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Sports stadiums and local economic activity: Evidence from sales tax collections

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ABSTRACT

Though most studies find that sports stadiums are not strong drivers of economic activity in metropolitan areas, localized development effects may be sufficient to justify public subsidies for a host municipality if circumstances are favorable. This analysis examines the economic ramifications of an intra-metropolitan area relocation of Atlanta's professional baseball team from a traditional standalone downtown stadium to a new stadium-anchored mixed-use development in suburban Cobb County. Using the synthetic control method, the study employs metro-Atlanta counties to construct a counterfactual outcome for estimating changes in sales tax revenue after the ballpark opened. The findings indicate a net increase in taxable sales in the county; however, the magnitude of the effect is small and not statistically significant. Though net new spending is evident, approximately one-third of the project's sales appear to derive from crowding out other local economic activity. In total, added tax collections fall well short of covering the public subsidies provided by Cobb. The stadium's limited economic impact, despite its favorable location and ancillary mixed-use development, further supports past findings that sports venues are poor investments as economic development projects.

KEYWORDS

Local economic development; sports stadiums; sales tax revenue; economic impact; synthetic control method

Introduction

Public funding of sports venues represents a major outlay of local governments in the United States, totaling over \$30 billion and covering the majority of stadium costs since 1970 (Humphreys, 2019). Though subsidies are often justified as public investments that generate new spending that spills over onto the surrounding economy to promote local economic growth, the consensus findings of empirical studies are that the economic impacts of hosting professional sports teams are negligible (Coates, 2007, 2015; Coates & Humphreys, 2008).

Major-league professional sports teams typically operate as monopoly sellers with territorial rights over a metropolitan area, which includes multiple local government jurisdictions (e.g., cities, counties, districts) that compete for residents and economic activity through Tiebout migration. The interconnectedness of the region allows residents to transact across borders at low costs; as a consequence, local governments may seek to attract commerce and residents from neighbors to generate associated tax revenue for the municipality. Subsidizing a stadium to host the region's professional sports team represents a potential channel to attract outside spending into its jurisdiction, because of the team's larger regional market power. Thus, nonresidents may travel to the host jurisdiction to generate net new economic activity that benefits residents through economic development spillovers and added tax revenue. If gains accrue to jurisdictions that host teams, then local governments may be justified in

subsidizing sports teams to attract economic activity from neighboring areas (Matheson, 2019). Thus, intraregional impacts have important policy implications even if the overall effects for the larger area may cancel out.

A prominent interjurisdictional move occurred in Atlanta, Georgia, in 2017 when the Atlanta National League Baseball Club (ANLBC, also known as the “Atlanta Braves”) of Major League Baseball (MLB) moved its operations from its downtown stadium to a suburban business district in neighboring Cobb County. A unique attribute of the stadium is that the ballpark is part of a larger ANLBC-financed mixed-use development designed to facilitate year-round commerce even when the stadium is not hosting baseball games; thus, the project may generate greater returns than standalone stadium projects that have not been associated with positive returns on investment. County leaders justified allocating \$300 million in public funds to the stadium as a responsible economic development investment that would boost economic activity, which would translate into greater wealth and ultimately more tax revenue to fund County government and public schools. Board of Commissioners Chairman Tim Lee described the stadium as “the single greatest economic development project in the modern history of Cobb County” (Lee, 2016).

This study exploits the timing of ANLBC’s relocation to Cobb to evaluate the impact of the stadium on local economic activity using sales tax revenue, which ought to reflect interjurisdictional inflows from the greater-Atlanta area and beyond. If the stadium development has been successful in attracting spending from outside Cobb, then increased economic activity should be evident in the sales tax collections that derive from 2% of Cobb’s taxable sales. I use the synthetic control method to construct a counterfactual outcome absent the stadium to estimate the development’s impact on tax collections. The comparison indicates that sales tax revenue increased following the introduction of the stadium, which is consistent with added commerce from hosting baseball games that attracts new consumers and generates net new revenue. However, the magnitude of the contribution is small, and the post-stadium increase is not statistically different from other metro-Atlanta counties in a placebo test. Comparisons between countywide and development-specific tax collections are indicative of substantial crowding out of other local spending. In total, the estimated revenue gains from tax collections fall well short of covering the subsidies paid to construct and operate the stadium.

The remainder of this paper is organized as follows. [Section 2](#) summarizes the relevant research findings regarding the economic impact of stadiums. [Section 3](#) presents background on the stadium development, which motivates the analysis. [Section 4](#) describes the data and empirical methods, and it presents the synthetic control estimates and robustness tests. [Section 5](#) discusses the implications for understanding the impact of sports stadiums on local economic activity through interjurisdictional competition and presents a fiscal cost-benefit assessment of the project. [Section 6](#) concludes the paper with a summary and discussion of the findings.

A review of the relevant literature

Sports stadiums and economic development

Early research on the economic development impacts of sports venues focused on the economic well-being of metropolitan areas that hosted professional sports teams and events, finding little to no positive impact on citywide economic activity (Baade & Dye, 1990; Coates & Humphreys, 1999, 2003). A key finding in this literature is that observed spending on sports events represents a reallocation of local spending by residents who otherwise would have spent their income on other local goods and services. This means that while the presence of a stadium does not represent new wealth to the larger metropolitan region, localized benefits may be concentrated in sub-local areas like neighborhoods, townships, counties, etc. that host sports venues. Sub-local agglomeration effects are relevant if a sports team moving from one jurisdiction to another inside an urban conglomerate may induce consumers of the local team to cross boundaries to transfer spending from one area to another where spending may accrue to the host municipality.

Recent research has focused on localized impacts immediately surrounding sports venues, examining phenomena such as business activity (Harger et al., 2016; Propheter, 2019b, 2020a), commercial rents (Propheter, 2019a), nearby hotel activity (Chikish et al., 2019), and residential neighborhood property values (Feng & Humphreys, 2012, 2018; Humphreys & Nowak, 2017). The overall findings are mixed, with studies finding both positive and negative effects from stadiums; however, evidence of economic development effects that often motivate stadium subsidies is limited. When positive effects are identified they tend to be in businesses related to sports-focused consumption (e.g., restaurants and bars) and concentrated within close proximity to the venue. The mixed empirical findings are consistent with Humphreys and Zhou (2015), which predicts that stadiums may influence regional agglomeration by attracting new complementary businesses to generate arena districts and incentivize exit of non-complementary industries that suffer losses from game-related congestion to shrink existing consumption centers. The net impact is uncertain and is determined by individual stadium projects and host-area characteristics.

Studies of the impact of sports on local sales

Though the literature on the economic impact of sports is extensive, there has been limited study of sports' impacts on local sales and tax revenue. Existing studies fall into three classes.

The first class of studies focus largely on shocks from mega-events or individual games in cities, where such events are often associated with an influx of out-of-town patrons to examine taxable sales or tax revenue (Baade et al., 2011; Baade & Matheson, 2001; Coates, 2006; Coates & Depken, 2009). The studies identify some positive effects from big events, but the results are mixed.

The second class of studies observes sales activity during a multitude of events, across many localities, and over a long period of time to identify impacts of regular season games and big events (Baade et al., 2008; Coates & Depken, 2011). Again, the results are mixed, but, in general, the estimates identify a few positive changes during periods that feature championship games, while most events and regular season games are associated with insignificant or negative changes in tax revenue.

