



COST-BENEFIT ANALYSIS IN OHIO

Building State Policymaking
Infrastructure

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Executive Summary

Ohio has not conducted a full cost-benefit analysis on a statewide program in the past decade. Despite this, Ohio has had notable cost-focused analyses conducted by state agencies and think tanks on a variety of topics, though the number of analyses has been steady at an average of about four per year since 2008. On a per-resident basis, Ohio has less R1 research institutions and think tanks than all of its neighboring states and less legislative staff per resident than all but Indiana, suggesting a weak infrastructure for cost-benefit analysis in the state. We recommend that the state of Ohio build its analysis infrastructure, improve analyst training, and build cost-benefit analysis into legislative and executive processes in order to improve public policymaking in the state.

What is Cost-Benefit Analysis?

Cost-benefit analysis is an analytical strategy that evaluates the economic costs and benefits of public policies. By projecting and assigning current dollar values to predicted direct and indirect outcomes and comparing those with direct and indirect costs of the program, cost-benefit analyses determine whether a policy would generate a net economic benefit to society. The results are often presented on a program-wide basis (e.g. “\$2 million in total net benefits”), a per-participant basis (e.g. “\$2,000 in net benefits per program participant”) or as a benefit/cost ratio (e.g. “\$2.13 in benefits for every \$1 spent on the program”).

Cost-benefit analysis gives policymakers information about the economic impacts of policy options. It also can provide policymakers information about the impact of a given policy on different groups in society. Policymakers can use cost-benefit analysis to prioritize programs that have larger economic returns and use it as a way to quantify the economic impact and balance economic concerns against other concerns such as equity, fairness, and political feasibility.

Comprehensive cost-benefit analysis can help policymakers understand the larger impacts of policy changes they are considering. Some programs, such as early childhood education, may seem costly if a policymaker only has access to cost data and not projections of the benefits in the form of labor market earnings, reduced crime, and reduced social spending in the future. Cost-benefit analysis can also make policymakers aware of hidden costs, such as those imposed by regulation, which may not be as easily identified as costs to the state budget.

Cost-benefit analysis is not an all-encompassing welfare analytic technique, but it does provide policymakers with a more complete picture of the impacts of a policy change than they would have otherwise. Crucially, cost-benefit analysis can help policymakers base their policy decisions on evidence of social impact rather than relying solely on anecdote, ideology, and political interests.

Cost-Benefit Analysis in Ohio

Between the 11 years from 2008 to 2018 covered by this study and the Pew Charitable Trusts' study *States' Use of Cost-Benefit Analysis: Improving Results for Taxpayers*, no full cost-benefit analysis fulfilling Pew's eight elements of a cost-benefit analysis was identified in the state of Ohio.¹

That being said, 27 studies were identified over the study period from 2012-2018 that at a minimum assessed direct costs and measured outcomes, the bare bones of a cost-benefit analysis. We term these studies as "notable analyses" in this report.

The 27 analyses identified over the seven-year period from 2012 to 2018 comes out to about 3.9 analyses per year, just shy of the 4 analyses per year identified by the Pew study for 2008 to 2011. This means that the output of notable analyses in Ohio over the past seven years looks very similar to the four previous years.

