



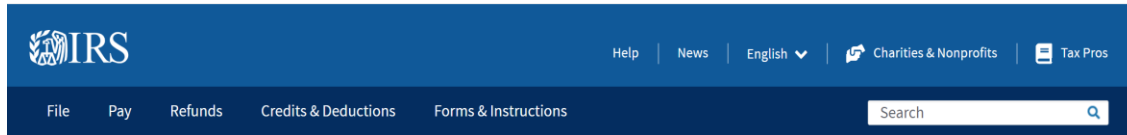
Opportunity Zones and the Importance of Banks in the Community

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June 12th, 2024

Opportunity Zones

- Opportunity Zone (OZ) program
 - The Tax Cuts and Jobs Act (TCJA) was enacted in 2017
 - Encourage investments and bring new capital
 - Defer and reduce taxes on capital gains when investing those gains in OZs
 - Target to spur economic development in low-income neighborhoods in the U.S.



The screenshot shows the top navigation bar of the IRS website. On the left is the IRS logo. To its right are links for 'Help', 'News', 'English' (with a dropdown arrow), 'Charities & Nonprofits', and 'Tax Pros'. Below these are menu items: 'File', 'Pay', 'Refunds', 'Credits & Deductions', and 'Forms & Instructions'. A search bar is located on the right side of the header.

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Opportunity Zones

Family, Dependents and Students

Clean Energy and Vehicle Credits

Individuals Credits and Deductions

Business Credits and Deductions

Opportunity Zones are an economic development tool that allows people to invest in distressed areas in the United States.

Their purpose is to spur economic growth and job creation in low-income communities while providing tax benefits to investors.

Opportunity Zones were created under the Tax Cuts and Jobs Act of 2017 ([Public Law No. 115-97](#)). Thousands of low-income communities in all 50 states, the District of Columbia and five U.S. territories are designated as Qualified Opportunity Zones.

English | [Español](#)



Opportunity Zone



The screenshot shows the top navigation bar of the CDFI Fund website. On the left is the CDFI Fund logo. To its right is the text 'U.S. DEPARTMENT OF THE TREASURY COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND'. Further right are links for 'CONTACT', 'TOOLS & RESOURCES', 'SUBSCRIBE', and 'SIGN IN'. A search bar is located on the right side of the header.

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OPPORTUNITY ZONES RESOURCES

The authority to implement IRC 1400Z-1 and 1400Z-2 has been delegated to the IRS. The CDFI Fund is supporting the IRS with the Opportunity Zone nomination and designation process under IRC 1400Z-1 only.

[Treasury and IRS have issued final regulations](#) on how the Qualified Opportunity Zone (QOZ) tax benefits under IRC 1400Z-2 (including the certification of Qualified Opportunity Funds (QOFs) and eligible investments in QOZs) will be administered, the gains that may be deferred as a result of a taxpayer's investment in a QOF, special rules for an investment in a QOF held by a taxpayer for at least 10 years, and updates to portions of previously proposed regulations under section 1400Z-2 to address various issues, including: the definition of "substantially all."

IRS also has posted a list of [Frequently Asked Questions about Opportunity Zones](#) on the [irs.gov Tax Reform pages](#). You will want to monitor the [Opportunity Zones page](#) at the IRS website for additional Opportunity Zone information and other Tax Reform information. **For any other questions, please call IRS at (800) 829-1040.**

Opportunity Zones

❑ To become an eligible OZs, census tracts need to meet one of three requirements:

- (1) The tract is located outside of a metropolitan area, and median income in the tract does not exceed 80% of the state median income
- (2) The tract is within a metropolitan area, and median income in the tract does not exceed 80% of the state median income or the metropolitan area median income
- (3) The poverty rate in the tract is over 20%
 - Over 40,000 census tracts were eligible to get designated, and over 8,700 tracts were designated as OZ

