

RESEARCH ARTICLE



Decree or democracy? State takeovers and local government financial outcomes

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Abstract

Many states possess the authority to intervene in local fiscal emergencies, in some cases curtailing decision-making powers of local officials through the appointment of an emergency financial manager. Previous research has recognized that these managers can push through unpopular reforms that may improve financial health but come at the expense of local control and democratic accountability. We assess the financial outcomes after eight recent state takeovers relative to a matched counterfactual comprised of similarly distressed general purpose local governments. The staggered difference-in-differences analysis shows emergency managers improve budgetary solvency and increase fiscal reserves. These enhancements are achieved through significant reduction of general fund expenditures. Several long-term indicators show deterioration in financial health after state intervention reflecting a significant decline in long-term assets. Overall, municipalities subjected to a state takeover did not realize significant long-run improvements in financial health indicators relative to counterfactual governments.

Evidence for practice

- States exercise their power to appoint emergency financial managers (EFMs) that assume decision-making authority of a municipal government when financial and economic indicators deteriorate.
- In contrast with local elected officials, EFMs favor reducing general fund expenditures and liquidating assets to resolve local fiscal crises.
- EFMs do not outperform the local elected officials that they replace across several indicators of financial health.

INTRODUCTION

A defining feature of American federalism is that local governments are creatures of their respective states. The 10th Amendment of the U.S. Constitution permits states to impose their will on local governments through a wide variety of policy actions (Riverstone-Newell, 2017). The strongest of these actions, state takeover, replaces the normal structures of local governance with a state-appointed official. The goal of this intervention is to return distressed municipalities to fiscal sustainability. Although numerous states have completed takeovers,

empirical evidence about the success of these interventions is limited. The current dialogue about state takeovers largely focuses on the detrimental effects of takeovers on democracy (Nickels et al., 2020). Answering the question of whether takeovers improve the fiscal standing of distressed local governments enables a more nuanced discussion of the tradeoff between the democratic principles of local control and effective financial management.

Proponents of state takeover argue that state-appointed emergency financial managers (EFMs) can pursue tough, unpopular decisions such as cutting

expenditures, raising revenues, and renegotiating public union contracts that local elected officials and city managers cannot—or will not—achieve on their own. That is, an EFM can accelerate fiscal recovery through unilateral decision-making that cannot be achieved through a deliberative democratic process (Clark & Gorina, 2017; Wang & Crosby, 2019). From this standpoint, the political downsides of takeovers are offset by the benefit of a rapid financial recovery. However, this perspective relies on numerous untested assumptions. First, it presumes that local fiscal distress is primarily a function of financial management that can be remedied by changing the manager. Second, state-appointed technocrats will uniformly act in the best interest of local governments. Finally, the decisions made by EFMs will meaningfully differ from local elected officials. Each of these assumptions points to the same question: Can distressed local governments achieve the same—or better—financial outcomes through decisions made by their own duly-elected officials rather than state-appointed EFMs?

Our research investigates this question by examining the financial health of general purpose local governments subject to takeover in the aftermath of the 2007–2009 economic downturn. Many troubled local governments experienced severe fiscal distress, reflecting deterioration in their capacity to service outstanding debt and support public services (Skidmore & Scorsone, 2011). Local governments' default rates increased (Yang & Abbas, 2020), and nine general purpose governments successfully petitioned federal courts for Chapter 9 bankruptcy protection, including Detroit. Some states responded to local fiscal crises by using their intervention authority to appoint EFMs or institute recovery plans with the goal of returning their localities to a path of fiscal sustainability (Chapman, 2008). To date, the efficacy of these actions is very much an open question. Some EFMs successfully circumvented Chapter 9 bankruptcy, while others eventually guided their municipalities through the bankruptcy process. In one extreme case, criminal negligence and EFM decision-making culminated in a water contamination crisis in Flint, Michigan, that harmed thousands of city residents (Nickels, 2019). However, these cursory observations do not answer what would have happened in the absence of a state takeover.

Our study addresses this problem by evaluating the financial outcomes of cities that received a state-appointed EFM relative to a counterfactual where no takeover occurred. We do this by matching eight municipalities in Michigan and Pennsylvania that experienced a state takeover between 2009 and 2014 with municipalities exhibiting comparable fiscal and economic distress in states that lack local intervention authority. We apply a staggered difference-in-differences model to evaluate changes in several indicators of local financial health during and after the takeover and obtain a few key findings. First, EFMs acted to restore budgetary balance, which was

accomplished primarily through reductions in general fund expenditures. Given that most local public services are funded through the general fund, this result adds context to previous research showing that EFMs focus on balancing the budgets of troubled municipalities (Clark & Gorina, 2017; Zabler, 2020). Second, the analysis shows that long-run solvency materially declined following state intervention. We demonstrate that these declines stem from a reduction in assets, potentially due to the privatization or sale of public assets. Together, the results suggest municipalities subjected to takeover were not significantly better off than counterfactual municipalities across several dimensions of long-term financial health.

This article contributes to our understanding of several important aspects of local public administration. First, we add to the academic and political debate surrounding state takeovers. The costs of EFMs, particularly as they relate to democratic accountability, are well documented. By contrast, the potential benefits to financial management are unclear. Our study reveals that EFMs achieve tangible financial benefits by improving budgetary balance and increasing fiscal reserves. We also find evidence that long-term financial health deteriorates. This result adds nuance to the discussion of the efficacy of state intervention. It helps state policy makers evaluate the normative issue at hand: do the short-term financial benefits of state intervention outweigh the interruption of local democracy? These findings also offer useful guidance to future emergency managers about how to mitigate the deterioration in the long-term solvency of the municipalities under their charge.

Second, we expand on the prior literature on state interventions in local decision-making. This prior research largely focuses on state intervention in local school districts with the goal of improving academic achievement. Harris and Larsen (2016), Zimmer et al. (2017), and Schueler et al. (2017) study state takeovers of public school districts in Louisiana, Tennessee, and Massachusetts, respectively. They find that these takeover events resulted in appreciable gains in student test scores and other measures of academic achievement. However, a more recent comprehensive study by Schueler and Bleiberg (2022) finds no evidence of academic improvement, on average, across all state takeovers of school districts that occurred between 2011 and 2016. Closer to this study, Guo (2019) examines the fiscal impact of limited state interventions, such as technical assistance, on financially distressed Illinois school districts. Using regression discontinuity methods, he finds limited evidence that these interventions had any significant impact on financial outcomes on average across the state. We expand on this prior work by considering the impact of state takeovers on the finances of general purpose governments where decision-making authority was fully delegated to a state-appointed EFM.

Third, we improve understanding of local financial health.¹ Our analysis identifies financial and economic indicators that predict state intervention into local

governments, adding to the literature on measurement of financial health and fiscal stress (Gorina, Joffe, & Maher, 2018; Gorina, Maher, & Joffe, 2018; Stone et al., 2015). We also add to the broader conversation about state oversight of local finances, which includes a growing empirical literature on local responses to state monitoring of local finances (Gerrish & Spreen, 2017; Kim & Park, 2022; Nakhmurina, 2020; Spreen & Cheek, 2016; Thompson, 2017). Our empirical results add to this literature by demonstrating that local financial distress and recovery are predominantly functions of the local economy rather than the individual(s) charged with decision-making authority.