The third and most recent class of studies use event study designs to estimate the effect of new sports venues on impacted communities. Propheter (2014) examines the opening of Major League Soccer stadium Toyota Park on sales tax revenues in host village Bridgeview, Illinois, and surrounding municipalities, finding that sales tax revenue was not statistically related to the stadium's completion. Estimates identify increases and decreases in tax revenue in surrounding municipalities, indicating substitution effects across jurisdictions. Stitzel and Rogers (2019) finds a small positive impact of a new NBA arena in Oklahoma City on sports-related local sales that is limited to the area immediately surrounding the host venue, and has inconsistent effects that are negative in some industries. The findings are consistent with Harger et al. (2016), which finds a small positive employment effect limited to the area immediately surrounding the stadium, and only among the complementary food and beverage establishments. Overall, evidence does not support an expectation of large local sales effects from hosting sports events.

Background on Truist Park and The Battery Atlanta

In November 2013, ANLBC announced its plan to move its baseball team from its downtown Atlanta ballpark (Turner Field) to a new stadium (Truist Park) in Cobb County in a suburban Cumberland business improvement district (Cumberland CID).¹ The club announced it would break ground on a proposed \$672 million stadium as soon as a pending agreement was approved by the Cobb Board of Commissioners, and the team would move its operations and host games in Cobb by the start of the 2017 baseball regular season. The county commission formally approved a memorandum of understanding with ANLBC 2 weeks later, which committed the County to fund \$300 million in

construction costs over the next 33 years (Leslie, 2013). The County would also later contribute additional infrastructure and operational expenses related to the development that were not a part of the original agreement.

An important feature of this stadium project is that it is not a standalone development. Truist Park is part of a larger mixed-use campus known as The Battery Atlanta, which features residential, retail, commercial, and entertainment space that is owned by the team's real estate holding company. The entire Battery development—whose total initial public and private construction costs exceeded \$1 billion—was intended to be a year-round commercial hub that would support economic activity beyond the baseball season. Thus, though most standalone stadiums have failed as drivers of economic development—perhaps due to the infrequency of spectator-driven commerce and associated negative externalities on non-complementary businesses (Humphreys & Zhou, 2015)—this stadium project has the potential to have a greater impact because it included the surrounding development from its inception. Like elected officials who touted the stadium-centric development as an engine of economic development, ANLBC President and CEO of Development Mike Plant placed particular emphasis on the importance of its associated mixed-use complement that would allow it to succeed where other stadium projects have fallen short,

the tired old story pontificated by certain professors is there's been some carnage in these deals. There's no doubt and no debate to that fact. [Truist] Park, as a standalone sports venue (without the mixed-use component), like every one of these, probably cannot pencil out financially. . . . we're going to build a city and we're going to create tons of jobs, tons of density and year-round tax revenues. And that's what's going to make this whole formula set a new standard and result. (Murphy, 2019b)

An attribute of this project that makes it useful for identifying the causal effect of a sports stadium on local economic development is that its emergence is unlikely to be an endogenous outgrowth of unobserved factors. Team management first approached Cobb officials about the potential move, and Cobb was not seeking to lure the team (Murphy, 2019b). After confidential talks with the city of Atlanta to purchase land around its previous stadium proved unsuccessful, team management began to explore potential relocation options within the metro area.² While sports teams often openly threaten to move for the purpose of generating competition among localities for subsidies, the team used non-disclosure agreements to explore relocation options in secret before settling on its Cobb County location, so as to avoid backlash if the team decided to remain in its current location. The move was unexpected, because Turner Field was less than 20 years old, included amenities such as restaurants, luxury boxes, and club seating that are hallmarks of modern ballparks, and it had received recent capital improvements: all of which indicated that the team planned to remain at Turner Field long term.

Thus, there is no evidence to suggest that Cobb officials constructed the stadium to address anticipated economic circumstances that might impact future sales tax revenue, which is the outcome of interest for this analysis. Truist Park's origin is as close to an exogenous development shock that can be observed in stadium construction.

A comparative case study of metro-Atlanta counties

Synthetic control method

The synthetic control method was developed by Abadie and Gardeazabal (2003) and furthered Abadie et al. (2010, 2015) for the purpose of conducting comparative case studies to evaluate a policy intervention, event, exposure, etc. experienced by one or a few subjects among several similar units on an outcome of interest. Abadie (2021) provides a thorough exposition of the method and practical guide for its application.

The synthetic control method exploits co-movement between common variables in similar observational units identified as influential in determining the outcome of interest before an intervention/treatment to estimate a synthetic control from the weighted average of untreated donor units. The

counterfactual synthetic control outcome is generated from the evolution of common factors in the untreated donor units to reflect the outcome the treated unit likely would have experienced absent the intervention. Donor weights are selected by a formalized data-driven procedure involving co-movement among relevant covariates, which serve as matching variables, to select the donors that best resemble the pre-intervention means of the treated unit as a predictor of the outcome. The procedure assigns weights to minimize the root mean squared prediction error (RMSPE) of the treated unit's outcomes during the pre-treatment period, so as to best reproduce how the outcome would have evolved absent the intervention. Because the weights are selected using observations during the pre-intervention period, post-intervention deviations from the expected trajectory of the synthetic control are indicative of a causal relationship between the treatment and the outcome.

The synthetic control method has grown in prominence as an empirical tool for evaluating policy. Athey and Imbens (2017) describes the synthetic control method as “arguably the most important innovation in the policy evaluation literature in the last 15 years” (p. 9). Its popularity reflects its ability to identify causal effects of policy interventions among a small sample of polities (countries, states, counties, school districts, etc.) and the availability of computer programs that implement standardized and objective routines to construct the counterfactual estimates (Abadie et al., 2011). Synthetic control comparisons have been used to examine responses to a variety of real-world interventions such as the migration of elite soccer players to Spain in response to a favorable tax law (Kleven et al., 2013), economic performance of Venezuela under Hugo Chavez (Grier & Maynard, 2016), and decriminalization of sex work in Rhode Island on sexual violence and public health (Cunningham & Shah, 2018).

In particular, economists have employed the synthetic control method to examine impacts of sports events and venues on surrounding communities. Islam (2019) examines the impact of cities being awarded NFL football teams on local employment and finds no effect. Pyun (2019) examines the impact of an MLB team relocated to Washington, DC, on local crime and identifies increased assaults. Propher (2020b) examines the impact of a new NBA basketball arena on building permits issued in nearby census tracts and finds the stadium had no effect on permit activity. Johnson (2021) examines the impacts of three Olympic Games in U.S. host counties and finds mixed employment effects of different Olympics; though in all cases, employment changes were short lived.

Most relevant to this analysis, two studies have used the synthetic control method to examine Truist Park's development effects on Cobb property values. Bradbury (2022a) finds no positive impact of the development on nearby commercial property values, relative to other metro-Atlanta business improvement districts. Bradbury (2022b) similarly finds no effect from the stadium's announcement or opening on countywide property values, relative to other metro area counties. In total, the findings are not suggestive of positive economic or social benefits spillovers on county residents; however, it remains possible that an effect may manifest through increased sales that is not evident in property assessments.