❑ Importance of Opportunity Zones

- “Opportunity Zones may prove to be one of the most remarkable provisions in the law a decade from now” (Kevin Hassett, Chair of the White House's Council of Economic Advisors)
- Treasury Secretary Steven Mnuchin considers the establishment of OZs as ‘one of the most crucial components of the Tax Cut and Jobs Act’
- White House Council of Economic Advisers estimates that investments in OZs may have reached up to \$78 billion

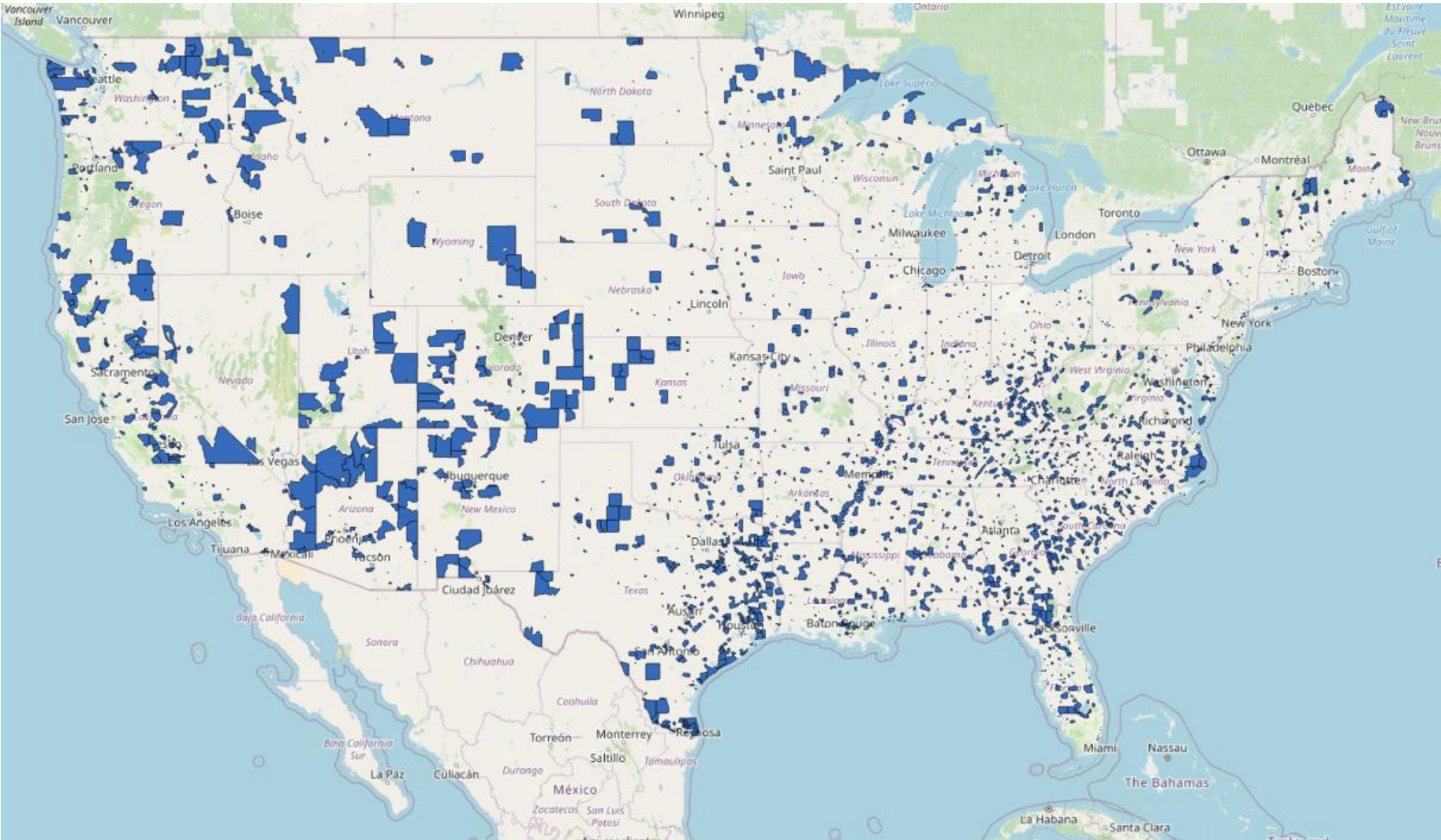
Opportunity Zones Literature

□ Recent literature:

