

Municipal Income Tax: Revenue Projections and Comparative Analysis

Final Report 2025



OUR TEAM

Dr. Sarah Larson

Associate Professor of Political Science and
CPMRA Research Fellow

Ella Pieper

CPMRA Research Associate

Lindsay Fraley

CPMRA Research Associate

Nuria Jurjo Jimenez

CPMRA Research Associate

Vera Anderson

CPMRA Research Associate

Brooke Smith

CPMRA Research Associate

Gracie Cribbs

CPMRA Research Associate

Ngoc Nguyen

CPMRA Research Associate

Rebecca Smith

CPMRA Research Associate

Roadmap

☐ 1. Revenue Diversification

- ☐ Revenue Diversification
- ☐ Healthy Fiscal Systems
- ☐ Business Cycle Fluctuations
- ☐ Recent State Action

☐ 2. Pros and Cons

- ☐ Income Tax- Pros and Cons
- ☐ Property Tax- Pros and Cons
- ☐ Value of Revenue Diversification

☐ 3. Synthetic Modeling

- ☐ Modeling Assumptions
- ☐ Goodness of Fit
- ☐ Comparison of Revenues

Population and Square Miles of Ohio Municipalities Operating Without an Income Tax

	Population	Square Miles
Beavercreek City	48,012	27.3
Cortland City	7,069	4.33
Bellbrook City	7,532	3.14

Source: US Census Bureau Fact Finder; Beavercreek Engineering Department



Revenue Diversification

What is it?

- ❑ The expansion of one's sourcing for revenue in which they rely on multiple sources avoiding an overreliance on a specific source
- ❑ A key factor in maintaining fiscal health
- ❑ Recommended for all revenue structures
- ❑ Beavercreek could increase revenue diversification
 - ❑ Property Tax: 56.3% of its funding for city operations + helps to qualify for grants making up 14.8% of additional funding



Revenue Diversification

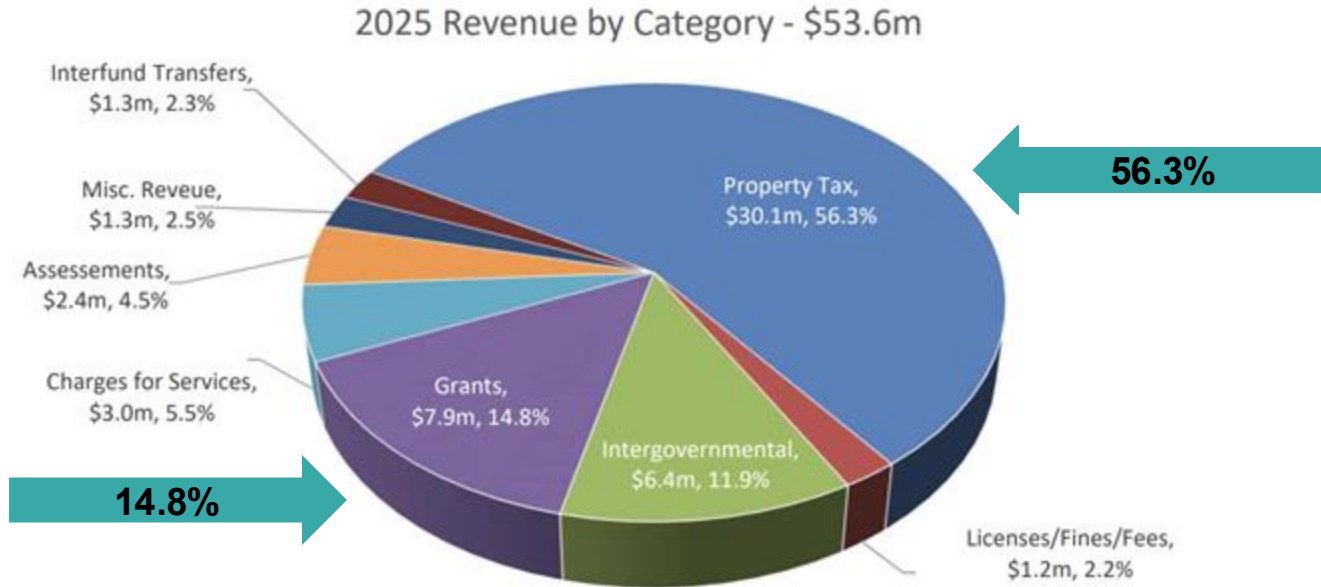


Chart retrieved from: Beavercreekoh.gov



71.1% Overall

Property Tax accounts for 56.3% of Beavercreek's funding for city operations & helps qualify for grants making up 14.8% of funding

Healthy Fiscal Systems

- ❑ The overreliance on a specific revenue source is unhealthy and potentially challenging
- ❑ All revenue sources can be unstable at times
- ❑ Based on the research, revenue diversification is recommended for all municipalities, not just Beavercreek.
 - ❑ For example:
 - ❑ 1) Income Tax
 - ❑ 2) Property Tax
 - ❑ 3) Sales Tax
 - ❑ 4) Fines and Fees



