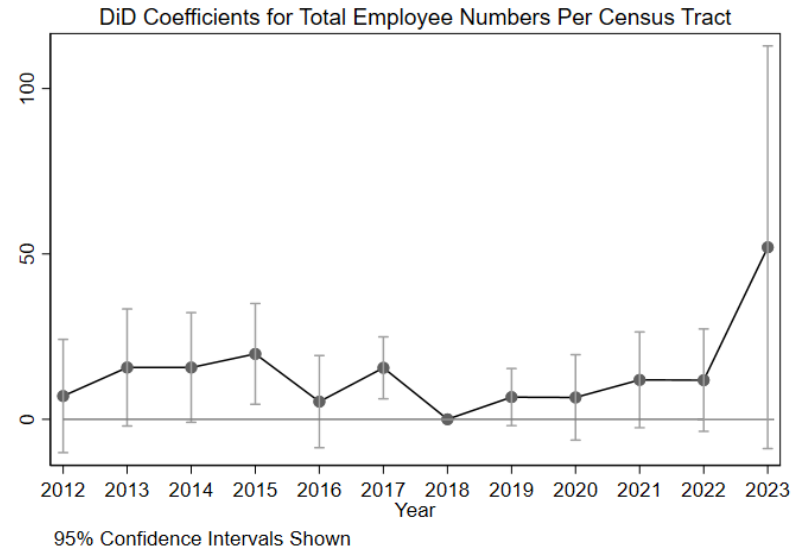*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Note: DiD coefficients are highlighted for ease of viewing.

Table 5: Coefficient Table for Microbusiness Outcomes in NYC (**≤ 25 employees**)

Variable	(1) Total Businesses^	(2) Total Employees^	(3) Median Employees^^
Intercept β_0	85.156*** (1.2954)	391.182*** (7.164)	3.300*** (.016)
Time β_1	-3.722** (1.745)	1.687 (10.176)	0.252*** (.024)
OZTract β_2	16.951*** (2.688)	113.297*** (14.128)	0.100*** (.026)
DiD β_3	1.565 (3.890)	1.675 (21.059)	-0.032 (.041)
Number of Observations	12984	12984	12984
R-squared	0.007	0.009	0.012

^per census tract, ^^per small business per census tract
*** p < 0.01, ** p < 0.05, * p < 0.10

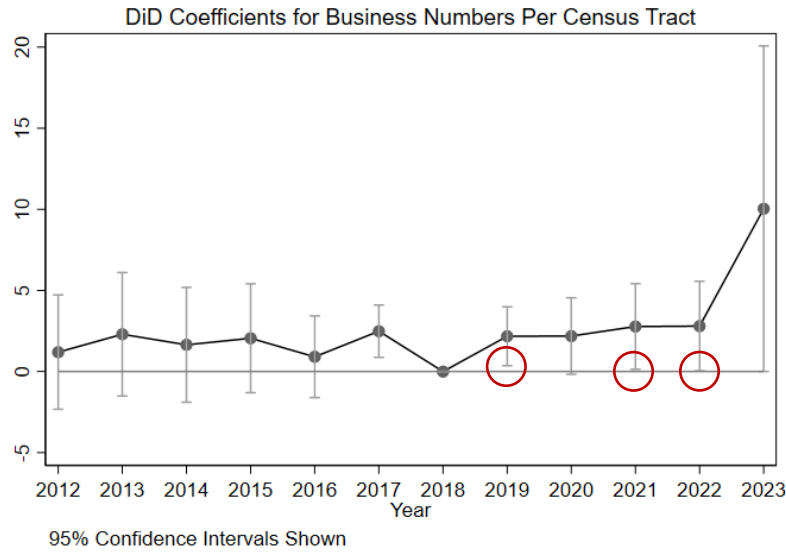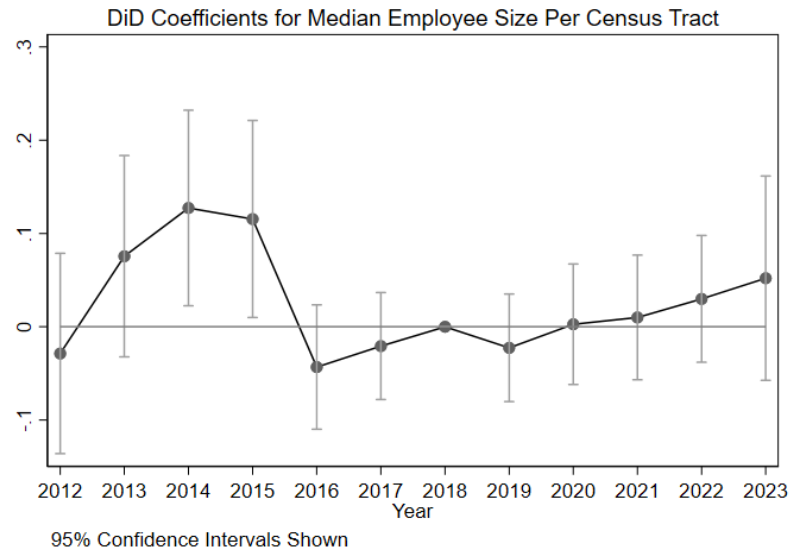*Note: DiD coefficients are highlighted for ease of viewing.*

Table 6: Coefficient Table for Microbusiness Outcomes in NYC **(≤ 10 employees**)

Variable	(1) Total Businesses^	(2) Total Employees^	(3) Median Employees^^
Intercept β_0	78.490*** (1.163)	281.226*** (4.829)	3.047*** (.010)
Time β_1	-3.822 ** (1.561)	1.217 (6.917)	0.190*** (.015)
OZTract β_2	13.716 ** (2.435)	61.853*** (14.128)	0.097*** (.018)
DiD β_3	1.551 (3.528)	2.030 (14.700)	-0.026 (.030)
Number of Observations	12960	12960	12960
R-squared	0.006	0.006	0.017

^per census tract, ^^per small business per census tract
*** p < 0.01, ** p < 0.05, * p < 0.10*

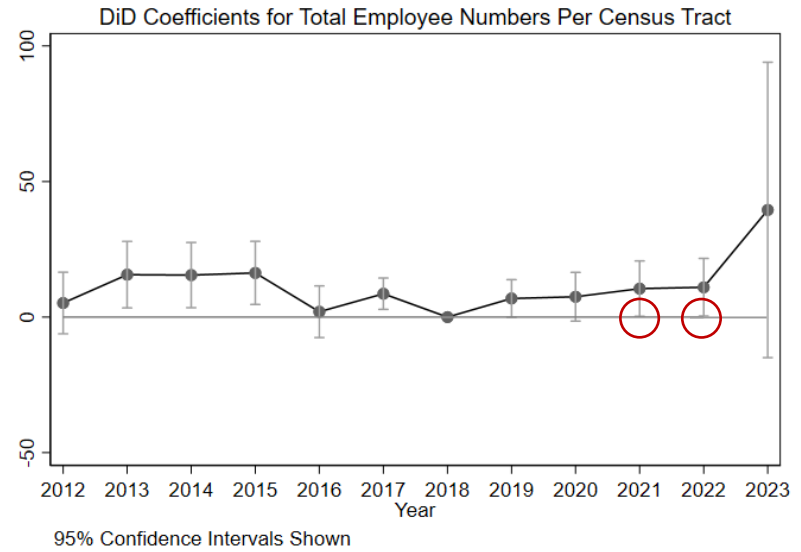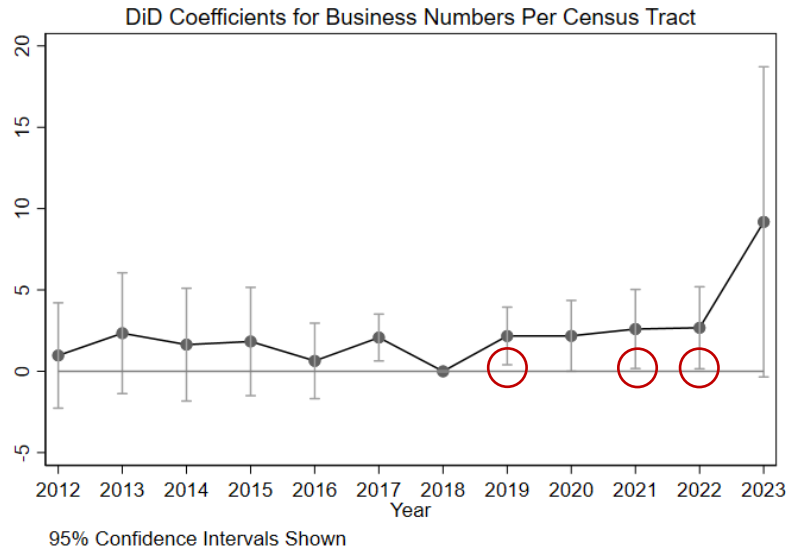*Note: DiD coefficients are highlighted for ease of viewing.*

Graph 2: Event Study Plots for Small Business Outcomes (< 100 employees)

Graph 3: Event Study Plots for Microbusiness Outcomes (**≤ 25 employees**)

95% Confidence Intervals Shown

95% Confidence Intervals Shown

95% Confidence Intervals Shown

Graph 4: Event Study Plots for Microbusiness Outcomes (≤ 10 employees)

Borough Specific Impacts

Different boroughs in New York City have different socioeconomic and small business profiles. Thus, I also conduct borough-level difference-in-differences analyses to see if there are any unique effects on small business (100 or fewer employees) outcomes for Brooklyn, the Bronx, Manhattan, or Queens.[16]

Summary of Aggregated New York City Small Business Data by Borough

	Brooklyn	Bronx	Manhattan	Queens	Staten Island
Total Number of Tracts	455	220	108	275	25
Number of Designated OZ Tracts (Treatment)	107	57	32	45	7
Number of Eligible but Not Designated Tracts (Control)	348	163	76	230	18
Median of Total Businesses Per Census Tract	73	66	116	59.5	64.5
Median of Total Employees Per Census Tract	392	399	879	357	428
Median of Median Employees Per census tract	3	3	5	3	3.5

Given that the *DiD* coefficient is the one that captures the effect of the OZ program, the following coefficient tables will only feature the *DiD* coefficient.