- Freedman et al. (2022): limited impact on economic conditions (e.g., employment, earnings, poverty)
- Atkins et al. (2021): limited effect of OZ designation on job growth
- Corinth and Feldman (2021): no impacts on commercial investments
- Chen et al. (2019) : OZ designation does not impact on residential property prices
- Arefeva et al. (2021): ↑ in employment growth within the OZ-designated tracts
- Frank et al. (2022): ↑ in commercial real estate, building permits, and construction employment

Designated Opportunity Zones

Over 8,700 tracts were designated as OZ



Source: CDFI Fund and ArcGIS (own drawing)

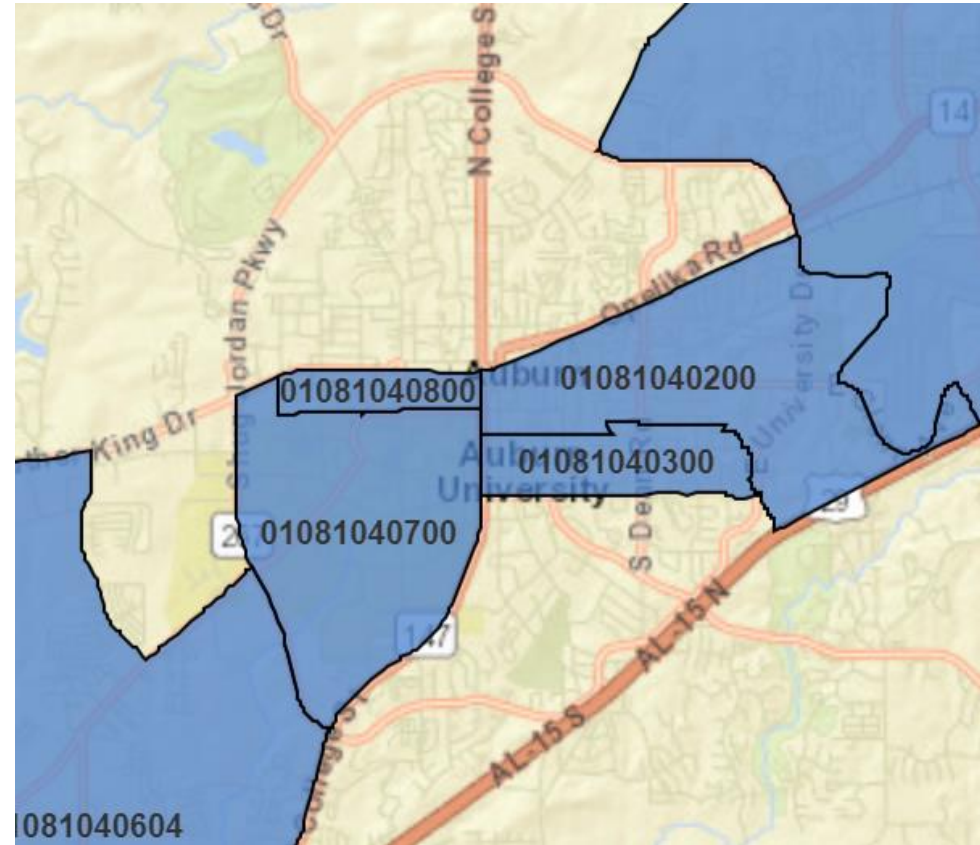
Designated Opportunity Zones

Auburn University area was designated as OZ

The city of **Auburn, Alabama** has **5 designated Opportunity Zones**.

In total these Opportunity Zones have a population of approximately 21,000. That represents 31% of the city's total population of 66,000.