THE POTENTIAL IMPACT OF STATE INTERVENTION ON LOCAL FINANCIAL HEALTH

The rules and practices authorizing state intervention in troubled localities are determined by the states themselves. Accordingly, they vary across the 20 states that have enacted them (Pew Charitable Trusts, 2013; Scorsone, 2014). Many interventions fall short of a complete delegation of local financial decision-making. For that reason, it is important to demarcate which state interventions constitute a takeover event. Nickels (2016) defines a takeover as:

A state directed policy of declaring a municipality to be in a state of fiscal emergency and intervening by (1) placing the municipality under state receivership, (2) handing over control of most or all local government decision-making to a state-appointed manager, effectively relieving local elected officials of their governing authority, and (3) implementing a combination of tools to stabilize the local government's fiscal condition. (Nickels, 2016, pp. 195–196)

Given this definition, there are several mechanisms by which a takeover could strengthen a local government's financial health. The first possibility is that shifting the locus of control away from local elected officials will improve financial management. For example, if financial distress is rooted in poor or corrupt decision-making by local officials, then their removal may resolve the situation. The mismanagement of Orange County, California's investment pool and subsequent 1994 bankruptcy under the elected Treasurer-Tax Collector is one such example (Kearns, 1995). Voters elected a new Treasurer-Tax Collector that oversaw a financial recovery. A similar analysis can be applied to Jefferson County, Alabama's 2011 bankruptcy (Howell-Moroney & Hall, 2011). However, local government fiscal distress is not always the result of mismanagement or corruption. The existing literature

emphasizes that broader socioeconomic forces are the principal driver of local fiscal stress (Hendrick, 2004).

A second possible pathway to improvement is that EFM's are not constrained by local politics. This treats public budgeting as a common pool resource problem: elected officials realize the full political benefit of public spending but bear only a portion of the cost (Raudla, 2010). Thus, deficits and fiscal mismanagement are a natural outcome of public budgeting. Elected officials simply may not possess sufficient incentives to maintain fiscal balance (Kimhi, 2008). A state takeover removes the need for electoral incentives to align with actions requisite to alleviate a local fiscal emergency. EFM's can implement necessary changes to restore solvency by operating outside of the constraints of local politics. This mechanism presumes that the solution to this common pool resource problem is the removal of elected officials. However, it is unclear whether bureaucratic decision-making actually eases this common pool problem (Raudla, 2010).

Another way that a takeover could improve local financial health is that EFM's may be able to make better decisions based on their technical expertise. The assumption does not imply that local officials are poor managers or lack incentives to be good managers. Rather, it is that EFM's have advanced training and experience that enables them to enact technically challenging solutions. Wang and Crosby (2019) highlight this point in their interviews of Michigan EFM's:

Managers viewed their roles as professionals with the skillset to balance the budget, and did not shy away from implementing strategies that required technical expertise. Local officials ... were more concerned about longer-term impacts that go beyond municipal finances, such as sustainability of service delivery and employee morale. (Wang & Crosby, 2019, p. 574)

The major limitation of this pathway is the notion that superior technical ability or expertise leads to better decisions. State takeovers are premised on the idea that expert decision-making is the key to recovery because it installs technocratic decision makers in place of elected ones. But there is substantial uncertainty about the efficacy of technocratic decisions compared to democratic ones. Research comparing municipalities led by city managers to those led by mayors or councils, for instance, is mixed. Some find evidence of improvement (Chapman & Gorina, 2012; Lineberry & Fowler, 1967), while others reveal potential concerns (Campbell & Turnbull, 2003; Craw, 2008). Carr (2015) argues that the decision maker—technocrat or elected official—is ultimately a mediating variable in the causal pathway describing government decisions.

Although we cannot easily differentiate between the three mechanisms laid out above, it is clear that there are

multiple pathways by which state takeovers could improve local government financial outcomes. We next describe state intervention practices and recent takeovers that we specifically consider in our evaluation.

STATE TAKEOVERS IN THE AFTERMATH OF THE GREAT RECESSION

We reviewed state records and newspapers from the 20 intervention states since the start of the Great Recession in 2007, as well as scholarly articles, with the goal of identifying state takeovers that meet the Nickels (2016) definition. We found no evidence of state interventions of any kind in most of these 20 states during our period of study. When initial evidence of a takeover was found, we further scrutinized the available information to ensure each case fit the Nickels definition. In Ohio, for example, local governments deemed to be in a fiscal emergency may be taken over by a state-appointed board that has a broad range of authority. However, most of the 22 local governments that appear on the state auditor's list of distressed municipalities requested intervention from the state, and often, intervention consisted simply of filing a recovery plan with the state auditor.

We remove all Ohio cases from consideration in our analysis because they do not meet the Nickels definition of a takeover event. We also omitted the few interventions where the state later allowed the local government to file for Chapter 9 bankruptcy, such as Detroit, Michigan. A bankruptcy is a fundamentally different enterprise that enables local governments to legally discharge debt and exit from other contracts like collective bargaining agreements. Based on these criteria, we identified eight state takeovers after the Great Recession that meet the Nickels definition, seven in Michigan and one in Pennsylvania. We report these cases in Table 1 and provide a brief institutional background on intervention procedures in both states below.

Michigan

Michigan Public Acts 72 of 1990 and 436 of 2012 permit the governor to appoint EFM to distressed municipalities should one or more emergency triggers be met. Specific trigger conditions include “fund balance deficits, internal control problems, violations of statutes, inability to meet payroll, failure to file an audit report, interfund borrowing, failure to follow budget and appropriation laws, bond covenant violations, bond rating downgrades, and others” (Scorsone, 2014, p. 15). Michigan EFMs must develop a state-approved recovery plan and implement it during their appointment. They are permitted to seek out emergency loans, sell assets, hire or dismiss employees, restructure existing debt or labor contracts, or initiate Chapter 9 bankruptcy. They are not, however, authorized to increase taxes or fees without voter approval. Clark and Gorina (2017) find that EFMs in three Michigan municipalities consistently made use of all powers made available to them under Michigan law.

Termination of an emergency manager's authority is contingent on the elimination of the original trigger condition, or if the manager certifies the emergency has ended. In all, 13 general purpose governments and four school districts were placed under emergency management at least once since 2000. In terms of expertise, Michigan statute requires an EFM to possess a minimum of 5 years of experience in “business, financial, or local or state budgetary matters.”² There are not currently any active EFMs in Michigan; the last appointee stepped down from Highland Park Schools in 2018.

Pennsylvania

Pennsylvania Act 6 (adopted in 1991) and Act 47 (adopted in 1987, amended in 2014), similarly provides the state authority to appoint a receiver should a local government meet one or more trigger conditions based on a local financial condition report submitted to the state annually.

TABLE 1 List of takeover and matched control municipalities.

Treated municipalities	Takeover start year	Takeover end year	Matched control municipalities				
			(1)	(2)	(3)	(4)	(5)
Three Oaks, MI	2009	2009	New Cumberland, WV	Eton, GA	Woodville, MS	Marinette, WI	El Segundo, CA
Pontiac, MI	2009	2013	McCall, ID	Ashburn, GA	Modesto, CA	Nogales, AZ	Merced, CA
Ecorse, MI	2009	2013	Huntington Park, CA	Sheridan, CO	Saint Mary's, AK	Union, SC	Clearlake, CA
Benton Harbor, MI	2010	2014	Apple Valley, CA	Madera, CA	Evansville, WI	Rialto, CA	Ridgecrest, CA
Flint, MI	2011	2015	St. Joseph, MO	Somerset, WI	Winchester, VA	Manteca, CA	Greenfield, CA
Harrisburg, PA	2011	2014	Huntington Park, CA	Rock Hill, MO	Albertville, AL	Glendale, WI	Sylacauga, AL
Allen Park, MI	2012	2014	Los Banos, CA	Sylvania, GA	Tuskegee, AL	Sanger, CA	Taylor, AZ
Lincoln Park, MI	2014	2019	Greenville, AL	Fresno, CA	Tulare, CA	Beaumont, CA	Clarksdale, MS

Note: A description of the nearest neighbor matching method used to identify control municipalities is outlined in the main text with added details in Appendix S1.

Trigger conditions include “ongoing deficits, failure to make payroll or bond payments, large accumulated deficits, missed minimum pension payments, and a few other technical issues” (Scorsone, 2014, p. 16). Pennsylvania is also unusual in that a reduction in municipal services from the prior fiscal year may serve as a potential trigger condition.

Once a trigger condition is met, the state designates the municipality as distressed, and the state may appoint a coordinator that works with local officials to develop a state-approved recovery plan. If implementation of the plan fails or conditions worsen, the state may declare an emergency and appoint a receiver. The receiver has full fiscal decision-making control over the municipality but must prepare and implement a state-approved recovery plan.³ Unlike Michigan, Pennsylvania receivers have the power to raise existing taxes or levy new ones. Exit from state receivership is contingent on approval from the Secretary of the Department of Community and Economic Development. Pennsylvania Act 47 requires appointed receivers to possess “a minimum of five years’ experience and demonstrable expertise in business, financial or local or state budgetary matters.”