While most "DiD" coefficients are small and not statistically significant for Brooklyn, the Bronx, Manhattan, and Queens (*Table 7*), there is one statistically significant coefficient. The coefficient for small business numbers in Brooklyn of *2.903* is statistically significant at the 0.10 level. This coefficient can be interpreted as OZ tracts in Brooklyn, on average, have two more businesses per census tract than if the program was not implemented. This uniquely statistically

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[16] While Staten Island is also a borough of New York City, there are only seven Opportunity Zone tracts in Staten Island, which is too small of a sample size for significant or accurate insights. As such, the following borough-level analyses only look at four out of the five New York City boroughs.

significant coefficient may be since Brooklyn has more Opportunity Zones than other boroughs (107 OZ tracts represented in the cleaned data set compared to 57, 32, and 45 OZ tracts for the Bronx, Manhattan, and Queens) and Brooklyn also has a significant number of gentrifying tracts that are attractive for investment (*Table 2*).[17]

However, given that the median number of small businesses per census tract for census tracts across all boroughs and time periods is 68, this number is not practically significant. Additionally, statistical analyses generally use significance levels of 0.05 and some more conservative analyses even set significance levels at 0.01. Thus, while this effect is significant at the 0.10 level, it would not be significant at the more conventionally used 0.05 significance levels. Ultimately, given the size of the p-value (larger than 0.05) and of the coefficient in context, these impacts are likely to be spurious and not meaningful.

Furthermore, looking at the year-level treatment effects for the boroughs, there is a statistically significant effect for small business numbers in Brooklyn in 2023, but this number is too small to be meaningful given that the median total employees per census tract for Brooklyn is 392 (*Graph 5*). Similarly, there are statistically significant effects for small business numbers in the Bronx in 2019 and 2022 (*Graph 6*). However, when disaggregating effects to the year level, the Bronx fails the parallel trends test and thus cannot be used to draw meaningful conclusions. There are no statistically significant year-level treatment effects for Queens or Manhattan.

In sum, I find no statistically significant nor economically significant positive impacts from the program in New York City.

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[17] These numbers are for OZ Tracts represented in the aggregated and cleaned Infogroup Historical Business Files for New York City and are not the actual number of OZ tracts per borough in the city. Refer to *Table 2* for number of gentrifying tracts across boroughs.

Table 7: DiD Coefficient for Small Business Outcomes, by Borough (< 100 employees)
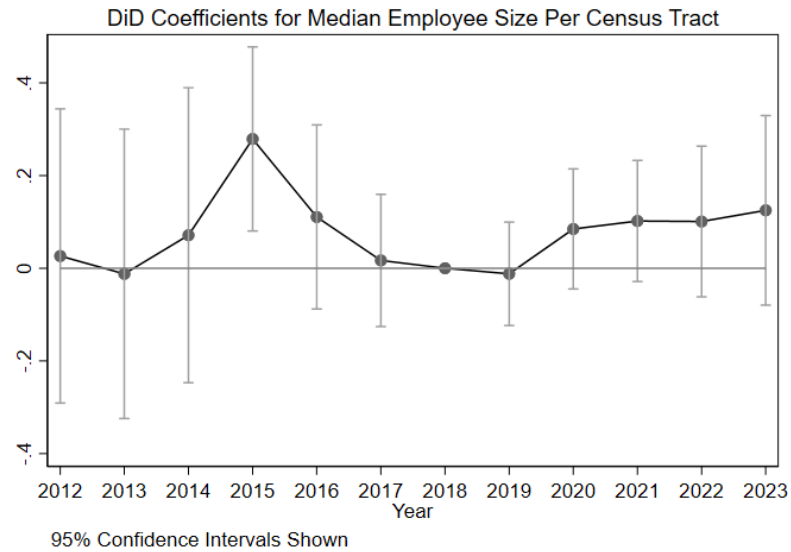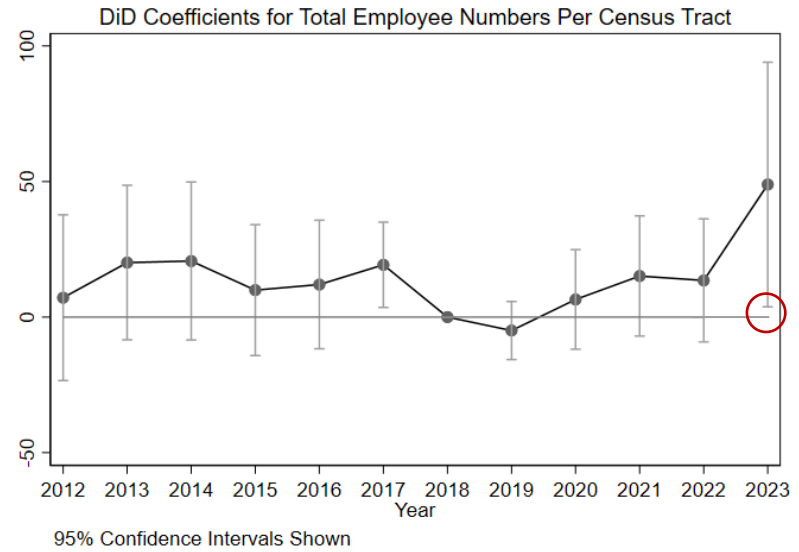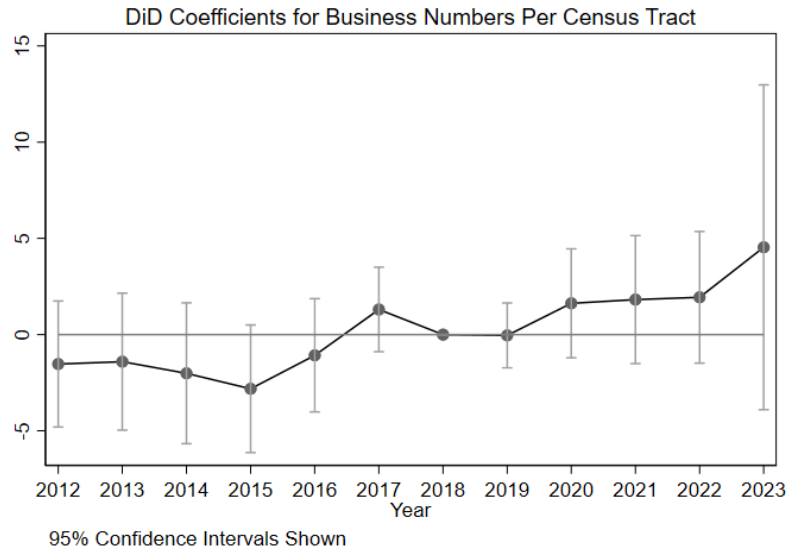
Borough	Variables	(1) Total Businesses^	(2) Total Employees^	(3) Median Employees^^
Brooklyn	DiD $\beta 3$	2.903* (1.616)	-1.678 (10.741)	-0.015 (0.099)
	Number of Observations	5460	5460	5460
	Parallel-Trends Test (Prob > F)	0.220	0.783	0.590
Bronx	DiD $\beta 3$	-2.345 (2.221)	-10.919 (18.352)	-0.040 (0.060)
	Number of Observations	2640	2640	2640
	Parallel-Trends Test (Prob > F)	0.977	0.360	0.817
Manhattan	DiD $\beta 3$	8.995 (9.489)	31.924 (66.655)	0.066 (0.126)
	Number of Observations	1296	1296	1296
	Parallel-Trends Test (Prob > F)	0.325	0.240	0.080
Queens	DiD $\beta 3$	-0.225 (4.654)	-35.539 (37.153)	-0.080 (0.101)
	Number of Observations	3300	3300	3300
	Parallel-Trends Test (Prob > F)	0.421	0.721	0.357