The synthetic control method is well-suited for measuring the impact of the Truist Park development on Cobb County sales tax revenue. Cobb County is one of 29 Georgia counties that constitute the Atlanta Metropolitan Statistical Area (MSA), and the stadium is situated just across the Atlanta/Fulton County border. Thus, Cobb's post-stadium economic performance can be compared to a synthetic control generated from suburban Atlanta counties that did not receive the stadium intervention, but whose economic fortunes are similar to Cobb's and thus can be exploited for estimating a trajectory of sales tax revenue growth in Cobb absent the stadium. Georgia's plethora of 159 counties has previously proved useful for examining economic impacts of sports venues for researchers. A series of papers have examined the employment effects in Georgia counties from Atlanta hosting the 1996 Summer Olympic Games, with Hotchkiss et al. (2003), (2015) finding positive employment effects that persist, while Feddersen and Maennig (2013a, 2013b) offer less sanguine assessments.

Data and sample

I use sales tax revenue per capita as the outcome of interest for measuring economic activity through taxable sales. Several previous studies have used sales tax collections to measure the economic impact of sports venues and events, which find little to no positive impacts of most events on local sales tax revenue (Coates, 2006; Coates & Depken, 2009, 2011; Propheter, 2014). Synthetic control donor weights sum to one; therefore, data must be normalized by population to correct for size differences between counties (Abadie, 2021). Revenue from sales tax collections captures economic activity that may stem from purchases relating to the new ballpark and associated activity. This includes game attendance as well as any indirect or induced effects generated within the county. Sales tax revenue is also directly relevant to the return on investment calculation as to whether this project generates sufficient return to justify the public subsidies it receives.

Georgia assesses sales taxes on the retail sales price of most tangible personal property and certain services. In all counties, sellers remit all tax revenue from sales of the same tax base of eligible goods and services to the state, which levies its own 4% sales tax, and local jurisdictions have the option to levy limited additional sales taxes for specific purposes. Total sales tax rates range from 6 to 8% among Atlanta MSA counties. Georgia Department of Revenue then distributes the local share of revenue back to jurisdictions on a monthly basis, and the agency posts its disbursements on its website.³ Monthly disbursements primarily derive from retail sales during the previous month; thus, monthly tax revenue collected in month m is recorded when it is returned to the county in the following month's disbursement ($m + 1$).⁴ After assigning monthly revenue collections from the leading months' distributions, I aggregate all data into quarters to smooth reporting fluctuations, while capturing economic seasonality. The noise of monthly comparisons increases prediction error and makes visual comparisons common in synthetic control method evaluation more difficult.⁵ Another attribute of quarterly data is that the second and third quarters almost exactly overlap with baseball's regular season, when Cobb County ought to experience its largest changes in tax revenues associated with hosting baseball games.⁶

I use the following matching variables to select donors among all Atlanta MSA counties to generate the synthetic Cobb control. The log of income per capita proxies the wealth of the population, which is expected to be positively associated with taxable sales. The sales tax rate directly affects sales tax revenue a county can raise, and sales tax rates are used in other studies of sports stadiums and events on sales tax collections (Coates & Depken, 2011; Coates & Humphreys, 2008; Propheter, 2014). Population density proxies the urban environment, and land area captures size of the county which affects the costs of government administration of services. I use distance of the county seat from Turner Field, which is a central location in downtown Atlanta, to account for the suburban nature of the county.⁷ As is common in synthetic control estimates, I include pre-intervention lags of the outcome variable sales tax revenue per capita to account for omitted factors that are correlated with county attributes that influence tax collections. I include outcome lags of the average of all first quarters across all years, to establish an average effect for each county, as well as sales tax revenue per capita during the first (2010), middle (2013), and last (2016) full pre-intervention years to account for the progression in tax collections over time.

Donor units are selected from Atlanta's 28 other MSA counties, as they possess similar characteristics of the metro-Atlanta region that ought to reflect the trajectory of sales tax revenue in Cobb. However, the donor pool must be reduced to 23 counties due to experiencing post-stadium shocks. The most obvious exclusion is Fulton County, which received the inverse treatment by hosting the MLB team during the pre-treatment period and not hosting the team during the treatment period. DeKalb, Fayette, Haralson, and Morgan counties increased their tax rates during the post-treatment period which generates exogenous increases in tax revenue for those counties that make the counties unsuitable donors.⁸

The treatment period is defined by the opening of the stadium development. Truist Park's first event was an exhibition baseball game on March 31, 2017, which was restricted to season-ticket holders. The stadium first opened to the general public on April 8 to host a college baseball game. Truist Park hosted its first regular-season MLB game on April 14, and the club played all 81 of its regular-season games at the park. Construction continued up until the park opened, and restaurants and stores in The Battery development opened gradually throughout the season. The ancillary development opened at 20% of its full capacity and was 50% operational by the end of 2017 (Gargis, 2017a). While the Battery has experienced some additional growth over time, which is typical among mixed-use development projects, the development approached operational capacity by the start of 2018. Reported revenues indicate that the stadium contributes approximately 80% of the entire development's income, which was fully operational upon opening in 2017.⁹ Thus, I identify the second quarter of 2017 as the beginning of the treatment period. Sales tax revenue was unlikely to be impacted by anticipatory spending, because the campus did not open until April (Tucker, 2017).

The sample is constrained to 2010 and 2019 by upper and lower bounds. In 2009, Georgia adjusted how it administers and reports tax disbursements to counties, parsing monthly distributions by collections and adjustments. 2010 is the first full year in which tax disbursements that represent monthly collections are available by county. The end of the sample is bounded by the COVID-19 pandemic, which postponed the 2020 MLB season until July and truncated the regular season to 60 games. Furthermore, fans were not permitted to attend games during the season, thus the economic activity at The Battery was limited. During the 2021 season, game attendance was restricted below stadium capacity until May. Thus, the 40 quarters from 2010 to 2019 represent the maximum available sample to examine, which provides a pre-treatment period of 29 quarters and 11 quarters of treatment observations.

Results

Figure 1 is a map of metro-Atlanta counties, which identifies counties included as controls and selected as donors for the synthetic control. Cobb lies along the northwest Interstate 75 corridor between Atlanta and Chattanooga, Tennessee, and just includes the Interstate 285 outer beltway. Truist Park lies at the junction of Interstate 75 and Interstate 285.

Table 1 reports the donor weights for the selected counties, which conform to expectation. Gwinnett is the county with the greatest weight, which is not surprising considering it is almost the mirror image of Cobb geographically and is similar in many other respects. Gwinnett lies along the northeast Interstate 85 corridor between Atlanta and Charlotte, North Carolina, just outside Atlanta's Interstate 285 outer beltway. Henry and Clayton are suburban counties situated immediately outside the outer beltway on the south side of Atlanta. Barrow, Forsyth, Pike, and Rockdale are more distant and rural counties that host significant commuter populations. All donors reflect Cobb's mixture of suburban and rural economic environment that are connected to Atlanta's urban core; thus, they appear to be appropriate selections and weighted in a reasonable manner.

Table 2 reports the pre-treatment means for Cobb, synthetic Cobb, and all control counties in the donor pool. The synthetic control means generated from the donor weights are similar to Cobb's observed means and are much closer to observed values than the unweighted means of all control counties. The pre-treatment RMSPE of 0.74 is small in comparison to Cobb's pre-treatment average of \$90 per capita.