A total of 31 Pennsylvania municipalities have met one or more of the Act 47 triggers since 1987, including Pittsburgh; 16 remain under a fiscal stress designation in 2020. However, Harrisburg (2011) and Chester (2020) are the only two municipalities to enter state receivership under Act 47. We summarize both states’ intervention triggers and EFM authority in greater detail in Appendix Table A1.

DATA AND METHODS

Building the analytical sample

Assessing the financial impact of a state takeover entails two major challenges. The first of these is identifying variables that accurately reflect the likelihood of a state takeover and acquiring those data for a sufficiently large panel of local governments to enable a rigorous evaluation. Until recently, there was no widely available, complete repository of financial data for U.S. local governments outside of the U.S. Census Bureau’s quinquennial Census of Governments. We use a novel proprietary dataset, GovRank, to identify distressed governments that could plausibly serve as a counterfactual to the eight state takeover events we study. GovRank is a panel of audited financial statements for more than 8000 general purpose local governments spanning 2009 to 2014 (Kaldani et al., 2016). A significant advantage of audited financial statements over the Census of Governments data is that they contain government-wide financial data inclusive of all financial resources and obligations of each government in the accrual basis of accounting (Ross et al., 2015). However, the central limitation of the

GovRank dataset is that its creators fully discontinued its maintenance after updating it through fiscal year 2014.

The second challenge is identifying an appropriate counterfactual for the distressed cities that experienced a state takeover. Using the full population of U.S. local governments is not appropriate, as most municipal governments are financially healthy and not at any risk of a takeover. In states that authorize state takeovers, intervention laws do not offer a clearly defined numerical threshold that qualifies local governments for takeover. As such, regression discontinuity methods are not viable for this study.

Given these limitations, we turn to a difference-in-differences strategy to identify the causal effect of state takeover on financial outcomes. This approach yields treatment effect estimates that reflect the difference between treated and control municipalities in the years before and after state intervention. It also necessitates a sufficiently long panel of financial data beyond the 6-year period covered by GovRank. Expanding the existing GovRank dataset entails manual collection and entry of audited financial report data, which is no small task for thousands of municipal governments.

We resolve this challenge by applying nearest neighbor matching to the GovRank sample. The goal of this analysis is to identify comparably distressed local governments in states that were not legally able to intervene. This enables us to streamline our data collection efforts by focusing on a small number of highly distressed municipalities that are best suited to serve as the counterfactual in the difference-in-differences model. Our nearest neighbor matching strategy models the state intervention process as a function of key economic and financial characteristics in the year of takeover. We identify key predictors of state takeover by estimating a probit regression model from 2009 to 2014. This model includes several financial health measures previously validated by Stone et al. (2015), Gorina, Maher, and Joffe (2018), and Gorina, Joffe, and Maher (2018). We also include measures of local economic conditions, such as the local unemployment rate, income, and population growth.

The estimation results of the probit model are reported in Appendix Table S1. They show that the county unemployment rate, the unrestricted net asset ratio, and the net asset ratio are three significant predictors of state intervention. We then use these three predictors to identify the five nearest neighbors in the GovRank sample for each of the eight treated units in the year of state takeover. We report the names of the 40 matched municipalities in Table 1, and the summary statistics for control and treatment municipalities in Table 2. Appendix Table S2 shows good balance between the treated and control municipalities along their financial and economic characteristics. Appendix S1 also contains a more detailed discussion of the motivation and execution of the matching strategy.

TABLE 2 Summary statistics for treated and control municipalities.

Indicator	Donor pool			Treated		
	Mean	SD	N	Mean	SD	N
Current Ratio	8.81	8.66	410	9.54	19.91	88
Operating Ratio	1.09	0.30	411	1.08	0.52	88
Unrestricted Net Asset Ratio	−0.37	1.52	411	−0.52	1.36	88
Long-Term Liability Ratio	0.54	0.79	409	0.62	0.47	88
Net Asset Ratio	−0.09	0.73	410	−0.21	0.47	88
Net Position (\$M)	172	350	412	344	115	88
Gen. Fund Operating Ratio	0.98	0.15	401	1.04	0.16	88
Gen. Fund Balance Coverage	0.38	0.48	401	0.24	0.56	88
Gen. Fund Balance (\$M)	964.15	13.10	412	946.86	16.60	88
County Unemployment Rate	9.88	4.18	429	8.52	3.48	88
Population	42,603	85,279	429	36,990	30,814	88

Note: Summary statistics are the average of 2005–2019.

With a more manageable set of takeover and matched control units in hand, we obtained additional audited financial reports for each treated and matched municipality from municipal websites, Bloomberg, the Center for Municipal Finance, and the Electronic Municipal Market Access (EMMA) database. We used these sources to assemble a financial dataset spanning 2005 to 2019.

Outcome measures

A separate advantage of the sample construction and data collection process is that it enables us to consider a broader range of financial outcomes. Specifically, we extract government-wide and general fund information from each treated and matched control municipality's audited financial statements. This process allows us to construct several financial ratios that summarize a government's ability to meet its short- and long-term obligations, as well as the adequacy of the government's general fund based on fiscal reserves.

Our chosen outcome measures carry several benefits from a measurement perspective. First, because these data are government-wide, accrual-accounting information, they are insensitive to individual accounting choices a government might make, enhancing the validity of making comparisons across governments. Second, the construct of financial health is generally thought of as multidimensional, meaning it encompasses a government's ability to meet obligations over a range of time. Critically, these different solvency dimensions are non-contingent, meaning a government's ability to meet its short-run obligations is not directly related to meeting its long-run obligations. In other words, a government can be solvent on a day-to-day basis but insolvent over a 5- or 10-year time horizon (Jimenez, 2017). By collecting additional data from audited financial statements, we can

construct variables that assess these different solvency dimensions, allowing us to differentiate the effects of state takeover on the short-, medium-, and long-run financial health of a government. Table 3 provides a list of the financial health variables we evaluate in our analysis as well as detail on their construction and interpretation.

Identification strategy and regression model

We evaluate the impact of state takeover on financial health indicators using a difference-in-differences (DD) research design. According to Angrist and Pischke (2009) and St. Clair and Cook (2015), a valid DD model must meet two assumptions. First, take-up of the treatment must be plausibly exogenous from the outcome under evaluation. This assumption is not directly verifiable and also challenging to meet in the context of this study, given that state takeover is based on the trigger of certain conditions that are likely correlated with the financial solvency measures under evaluation. One feature that works toward the benefit of our research design is the requirement that state interventions in Michigan and Pennsylvania must be initiated by the state government; local governments in these states cannot directly self-select into a takeover. The matching efforts described above were undertaken to create a counterfactual with similar economic and fiscal distress as treated units, and thus a comparable likelihood of state takeover if that intervention authority existed in their respective states. While we recognize the limitations of this approach, we also believe it is critical to relax this assumption to some degree to answer an important research question: do state takeovers meet their stated policy objective of improving local financial health?

The other key assumption of a difference-in-differences model is that the pre-intervention trends

TABLE 3 Government-wide and general fund financial health indicators.