The **median household income** for Auburn Opportunity Zones ranges from approximately **\$9,200 to \$41,000**.



Source: <https://opportunitydb.com/>

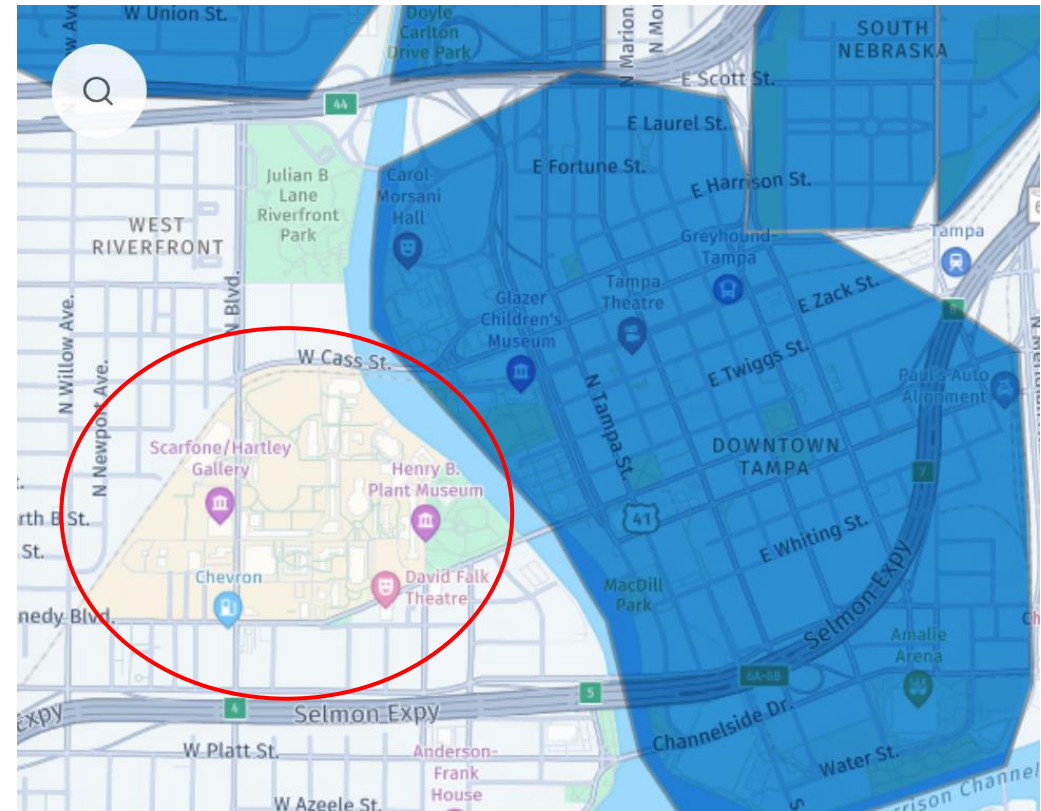
Designated Opportunity Zones

The University of Tama area was NOT designated as OZ (neighborhood tract was selected)

The city of **Tampa, Florida** has **23 designated Opportunity Zones.**

In total these Opportunity Zones have a population of approximately 78,000. That represents 19% of the city's total population of 400,000.

The **median household income** for Tampa Opportunity Zones ranges from approximately **\$9,500 to \$68,000.**



Source: <https://opportunitydb.com/>

Question

❑ Question?

→ An impact that the OZ program has had on the local economy and investment and financial institutions in the communities?