Figure 2 maps the observed and synthetic Cobb sales tax revenue before and after the opening of the baseball stadium. Actual and synthetic Cobb move closely together throughout the period; however, the difference increases after Truist Park opened. The mean post-treatment predicted gap is 0.99 per quarter; however, the gaps differ within and outside the baseball season. The mean post-treatment gap is \$1.45 in quarters during the baseball season and \$0.44 otherwise (Table 3). This difference is

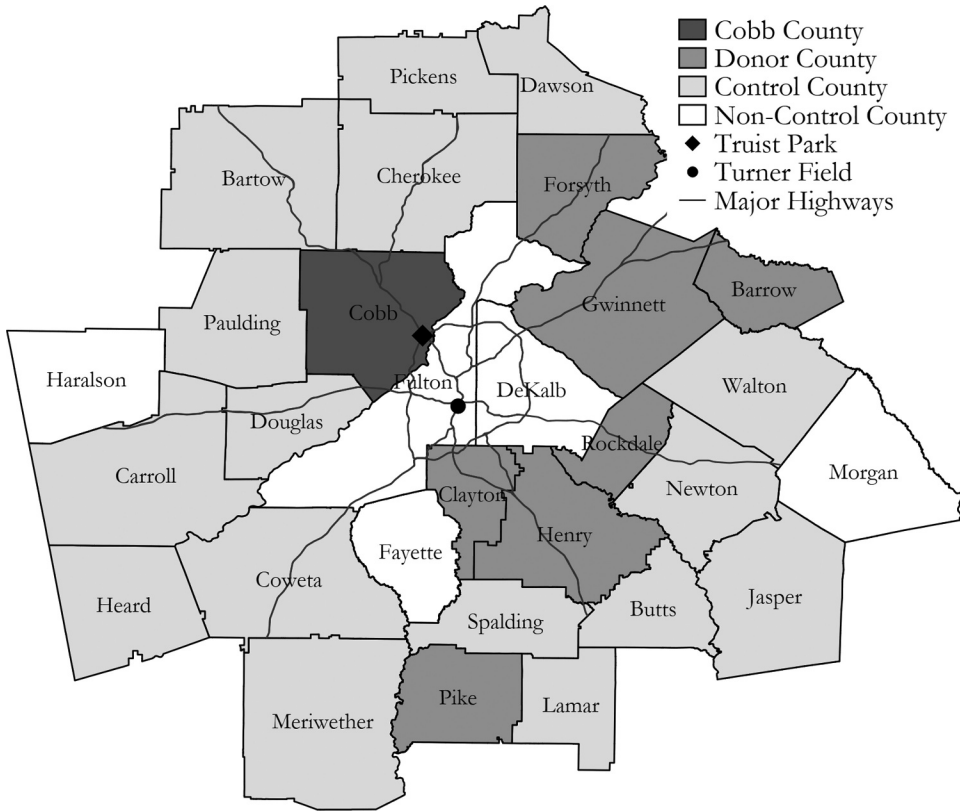


Figure 1. Map of metropolitan Atlanta counties.

Table 1. Control county donor weights.

County	Weight	County	Weight
Barrow	0.146	Haralson*	-
Bartow	0	Heard	0
Butts	0	Henry	0.117
Carroll	0	Jasper	0
Cherokee	0	Lamar	0
Clayton	0.080	Meriwether	0
Coweta	0	Morgan*	-
Dawson	0	Newton	0
DeKalb*	-	Paulding	0
Douglas	0	Pickens	0
Fayette*	-	Pike	0.017
Forsyth	0.057	Rockdale	0.002
Fulton†	-	Spalding	0
Gwinnett	0.581	Walton	0

Weights reflect the relative contribution each donor county contributes to synthetic Cobb. Donor pool of control counties includes all Atlanta MSA counties except counties experiencing a post-treatment sales tax increase (*) or the inverse treatment (†).

consistent with increased economic activity during the baseball season and offers evidence of Cobb attracting additional spending associated with baseball games. This spending includes new consumers from outside the county as well as import substitution from existing Cobb residents who increase in-county consumption rather than spending outside the county (e.g., attending a baseball game in Fulton County).

Table 2. Pre-treatment variable means.

Variables	Cobb County		All
	Actual	Synthetic	Control Counties
Ln (Income per capita)	\$10.75	\$10.44	\$10.40
Sales Tax Rate	6.00%	6.44%	6.91%
Population Density (population/square miles)	2,087	1,478	452
Land Area (square miles)	344	345	298
Distance from Turner Field (miles from county seat)	18.00	28.53	37.13
Sales Tax Revenue per capita (1 st Q, 2010–2016)	\$87.00	\$86.99	\$101.15
Sales Tax Revenue per capita (2010)	\$90.09	\$90.08	\$110.05
Sales Tax Revenue per capita (2013)	\$89.31	\$89.31	\$102.63
Sales Tax Revenue per capita (2016)	\$93.38	\$93.36	\$103.78
Pre-Treatment RMSPE	0.74		

Variable means for pre-treatment period (2010q1–2017q1), except for sales tax revenue per capita, which report mean of years noted in parentheses.

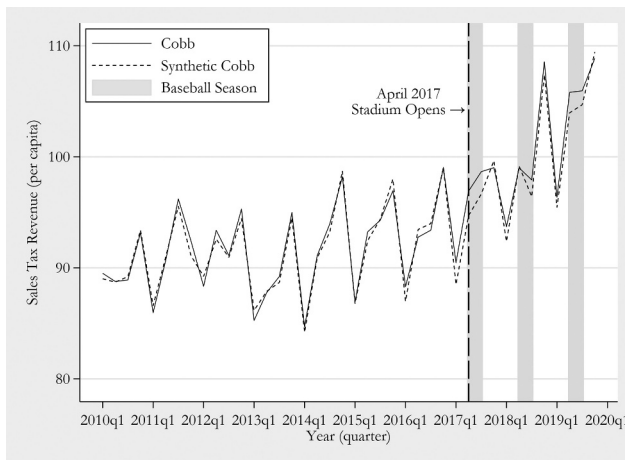


Figure 2. Observed and synthetic Cobb County quarterly sales tax revenue (per capita), 2010–2019. Trends indicate a small increase in sales tax revenue following the stadium opening.

Table 3. Estimated change in sales tax revenue.

Estimate	
Post-Treatment Gap (All quarters)	\$0.99
Post-Treatment Gap (Baseball season)	\$1.45
Post-Treatment Gap (Offseason)	\$0.44
Cobb Post/Pre-Treatment RMSPE Ratio	1.86
<i>P-value</i>	0.38

Post-treatment gap is the difference between observed and synthetic Cobb tax revenue per capita following the stadium opening. Post/pre-treatment RMSPE ratio reflects Cobb’s relative difference in prediction error after and before the stadium opened. The p-value reflects its insignificance among a permutation distribution of ratios from a placebo test that includes all control counties.