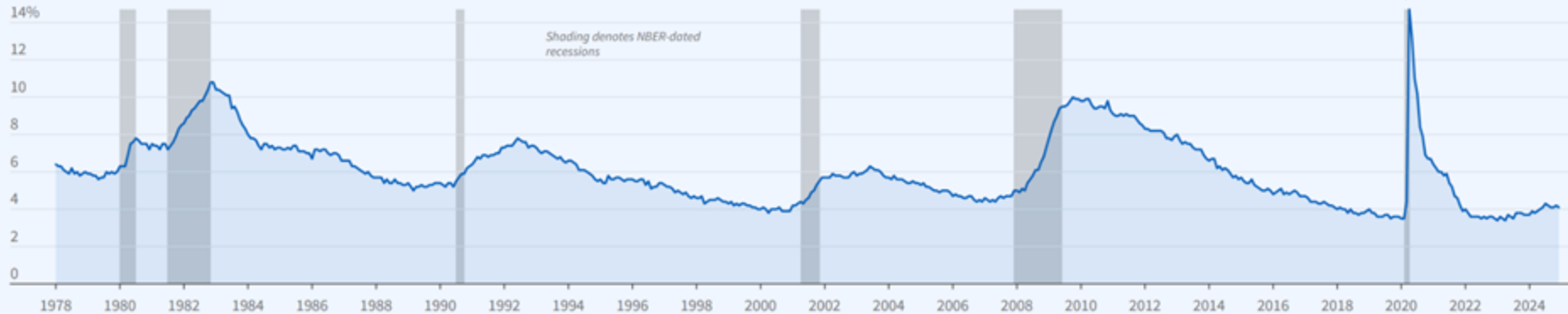
Healthy Fiscal Systems

- ❑ Expansion of revenue sources provides:
 - ❑ Reliability of a steady flow of revenue
 - ❑ Lessens the potential for tax revenue volatility
 - ❑ Boosts economic growth
 - ❑ Provides municipalities with greater autonomy during business cycle fluctuations
 - ❑ Helps municipalities to be more self sufficient and to rely less on grants and/or frequent ballot measures



Business Cycle Fluctuations

Unemployment Rate and Recessions since 1948



Graph retrieved from: nber.org

Source: Unemployment data is from the Federal Reserve Bank of St. Louis

The Business Cycle: the expansion and contraction of an economy that occurs naturally over a long period of time



Municipal Revenue Diversification

- ❑ Hendrick (2002) & Carroll, Eger, & Marlowe (2003) looked at revenue diversification at the municipal level
- ❑ Focused on suburbs of Chicago, IL
- ❑ Both studies highlighted trends in diversifying away from simply the property tax as a way to increase revenues and foster municipal fiscal health



Threat to the Property Tax

- ❑ A grassroots group, “Citizens for Property Tax Reform” is collecting signatures to place a citizen led initiative on the ballot
 - ❑ Could make it to the ballot next May to be voted upon
- ❑ Would be a trying financial time for municipalities without another source of revenue



State Action- Revenue Diversification

- ❑ In the recent House Bill 96 (FY 26 and FY 27 Operating Budget), legislators made many threats to property taxes
 - ❑ Ultimately line-itemed vetoed by Governor DeWine
 - ❑ Schools with any unspent taxpayer money over 40% of their overall budget would now be required to credit this directly back to the taxpayers
 - ❑ Voted to allow the Board of County Commissioners to award anywhere up to a 2.5% owner occupancy tax credit, therefore reducing voter-approved levies
 - ❑ County Commissioners also given the authority to grant double homestead to individuals- exempting a portion of their home value from taxation- without a reimbursement to local governments



Application

- ❑ Beavercreek currently has very little revenue diversification
 - ❑ Adding an additional revenue source(s) would significantly benefit overall fiscal health
 - ❑ Will prepare Beavercreek for the natural changes in the business cycle and allow them to be proactive when changes occur



Main Idea: Revenue Diversification plays a vital role in maintaining the health of fiscal systems.

Income Tax Pros

- ❑ Broadens the tax base by value capturing services used by non-residents
- ❑ Businesses may not be discouraged by income tax addition
- ❑ The progressive nature of an income tax can reduce income inequality among residents
 - ❑ Higher wage earners pay more in taxes



Income Tax Cons

- ❑ Dependent upon employee income
 - ❑ Minimum wage employees
 - ❑ 2022: more than 59%* of Beavercreek employees make significantly over minimum wage
- ❑ Income tax is much more volatile
- ❑ Tax code intricacies can disadvantage those who may not be aware of their local income tax obligations



Percentage of Workers Earning Above, Equal, and Below Minimum Wage in Beavercreek and Select OH Cities

Note: In 2022, the monthly income that was considered minimum wage in Ohio was roughly equal to \$1,488/ month.