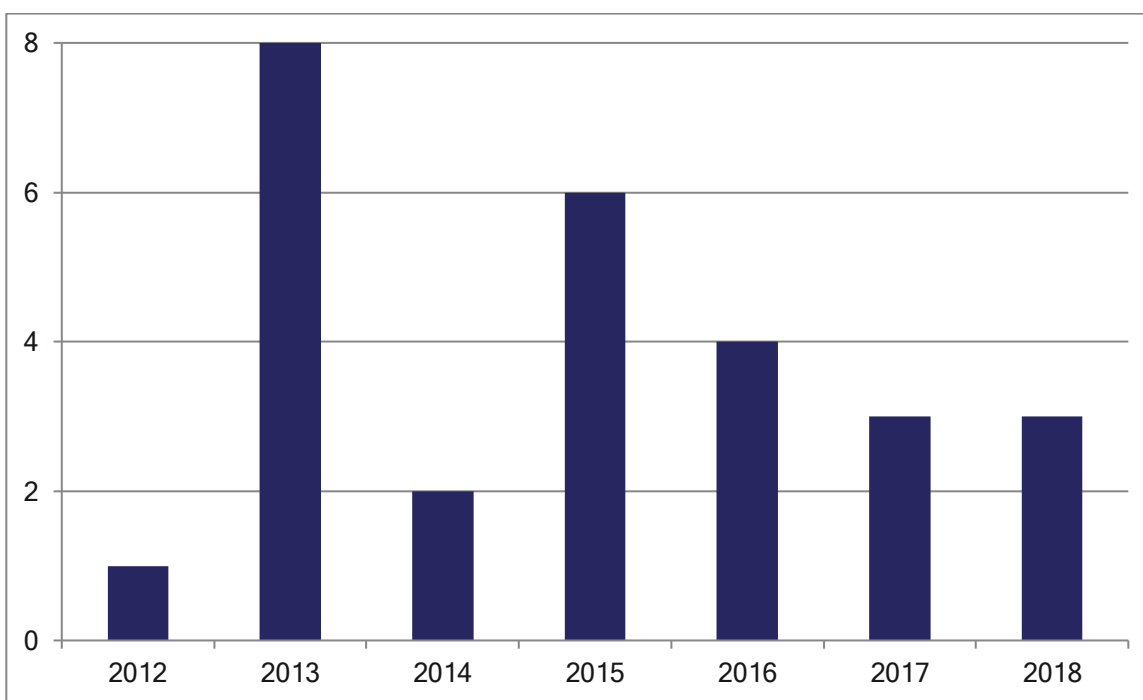


Figure 1: Notable Analyses by Year

Notable analyses varied by policy area, with no policy area making up over about a quarter of total notable analyses. Economic development was the most frequent topic to be studied, with four of the seven analyses in this policy area focusing on tax expenditures. Studies on health and social services were the second most frequent area of study, with half of the studies focused on health insurance and other studies covering topics such as food insecurity and workers' compensation.

¹ Pew Charitable Trusts, *States' Use of Cost-Benefit Analysis: Improving Results for Taxpayers*, July 2013; Darcy White, e-mail communication, December 14, 2018.

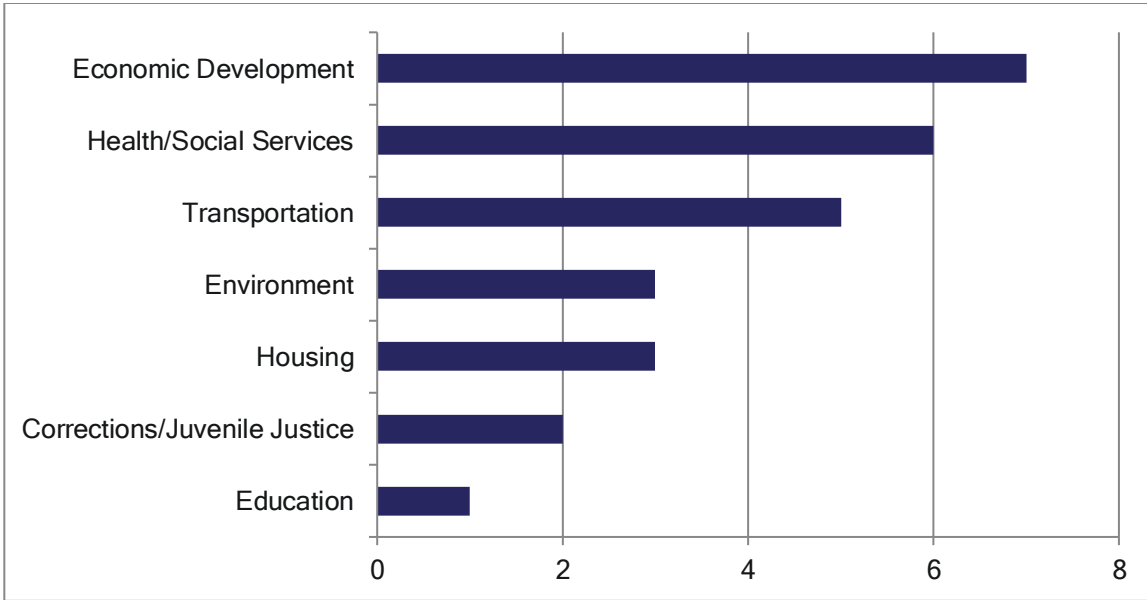


Figure 2: Notable Analyses by Policy Area

Notable analyses were nearly evenly split between state agencies and think tanks, with 14 analyses identified conducted by state agencies and 12 conducted by think tanks. Only one analysis conducted by a university was identified.² Of these 27 studies, 11 (41% of the total studies found) were conducted by the Auditor of State’s office. All 14 studies by state agencies were conducted by either the Auditor of State or the Department of Taxation (3 studies, all tax expenditure review reports). By contrast, the 12 studies conducted by think tanks were spread across five different think tanks.