- Banks can participate in OZ through lending in OZ transactions, and investing in OZ (The Office of the Comptroller of the Currency, 2021)

❑ This study investigates the causal effect of the OZ program on the **banking activities** directed at **small businesses** in the designated areas

→ Use a difference-in-differences approach that compares the changes in outcomes in the OZ-designated tract to those in OZ-eligible but non-designated tracts

→ The measures of small businesses' economic activity

: small business loans and bank deposits in the communities

Opportunity for Banks within OZs

- ❑ Dyal-Chan (2020): banks can support the OZ program by providing additional financing to local businesses
- ❑ Patton (2020): OZ program will bring more capital into low-income areas
 - Provides banks with opportunities to lend to these communities and businesses
 - Lending within OZs may help banks achieve Community Reinvestment Act (CRA) compliance

PNC Bank: Strengthening Communities Through Strategic Opportunity Zone Investments

Cathy Niederberger, Executive Vice President of Community Development Banking, PNC Bank

PNC Bank, N.A. (PNC) works to make communities stronger and more prosperous as part of our culture as a community-focused “Main Street” bank. Those of us working with lower-income communities understand that truly transformative development opportunities don’t come around very often but, project by project, these opportunities accumulate to maintain and strengthen disadvantaged communities across the country.

Part of PNC’s aim to do right by its customers and communities involves us exploring new programs and avenues, particularly in communities that need them most. PNC recognizes

of realized capital gains. Opportunity zones are primarily in low-income census tracts designated by each state’s governor that can benefit from private investment spurred by these tax incentives.

Investors, like PNC, reinvest realized capital gains into QOFs, which in turn are used to help finance projects located in the opportunity zones. The investments into QOFs



Architect's rendering of the East York Street development, a new 56-unit building with ground-floor retail and transit-centered workforce housing in the East Kensington neighborhood of Philadelphia.

debt service coverage to meet the opportunity zone program timelines.

Another PNC consideration was determining the purpose of the QOF

Source: Office of the Comptroller of the Currency

Small Business Loan

❑ Small business?

- A small business is defined as an enterprise with fewer than 1,500 employees and a maximum of \$38.5 million in average annual receipts
- Crucial for driving economic activity in local communities and access to credit is essential for their success (Mach and Wolken, 2012; U.S. Small Business Administration, 2018)
- 44% of the U.S. economic activity (U.S. Small Business Administration, 2018)

❑ Small business loan → Loan for small businesses

- Annually, banks provide the total dollar amounts and the number of small business loans originated for up to \$1,000,000:
 - three loan size categories
 - (1) \$100,000 or less (2) \$100,001 ~ \$250,000 (3) \$250,001 ~ \$1,000,000

Data

- ❑ Opportunity Zone: Community Development Financial Institutions Fund (CDFI Fund) by the U.S. Department of the Treasury

- ❑ Small business loans: Federal Financial Institutions Examination Council (FFIEC)
 - Census tract level
 - Dependent variable

- ❑ Deposits: The Summary of Deposits (SOD), FDIC
 - Branch-level deposits
 - ArcGIS (Geographic Information System, GIS, software) is used to identify the census tracts of each branch
 - Dependent variable

- ❑ Characteristics of census tracts: American Community Survey (ACS) by the U.S. Census

- ❑ Period: 2016 – 2021

Findings Overview

- ❑ We find a statistically significant and positive impact of OZ designation on the total amount and total number of small business loan originations within the OZ designated tract
- ❑ Bank branches located within the OZ designated tract experience increased deposits

Method and Analysis

- (1) Difference-in-Differences (DID)
- (2) Matching method: PSM & CEM

Difference-in-Differences (DID)

$$Y_{ijt} = \alpha + \delta_j + \delta_t + \theta Treated_j \times Post_t + \mathbf{X}'_j \boldsymbol{\Lambda} + \varepsilon_{ijt},$$

where i , j , and t denote a branch, a census tract, and year, respectively

Y_{ijt} are the total amounts and number of small business loans and the logarithm of deposits

$Treated_j$ equals to 1 for the OZ-designated census tract; 0 for the OZ-eligible, but not designated tract

$Post_t$ is 1 for the post-treatment period (years from 2018)

θ is the coefficient of interest

$\mathbf{X}'_j \boldsymbol{\Lambda}$ is a vector of census tract demographic control variables

Standard errors are clustered at the tract-year level

Results

Matching Results of Propensity Score Matching (PSM)