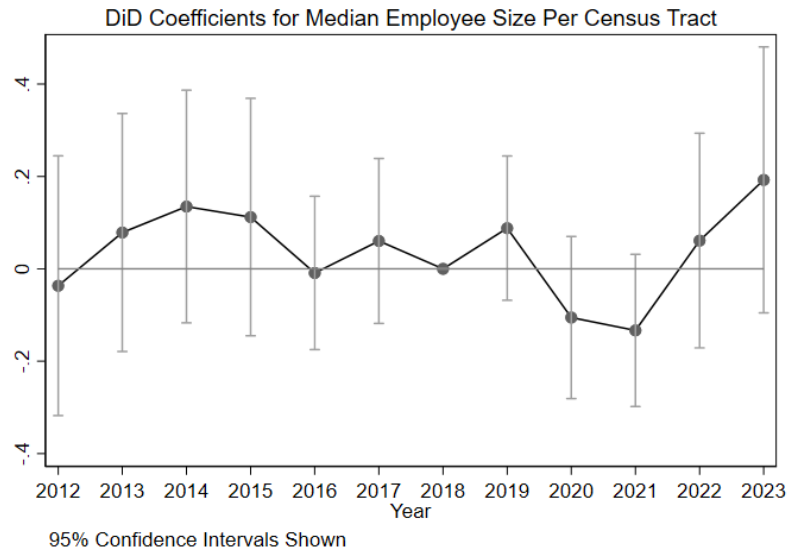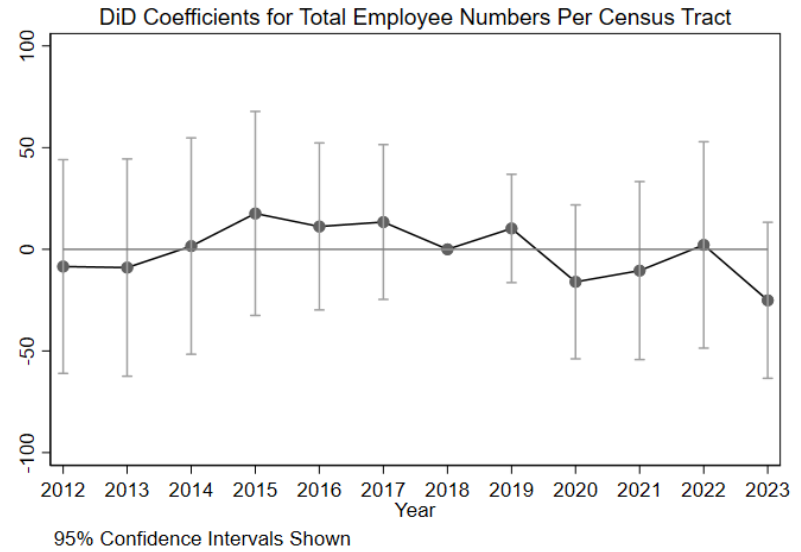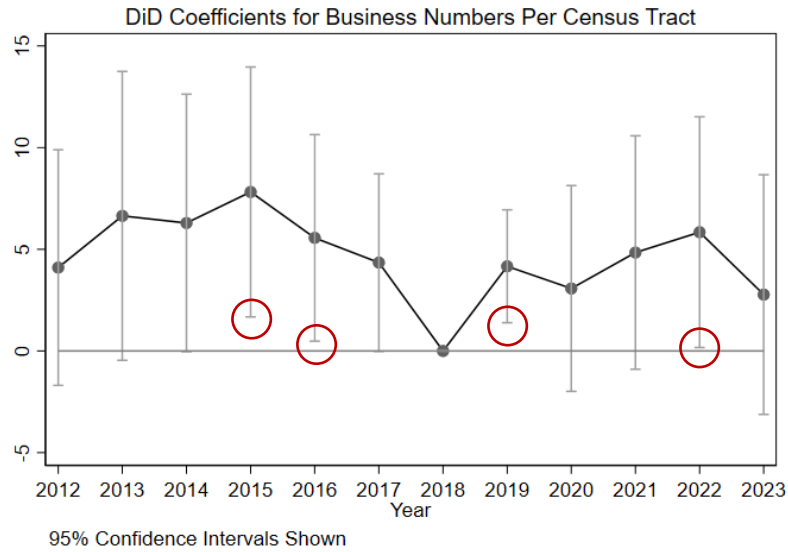*** p < 0.01, ** p < 0.05, * p < 0.10
^per census tract, ^^per small business per census tract

There is one statistically significant, at the 0.10 significance level, *DiD* coefficient for the number of total businesses per census tract. However, this is not statistically significant at the more conventionally used 0.05 significance level.

Graph 5: Event Study Plots for Small Business Outcomes in Brooklyn (< 100 employees)