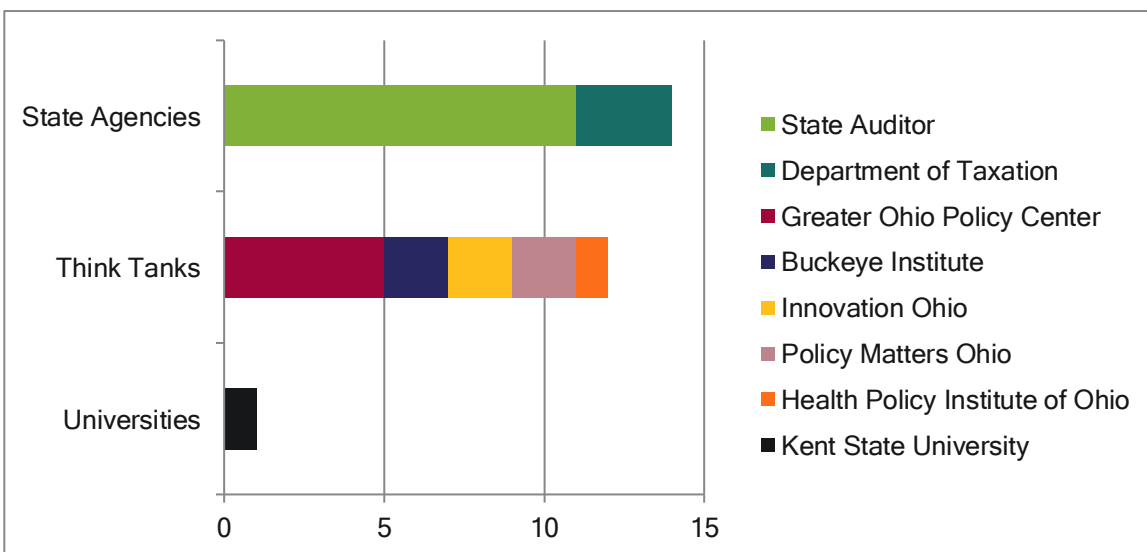


Figure 3: Notable Analyses by Agency

² This may be a function of the design of this study, focusing on analyses that were close to policymakers. Since this study focused on legislative and agency sources of information, cost-benefit analyses in universities may have been overlooked. That being said, studies overlooked for this reason would still be outside the policymaking world in Ohio, which is what this study is interested in.

Interviews with researchers and policymakers in the state suggested these studies had mixed results in impacting public policy. While performance audits conducted by the Auditor of State seemed to be driving change in agencies that were audited, many of the reports conducted by think tanks seemed to be more academic in nature or more geared at media coverage, not necessarily penetrating into the public policy discussion.

Ohio's Analysis Infrastructure

Cost-benefit analysis thrives in a state that has a strong infrastructure of research universities, think tanks, legislative staff, and executive systems.

Cost-benefit analysis requires a wealth of primary research on state programs to draw upon. Ohio is home to only three "R1: Doctoral University – Very high research activity" universities: Case Western Reserve University, Ohio State University, and the University of Cincinnati. This means that Ohio has less R1 universities per capita than all of its neighboring states, with only one R1 university for every 3.9 million residents compared to an average of one R1 university for every 2.6 million residents among it and its neighboring states.

Conversely, Ohio has nine "R2: Doctoral University – High research activity" universities, more than Kentucky, Indiana, Pennsylvania, and West Virginia combined. While on average, Ohio and its neighboring states have one R2 university for every 2.3 million residents, Ohio has one R2 university for every 1.3 million residents.