Variable	Calculation	Explanation	Interpretation	Source
<i>a. Government-wide financial health indicators</i>				
Current Ratio	Current Assets/Current Liabilities	The balance of liabilities due within 1 year divided the assets that are likely to be liquid within 1 year. A measure of short-term solvency	Indicator ↑, Financial Health ↑	Statement of Net Position
Operating Ratio	Total Revenues/Total Expenditures	The balance of revenues coming in during a given year against total spending. A measure of medium term or budgetary solvency	Indicator ↑, Financial Health ↑	Statement of Activities
Unrestricted Net Asset Ratio	Unrestricted Net Assets/Total Expenditures	The share of uncommitted net assets relative to the size of expenditures. A measure of long-term solvency	Indicator ↑, Financial Health ↑	Statement of Net Position
Long-Term Liability Ratio	Total Liabilities/Total Assets	The balance between long term liabilities (i.e. bonds, pensions, other debt) and the total assets of the government. A measure of long-term solvency	Indicator ↓, Financial Health ↑	Statement of Net Position
Net Asset Ratio	(Unrestricted Net Assets + Restricted Net Assets)/Total Assets	The share of assets that are not associated with long-lived assets (i.e., likely feasibly liquid in the future). A measure of long-term solvency	Indicator ↑, Financial Health ↑	Statement of Net Position
Net Position	Total Assets - Total Liabilities	The balance of all assets against all liabilities. A measure of long-term solvency	Indicator ↑, Financial Health ↑	Statement of Net Position
<i>b. General fund financial health indicators</i>				
General Fund Operating Ratio	General Fund Revenues/General Fund Expenditures	The balance of revenues coming in during a given year against spending. A measure of budgetary balance	Indicator ↑, Financial Health ↑	Statement of Revenues, Expenditures, and Fund Balances
General Fund Balance Ratio	General Fund Balance/General Fund Expenditures	The share of annual general fund spending that could be met using unallocated funds in the general fund. A measure of fiscal reserves	Indicator ↑, Financial Health ↑	Statement of Revenues, Expenditures, and Fund Balances

between the treated and control units are parallel to one another. We assess this assumption by plotting each outcome variable over time, distinguishing between treated and control municipalities. We rescale the x-axis to the number of years before or after a takeover event, which corresponds to $t = 0$, to account for the staggered timing of intervention.⁴ For control municipalities, we also set $t = 0$ to the intervention year of their matched treated case. This approach effectively presumes that Huntington Park, California, would have experienced a state takeover in 2011, the same year that its match, Harrisburg, Pennsylvania, was taken over. To account for winnowing sample size in the pre-period, we bin all results in the $t = -3$ and beyond periods together. The unadjusted trends, as shown on the left side of Figure 1, raise concerns about whether the differences in the pre-intervention period trends could bias the DD estimation results for one or more outcomes.

To remedy this issue, we employ the multiple synthetic control method (SCM). The method generates a set of weights that optimize the pre-intervention trends between

treated and control units based on their characteristics over that period (Ross, 2018). To generate a valid synthetic counterfactual, the algorithm requires a donor pool to meet three criteria: (1) Donors must not have enacted a policy change like the one under study, (2) The policy change applied to treated units cannot affect the donor pool, and (3) Donors must approximate the counterfactual to treatment (McClelland & Gault, 2017). We are confident we meet each of these criteria based on the sample restrictions applied to the donor pool described above.⁵

We use Abadie et al.'s (2020) *synth* package for Stata to generate a set of synthetic counterfactual municipalities that closely mimic the pre-intervention trends of each treated unit along each outcome variable. The multiple SCM method produces a weight for each municipality in the analytical sample which we aggregate and apply in the estimation of the DD regression model specified in Equation (1) below.⁶ We present the SCM-weighted trends for each outcome variable on the right side of Figure 1. The figure demonstrates the SCM-weighted trends are a substantial improvement over the

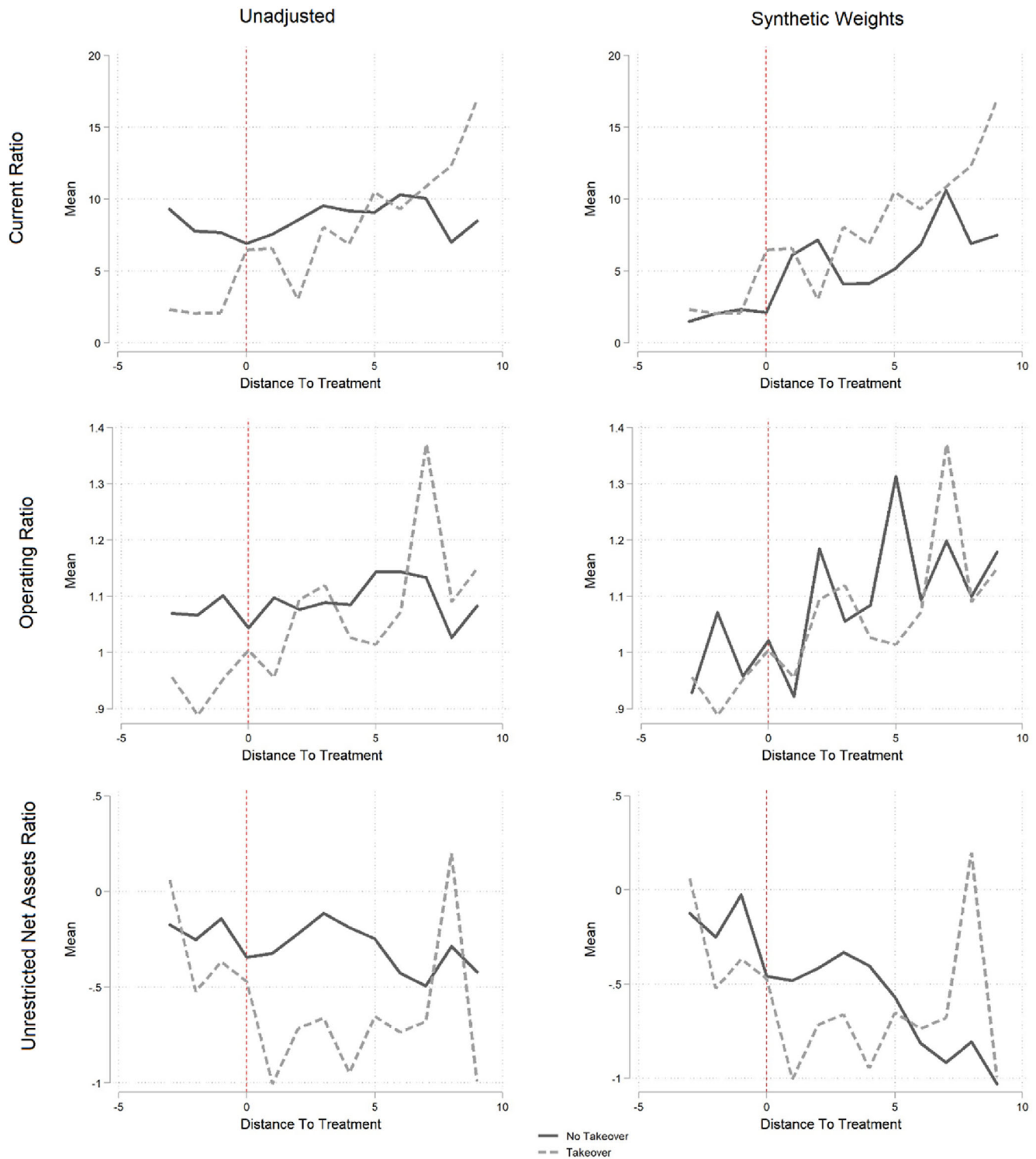
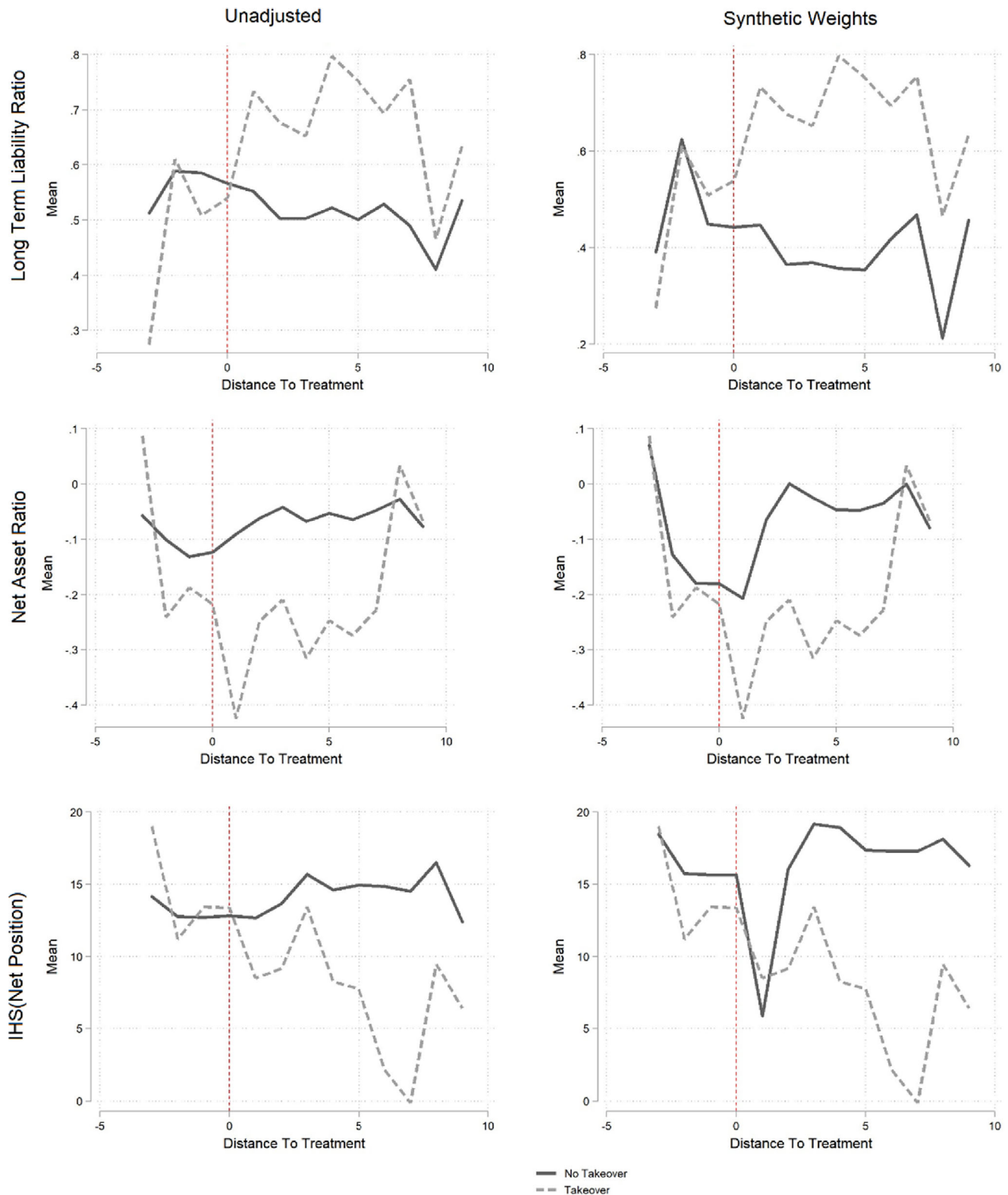