	Treated groups (Mean)	Control group (Mean)	Difference in means	t-Statistic
<i>Variables</i>				
White (%)	59.12	58.38	0.74	1.59
Higher education (%)	18.30	18.33	-0.03	0.62
Unemployment (%)	11.09	10.95	0.14	1.31
Median HH Income (\$)	36,062	35,936	126	0.02
Below poverty ratio (%)	59.12	29.04	0.01	(0.13)
Observation (#)	8,187	8,187		

Matching Results of Coarsened Exact Matching (CEM)

the imbalance measure decreased by 0.421

Results

Small Business Loans by Census Tract (2016 – 2021)

<i>Dependent Variables</i>	<i>Amount of Origination_{jt} (\$K)</i>		<i>Number of Origination_{jt}</i>	
	DID	DID	DID	DID
	(1)	(2)	(4)	(5)
Panel A: PSM				
<i>Treat × Post</i>	477.0*** (28.53)	475.7*** (28.52)	5.104*** (0.308)	5.049*** (0.307)
Controls	N	Y	N	Y
Tract FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Robust SE	Y	Y	Y	Y
Number of Obs.	98,116	98,114	98,116	98,114
Adjusted R ²	0.864	0.864	0.940	0.940
Panel B: CEM				
<i>Treat × Post</i>	416.1*** (29.78)	421.5*** (29.83)	3.894*** (0.326)	3.925*** (0.327)
Controls	N	Y	N	Y
Tract FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Robust SE	Y	Y	Y	Y
Number of Obs.	171,301	170,771	171,301	170,771
Adjusted R ²	0.861	0.862	0.937	0.937

Results

Deposits (2016 – 2021)

<i>Dependent Variables</i>	<i>Log (Deposits_{ijt})</i>	
	DID	
	(1)	(2)
Panel A: PSM		
<i>Treat × Post</i>	0.0992*** (0.0372)	0.0978** (0.0372)
Controls	N	Y
Tract FE	Y	Y
Time FE	Y	Y
Robust SE	Y	Y
Number of Obs.	98,116	98,114
Adjusted R ²	0.910	0.910
Panel B: CEM		
<i>Treat × Post</i>	0.0603* (0.0365)	0.0615* (0.0368)
Controls	N	Y
Group FE	Y	Y
Time FE	Y	Y
Robust SE	Y	Y
Number of Obs.	171,301	170,771
Adjusted R ²	0.910	0.909

Results – Robustness

Small Business Loans by Census Tract (2016 – 2019)

- COVID-19 Pandemic
- Paycheck Protection Program (PPP)

<i>Dependent Variables</i>	<i>Amount of Origination_{jt} (\$K)</i>		<i>Number of Origination_{jt}</i>	
	DID	DID	DID	DID
	(1)	(2)	(4)	(5)
Panel A: PSM				
<i>Treat × Post</i>	48.83*** (17.24)	48.27*** (17.25)	1.714*** (0.221)	1.681*** (0.221)
Controls	N	Y	N	Y
Tract FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Robust SE	Y	Y	Y	Y
Number of Obs.	65,393	65,391	65,393	65,391
Adjusted R ²	0.952	0.952	0.973	0.973
Panel B: CEM				
<i>Treat × Post</i>	29.40* (17.64)	29.87* (17.72)	1.343*** (0.237)	1.385*** (0.238)
Controls	N	Y	N	Y
Tract FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Robust SE	Y	Y	Y	Y
Number of Obs.	114,144	113,805	114,144	113,805
Adjusted R ²	0.945	0.945	0.969	0.969

Results – Robustness

Deposits (2016 – 2019)