Table 1: Research University Prevalence

State	Population ³	R1 Unis	Residents per R1 ⁴	R2 Unis	Residents per R2
Pennsylvania	12.8 million	6	2.1 million	4	3.2 million
Ohio	11.7 million	3	3.9 million	9	1.3 million
Michigan	10.0 million	3	3.3 million	5	2.0 million
Indiana	6.7 million	3	2.2 million	2	3.3 million
Kentucky	4.5 million	2	2.2 million	0	N/A
West Virginia	1.8 million	1	1.8 million	1	1.8 million
Total	47.5 million	18	2.6 million	21	2.3 million

Arguably more important to a strong state cost-benefit analysis infrastructure than overall research quality is policy analysis program quality. Ohio is home to one US News and World Report-ranked public policy analysis school—Ohio State University, which is ranked 26th in the country.⁵ While this puts Ohio ahead of Kentucky, whose program is ranked lower, and West Virginia, which

³ "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2018" (XLSX). United States Census Bureau.

⁴ "Doctoral Universities: Highest Research Activity". *The Carnegie Classification of Institutions*. Carnegie Classification of Institutions of Higher Education. 2018.

⁵ US News and World Report, "Public Policy Analysis Programs," 2019.

does not have a ranked public policy analysis school, Ohio still falls behind Michigan, Indiana, and Pennsylvania, which are all home to top-six public policy analysis programs.

Table 2: Public Policy Analysis Program Rankings

State	Public Policy Analysis Program	US News Ranking
Michigan	University of Michigan, Ann Arbor	1
Indiana	Indiana University, Bloomington	4
Pennsylvania	Carnegie Mellon University	6
Ohio	Ohio State University	25
Kentucky	University of Kentucky	29
West Virginia	N/A	N/A

Independent think tanks, sometimes called “universities without the students,” also have a large part to play in a strong system of state cost-benefit analysis. Ohio has less think tanks per capita than comparable states and the country as a whole.

According to the University of Pennsylvania’s Think Tanks and Civil Society Program’s Global Think Tank Report, Ohio is home to 26 think tanks, making it 13th in the country for gross number of think tanks.⁶ This means that Ohio has about one think tank for every 450,000 residents, a significantly lower rate than the nation as a whole, which has one think tank for about every 170,000 residents. If Ohio had the same rate of think tanks per capita as the country as a whole, it would have 66 think tanks, about two and a half times more than it currently has.

Ohio also has less think tanks per capita than any of its neighboring states. Ohio would have 34 think tanks if it matched the number of think tanks per capita among it and neighboring states.

Table 3: Think Tank Prevalence

State	Population ⁷	Think Tanks ⁸	Residents per Think Tank
Pennsylvania	12.8 million	42 ⁹	300,000
Ohio	11.7 million	26	450,000
Michigan	10.0 million	31	320,000
Indiana	6.7 million	21	320,000
Kentucky	4.5 million	12	370,000
West Virginia	1.8 million	7	250,000
Total	47.5 million	139	340,000

⁶ McGann, James G., "2018 Global Go To Think Tank Index Report" (2019). TTCSP Global Go To Think Tank Index Reports. 16. https://repository.upenn.edu/think_tanks/16

⁷ "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2018" (XLSX). United States Census Bureau.

⁸ McGann, "2018 Global Go To Think Tank Report" (2019).

⁹ The 2018 report did not report numbers for Pennsylvania, so the number for 2017 was used: McGann, James G., "2017 Global Go To Think Tank Index Report" (2018). TTCSP Global Go To Think Tank Index Reports. 13. https://repository.upenn.edu/think_tanks/13

More directly relevant to practical cost-benefit analysis is legislative staff capacity. According to the National Conference of State Legislatures, Ohio’s legislature has 476 full-time staff members.¹⁰ While this makes it the third-largest legislative staff among it and its neighboring states, it is the second-lowest when it comes to staff per resident, only having more staff per resident than Indiana. If Ohio had the average residents per legislative staff of it and its neighboring states, it would have 1,103 full-time staffers, over twice the number it has now.

Table 4: Legislative Staff Prevalence

State	Legislative Staff ¹¹	Residents per Legislative Staff
Pennsylvania	2,358	5,400
West Virginia	201	9,000
Kentucky	375	11,900
Michigan	817	12,200
Ohio	476	24,500
Indiana	252	26,500
Total	4,479	10,600

On the one hand, a lower resident to staff ratio could ensure greater responsiveness to constituent concerns, more analysis of complex issues, and more of a buttress against private interests filling the gaps when it comes to policy analysis. On the other hand, there could be economies of scale that necessitate less staff per resident for larger states. For instance, janitorial needs are likely to be the same no matter the population of the state. Also, a strong system of local government could reduce need for state responsiveness, though it could also make quality analysis more difficult as analytical needs are more distributed throughout the state.