FIGURE 1 Financial Health Indicators: Treated and Matched Subsample. The dashed line corresponds to the average value of the eight municipalities that experienced a state takeover; the black line is the average of the control group identified using nearest neighbor matching. Distance to treatment = 0 corresponds to the year of state intervention in takeover municipalities and the predicted year of intervention of matched control units.

**FIGURE 1** (Continued)

unadjusted trends. However, the trends presented in Figure 1 do not capture year- or municipality-specific effects, covariates, or the dispersion of the underlying

sampling distribution. The results of the event studies reported in Appendix B provide additional evidence that the parallel trend assumption is met using SCM.⁷

Due to variation in the timing of takeover (Callaway & Sant'Anna, 2021), the staggered DD model used in this analysis is given by the following equation:

$$Y_{m,t} = \beta \text{Takeover}_{m,t} + \kappa X_{m,t} + \alpha_m + \tau_y + \epsilon_{m,t} \quad (1)$$

The model relates government financial health in municipality m at time t to the state appointment of an EFM, reflecting a state takeover. $Y_{m,t}$ is one of several measures of financial health described in Table 3. $\text{Takeover}_{m,t}$ is a binary variable that takes a value of one after a municipality experiences state takeover at time t and zero in prior periods, and β is thus the coefficient of interest as it describes the effect of state intervention on subsequent financial outcomes. The vector X contains two control variables that reflect municipal economic conditions: city population and the county unemployment rate. Finally, the model includes municipal (α_m) and year (τ_y) fixed effects, and the error term, $\epsilon_{m,t}$. We account for the staggered nature of state interventions by estimating the model using the *CSDID* package for Stata by Rios-Avila et al. (2022). All specifications are estimated with heteroskedasticity-robust standard errors clustered at the state level.

RESULTS

Baseline results: The impact of takeover on financial health

We begin with a discussion of the estimation results reported in Table 4 obtained from the DD model specified in Equation (1). We examine indicators that speak to different dimensions of solvency with the goal of determining whether state-appointed EFMs achieved improvements in local financial health relative to the synthetic counterfactual. Overall, the results suggest EFM appointments yield mixed results. The current ratio coefficient suggests that EFMs achieved improvements in their locality's ability to meet obligations due within 1 year. However, both takeover and control governments possessed

current ratios greater than one on average. Although EFMs increased the ratio of current assets to current liabilities, counterfactual municipalities still possessed current assets in excess of current liabilities. It is therefore unclear whether the change in the current ratio represents a meaningful improvement in financial health. The estimation results for both medium-term indicators (the operating ratio and unrestricted net asset ratio) are statistically indistinguishable from zero.⁸ These results imply that EFMs had a positive, but practically insignificant, effect on short-term solvency and no discernible effect on medium-term solvency relative to the synthetic counterfactual.

The analysis of long-term solvency indicators tells a different story. These three ratios reflect a government's ability to meet its obligations over the maturity of its debts or the life of long-lived assets (i.e., 5 years or longer). We observe a negative effect of takeover and a meaningful effect size on two of the three variables. First, we estimate a 0.43 standard deviation increase in the long-term liability ratio, which measures outstanding bonds, leases, and other long-term liabilities against the government's total assets. We also observe a 0.54 standard deviation decrease in net position, which reflects the balance of total assets to total liabilities.⁹ Finally, we observe a statistically insignificant decrease in the net asset ratio, which reflects the proportion of total net assets to total assets. Taken together, the results in Table 4 indicate that municipalities that received an EFM experienced a deterioration in long-term solvency relative to the synthetic counterfactual with limited improvements in short- and medium-term indicators.

The general fund

Our baseline analysis considers the impact of EFMs on government-wide financial indicators that combine general government operations (e.g., police or fire protection) with business-type activities that are intended to finance themselves (e.g., public utilities). Credit markets pay close attention to local governments' general fund balance, which reflects fiscal reserves held in the general fund

TABLE 4 Multiple synthetic control DD model estimation results: Government-wide financial health indicators.

	Current ratio	Operating ratio	Unrest. N.A. ratio	L.T. liability ratio	IHS(net position)	Net asset ratio
Takeover	3.920*** (1.25)	−0.05 (0.07)	0.025 (0.25)	0.283*** (0.09)	−6.917* (3.59)	−0.148 (0.11)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
N	498	499	499	497	500	498

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al., 2022). Estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE 5 Multiple synthetic control DD model estimation results: General fund financial health indicators.

	GF operating ratio	GF balance ratio
Takeover	0.180*** (0.04)	0.457*** (0.08)
Controls	Yes	Yes
Municipal FEs	Yes	Yes
Year FEs	Yes	Yes
N	489	489

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al., 2022). Estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

(Moody's Investor Service, 2019). We now examine general fund indicators to consider the impact of EFM appointments on the financing of local government services.

Table 5 reports the estimation results for the general fund operating ratio and the general fund balance ratio. Though neither of these indicators is a comprehensive measure of financial health, both capture components of budgetary or medium-term solvency. In both cases, we find evidence that EFMs improve budgetary solvency within the general fund. The results show that municipalities that experienced a takeover experienced a 1.29 standard deviation increase in the general fund operating ratio and that the general fund balance ratio also increased by 1.06 standard deviations. In contrast with the government-wide short- and medium-term outcomes described above, the changes in the general fund indicators are both statistically and practically significant.