DiD Coefficients for Business Numbers Per Census Tract

95% Confidence Intervals Shown

DiD Coefficients for Total Employee Numbers Per Census Tract

95% Confidence Intervals Shown

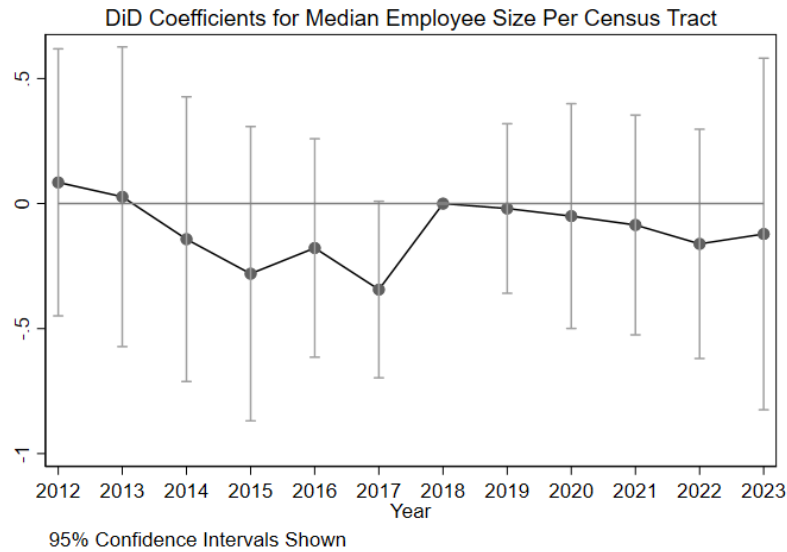DiD Coefficients for Median Employee Size Per Census Tract
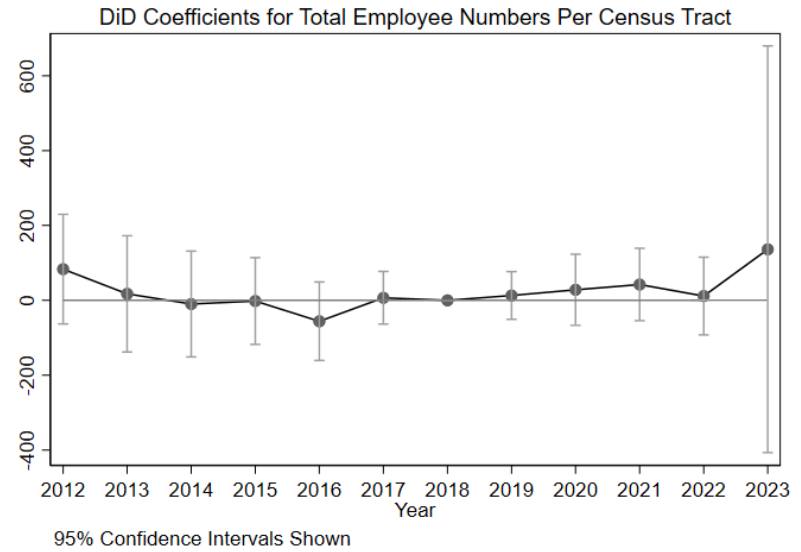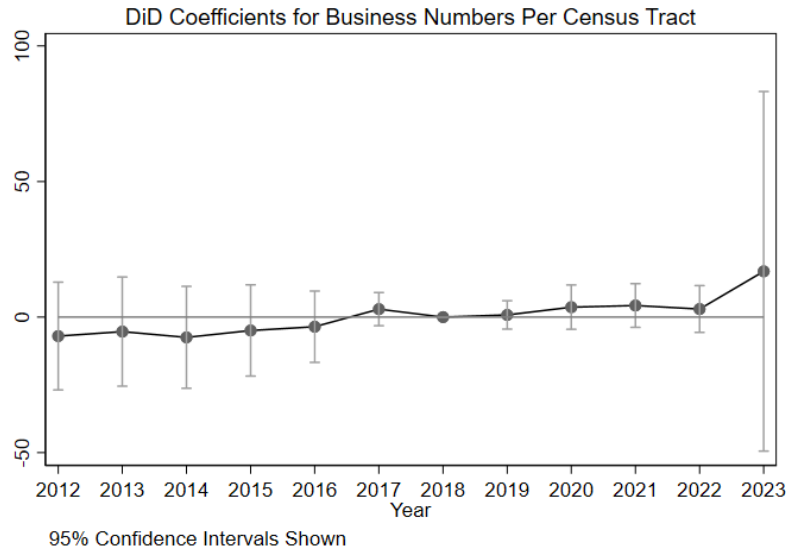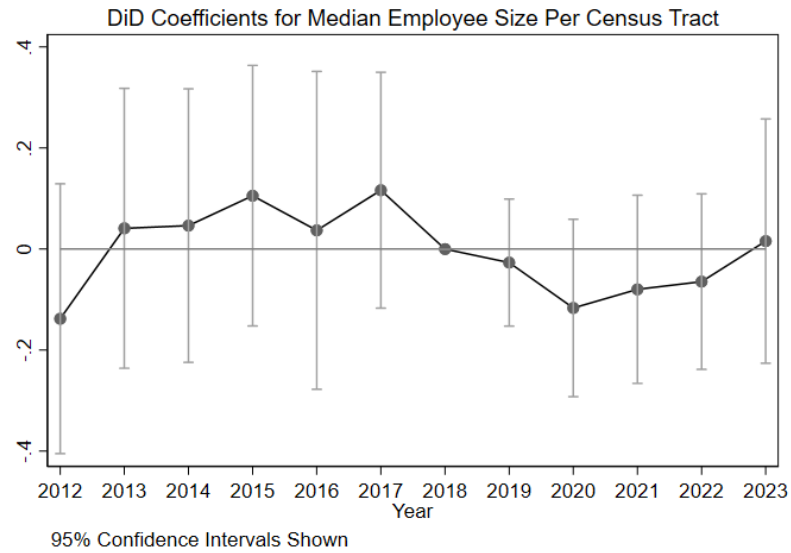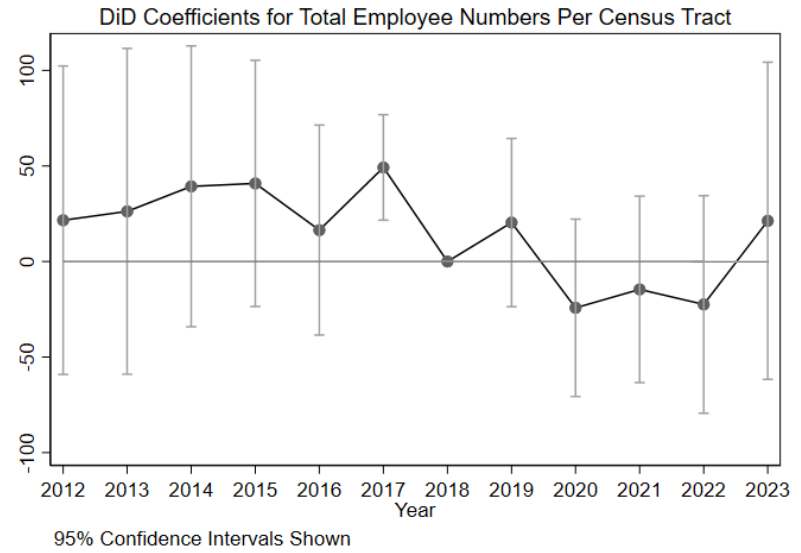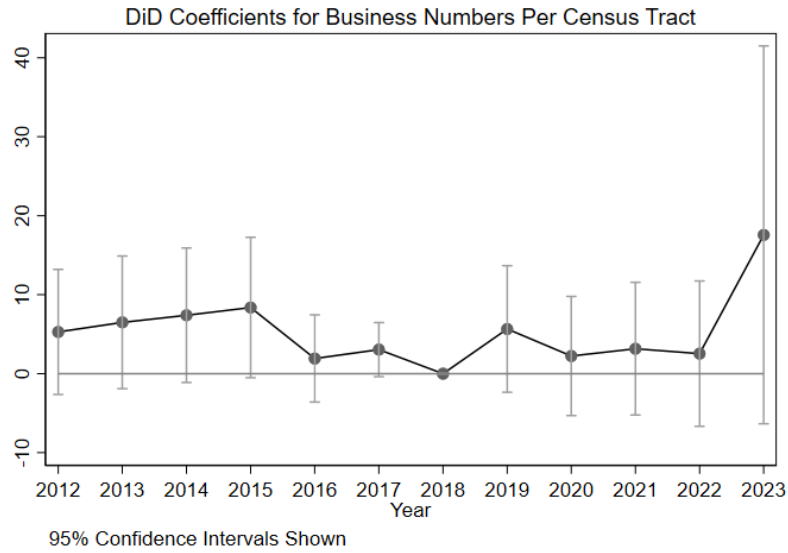
95% Confidence Intervals Shown

Graph 6: Event Study Plots for Small Business Outcomes in the Bronx (< 100 employees)

Graph 7: Event Study Plots for Small Business Outcomes in Manhattan (< 100 employees)

DiD Coefficients for Business Numbers Per Census Tract

95% Confidence Intervals Shown

DiD Coefficients for Total Employee Numbers Per Census Tract

95% Confidence Intervals Shown

DiD Coefficients for Median Employee Size Per Census Tract

95% Confidence Intervals Shown

Graph 8: Event Study Plots for Small Business Outcomes in Queens (< 100 employees)

DiD Coefficients for Business Numbers Per Census Tract

95% Confidence Intervals Shown

DiD Coefficients for Total Employee Numbers Per Census Tract

95% Confidence Intervals Shown

DiD Coefficients for Median Employee Size Per Census Tract

95% Confidence Intervals Shown

Discussion

  While New York City is poised for success when it comes to positive impacts from place-based policies like OZs due to its density and level of investment, my research has not found any significant change in small business numbers or employment numbers from the program. Even if small businesses do not report all their employees, the lack of growth in small business numbers implies a lack of growth in local employment, especially since small businesses are intimately tied to low-income and community development in New York City. Thus, this lack of growth in small businesses further implies a lack of support for the incumbent, low-income, and minority residents the OZ program aims to support. And ultimately, my findings align with existing research by Arefeva et al., Atkins et al., and Freedman et al. (2023) that find minimal impacts from the OZ program on employment.

  The lack of positive impacts on employment from the OZ program in New York City suggests a challenging outlook for the broader impact of OZs on employment elsewhere. After all, if it has no significant positive impacts in a city that *is* receiving significant amounts of investment, what impacts can it have elsewhere in areas with minimal investment? This lack of positive impact despite significant funding speaks to growing concerns about where funding is going. While there are affordable housing developments that have come to fruition through OZ dollars, most dollars are going to projects that are the most profitable—e.g. office buildings and market-rate apartments. And while it is mostly low-income tracts that can receive investments, contiguous tracts attract a lot of the investment, especially in cities like New York where selected contiguous tracts are higher income, lower poverty, and more importantly, gentrifying. Investments are not going to low-income, incumbent residents and are going to the most

profitable areas instead, potentially accelerating gentrification and the ensuing displacement of incumbent residents (Kurban et al., 2022).

Nonetheless, it is critical to recognize that while my study focuses on small businesses as a proxy for employment and looks at small business counts, there may be other metrics that work better to gauge small business development and employment, such as business lending amounts or actual employment numbers per census tract. And these other metrics can reveal additional layers to the impact of OZs in cities and beyond. Finally, given that the OZ program was passed in 2017 and states did not start designating zones until 2018, there may be a lag in the impacts of the OZ program as investors find out about OZs and decide where and how to invest. Thus, while my research finds no significant impact currently, it is possible that due to the novelty of OZs, it will be a few more years before the policy has significant impacts on employment.

Limitations

One of the key limitations of the data analysis is the omission of 138 census tracts due to differences in the collection of business data. Given that the median numbers of total businesses and employees per census tract for the omitted tracts is generally higher than that of the included tracts, it is possible that not including those tracts led to a negative bias and underestimates of the program's impact.

Median Numbers for Included Tracts vs. Omitted Tracts

	Included Tracts	Omitted Tracts
Median of Total Businesses Per Census Tract	69	78
Median of Total Employees Per Census Tract	3	4
Median of Median Employees Per census tract	405	488

Another limitation comes from the parallel trends test. While parallel trends run on the dataset broadly, not by year, are satisfied, when broken down to an event study plot, the effect in

2017 is often high. For the parallel trends test to be passed, the confidence intervals of the plot need to include zero, however, for many of the plots, the confidence interval of the plot in 2017 is above zero, thereby failing the test. Since 2017 is the only year before treatment that fails the test (with the exception of the one-off case of the Bronx's business numbers, which I have already addressed) and it happens to be the year right before treatment. This increase in the year before treatment can be explained by (1) census tracts anticipating being treated causing the change in 2017 or (2) the program targeting programs that have a temporary shift in outcomes. Since governors often choose tracts that have seen an increase in economic development projects prior to the program, it is likely for the latter to be the case. This would likely lead to positive biases in the model, causing overestimates of OZ impact. However, given that current results show limited impacts, if there is any overestimation, it would only bolster the conclusion that the OZ program has no meaningful impacts, if not imply that the OZ program has had detrimental impacts.