Ohio’s legislature does have a particular asset that could help the state in building a cost-benefit analysis infrastructure—the Ohio Legislative Service Commission. The Ohio Legislative Service Commission has over 200 full-time staff and conducts research on request for all members of the state legislature.¹² Additionally, every bill that sees a second hearing has a bill analysis and a fiscal note prepared by the Legislative Service Commission that at the very least say what the bill will do and what it will cost the state. In addition to these analytical services, the Legislative Service Commission also projects tax revenue and Medicaid spending. Despite this infrastructure, the Legislative Service Commission does not conduct cost-benefit analysis.

At the federal level, cost-benefit analysis has been most widely utilized in the federal regulatory review process. Ohio’s Office of Budget and Management has a staff of almost 200, but does not carry out cost-benefit analysis or conduct regulatory review like the federal Office of Management and Budget does.¹³ Regulatory review is delegated to the Common Sense Initiative, a

¹⁰ National Conference of State Legislatures, “Legislatures at a Glance,” January 8, 2019.

¹¹ Ibid.

¹² Milstead, Kevin, “Monthly Report-Number of State Employees,” March 18, 2019.

¹³ Ibid.

program under the Lieutenant Governor's office that conducts "business impact analysis," or an estimation of the impact of proposed rules on private firms in the state.

Analysis also takes place at the agency level. One prominent example is the Ohio Department of Education Office of Research, Evaluation & Advanced Analytics. The Office works with the agency and local governments to incorporate analysis and evaluation into state and local policymaking.

Recommendations

Despite stagnant notable analysis output over the past seven years and an absence of best-practice cost-benefit analysis in the state over the past decade, Ohio has the opportunity to improve its cost-benefit output. The following recommendations provide guidance to policymakers interested in encouraging the use of cost-benefit analysis in Ohio.

Recommendation 1: Ohio should build its analysis infrastructure.

- This means that the state of Ohio should take advantage of its R2 infrastructure and **choose one to two R2 universities to focus on increasing research capacity so they can become R1 research institutions**. This could mean going outside the "three C's" and looking to schools like Bowling Green State University, University of Akron, or Ohio University.
- It also means that Ohio should **increase the number of think tanks in the state**. This could mean the state creating new research centers at universities (e.g. a Center for Addiction Studies at Wright State University, a Center for Water Quality Studies at University of Toledo, or a Center for Rural Poverty at Ohio University), universities creating their own centers, or foundations creating their own think tanks, specializing in topics like criminal justice, housing, or the environment. Backers of new think tanks should, however, set goals for output of cost-benefit analyses so that they result in practical analysis for state budgeting.

Recommendation 2: Ohio should improve analyst training in the state.

- Ohio should set a goal to **improve Ohio State University's standing from a top-25 policy analysis program to a top-10 program**. This could mean bolstering its Master of Applied Economics program or creating a Master of Public Policy program at the Glenn College of Public Affairs.

Recommendation 3: Ohio should build cost-benefit practices into legislative procedure

- The Ohio Legislative Service Commission should direct its staff to **create a cost-benefit clearinghouse** similar to that created by the Washington Institute for Public Policy. Relevant data from the clearinghouse should then be included in budget documentation so policymakers have information on costs and benefits of state programs.
- The state legislature should **review its full-time staff size** to determine if more staff could professionalize state analytical capacity and reduce reliance on lobbyists for analysis.

Recommendation 4: Ohio should incorporate cost-benefit analysis into its agency processes.

- The Common Sense Initiative should **expand its business impact analysis review process into a full cost-benefit analysis review process**, modeled after Ronald Reagan’s executive order 12291 that established cost-benefit analysis in regulatory review at the federal level.
- More agencies should **create research and evaluation offices** with a special focus on agency-specific cost-benefit and cost-effectiveness analysis.