Exploring mechanisms

Financial ratios are useful for assessing financial health because they show changes in the balance of resources and obligations, but they also obscure the mechanisms driving those changes. Consider the operating ratio, where an increase in the ratio implies that either expenditures fell relative to revenues, or that revenues increased relative to expenditures. Different actions can result in similar net effects on the indicator. To tease out which actions are driving shifts in the indicators, we evaluate the individual components of each ratio with the goal of learning more about why financial health improved or deteriorated following appointment of an EFM. These results appear in Appendix A.

Appendix Table A2 contains the estimation result for the current ratio shown previously in Table 5 as well as the change in its two components: current assets and current liabilities. The results show that the large increase in the current ratio is driven by an increase in current assets (+30.4%) and a decline in current liabilities (−50.1%). Appendix Table A3 shows no significant change in the operating ratio. But it also shows that both components

of the ratio experience statistically significant changes of comparable magnitude following a state takeover. These results suggest that EFMs reduce both local expenditures and revenues. This results in no statistically significant change in budgetary balance but it does indicate a pronounced reduction in the scope of governmental operations. Appendix Table A4 presents a similar breakdown of the unrestricted net asset ratio, a separate measure of medium-term solvency. The estimated change in this ratio is statistically insignificant, despite a statistically significant reduction in expenditures and an increase in unrestricted net assets.

Appendix Tables A5–A7 report the estimation results for the three long-term solvency indicators. Notably, we observe a statistically significant 9.4% decline in total assets in EFM municipalities that contributes heavily to the deterioration in long-term solvency indicators. This result is consistent with case studies by Clark and Gorina (2017) and Wang and Crosby (2019) that found sales of municipal assets were an oft-used revenue enhancement strategy by Michigan EFMs. Deterioration in long-term solvency indicators was also driven by large, but statistically insignificant changes in total (+17.6%) and long-term (+14.4%) liabilities relative to the counterfactual.

Finally, Appendix Tables A8 and A9 report the component parts of the general fund indicators. For the operating ratio, we observe a statistically significant 32.5% decline in general fund expenditures and a 14.0% decline in general fund revenues. These results suggest that EFMs achieve improvements to the general fund balance primarily by reducing expenditures. Considering the prior results showing a significant reduction in government-wide total assets, total revenues, and general fund revenue, it appears EFM-directed sales or leases of capital assets resulted in reduced business-type activity revenue from user charges. This explanation is compelling given that EFMs are not authorized to alter local tax rates or fees in Michigan.

The liquidation of public assets is also consistent with the results showing improvements to the general fund balance. Both the ratio of fund balance to expenditures and the fund balance measure show improvements. Specifically, we find that fund balance increases by 1.2 standard deviations following takeover. This result is noteworthy as the Government Finance Officers Association (2020) recommends that governments maintain at least 2 months of general fund expenditures in reserve. Distressed governments experiencing windfalls from the sale of assets have a significant incentive to grow their fiscal reserves.

Treatment effects over time

The DD results presented in Tables 4 and 5, and Appendix A report the average treatment effect of EFM appointments across the entire post-treatment period.

However, one disadvantage of this presentation is that it may obscure heterogeneous treatment effects across time. To address this and more rigorously evaluate the parallel trend assumption required for the DD models, we separately estimate several event study models. As described in Appendix B, these models can identify the treatment effect of state interventions by year. We estimate event studies for the six government-wide financial indicators and the general fund indicators. The estimation results are presented visually in Figures B1 and B2. Overall, these results are consistent with our baseline findings: the effect of EFM control is mostly null for government-wide short- and medium-term financial indicators, negative for government-wide long-term indicators, and positive for general fund indicators.

These figures also reveal that the long-term impacts of EFMs are quite durable. For instance, the current ratio, long-term liability ratio, and net position all continue to show statistically significant differences relative to the counterfactual more than 5 years after takeover. Moreover, the magnitude of those differences appears to grow over time in some cases, particularly for general fund revenues. Overall, municipalities that received EFMs show a downward trend in revenue generation relative to the counterfactual.

DISCUSSION AND CONCLUSION

This study investigates whether state interventions in distressed municipalities yield improvements in local financial health. We accomplish this by identifying municipalities that received a state-appointed EFM and comparing their short- and long-run financial outcomes to comparably distressed municipalities that retained local control. We show that municipalities under EFM control experienced expenditure reductions, particularly within the general fund. We also find strong evidence that municipalities with an EFM experienced significant reductions in long-term solvency indicators relative to counterfactual governments. This result is primarily driven by a decline in public assets. Finally, we show the changes in local fiscal outcomes are remarkably durable through the tenure of the EFM. Based on these findings, we must conclude that EFMs do not outperform the elected officials that they replace.¹⁰

This conclusion raises several important questions. First: why are EFMs unable to meaningfully alter the fiscal fortunes of the cities under their charge? One simple explanation is that the problem is not the decision maker—democratically-elected official or a state-appointed technocrat—but the context. Local fiscal distress is typically the result of long-term structural challenges. This means EFMs face the same economic headwinds or state fiscal institutions as local officials. Moreover, EFMs may also be constrained in ways that local officials are not. For instance, Michigan EFMs are

statutorily unable to raise taxes. The reduction in public assets observed in the empirical results likely reflects a revenue-seeking strategy by emergency managers.

The critical follow-up question is why do states appoint EFMs if they are no more effective than locally elected officials? Our research shows that although they do not yield discernibly improved financial outcomes, EFMs do behave differently than local elected officials. EFMs pursue austerity-oriented approaches like reductions in spending or monetizing assets. These findings are consistent with prior research on the subject. It is thus possible that states favor the strategic orientation of EFMs even if they do not result in long-term improvements.

Another possible explanation is that the motivations for EFM appointments differ from what is defined in relevant statutes. It is plausible that takeovers are not intended to protect local residents from their duly elected officials, but instead to protect residents statewide from negative fiscal externalities arising from distressed local governments. From this perspective, EFM appointments are necessary to prevent financial contagion that could harm other local governments or even the state itself (Yang, 2019). While we do not address that question directly, our findings show that EFMs favor rapid restoration of budgetary balance relative to local officials. This may reflect a preference to assuage the concerns of the municipality's creditors, as well as those of its neighbors.

This research was guided by an important normative question: are takeovers the right response to local fiscal emergencies? Our empirical findings show that the outcomes resulting from state takeovers are no better than those from the status quo of local control. Like many other state fiscal monitoring and intervention systems, takeovers typically fail to address the root economic problems of troubled municipalities. State intervention programs should instead aim to loosen local budget constraints by directing funds to troubled local governments, providing a means to reduce or remove existing debts, or allowing local governments more flexibility to borrow to support operations (Abott & Singla, 2021). Regardless, our findings also indicate that takeovers enable states to meaningfully alter the trajectory of local fiscal operations, which may be desirable under certain circumstances. Ultimately, states with the authority to intervene must carefully weigh the limited potential benefits against the loss of local accountability and control.

ENDNOTES

¹ The term "financial health" is synonymous with fiscal health or financial condition in this literature.

² We examined several EFM biographies to evaluate their technocratic expertise. All Michigan EFMs reviewed possessed significant financial management experience in the public and/or private sector and were college graduates. Most held a graduate degree in a relevant field, such as a Juris Doctor or a Master of Public Administration.

³ Pennsylvania local governments placed under state receivership have the authority to reject the receiver's recovery plan but must receive state approval for a self-prepared recovery plan in its place.