<i>Dependent Variables</i>	<i>Log (Deposits_{ijt})</i>	
	DID	
	(1)	(2)
Panel A: PSM		
<i>Treat × Post</i>	0.0771** (0.0382)	0.0762** (0.0382)
Controls	N	Y
Tract FE	Y	Y
Time FE	Y	Y
Robust SE	Y	Y
Number of Obs.	65,393	65,391
Adjusted R ²	0.932	0.932
Panel B: CEM		
<i>Treat × Post</i>	0.0396 (0.0364)	0.0429 (0.0367)
Controls	N	Y
Group FE	Y	Y
Time FE	Y	Y
Robust SE	Y	Y
Number of Obs.	114,144	113,805
Adjusted R ²	0.932	0.931

Results

Opportunity Zones and Small Business Loans by Sub category Size

- Three loan size categories:

(1) \$100,000 or less (2) \$100,001 ~ \$250,000 (3) \$250,001 ~ \$1,000,000

<i>Dependent Variables</i>	<i>Amount of Origination_{jt} (\$K)</i>		
	\$250K ~ \$1 Mil	\$100K ~ \$250K	lower than \$100K
	(1)	(2)	(3)
Panel A. 2016 - 2021			
<i>Treat × Post</i>	252.5*** (18.72)	119.4*** (7.963)	103.9*** (6.638)
Controls	Y	Y	Y
Tract FE	Y	Y	Y
Time FE	Y	Y	Y
Robust SE	Y	Y	Y
Number of Obs.	98,114	98,114	98,114
Adjusted R ²	0.837	0.741	0.898
Panel B. 2016 – 2019			
<i>Treat × Post</i>	10.98 (14.60)	16.13*** (4.982)	21.16*** (4.191)
Controls	Y	Y	Y
Tract FE	Y	Y	Y
Time FE	Y	Y	Y
Robust SE	Y	Y	Y
Number of Obs.	65,391	65,391	65,391
Adjusted R ²	0.904	0.889	0.964

Work in Response to Reviewer Comments

- ❑ Use additional variables (total housing units and population density) for matching
 - Adding total housing units and population density (not criteria for OZ-eligibility) does not change the main result but is associated with worse matching results for CEM (the imbalance measure decreased only by 0.141; 0.999 → 0.858)

- ❑ Add a voting support measure as a matching variable
 - Also does not change the results qualitatively, and CEM shows worse matching results as well (the imbalance measure decreased only by 0.143)

- ❑ Other issues we are in the process of completing
 - Additional parallel trend
 - Additional robustness checks with pre-COVID data

Findings

- We find a statistically significant and positive impact of OZ designation on the total amount and total number of small business loan originations within the designated tract
- Bank branches located within the designated tract experience increased deposits
- By evaluating how small business lending changes as banks respond to government programs,
 - we add to the evidence of the impact of opportunity zones on local small businesses and their communities
- The findings have important implications for policymakers and financial institutions

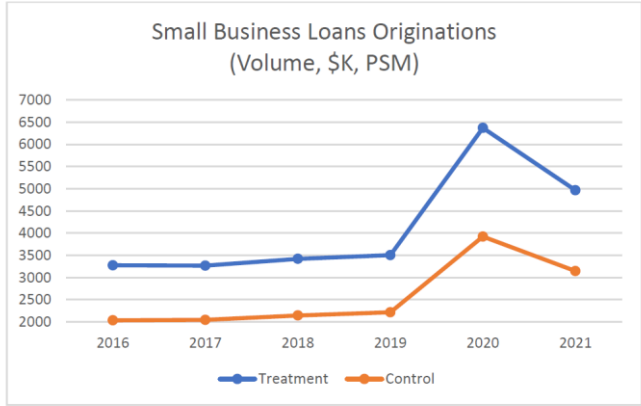


Thank you

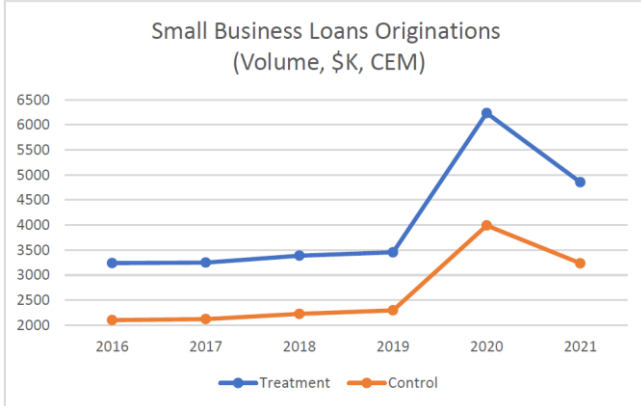
Appendix - Figure

☐ Total Annual Small Business Loans to OZ designated (treatment) and matched control tracts