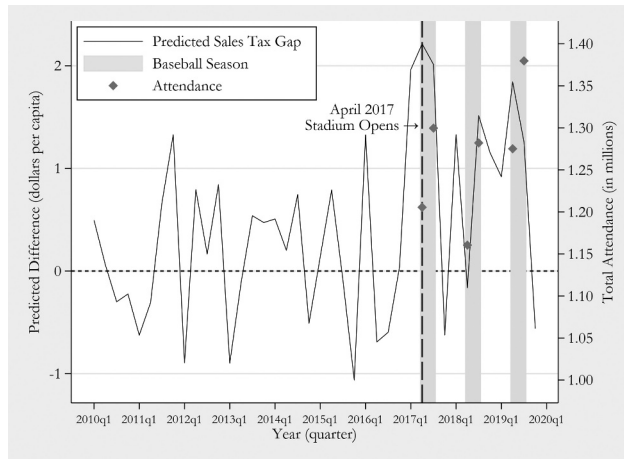


Figure 3. Predicted gap in Cobb County quarterly sales tax revenue (per capita), 2010–2019. Predicted gap between observed and synthetic Cobb is slightly larger after the stadium opens. The mean predicted gap is larger during the baseball season but is not strongly correlated with game attendance ($r = 0.12$).

Figure 3 maps the predicted gap to highlight the disparity between actual tax collections and the synthetic control estimates. It includes a second y-axis to report home total game attendance during the quarter of the baseball season to observe if the gap is greater when more fans attended games, which might be expected if spectators drive local purchases. There does not appear to be an obvious relationship between attendance and the predicted gap for tax revenue, as the correlation between the predicted gap and attendance is weak ($r = 0.12$).

While the positive predicted gap indicates an increase in sales tax revenue following the stadium opening, the mean quarterly gap translates to \$3.96 in increased per capita tax revenue annually, which is small. I discuss this difference further, and what it means for the return on investment to the County, in Section 5. The small magnitude also indicates that the impact may not be statistically significant and bears further scrutiny with robustness testing.

Robustness

A potential weakness of the synthetic control method is that comparing the observed outcome to a hypothetical outcome is limited by the quality of the estimated counterfactual. If the method for generating the synthetic control is flawed and generates bias, then the comparison will be misleading. Because the true counterfactual is unobservable by nature, drawing inferences from the synthetic control method requires conducting falsification tests using placebo studies and sensitivity analysis to establish the robustness of the estimates.

In-space placebo

Assigning placebo treatments to the sample, where the intervention was absent, helps establish confidence in the synthetic control comparison. The most common placebo test reported in synthetic control method studies is the in-space placebo test, in which placebo treatments are reassigned to all other control units in the donor pool in separate estimations. In this case, the placebo treatment assumes that the Truist Park development was constructed in one of the control counties available for selection from the donor pool instead of Cobb. If the stadium has a real impact on sales tax revenue, then the treatment effect should be larger in Cobb than estimates of placebo treatments assigned to counties that did not receive a stadium. An attribute of this test is that it creates a distribution of placebo effects which can be used for hypothesis testing by ranking the post/pre-treatment RMSPEs ratios of the control units. An extreme ratio

in Cobb among control counties would indicate a deviation associated with the stadium and thus a treatment effect. The ratios of the treated and placebo-treated units are evaluated using a p-value, which is interpreted as the probability of estimating a ratio that is at least as large as the ratio observed for the treated unit when the treatment is randomly assigned to all units (Abadie et al., 2015).

Figure 4 plots the ratios for all the counties included in the donor pool. Cobb’s post/pre-treatment RMSPE ratio of 1.86 does not stand out among counties: it is ranked ninth in a permutation distribution of ratios for all counties, which produces an insignificant p-value of 0.38 (see, Table 3). Though the synthetic control method estimates a small positive increase in sales tax revenue following the stadium opening, the divergence is not statistically significant among counties. Thus, even though Cobb may have experienced increased sales tax collections following the stadium opening, the in-space placebo test indicates that its impact was not extreme among metro-Atlanta counties in the donor pool.

Figure 5 further illustrates Cobb’s unremarkable experience with a simple comparison between Cobb and the mean per capita sales tax revenue for all Atlanta MSA counties and selected donors (unweighted) during the sample period. On average, all Atlanta counties experienced increased tax revenue during the post-treatment period, and Cobb’s sales tax collections did not grow at a rate that was extraordinary among area counties.

In-time placebo

Another concern is that the estimates may be flawed because the timing of the treatment affects how the model projects the post-treatment trajectory of the synthetic control. Abadie et al. (2015) suggests assigning a placebo timing of the treatment as a falsification test. If assigning an alternate treatment period that precedes the intervention provides a similar or larger divergence immediately after the placebo treatment than estimates generated using the actual intervention, then confidence in the estimate will be lessened as it indicates the divergence may be a product of the estimation procedure itself rather than the intervention.

I conduct an in-time placebo test of Truist Park on Cobb sales tax revenue by assigning the placebo treatment beginning at second quarter 2014, which is twelve quarters before the stadium opened. 2014 is roughly halfway between the start of the sample and the opening of the stadium. I begin the treatment in the second quarter to mimic the seasonality of the true intervention. I use the same matching variables prior to the placebo treatment date, with the adjustments of using pre-treatment

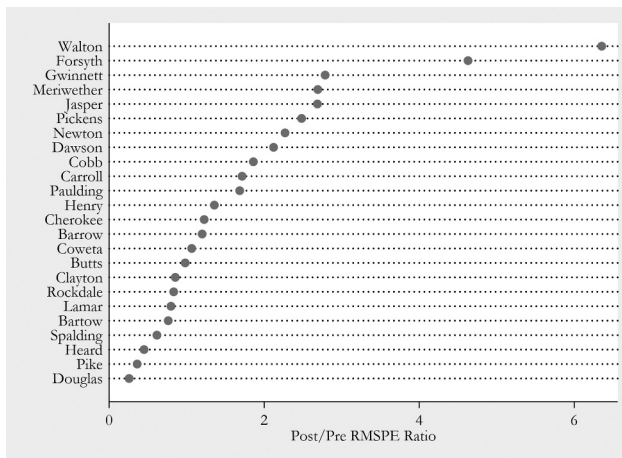


Figure 4. Post/Pre RMSPE Ratios from In-Space Placebo Test. Cobb’s post/pre-treatment ratio is not relatively large among control counties, which is not indicative of a significant stadium treatment effect.

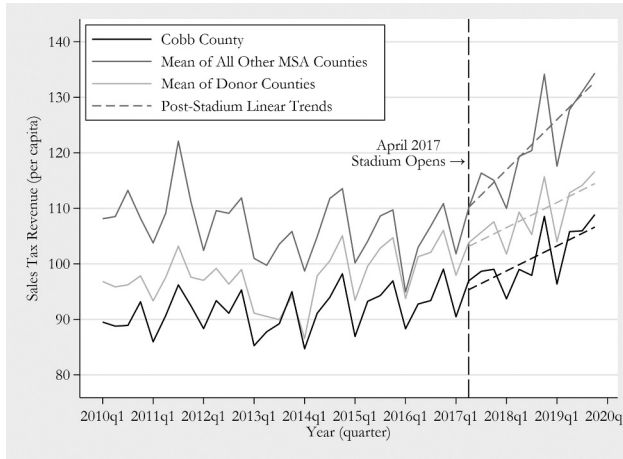


Figure 5. Atlanta MSA counties quarterly sales tax revenue (per capita), 2010–2019. Cobb sales tax revenue changes are congruent with Atlanta MSA counties, and its post-stadium growth is similar.

outcome lags for the means of first quarters of 2010 to 2013, 2010 (first sample year) and 2013 (last pre-treatment year). A predicted gap between actual and synthetic Cobb sales tax revenue that diverges greatly before the introduction of the stadium would lower confidence in the synthetic control as a counterfactual.