- ⁴ We also winsorize each financial health indicator to reduce the influence of outliers.
- ⁵ We were unable to apply synthetic control methods to the full GovRank sample as we lack pre-intervention fiscal data for all municipalities needed to generate a synthetic counterfactual. The GovRank sample begins in 2009, coincident with the first three state takeovers in the post-Great Recession period. We also attempted a multiple synthetic control strategy using Census of Governments data but found the resulting match quality inferior to that obtained using nearest neighbor matching. As such, we apply SCM within the restricted sample as a check of internal validity of the baseline DD results.
- ⁶ The *synth* package requires a fully balanced panel to generate weights. Any municipality with one or more missing observations is omitted from the donor pool entirely. We mitigate this issue by interpolating missing data in the pre-treatment period only for the purpose of generating SCM weights. We then apply the resulting weights to the original, unedited dataset.
- ⁷ We also estimate placebo and falsification tests using the traditional DD method to rule out other threats to internal validity. These results are presented in Appendix Table A10.
- ⁸ It is important to note that improvements in this ratio beyond a certain threshold may be undesirable. For instance, an operating ratio equal to 2.0 signals that a municipality is collecting two dollars in revenue for each dollar spent. Reducing taxes, user charges, or other sources of revenue may be preferable in this scenario even if it were to result in a decline in the locality's operating ratio.
- ⁹ We transform all financial quantity variables using the logarithmic or inverse hyperbolic sine functions to reduce skew and ease interpretation of regression estimates. Certain financial variables, such as net position, unrestricted net assets, and the general fund balance take zero or negative values which are undefined in a standard log transformation. The inverse hyperbolic sine (IHS) function approximates the log function and allows for the retention of zero and negative-valued observations.
- ¹⁰ There are several noteworthy limitations to this analysis. Though we devote considerable effort toward addressing potential threats to external and internal validity, the complex nature of this research question renders it impossible to rule out all potential confounding variables. Another significant shortcoming is that the analytical sample is composed of only 8 treated and 40 counterfactual municipalities. Although this is a large sample compared to prior research, the small number of treated observations may limit the external validity of the results.
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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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APPENDIX A: SUPPLEMENTAL MATERIALS

TABLE A1 Summary of financial emergency trigger conditions and EFM authority

	Michigan	Pennsylvania
Financial Emergency Trigger Conditions	<ol style="list-style-type: none"> 1. Missed bond or payroll payments 2. Failure to make required pension or benefit contributions or withhold required taxes 3. Accounts payable exceeds 10 percent of total annual expenditures 4. General fund deficits exceed 5 percent of budgeted revenues 5. Interfund loans between governmental funds 6. Existence of a structural operating deficit 7. Inappropriate use of governmental funds 	<ol style="list-style-type: none"> 1. Missed bond or payroll payments 2. Failure to make required pension or benefit contributions or withhold required taxes 3. A deficit of 1 percent or more in the three previous fiscal years, or deficits of 5 percent or more in the previous two fiscal years 4. The municipality sought and failed to negotiate with its creditors, or filed a Chapter 9 bankruptcy plan 5. A reduction in municipal services from the prior year because the property tax levy limit was reached
Required Financial Recovery Plan	A recovery plan must be developed by local officials or the EFM and approved by the Michigan State Treasurer	A recovery plan must be developed by local officials or the EFM and approved by the Secretary of the Department of Community and Economic Development or a state court
Permitted Personnel Changes	May break or execute new employee or union contracts unilaterally. May hire or terminate employees	May execute new employee or union contracts unilaterally but cannot alter existing employee contracts. May hire or terminate employees
Permitted Expenditure Changes	May adjust existing municipal contracts, privatize services, and restructure or consolidate departments	May adjust contracts, services, or restructure in fulfillment of the approved financial recovery plan
Permitted Revenue Changes	Cannot levy new taxes but may receive voter approval to alter existing tax instruments. May sell municipal assets and incur new debts	May alter existing tax instruments without approval but needs court approval to exceed statutory maximum rates or to levy new taxes. May sell municipal assets and incur new debts based on the approved financial recovery plan
Financial Emergency Exit Conditions	Exit is contingent on elimination of the original trigger or condition, or termination by the governor	Exit is contingent on approval from the Secretary of the Department of Community and Economic Development

Note: Adapted from Scorsone (2014), Michigan Public Act 436 of 2012, and the Pennsylvania Municipalities Financial Recovery Act of 1987 (Act 47).

TABLE A2 Multiple synthetic control DD model estimation results: Current ratio and components.

	Current ratio	Log (current assets)	Log (current liabilities)
<i>ATT estimate</i>			
Takeover	3.920*** (1.25)	0.304*** (0.09)	-0.501*** (0.13)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	498	498	499

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A3 Multiple synthetic control DD model estimation results: Operating ratio and components

	Operating ratio	Log (total revenues)	Log (total expenditures)
<i>ATT estimate</i>			
Takeover	-0.05 (0.07)	-0.276*** (0.04)	-0.284*** (0.05)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	499	499	499

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A4 Multiple synthetic control DD model estimation results: Unrestricted net asset ratio and components

	Unrest. N.A. ratio	IHS (unrest. net assets)	Log (total expenditures)
<i>ATT estimate</i>			
Takeover	0.025 (0.25)	6.846** (3.29)	−0.284*** (0.05)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	499	500	499

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A5 Multiple synthetic control DD model estimation results: Long term liability ratio and components

	LT. liability ratio	Log (LT. liabilities)	Log (total assets)
<i>ATT estimate</i>			
Takeover	0.283*** (0.09)	0.144 (0.15)	−0.094* (0.05)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	497	498	498

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A6 Multiple synthetic control DD model estimation results: Net asset ratio and components

	Net asset ratio	IHS (unrest. net assets)	Log (rest. net assets)	Log (total assets)
<i>ATT estimate</i>				
Takeover	−0.148 (0.11)	6.846** (3.29)	1.327 (1.07)	−0.094* (0.05)
Controls	Yes	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
N	498	500	501	498

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A7 Multiple synthetic control DD model estimation results: Net position and components

	IHS (net position)	Log (total Liabilities)	Log (total assets)
<i>ATT estimate</i>			
Takeover	−6.917* (3.59)	0.176 (0.14)	−0.094* (0.05)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	500	499	498

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A8 Multiple synthetic control DD model estimation results: General fund operating ratio and components

	GF operating ratio	Log (GF expend.)	Log (GF rev.)
<i>ATT estimate</i>			
Takeover	0.180*** (0.04)	−0.352*** (0.07)	−0.140*** (0.01)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	489	489	489

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A9 Multiple synthetic control DD model estimation results: General fund balance ratio and components

	GF balance ratio	Log (GF expend.)	IHS (GF balance)
<i>ATT estimate</i>			
Takeover	0.457*** (0.08)	−0.352*** (0.07)	12.159*** (2.05)
Controls	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	489	489	500

Note: Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

TABLE A10 Multiple synthetic control DD model estimation results: Falsification and placebo tests

	Personal income per capita	Current ratio	Operating ratio	Unrest. N.A. ratio	LT Liability ratio	IHS (net position)	Net asset ratio
<i>ATT estimate</i>							
Takeover	−820.64 (616.98)	−3.047 (2.43)	0.146 (0.13)	−0.243 (0.22)	0.055 (0.07)	−1.196 (2.07)	−0.067 (0.06)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipal FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	517	400	401	401	399	400	402

Note: Personal Income Per Capita is a county-level variable selected for a falsification test. The financial health indicators are estimated on a sample without the treated (i.e. takeover cities) observations. Treatment status is randomly assigned to 20 percent of the untreated sample simulate a placebo test. Null results validate the DD design. Results generated using the *CSDID* package in Stata (Rios-Avila et al. 2022). ATT estimates are the aggregate of all post-treatment effects. Standard errors are clustered by state and are reported in parenthesis. Statistical significance is indicated by *** ($p < .01$), ** ($p < .05$), * ($p < .1$).