Panel A. PSM

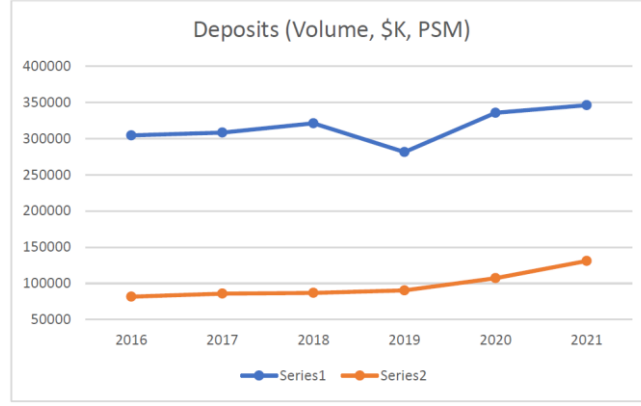


Panel B. CEM

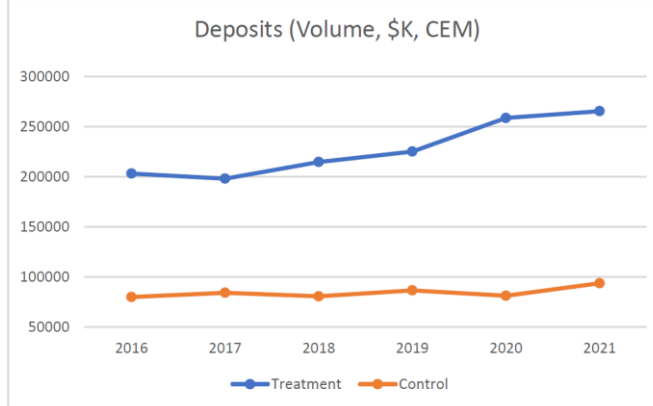


☐ Total Annual Deposits to OZ designated (treatment) and matched control tracts

Panel A. PSM



Panel B. CEM



Appendix - Qualified Opportunity Funds (QOF)

- ❑ Qualified Opportunity Funds (QOF)
 - An investment vehicle that facilitates investment in existing or new businesses or real estate located within the designated OZ tracts
 - After OZ designation, investors and taxpayers can invest their capital gains into Qualified Opportunity Funds (QOF)
- ❑ The OZ program provides tax benefits, allowing investors to defer their taxes temporarily on the gains from QOF
 - If the investor holds a QOF investment for at least five years, the basis of the QOF investment increases to 10% of the deferred gain.
 - If the investor holds a QOF investment for at least seven years, the basis of the QOF investment increases to 15% of the deferred gain.
 - Furthermore, after at least ten years of QOF investment, the investor is eligible to adjust the basis of the QOF investment to its fair market value on the date that the QOF investment is sold or exchanged.
 - Investors can defer taxes on eligible gains invested in a QOF until they have an inclusion event or by December 31, 2026, whichever comes first, according to the Internal Revenue Service.
 - While QOFs are not obligated to be located within the OZs, they are required to allocate over 90 percent of their assets towards investment in properties located within the designated OZ tracts.⁴ Internal Revenue Service (IRS) says that “investors can defer tax on eligible gains investors invest in a QOF until investors have an inclusion event or by December 31, 2026, whichever is earlier”.

* List of QOF (<https://www.novoco.com/resource-centers/opportunity-zones-resource-center/opportunity-funds-listing>)

Appendix - Standardized bias across covariates after PSM