Figure 6 maps actual and synthetic Cobb sales tax revenues using the alternate 2014 placebo treatment. The pre-treatment RMSPE of 0.79 is similar to the non-placebo RMSPE of 0.74. The comparison also shows the prediction gap remains narrow (-0.34) between the placebo treatment and actual treatment (2014q2 to 2017q1) before widening following the actual treatment. The small divergence prior to the stadium intervention during the placebo treatment period indicates that the model is able to reproduce the trajectory of Cobb’s sales tax revenue, which supports the validity of the predictive power of the model for generating the synthetic control. The placebo-estimated prediction

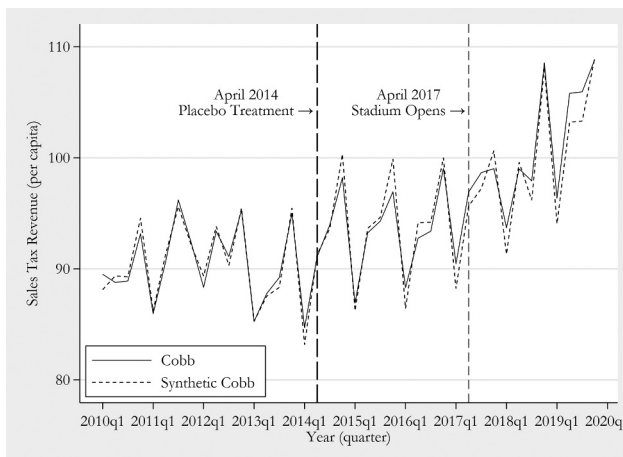


Figure 6. In-time alternate placebo treatment. Trends in sales tax revenue per capita observed in Cobb and a synthetic Cobb constructed from pre-2014q2 means are similar during the pre-stadium-treatment period following the placebo treatment. The trends diverge to generate a positive predicted gap following the stadium opening, which is similar to the predicted gap estimated using the true treatment timing.

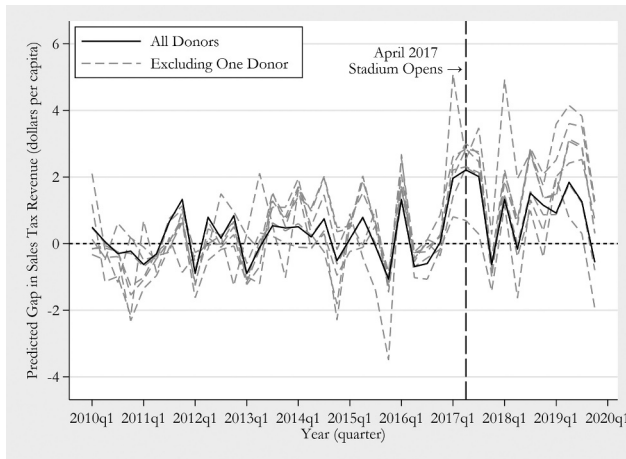


Figure 7. Alternate Donor Predicted Gap Comparisons. Predicted gaps from synthetic controls that exclude selected donors from the donor pool of control counties are similar to the predicted gap estimated by the selected donors.

gap during the actual treatment period is 1.12, which is similar to the 0.99 gap estimated using the true treatment timing. The consistency in the divergence timing suggests that the predicted gap estimated using the correct treatment timing (reported in Figures 2 and 3) reflects the impact of the stadium.

Alternate donors

Another potential problem is that the synthetic control may be unduly influenced by particular control units selected as donors. Perhaps an unidentified shock or unobservable factors in a heavily-weighted donor county that would not be relevant to Cobb is driving the predicted gap. To address this possibility, Abadie et al. (2015) proposes a leave-one-out reanalysis, in which selected donors are removed from the donor pool in turn, and then re-estimating a series of alternate synthetic controls without each donor. While the estimates will be less precise than the synthetic control generated using the complete donor pool, the alternate estimates provide a robustness check on the undue influence that might be generated by the weighting of particular donor units.

Figure 7 maps the predicted gaps of alternate donor pools that exclude each county that was selected as a donor from the original donor pool. The gaps are similar across the groups with excluded donors, which indicates that it is unlikely any one county is unduly influencing the synthetic control. Table 4 reports the post-treatment gaps for the models by excluded donor. The post-treatment gaps are all positive, and though their average is higher, the gaps lie above and below in the original model’s synthetic control predicted gap. Thus, the small positive predicted gap appears robust to the choice of donors selected from the donor pool.

Table 4. Predicted gaps when excluding county donors.

Donor County Omitted	Original Donor Weight	Post-Treatment Mean Gap
Gwinnett	0.581	0.77
Barrow	0.146	1.68
Henry	0.117	2.15
Clayton	0.080	2.77
Forsyth	0.057	1.80
Pike	0.017	0.98
Rockdale	0.002	0.60
Mean		1.54
Original Donor Pool		0.99

Original donor weight reports relative weight county contributes to synthetic Cobb in original estimate. Post-treatment mean gap is the mean predicted gap estimated from a synthetic control when the county is excluded from the donor pool of control counties.

Implications

The impact of sports on local sales

The estimated positive impact of Cobb's stadium development on sales tax revenue is somewhat novel in that it identifies a positive effect from hosting regular season professional baseball games, which may reflect the stadium's unique advantages of its border-proximate location and ancillary mixed-use development. However, though the timing is consistent with increases deriving from spectator consumption, the estimated magnitude is small and is not statistically significant. Thus, this study's findings are largely consistent with past studies that find limited positive impacts of sports events on local sales (discussed in [Section 2](#)), and there is little evidence to suggest that professional sports teams or new stadiums stimulate significant economic activity to generate additional tax revenue for host municipalities, even under favorable circumstances.

Interjurisdictional transfers and local crowding out

Even though the difference between observed and counterfactual sales tax revenue estimates does not reach a standard threshold of statistical significance in the in-space placebo test, the gap provides a reasonable estimate of added revenue for the purpose of back-of-the-envelope calculations for evaluating the project. [Table 3](#) reports that Cobb experienced roughly \$1 per person in increased tax revenue per quarter. At \$4 per year for Cobb's population of 760,000, the project has resulted in approximately \$3 million per year in added tax revenue. Cobb's sales tax rate of 2% implies that \$3 million of tax revenue derives from \$150 million in added taxable sales, which represents approximately 1% of Cobb's average annual total taxable sales from 2017 to 2019. Thus, Cobb may have experienced increased spending from non-local resident spending in Cobb from the stadium development and retained otherwise forgone spending by local Cobb residents; although, the gains are small relative to typical county sales.