New York City also has many other economic development programs that support low-income or minority populations or small businesses such as the Minority and Women-owned Business Enterprise (M/WBE) Certification Program, Emerging Business Enterprise (EBE) Certification, Locally-based Business Enterprise (LBE) Certification, Black Entrepreneurs NYC (BE NYC) (NYC Business, n.d.). New York even has its very own NYC Small Business Opportunity Fund which supports small businesses with low-interest loans (NYC City Hall Press Office, 2023). These other programs could be a source of confoundment where impacts attributed to OZs are actually because of other programs. However, these biases would be positive, leading to overestimates of OZ impact. Thus, if there is any overestimation, it would

similarly bolster the conclusion that the OZ program has no meaningful impacts, if not imply that the OZ program has had detrimental impacts.

Ultimately, while there are potential biases in the analysis along with other limitations, the positive biases could act opposite to potential negative biases from the omitted tracts and are unlikely to affect the takeaways of OZs having limited impacts on small businesses and employment.

Policy Analysis

Profits are the driving force behind OZ investments, not social impact. While the policy itself touts goals of economic growth and job creation in low-income communities, the policy is also a capital gains tax incentive. Only the ultra-wealthy have capital gains in the first place and the average annual income of OZ investors is $4.9 million (Harrison and Wheeler, 2021). OZ investors rarely think of OZ investments as social investments and instead, think of them as tools for tax deferment. This profit prioritization is enshrined in the policy's language.

The Investing in Opportunity Act (S.293), proposed by Tim Scott in February 2017, contains the provisions for Opportunity Zones that were eventually adopted into the 2017 Tax Cuts and Jobs Act. The Act includes guidance for OZ nomination such that governors

> should give particular consideration to areas that—(1) are currently the focus of mutually reinforcing State, local, or private economic development initiatives to attract investment and foster startup activity, (2) have demonstrated success in geographically targeted development programs, such as promise zones, new markets tax credit, empowerment zones, and renewal communities, and (3) have recently experienced significant layoffs due to business closures or relocations

While the stipulation that tracts with greater layoffs should be prioritized aligns with socially conscious goals of supporting employment for those that need it most, the other stipulations seem less noble. The mention of "private economic development initiatives" as something to

consider when nominating census tracts is reminiscent of the case of Storey County where the Tesla factory and Google facility played a significant role in the politics of the tract's designation. Furthermore, this promotes nomination and investment in already gentrifying areas since these are often the areas that have increased levels of economic development initiatives and investment to start with.

Similarly, while recommending the prioritization of tracts that have already seen success in place-based policies may seem like a pragmatic decision to make sure the OZ program is effective—communities that have benefitted significantly from place-based policies in the past will likely benefit from them in the future as well—it also shifts attention away from the communities that need it most. Census tracts that have been successful recipients of earlier place-based policies should be, in theory, set up to succeed in the long term already because of existing investments. Additional OZ investment thus would not revolutionize these areas because they should already be seeing economic growth from earlier programs. On the other hand, communities that have not seen success with place-based policies are likely more economically distressed and thus need more support, potentially through investments from policies like Opportunity Zones. Therefore, while the guidelines for OZ nomination may seem to prioritize social factors of job creation and growth, the guidelines try to ensure that the program will seem successful on paper rather than truly trying to direct capital to the neediest communities. Furthermore, in recommending that governors nominate tracts that are already on an upward economic trajectory, the act ensures that OZ investments are more profitable.

Thus, the roots of the OZ program stem from a prioritization of profit, which makes true social impact difficult. Congress has noticed this and different representatives have introduced proposals for new acts to remove discrepancies in where investments are going. The Small

Business Jobs Act (H.R. 3937) proposes a new Rural Opportunity Zone program that would

create additional rural Opportunity Zones designated based on metrics of poverty as opposed to

median income, reinstate, and increase reporting requirements for OZs, and allow the deferral of

capital gains until 2032. The Opportunity Zones Enhancement Act of 2023 (H.R. 4055) would

incentivize banks to increase lending in OZs and lower borrowing costs for OZ businesses.

The Opportunity Zones Transparency, Extension, and Improvement Act (H.R. 5761) is

an especially comprehensive act that would revise reporting requirements, terminate designated

Opportunity Zone tracts with median family incomes greater than 130% of the national median

family income, prioritize poverty rates as a metric for OZ designation over median income,

extend the OZ capital gains deferral period into 2028, and establish a State and Community Fund

to support social impact investments. More specifically, the act would require the Secretary to:

> include in such report the impacts and outcomes of a designation of a population census
> tract as a qualified opportunity zone as measured by economic indicators such as job
> creation, poverty reduction, new business starts" along with factors like "the number of
> persons working in the population census tract, including the percentage of such persons
> who were not residents in the population census tract the preceding year", "the average
> percentage of the income of residents of the population census tract spent on rent", "the
> number of affordable housing units in the population census tract" and more.

These metrics are a step in the right direction of embedding socioeconomic outcomes like job

creation and affordable housing into the policy and could encourage investors themselves to

consider such metrics when making investments. Furthermore, this act recognizes the risk of

accelerated gentrification with the OZ program because of higher-income individuals moving

into OZs and skewing the job and economic outcomes data, as seen in their desire to know the

number of new residents.

The State and Community Dynamism Fund is another unique provision of this proposed

act (H.R. 5761) which establishes a fund to "support public and private investment, including

capital for qualified opportunity zones... and existing small businesses and community economic

development programs and incentives, to underserved businesses and communities". Funds

would then be shared with the States given that they agree to use the funds to:

> build capacity in high-poverty, under-backed, rural, and otherwise underserved communities; advance investment in minority, women, and veteran-owned businesses; address workforce develop in strategic sectors of the State's economy; and align priorities to support affordably priced housing.

In explicitly laying out the sectors and profiles that the State and Community Dynamism Fund

needs to support, this act adds a layer of social accountability to the OZ program and makes sure

that funds end up where they are most needed as opposed to where they are most profitable.

Nonetheless, it is critical to note that these strict metrics apply only to public entities—

the States—and not to private OZ funds or private investors. Thus, while I recognize that this act

can reform and change the OZ policy for the better, the State and Community Dynamism Fund

will only represent a small portion of the broader OZ program. And while the act requires

additional reporting, reporting requirements are not investment requirements. While increased

reporting may encourage investors to think more about the social impact of the projects they are

investing in, it will not make projects that investors rejected for a lack of financial returns

suddenly attractive.

Conclusion

New York City's unique density and nature as one of the wealthiest cities in the United

States make it a prime target for Opportunity Zone investment. Accordingly, the New York

commuting zone (NY-NJ-PA) received the greatest amount of Opportunity Zone investment,

more than two billion dollars, out of the top 25 commuting zones in the United States (Kennedy

and Wheeler, 2021). Furthermore, Atkins et al. and Arefeva et al. also see the greatest potential

impacts of the OZ program in metropolitan areas. Thus, if the OZ program were to have a

positive impact anywhere, it should be in a city like New York that is (1) receiving large amounts of investment and (2) has all the economic features that back place-based policies. However, the OZ program has not had any statistically significant impact on small business outcomes in terms of small business numbers or employment numbers in New York City.

This paints a challenging picture for the future of the OZ program. If places actually receiving investments are not seeing significant increases in employment outcomes, how could places that are receiving fewer investments benefit at all? While New York has received significant amounts of funding, much of these investments are going into real estate with only 4% of all OZ investment nationally going to operating businesses (Novogradac, 2020). When the amount of capital being funneled into operating businesses is so low, it is no surprise that even when overall amounts of OZ investment are high, the impacts on job outcomes are minimal. And this lack of investment is businesses is due to the profit-driven nature of the program.

While there are proposed solutions to improve Opportunity Zones and incentivize social impact like the Opportunity Zones Transparency, Extension, and Improvement Act or calls to open the program to debt investments to support small businesses (H.R.5761, Theodos et al., 2020), these options for reform do not change the underlying nature of OZ investments as profit-driven. Even if additional reporting requirements that include social impact metrics are added to the program, there is a risk that OZ investments will decrease because of a lack of projects that are profitable at market or close-to-market rates. After all, the OZ program is what is considered a "shallow subsidy", something that could be the final push for someone to invest in a project they have been considering but it is not enough to turn a "'no' to a 'yes'" on a project (Theodos et al., 2020).

Results from past place-based policies are also evidence of such policy changes not being enough. Enterprise Zones, which include grant funding that should promote socially minded projects, ultimately have limited positive impacts for incumbent residents (Bondonio and Engberg, 2000; Elvery, 2009; Neumark and Young, 2019; Reynolds and Rohlin, 2015). The New Markets Tax Credit which funneled most of its investments through Community Development Financial Institutions, known to support populations that are historically ignored by mainstream financial institutions, and which provided deeper tax incentives than OZs (Lemar, 2020) still led to mixed results with contributions to new development projects but limited impacts for low-income incumbent residents (Freedman, 2012; Freedman, 2015; Theodos et al., 2022). If programs that have embedded social impact in their structure have had limited impacts on incumbent residents, it is difficult to imagine that increased reporting and the addition of debt investments will be enough for OZs to make a genuine impact on low-income communities.