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Property Tax Pros

- ❑ Less volatile and more stable than other revenue sources for local governments
- ❑ Funds essential services
 - ❑ Public schools, fire departments, etc.
- ❑ Provides a funding source for infrastructure to increase attractiveness of the area



Property Tax Cons

- ❑ Does not increase with inflation
- ❑ Can price residents out, especially retirees/those on a fixed income
- ❑ Remains with the house, not with the owner
 - ❑ Gary, Indiana and Detroit, Michigan



Value of Two Taxes and Revenue Diversification

- ❑ Recommended for any municipality
- ❑ Provides additional funding streams to accomplish city goals
 - ❑ Mitigates effects of hard financial times
 - ❑ Provides more stability through reliance on multiple revenue streams
- ❑ Similar to other cities in the nearby area
- ❑ Allows for an expanded tax base
- ❑ Income tax could appeal to residents who pay income tax to another locality



Synthetic Modeling

- Synthetic control methods allows for the mathematical modeling of a characteristic of interest that is absent
 - Used to model the GDP of East Germany not been controlled by German Democratic Republic
- Synthetic control method takes a series of municipalities and uses characteristics of interests that can be observed in those municipalities over time
- Compares those trends to the same characteristics of interest over the same time period to the municipality
- This comparison and modeling allows the crafting of a best estimate of what the municipality that is attempting to be modeling would experience



Synthetic Beavercreek

- Goal: creation of an estimate of net revenue collections had Beavercreek levied a municipal income taxation over the time period of the study (2013-2023)
- Characteristics of interest: unemployment rate, median income, average home price, education level, municipal net profits, and major employers.
- Revenue collected through municipal income taxation in synthetic Beavercreek would be sensitive to the set of municipalities that were used in the creation of the synthetic municipality



Sources for Synthetic Modeling

- ❑ Data for Synthetic Modeling was sourced from:
 - ❑ Ohio tax reports
 - ❑ Beavercreek local budgets and annual financial reports
 - ❑ The US Census Bureau database
 - ❑ The local financial documents of neighboring Ohio municipalities, including cities and villages.

- The majority of the data examined in this white paper comes from the 10 years from 2014 to 2023. The one exception to this collection was the municipal net profits; municipal net profits data were collected from fiscal years 2016 to 2024, due to data availability.



Groups Used in Creation of Synthetic Beavercreek

- Group A—Geographical Proximity to Beavercreek and Wright-Patterson
 - Fairborn, Huber Heights, Kettering, and Riverside
- Group B—Proximity to Glenn Research Center & Cleveland, OH
 - Brunswick, Cleveland Heights, Euclid, Lakewood, Lorain, Maple Heights, Mentor, Middleburg Heights, North Ridgeville, Parma, and Strongsville
- Group C—Proximity to John W. Bricker Federal Building & Columbus, OH
 - Dublin, Gahanna, Newark, Reynoldsburg, and Worthington



Modeling Assumptions

- A pre- and post period were included in the modeling due to the presence of a change in municipal income tax withholdings enacted by the state of Ohio
 - Changed the timing of withholdings by employers
 - Pre-period 2013-2017, Post-period 2018-2023
- Municipal income tax rate for Beavercreek would be 1% over the entire time frame of the creation of the synthetic Beavercreeks
- Beavercreek, similar to many other municipalities would allow for a full credit of 100% of the 1% for municipal income taxation charged to residents who worked in other municipalities but resided in Beavercreek.
 - revenue capture from those individuals who travel to Beavercreek for purposes of employment but do not reside in the municipality.



Goodness of Fit

- Methods of goodness of fit: visual inspection of the pre-period, root mean square predicted error (RMSPE)
- RMSPE also focuses on the prior period of the model
- RMSPE preferred as it provides a numeric value of the error of the prediction versus simply relying on visual inspection
 - Group A: 11.45%
 - Group B: 2.94%
 - Group C: 22.17%



Revenue Estimate

- Based on the goodness of fit, the grouping with the smallest error is Group B
- Group B—Proximity to Glenn Research Center & Cleveland, OH
 - Brunswick, Cleveland Heights, Euclid, Lakewood, Lorain, Maple Heights, Mentor, Middleburg Heights, North Ridgeville, Parma, and Strongsville
- 2024 Estimate for Beavercreek levying at at 1% rate: \$19,654,286.65
- Margin of Error (\$19,076.450.62, \$20,232,122.68)



Comparison 2023 Revenue Collections

Municipality	Net Collections	Rate
Beavercreek	\$ 19,092,842.58	1%
Centerville	\$ 25,718,549.00	2.25%
Huber Heights	\$ 24,571,674.00	2%
Kettering	\$ 55,020,826.00	2.25%



Conclusion

1. Revenue Diversification

- ❑ Revenue Diversification helps foster stability and a healthier economy

2. Pros and Cons

- ❑ Although income tax and property tax both have many pros and cons, having multiple revenue streams is more beneficial

3. Synthetic Modeling

- ❑ Beaver Creek through the passage of a 1% municipal income tax could collect between \$19,076,450.62 and \$20,232,122.68 in revenue in 2024.



Conclusion/Questions



Email: larsonse@miamioh.edu

Phone: 513-529-0163

Dr. Sarah Larson

Associate Professor of Political Science
and CPMRA Research Fellow



Please feel free to ask any questions!

Thank You!



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