Appendix A – Notable Analyses: 2012-2018

Author	Report Title	Date of Report	Agency	Agency	Policy Area
Dave Yost	Ohio Housing Finance Agency	8/27/2012	Auditor of State	State Agency	Housing
Joseph Testa	Tax Expenditure Report: The State of Ohio Executive Budget Fiscal Years 2014-2015	1/29/2013	Department of Taxation	State Agency	Economic Development
Amy Rohling McGee	Expanding Medicaid in Ohio: Analysis of Likely Effects	3/1/2013	Health Policy Institute of Ohio	Think Tank	Health/Social Services
Bill Lafayette	Investing in Brownfields: The Economic Benefits of the Clean Ohio Revitalization Fund	4/1/2013	Greater Ohio Policy Center	Think Tank	Economic Development
Joe Campbell	Coordinating Efforts Between Counties and Smaller Jurisdictions: Shared Purchasing and Capital Costs on Roadway Maintenance and Facilities	5/1/2013	Greater Ohio Policy Center	Think Tank	Transportation
Joe Campbell	Opportunities for Increased Efficiencies and Service Improvements at the Ohio Department of Transportation	5/2/2013	Greater Ohio Policy Center	Think Tank	Transportation
Dave Yost	Ohio Department of Job and Family Services Performance Audit	6/13/2013	Auditor of State	State Agency	Health/Social Services

Dave Yost	Ohio Department of Transportation Performance Audit	6/27/2013	Auditor of State	State Agency	Transportation
Dave Yost	Ohio Department of Education Performance Audit	7/1/2013	Auditor of State	State Agency	Education
Staff	House Bill 5 Impact Analysis	11/20/2014	Innovation Ohio	Think Tank	Economic Development
Wayne Winegarden	The Regressive Impact on Ohio's Lower-Income and African-American Families from EPA's Proposed Regulations on Carbon Dioxide Emissions	12/1/2014	Buckeye Institute	Think Tank	Environment
Timothy Keen	Tax Expenditure Report: The State of Ohio Executive Budget Fiscal Years 2016-2017	1/27/2015	Department of Taxation	State Agency	Economic Development
Dave Yost	Ohio Department of Natural Resources Performance Audit	2/1/2015	Auditor of State	State Agency	Environment
Joe Nichols	Medicaid Expansion Relies on Uncertain Funding	2/23/2015	Buckeye Institute	Think Tank	Health/Social Services
Dave Yost	Ohio Department of Rehabilitation and Correction Performance Audit	6/1/2015	Auditor of State	State Agency	Corrections/Juvenile Justice
Dave Yost	Ohio Environmental Protection Agency Performance Audit	6/1/2015	Auditor of State	State Agency	Environment
Dave Yost	Ohio Department of Transportation Performance Audit	6/1/2015	Auditor of State	State Agency	Transportation

John Hornbeek, Joshua Filla, Kimberly Laurene, Kathryn Bland, Marissa Bland, Thomas Pascarella, Heather Mikulski, Matthew Stefanak	Adapting to the Changing Health Insurance Landscape: A Look at the Use and Effects of Health Benefit Consortia by Public Entities in Ohio	7/1/2016	Kent State Center for Public Policy and Health	University	Health/Social Services
Rob Moore	How the State of Ohio Can Reduce Food Insecurity	9/4/2016	Innovation Ohio	Think Tank	Health/Social Services
Dave Yost	Ohio Department of Transportation Performance Audit	10/1/2016	Auditor of State	State Agency	Transportation
Joseph Testa	Tax Expenditure Report: The State of Ohio Executive Budget Fiscal Years 2018-2019	11/25/2016	Department of Taxation	State Agency	Economic Development
Dave Yost	Ohio Bureau of Workers' Compensation Performance Audit	1/1/2017	Auditor of State	State Agency	Health/Social Services
Alison Goebel	The Columbus and Franklin County Affordable Housing Challenge: Needs, Resources, and Funding Models	2/1/2017	Greater Ohio Policy Center	Think Tank	Housing
Dave Yost	Ohio Department of Agriculture Performance Audit	6/1/2017	Auditor of State	State Agency	Economic Development
John Collier & Alison Goebel	\$180 Million And Growing: The Beneficial Impacts Of The Land Banks Of COCIC And City Of Columbus	2/20/2018	Greater Ohio Policy Center	Think Tank	Housing

Zach Schiller	Tax abatements cost Ohio schools at least \$125 million	10/2/2018	Policy Matters Ohio	Think Tank	Economic Development
Michael Shields	Wasted assets: The cost of excluding Ohioans with a record from work	12/18/2018	Policy Matters Ohio	Think Tank	Corrections/Juvenile Justice

Appendix B – Methodology

This study is the first Ohio-specific comprehensive assessment of the extent to which the state of Ohio conducts studies that analyze the costs and benefits of programs and policies and uses the results to help shape its policy and budget choices. It builds off the 2013 50-state survey by the Pew Charitable Trusts “States’ Use of Cost-Benefit Analysis: Improving Results for Taxpayers.” This study answers three key questions: How frequently are states conducting cost-benefit analyses? Are states using the results when making policy and budget decisions? What challenges do states face in conducting and using these studies?