Furthermore, OZs do not target the roots of poverty and unemployment. OZ investments fail to adequately address the intergenerational and structural barriers to poverty reduction for minority communities by incentivizing the development of private goods such as commercial properties via private investment (Lemar, 2020). These private investments also fail to address gaps in public infrastructure such as a lack of access to quality education and healthcare (Lemar, 2020). Similarly, Stanley Surrey (1970) raises questions around why tax incentives are being used as a tool for development in the first place. Since tax incentives mean lost tax revenue, these programs do not cost the government significantly less than if they were to implement programs themselves. Furthermore, tax incentive programs place the burden of reporting and managing the social impact of investments on tax committees that are not as familiar with or capable of administering social programs (Surrey, 1970). On the other hand, if this money was

collected as taxes, funds would be managed by relevant governing bodies, e.g. education and labor or welfare committees, that are better equipped to implement social programs and evaluate the social impacts of their work (Surrey, 1970). Thus, direct government spending on social programs can better prioritize social impact to support communities in need and initiatives that are necessary but not necessarily profitable.

Ultimately, Opportunity Zone investments have not made significant positive impacts on employment for the communities that they claim to serve. This issue stems from both the language and structure of the Opportunity Zone program which promotes profit maximization and from broader structures of tax incentives which suffer from mismatches between programs' goals of social impact goals of programs and the expertise of those governing and managing them. Thus, rather than thinking of potential ways to reform Opportunity Zones, we need to shift away from the use of tax incentives and focus on improving public programs and infrastructure to truly support low-income communities and address the structural factors that contribute to poverty.

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Appendix

Appendix A: DiD Coefficient Table for Small Businesses Outcomes in NYC

Business Size	Variables	(1) Total Businesses^	(2) Total Employees^	(3) Median Employees^^
Small Businesses (< 100 employees)	DiD $\beta 3$	1.531 (1.714)	-3.396 (12.209)	-0.008 (0.058)
	Number of Observations	12996	12996	12996
	Parallel-Trends Test (Prob > F)	0.793	0.805	0.585
Microbusinesses (≤ 25 employees)	DiD $\beta 3$	1.565 (1.679)	1.675 (8.944)	-0.032 (0.040)
	Number of Observations	12984	12984	12984
	Parallel-Trends Test (Prob > F)	0.813	0.792	0.956
Microbusinesses (≤ 10 employees)	DiD $\beta 3$	1.551 (1.579)	2.030 (7.211)	-0.026 (0.032)
	Number of Observations	12960	12960	12960
	Parallel-Trends Test (Prob > F)	0.955	0.542	0.405

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$
^per census tract, ^^per small business per census tracts

Appendix B: Parallel Trends Test for Business Outcomes for Small Businesses (< 100 employees)
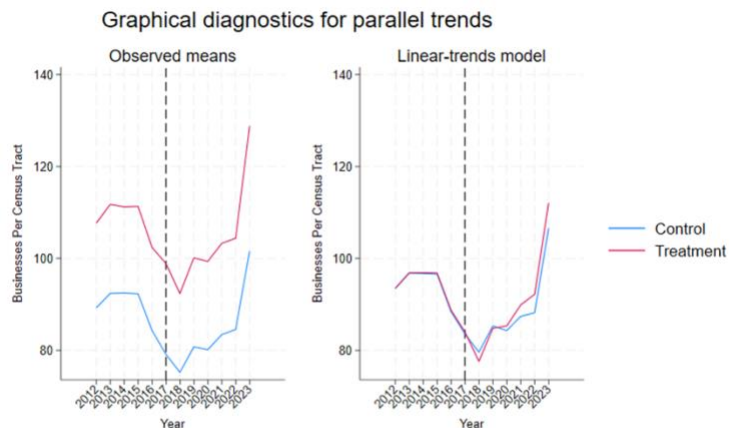
Parallel-trends test p-value = 0.793. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
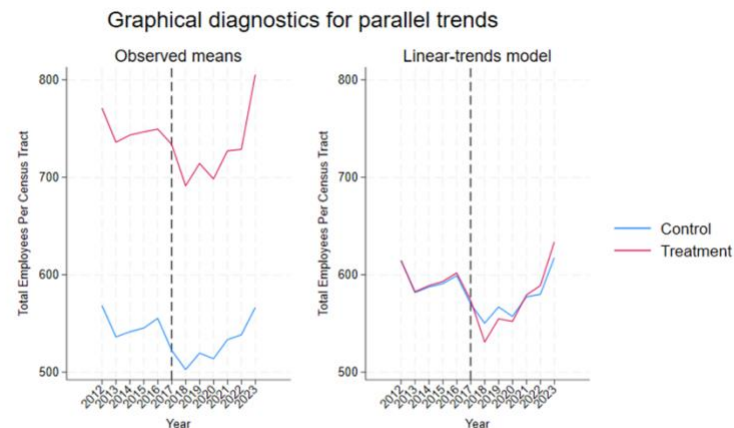
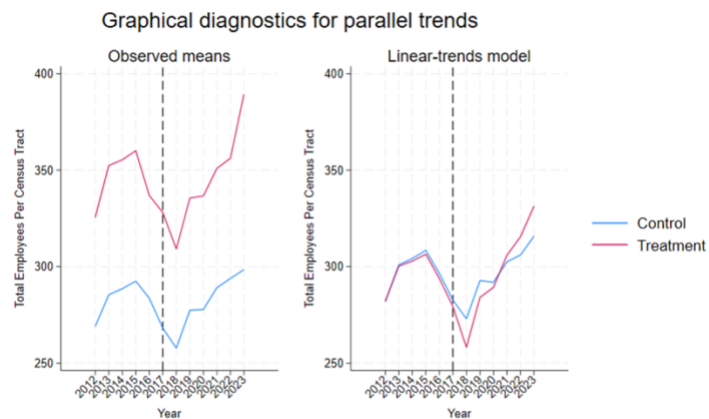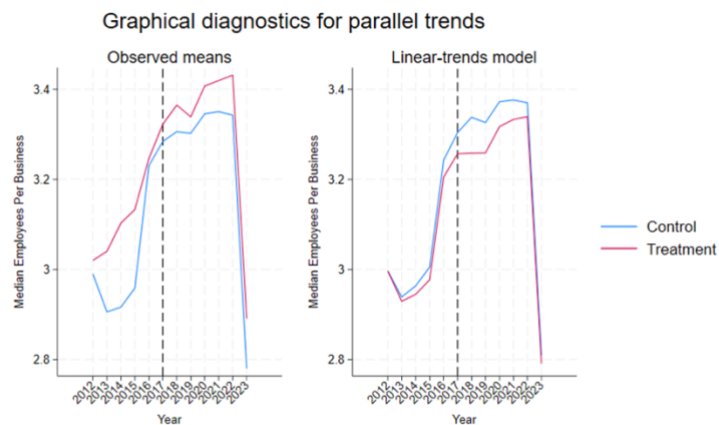Parallel-trends test p-value = 0.805. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
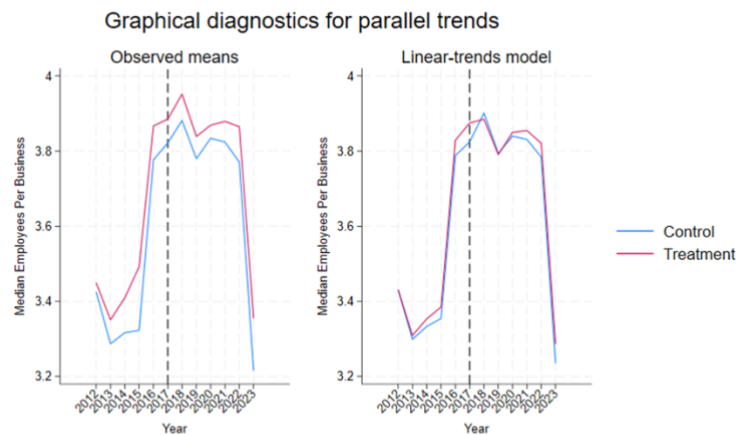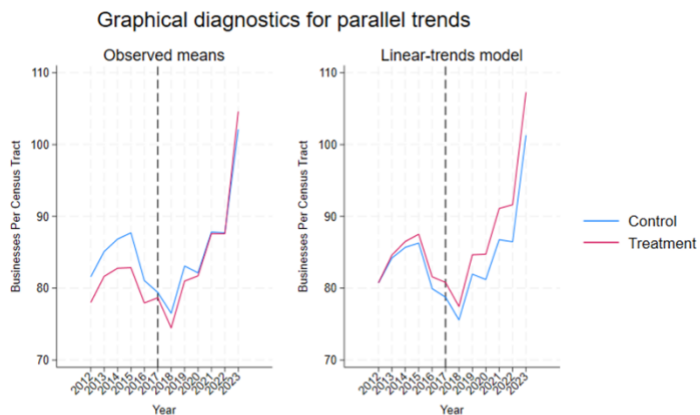