In annual reviews presented during Cobb Board of Commissioner meetings, the County reports that Cobb collected an annual average of \$4.6 million in local sales tax revenue (total for County government and public schools) directly from The Battery from 2017 to 2019 (Cobb County Board of Commissioners, [2018](#), [2019](#), [2020](#)). However, these assessments do not consider any crowding out of local economic activity from the development. If the development was responsible for \$3 million in increased tax revenue during this time, then it indicates that roughly one-third of the taxable spending at The Battery derived from crowding out of previous local spending in Cobb, as local consumers reallocated spending from other Cobb merchants to the stadium development.

It is expected that county residents would patronize the new local development at the opportunity cost of existing local businesses. Crowding out is consistent with previous findings on the economic impact of sports on local economies. [Coates and Humphreys \(2003\)](#) finds that professional sports teams are associated with increased earnings for amusement and recreation workers that are offset by decreased earning in other competing sectors like restaurants, bars, and hotels, which are often assumed to complement sports events. [Stitzel and Rogers \(2019\)](#) identifies differing impacts on sports-related businesses near Oklahoma City's NBA arena, with some positive impacts on nearby food and beverage establishments, but entertainment activities are associated with sales declines consistent with a substitution effect.¹⁰

Evidence of crowding out demonstrates that treating granular direct revenue from the development project as net new revenue is misleading ([Wassmer et al., 2016](#)). While much of the spending at the development derives net new spending from outside the jurisdiction, it also includes a substantial transfer of local business activity that has been diminished by the development. \$4.6 million from The Battery is not a pure windfall of sales tax revenue to Cobb residents. The limited impact on local sales measured through sales tax collections suggests that development multipliers from the stadium are likely small, and certainly no greater than other potential public investments (e.g., infrastructure, public services, etc.).

Fiscal cost-benefit analysis

Board of Commissioners Chairman Tim Lee, who facilitated the deal that brought baseball to Cobb, borrowed the baseball analogy of a “grand slam home run” to describe the development as an investment “that’s going to more than pay back that \$300 million and everything else long before the 30 years is up” (Klepal, 2013; Murphy, 2020). In an early review of the project’s financial impact, Commissioner Bob Ott stated: “The ballpark and development have made Cobb County and the Cumberland CID one of the Southeast’s top economic development destinations. The tax data from 2017 is further proof that [Truist] Park and The Battery Atlanta are delivering a remarkable return on the joint investment with Cobb County and is trending in the right direction to yield continued benefits for our community” (Ott, 2018). In particular, Ott has highlighted the strong returns through sales taxes, “There’s been so much emphasis based on the general fund and all that, and really, there has not been a lot of discussion about the sales tax, and it’s some serious dollars” (Gargis, 2019). Lee’s successor as Chairman Mike Boyce emphasized the importance of sales tax revenue the project was generating for the County, “I’ve become a huge fan of two-fisted drinkers. Those aren’t beer cups, those are SPLOST cups. I’m also a huge fan of \$10 hot dogs, because that’s SPLOST money coming into this county to do great things.” (Around Town, 2017). Sales tax revenue estimates presented in this study do not support these rosy declarations from government leaders.

Cobb’s sales tax revenue derives from its share of two 1% local option sales taxes which separately fund County operations and public schools. Roughly half of the collected sales tax revenue goes to the County SPLOST and the other half to Cobb’s public school systems (ELOST).¹¹ SPLOST funds are restricted to capital projects on a pre-determined list of funding requests, which does not include the ballpark, and must be approved by referendum. Though sales tax revenue cannot be used directly to finance Cobb County’s stadium debt, the added revenue may represent new wealth to fund government projects and may permit reallocation of general fund projects or other tax reductions.¹² Increased sales tax collections would permit additional capital projects for the County and public schools that would otherwise not be funded or allow elected leaders to lower taxes to residents.

Table 5 presents official County budget figures for the stadium. The County’s annual stadium-related funding obligations for debt service, maintenance, and operations are approximately \$24.8 million per year during a full year of operation—Cobb operates with an October 1 to September 30 fiscal year, and thus 2017 is partial. ANLBC pays \$6.1 million in annual rent, and the remaining \$18.7 million is funded from the general property tax fund, countywide hotel and car rental taxes, and two special service district taxes assessed in the Cumberland area.¹³ These taxes represent diverted funds that the County government or school system could use to fund other projects, or they might otherwise not be assessed on Cobb residents. The County’s \$1.5 million share of the added \$3 million in sales tax revenue is insufficient to replace obligations funded from existing taxes used to fund the stadium.

Tax revenue generated directly from the development also provides information on its contribution to County revenue. Table 6 reports all revenue that Truist Park and The Battery contribute directly to the County for funding the project. In addition to its rent, ANLBC remits another \$6 million in taxes and fees, generating an average of a little more than \$12 million per year for the County, in total. When discounting tax revenue by one-third to account for crowding out, the total contribution falls to approximately \$10 million. Thus, all tax revenue induced by the stadium covers approximately 40% of the cost to the County.

These estimates do not include any external “halo” effects that the stadium might have on generating increased property assessments to garner greater property tax revenue, which has been touted by project boosters. However, estimates in other studies do not identify any positive impact of the development on countywide or nearby commercial property values to fill the sizable funding gap through property tax revenue (Bradbury, 2022a, 2022b). It total, based on return on investment, the stadium does not pass a financial cost-benefit test, as the funds needed to cover the County’s obligations far exceed the additional sales tax revenue that the synthetic control comparison estimates have been generated.

Table 5. Cobb County Trusti Park funding, 2017–2019.

	2017	2018	2019
<i>Revenue</i>			
Cumberland Special Service District 1 (Hotel)	\$3,057,736	\$2,534,130	\$2,200,000
Cumberland Special Service District (Property)	\$5,319,413	\$5,150,000	\$6,470,000
County Hotel Tax	\$2,098,525	\$2,742,242	\$3,027,943
Car Rental Tax	\$514,908	\$656,603	\$870,719
General Fund Property Tax	\$6,400,000	\$7,599,908	\$6,136,958
Insurance Fund		\$55,856	\$71,361
ANLBC Rent	\$3,050,000	\$6,100,000	\$6,100,000
Total Revenue	\$20,440,582	\$24,838,739	\$24,876,981
<i>Expenditures</i>			
Debt Service	\$18,793,290	\$22,484,130	\$22,485,537
Capital Maintenance	\$1,200,000	\$1,230,000	\$1,260,000
I-285 Bridge	\$169,655	\$169,656	\$169,655
Property Insurance	\$130,000	\$55,856	\$71,361
Police	\$841,398	\$899,097	\$890,428
Total Cost	\$21,134,343	\$24,838,739	\$24,876,981

October 1 to September 30 fiscal year. Source: Cobb County Board of Commissioners (2018, 2019, 2020).

Table 6. Direct revenue contributions from Trusti Park and The Battery Atlanta.

	2017	2018	2019
Sales Taxes	\$1,637,645	\$2,482,550	\$2,743,463
General Fund Property Taxes	\$404,288	\$1,782,956	\$1,868,937
Cumberland Special Service District (Property)		\$516,341	\$541,241
Business License	\$258,147	\$272,407	\$189,611
Liquor by the Drink	\$118,800	\$472,682	\$601,431
First District Fund	\$199,095	\$222,833	\$631,816
Debt Service Fund	\$7,775	\$9,787	\$28,719
Commercial Permits	\$289,604		
Total Tax Contribution	\$2,915,354	\$5,759,556	\$6,605,218
2/3 Contribution (adjusting for crowding out)	\$1,953,287	\$3,858,903	\$4,425,496
ANLBC Rent	\$3,050,000	\$6,100,000	\$6,100,000
Total ANLBC Contribution (no crowding out)	\$5,965,354	\$11,859,556	\$12,705,218
Total ANLBC Contribution (adjusting for crowding out)	\$5,003,287	\$9,958,903	\$10,525,496

October 1 to September 30 fiscal year. Source: Cobb County Board of Commissioners (2018, 2019, 2020).