Our investigation included a comprehensive search for cost-benefit analysis reports published in Ohio between January 2012 and December 2018 and a review of state statutory mandates to conduct cost-benefit analyses.

The review of state statutory mandates was conducted by searches on the Ohio Revised Code online portal. The phrase “study” appears in 368 separate sections in the Ohio Revised Code. Each section was analyzed and the section was logged if the requirement or enabling of at least a “notable analysis” could be determined from the statute, a total of which 59 statutes were recorded. Searches for the phrase “analysis” (294 mentions, 37 additional determinations) and “research” (544 mentions, 37 additional determinations) were also carried out. These statutes were then communicated to policymakers via survey.

Surveys were sent to 30 agencies and think tanks in the state, chosen to mirror agencies surveyed in the original Pew study as closely as possible to ensure apples-to-apples comparison of results. The 30 agencies and think tanks listed below received surveys and were contacted for a follow-up survey if they did not respond at first. Nine agencies and think tanks responded, and all of their websites were scanned for publicly-available analyses.

Pew Study	Ohio Equivalent
Administrative Services	Ohio Department of Administrative Services
Aging (Elderly)	Ohio Department of Aging
Agriculture	Ohio Department of Agriculture
Auditor (Accounting)	Ohio Auditor of State
Budget and Management (Management)	Office of Budget and Management
Commerce (Consumer and Business)	Ohio Department of Commerce
Corrections	Ohio Department of Rehabilitation and Correction
Economic Development	Ohio Development Services Agency
Education	Ohio Department of Education
Education	Ohio Department of Higher Education
Environment	Ohio Environmental Protection Agency
Health	Ohio Department of Health
Insurance	Ohio Department of Insurance
Juvenile Justice	Ohio Department of Youth Services
Legislative Budget/Fiscal (in the absence of Budget/Fiscal, search for Appropriations or Ways and Means)	Ohio Legislative Service Commission
Lottery	Ohio Lottery
Natural Resources	Ohio Department of Natural Resources
NGO State Policy Institutions	Buckeye Institute
NGO State Policy Institutions	Center for Community Solutions
NGO State Policy Institutions	Greater Ohio Policy Center
NGO State Policy Institutions	Health Policy Institute of Ohio
NGO State Policy Institutions	Innovation Ohio
NGO State Policy Institutions	Policy Matters Ohio
Public Safety	Ohio Department of Public Safety
Revenue (Finance)	Ohio Department of Taxation
Social Services	Ohio Department of Job and Family Services
State	Ohio Secretary of State
Transportation	Ohio Department of Transportation
Treasurer	Office of the Ohio Treasurer
Veterans Affairs	Ohio Department of Veterans Services

Structured interviews were then held with six policy researchers involved with identified studies. These interviews used the same structure as the original Pew study.

The following eight criteria, originally put forth in the Pew study, were used to determine if a study was a cost-benefit analysis. No studies identified from 2012 to 2018 qualified as a full cost-benefit analysis according to these criteria.

- The study comprehensively measures direct costs.
- The study comprehensively measures indirect costs.
- Tangible benefits are monetized to the extent possible.
- Intangible benefits are monetized to the extent possible.
- Program costs and benefits are measured against alternatives or a baseline.
- Future costs and benefits are discounted to current year values (net present value).
- Key assumptions used in calculations are disclosed.
- Sensitivity analysis is conducted to test how the results would vary if key assumptions were changed.

The threshold for being considered a “notable analysis” for the study was that the analysis “at a minimum, assessed direct costs and measured outcomes.” The classification of studies as notable analyses was subject to an external review of a sample of studies made up of borderline studies, a random sample of studies selected, and one study written by the author of this paper.

Acknowledgements

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