Parallel-trends test p-value = 0.585. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Appendix C: Parallel Trends Test for Business Outcomes for Microbusinesses (≤ 25 employees)

Parallel Trends Pre-Test for Total Number of Businesses per Census Tract
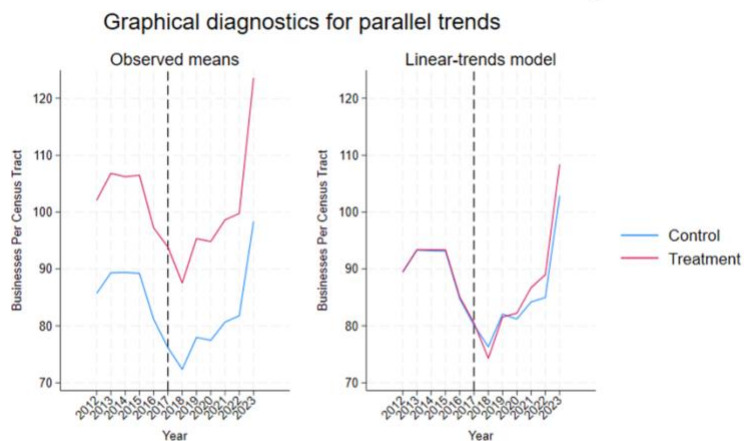
Parallel-trends test p-value = 0.813. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
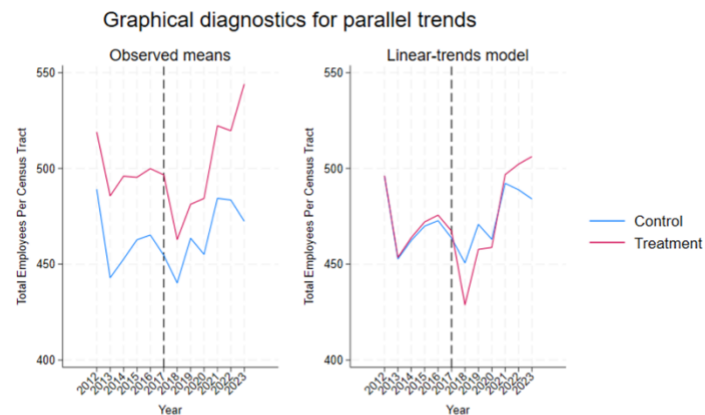
Parallel Trends Pre-Test for Total Number of Employees per Census Tract
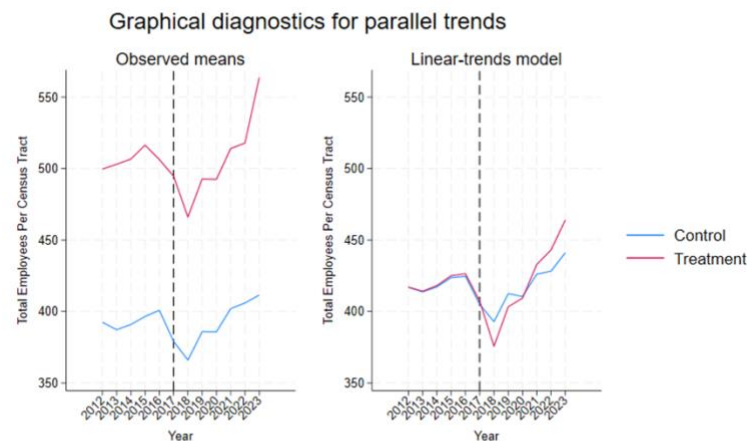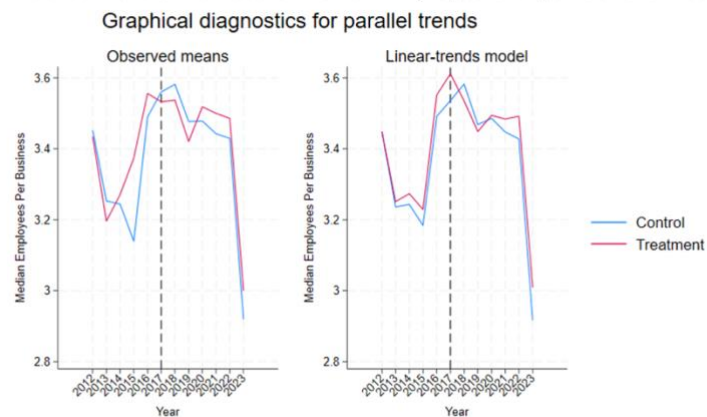

Parallel-trends test p-value = 0.792. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
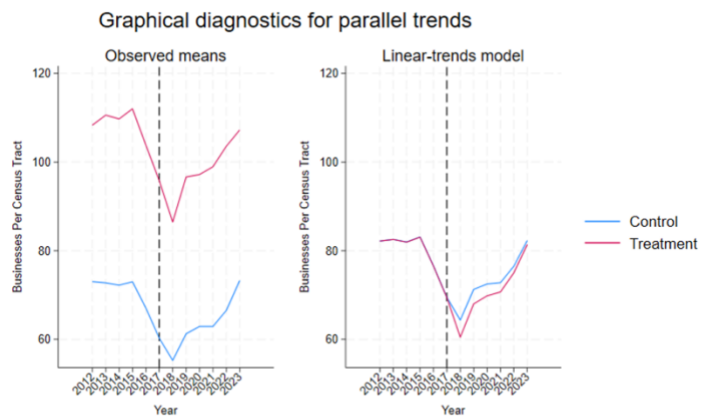
Parallel Trends Pre-Test for Median Employee Size per Census Tract
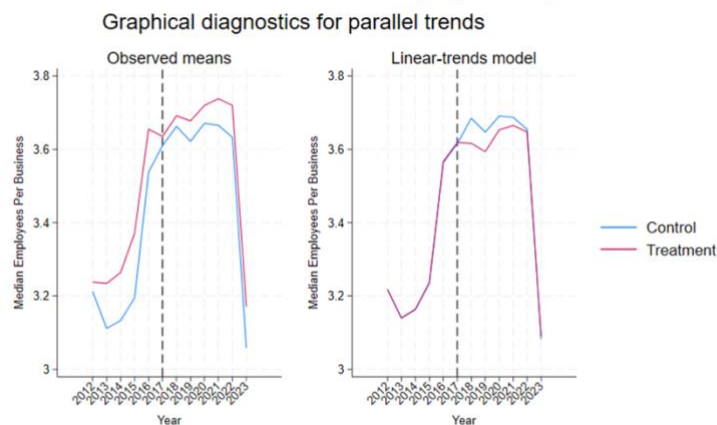
Parallel-trends test p-value = 0.956. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Appendix D: Parallel Trends Test for Business Outcomes for Microbusinesses (≤ 10 employees)

Parallel Trends Pre-Test for Total Number of Businesses per Census Tract
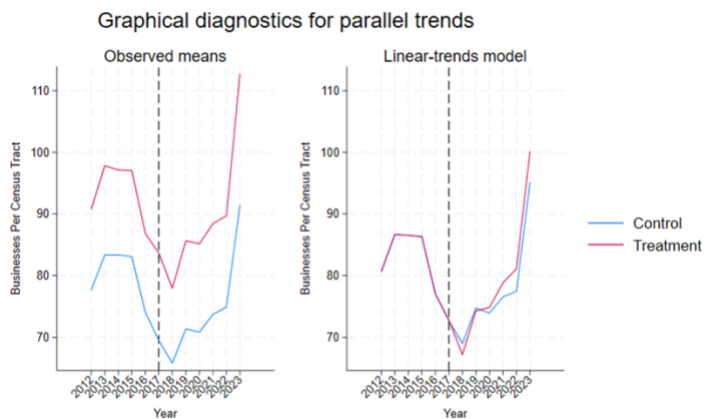
Parallel-trends test p-value = 0.955. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Total Number of Employees per Census Tract

Parallel-trends test p-value = 0.542. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
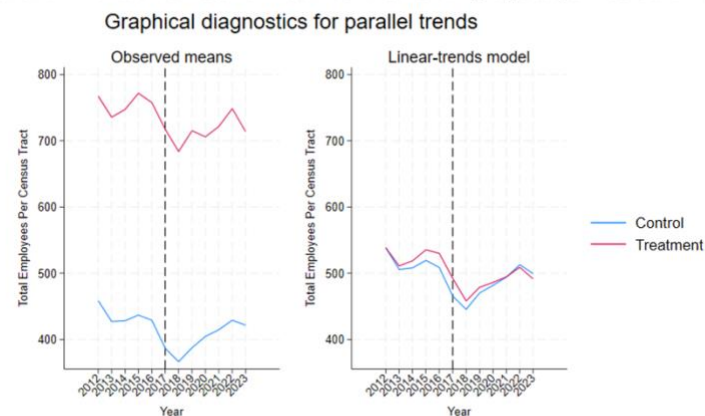
Parallel Trends Pre-Test for Median Employee Size per Census Tract