APPENDIX B: EVENT STUDY ANALYSIS

We conduct several event study analyses to assess whether differences between treated and control municipalities in the pre-intervention period are plausible drivers of any treatment effects obtained from the difference-in-differences analyses. The event study regression specification is given by the following equation:

$$Y_{m,t} = \sum_{k=-6}^8 \beta_k \text{Takeover}_{m,t} + \kappa X_{m,t} + \alpha_m + \tau_y + \epsilon_{m,t}$$

The general syntax of this model follows from the description of Equation (1) in the main text. The notable difference is that $\sum_{k=-6}^8 \text{Takeover}_{m,t}$ represents several binary indicators corresponding to k years before and after each treated unit's state takeover or the predicted year of takeover for the matched distressed municipalities. Each of the resulting point estimates, β_k , indicate the average difference in the dependent variable between treated and control units up to 6 fiscal years prior to state intervention and up to 8 years afterward. It is important to note, however, that the average EFM

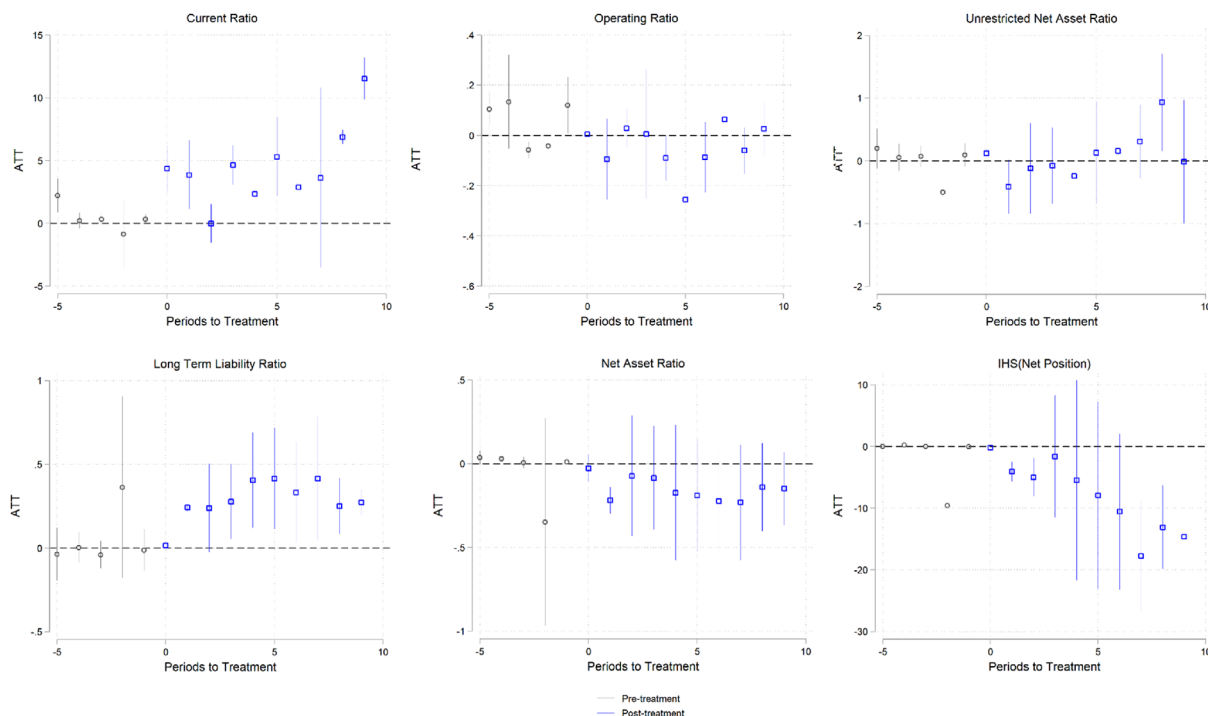


FIGURE B1 Multiple synthetic control event study estimation results: Government-wide financial health indicators. Each point in the figures above corresponds to the cohort average treatment effect generated from the *CSDID* Stata module (Rios-Avila et al., 2022). Lines correspond to the 95% confidence interval. Time = 0 corresponds to the year of state intervention in takeover municipalities and the predicted year of intervention in the matched counterfactual.

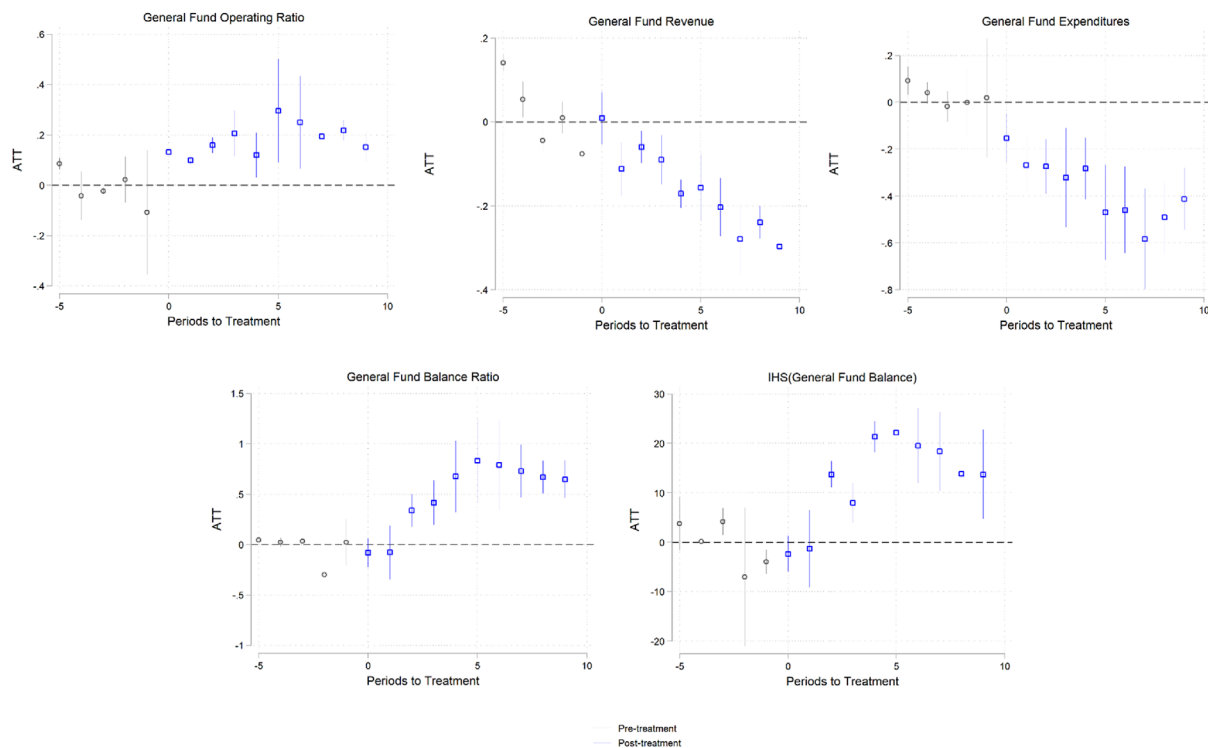


FIGURE B2 Multiple synthetic control event study estimation results: General fund financial health indicators. Each point in the figures above corresponds to the cohort average treatment effect generated from the *CSDID* Stata module (Rios-Avila et al., 2022). Lines correspond to the 95% confidence interval. Time = 0 corresponds to the year of state intervention in takeover municipalities and the predicted year of intervention in the matched counterfactual.

appointment we consider in this analysis lasted about 3.4 fiscal years.

Goodman-Bacon (2021) shows that heterogeneous treatment effects may bias estimation results of empirical analyses where the timing of the treatment varies over time. This critique is relevant to this evaluation given the staggered nature of state interventions over the study period. We address this concern by applying the cohort-specific event study estimation strategy proposed by Callaway and Sant'Anna (2021) and implemented in the *CSDID* package for Stata by Rios-Avila et al. (2022). This approach effectively generates and applies a set of weights to the event study regression model that corrects for potential bias arising from staggered treatment timing. As the other analyses in the paper, we estimate each event study model with synthetic control method (SCM) weights, local economic controls (population growth and the local unemployment rate), and robust standard errors clustered at the state level.

We report the estimation results in graphical format on the following pages. Figure B1 reports the SCM-weighted estimation results from for each of the six government-wide financial condition measures presented in Table 4 of the main text. Figure B2 similarly shows the SCM-weighted results for the two general fund indicators and their components shown in Table 5. With near uniformity, these event studies show

no significant differences between treated municipalities and the synthetic counterfactual in the pre-intervention period.

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