Parallel-trends test p-value = 0.405. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Appendix E: Parallel Trends Test for Business Outcomes for Small Businesses in Brooklyn (< 100 employees)

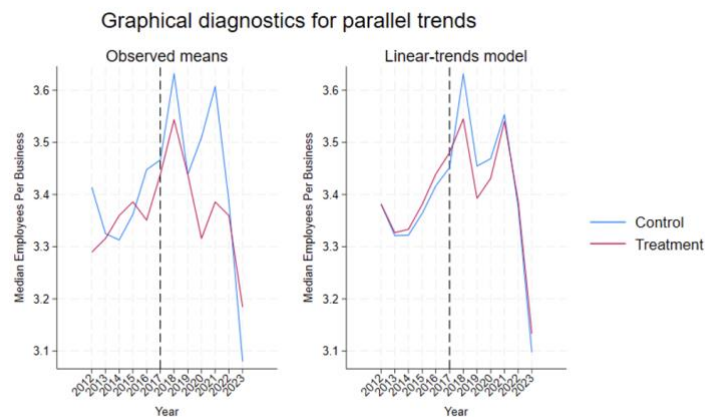**Parallel Trends Pre-Test for Total Number of Businesses per Census Tract**

Parallel-trends test p-value = 0.220. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Total Number of Employees per Census Tract

Parallel-trends test p-value = 0.783. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Median Employee Size per Census Tract

Parallel-trends test p-value = 0.590. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
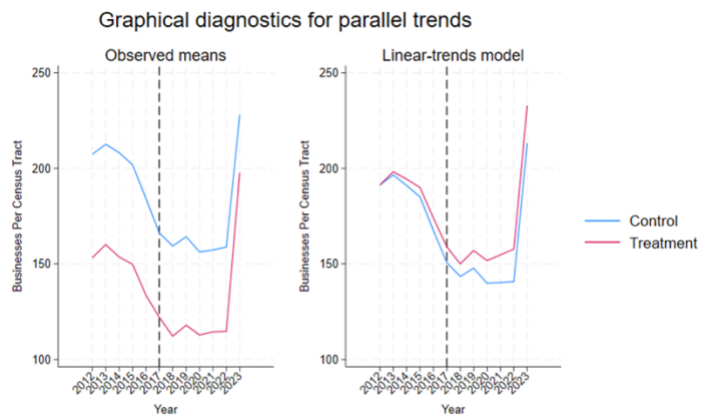
Appendix F: Parallel Trends Test for Business Outcomes for Small Businesses in the Bronx (< 100 employees)

Parallel Trends Pre-Test for Total Number of Businesses per Census Tract

Parallel-trends test p-value = 0.980. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Total Number of Employees per Census Tract

Parallel-trends test p-value = 0.359. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Median Employee Size per Census Tract

Parallel-trends test p-value = 0.817. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
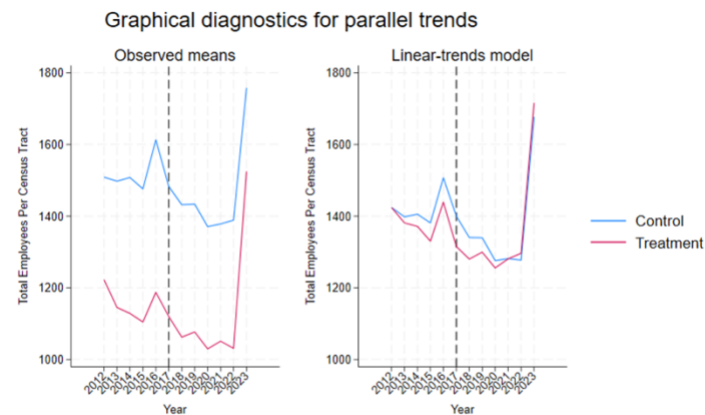
Appendix G: Parallel Trends Test for Business Outcomes for Small Businesses in Manhattan (< 100 employees)

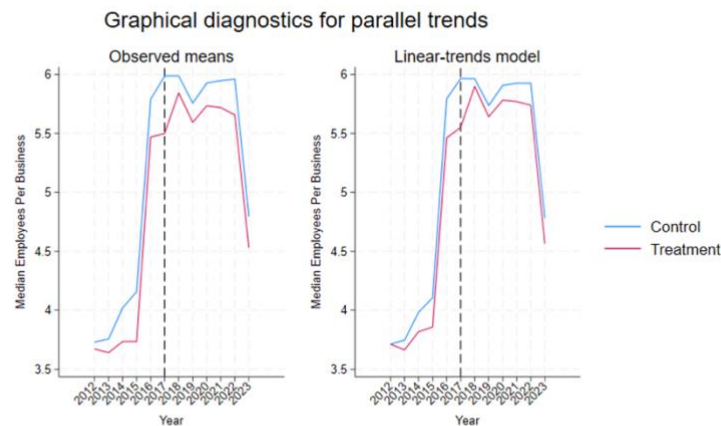**Parallel Trends Pre-Test for Total Number of Businesses per Census Tract**

Parallel-trends test p-value = 0.325. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Total Number of Employees per Census Tract

Parallel-trends test p-value = 0.240. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.
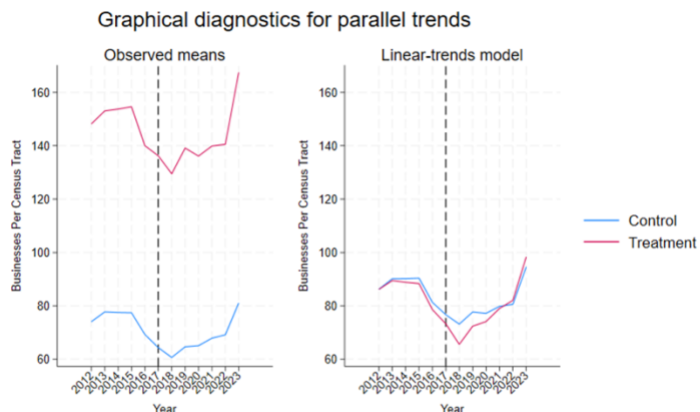

Parallel Trends Pre-Test for Median Employee Size per Census Tract

Parallel-trends test p-value = 0.080. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Appendix H: Parallel Trends Test for Business Outcomes for Small Businesses in Queens (< 100 employees)

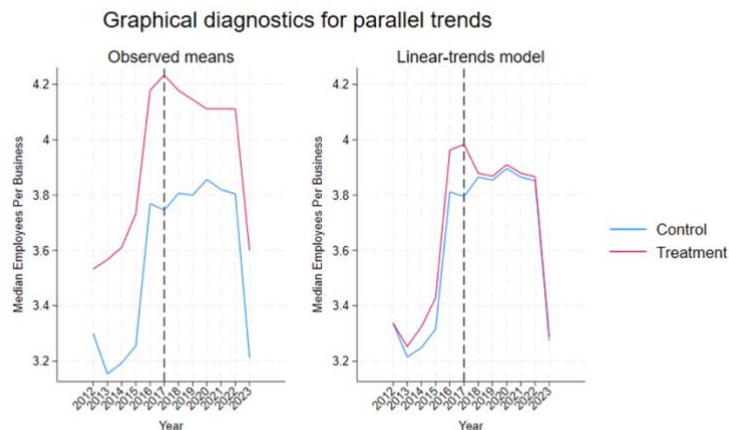**Parallel Trends Pre-Test for Total Number of Businesses per Census Tract**

Parallel-trends test p-value = 0.421. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Total Number of Employees per Census Tract
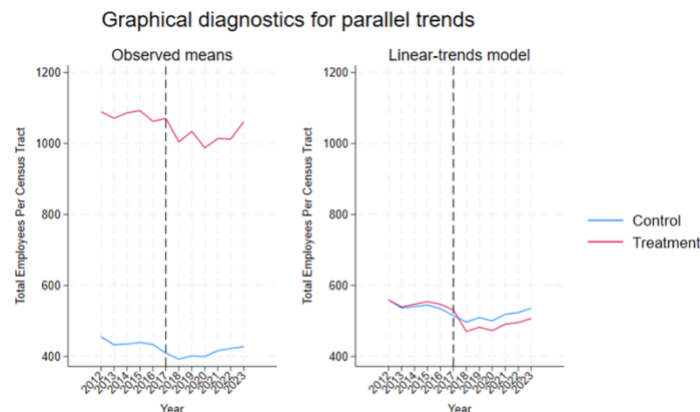
Parallel-trends test p-value = 0.721. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.

Parallel Trends Pre-Test for Median Employee Size per Census Tract

Parallel-trends test p-value = 0.357. P-trends test p-value is greater than 0.05 significance level, parallel trends are satisfied.