Another relevant consideration is the flow of revenue over the lifespan of the project. Stadiums tend to experience their greatest returns soon after they open due to their novelty, which diminishes as the facility ages (Bradbury, 2019; Coates & Humphreys, 2005). Poitras and Hadley (2006) finds the added revenue that teams receive from a new stadium is so large that it is sufficient to fund venue construction without public subsidies. Thus, the estimates here likely represent the high-water mark from tax revenue generated by the project and are not expected to grow in the future to cover the cost of the public contribution to the stadium.

Discussion and conclusion

Local governments frequently subsidize professional sports stadiums using the justification that positive development externalities spillover onto the broader local economy despite extensive empirical findings that professional sports teams and venues are not strong contributors to the economic well-being of host communities (Coates & Humphreys, 2008). However, if metro area residents shift their consumption to competing local jurisdictions that offer sports events, then municipal governments may be able to raise revenue by subsidizing a sports team to attract spending from neighboring jurisdictions. In addition, if stadium projects are combined with mixed-use development projects that complement sports consumption to promote year-round economic activity, they might generate greater returns than standalone stadium projects, which have not been successful at generating local economic growth.

This analysis exploits the relocation of a professional baseball team from its downtown Atlanta stadium to a suburban mixed-use development in neighboring Cobb County to assess its economic impact on the host jurisdiction. I use the synthetic control method to examine the change in sales tax revenue following the team's move to its new locale. Estimates indicate an increase in tax revenue that is consistent with greater economic activity following the stadium opening that is stronger during baseball season; however, the impact is relatively small, and its post-stadium increase in sales tax revenue is not statistically different from other metro counties.

Though the estimates indicate a net inflow of economic activity that is captured through taxes, the net increase in revenue to the County is less than revenue collected directly from the stadium development. Approximately one-third of the development's revenues come from existing local activity that is crowded out, which indicates the project is not an exogenous windfall. In total, the magnitude of the impact is small and insufficient to cover the public funding used to subsidize the stadium. Thus, even a project that faces ideal circumstances to generate a positive return on investment appears not to do so.

Claims that the Cobb stadium and its associated mixed-use development would substantially increase economic activity from nonresidents that would justify its public subsidies do not stand up to scrutiny. This finding is not surprising given that the ancillary mixed-use component constitutes approximately 20% of the revenue generated by stadium-anchored The Battery Atlanta development. While the estimates likely reflect some unique aspects of the project and region, the findings should be generalizable to other stadium developments. Few stadium projects are better primed to succeed than a large-scale mixed-use development on the edge of an urban center. The economic impotence of the Truist Park development further supports the consensus findings among economists that sports stadiums are not significant drivers of economic activity and thus represent a poor channel for economic development policy.

This analysis also adds to the growing body of research using new causal inference methods to examine external impacts of sports events. The synthetic control method is particularly well-suited for identifying aggregate of local economic development projects with hypothesized spillovers. New stadiums are observable interventions with a multitude of donors available for creating synthetic controls that can be used for identifying impacts on host communities. Humphreys (2019) predicts that sports venue construction will likely increase over the next 15 years due to the age and average replacement timeframe for professional sports facilities. Thus, there will be a plethora of stadium subjects from which researchers can study to identify the types of impacts stadiums have on their communities, which include potential positive and negative development spillovers.

Notes

1. The stadium was initially named SunTrust Park, but it was rechristened as Truist Park in 2020 after its naming-rights sponsor changed its name. I use the stadium's current name to avoid confusion.
2. The extent of the search is unknown, but ANLBC executive Mike Plant stated that the franchise initially considered 30 sites in the Atlanta area; but, it ultimately considered six sites feasible, three of which were in Cobb (Murphy, 2019c). Specifically, Plant stated the club investigated an alternate site near Doraville, Georgia on the northeast corridor of Atlanta (Murphy, 2019a).
3. Georgia Tax Center (2020) provides files for download by county over time. Sales taxes are authorized by county governing authorities, and revenues may be distributed to municipalities according to agreed-upon distribution formulas. I aggregate returns by county to include county government and sub-jurisdiction distributions. Revenue derives from all classifications of sales taxes, but the main taxes employed by counties are special local option sales taxes (SPLOST), which flow to the county's Board of Commissioners, and education local option sales taxes (ELOST or ESPLOST), which flow to local school districts. Cobb only employs SPLOST and ELOST, which are limited to funding specific capital projects and must be approved by referendum. I do not include "pro rata" distributions, which are proceeds from unprocessable sales tax collections that are distributed to all sales tax jurisdictions on a pro rata basis, and thus do not reflect taxable sales in the county during the preceding period. See, Buschman (2021) for a summary of Georgia's sales taxes.
4. Monthly distributions are primarily derived from the sales during the previous month (e.g., July 30th distributions are for the month of June from reports filed by taxpayers by July 20); however, distributions may include funds from earlier sales periods.

5. Alternate estimates using monthly observations produce RMSPE three times higher than quarterly estimates, averaged to the monthly mean over the quarter so that the errors are on comparable scales.
6. Though the MLB season roughly spans April through September, it occasionally includes a few games in March or October. During the sample, Truist Park hosted three regular-season games from March 29 to 31 in 2018. Truist Park hosted two postseason games in October 2018, and three postseason games in October 2019.
7. Income and population data from Bureau of Economic Analysis (2020). Square mileage from Atlanta Regional Commission (2020). Sales tax rates compiled from Georgia Department of Revenue (2020). Linear distance from Turner Field calculated using Google Maps.
8. Estimates that include the counties that increased tax rates generated synthetic control estimates that were significantly greater than Cobb, and thus indicate decreased sales tax revenue following the stadium opening. In particular, DeKalb increasing its sales tax rate in 2018 corresponds with a noticeable increase in the synthetic control. This deviation highlights the importance of robustness checks discussed in Section 4.4.
9. Team owner *Liberty Media (various years)* reports that The Battery's ancillary mixed-use development (separate from the stadium) generated \$15 million in revenue in 2017 and \$38 million each in 2018 and 2019. This change is consistent with reported growth from 20 to 50% of capacity in 2017 and approaching operational capacity by 2018. Reported revenue also reveals that the mixed-use portion of development revenue is small relative to revenue derived from the stadium. The team's baseball revenue derives from three primary sources: ballpark operations, broadcast rights, and shared MLB revenue streams. From 2017 to 2019, the teams' baseball revenue averaged \$404 million per year. In 2020, when the stadium was not open to spectators, baseball revenue declined to \$142 million. Therefore, a reasonable estimate of revenue generated from ballpark operations is approximately \$262 million ($\$404 - \142). This translates to non-ballpark development revenue representing approximately 13% of the combined development revenue [$\$38 / (\$262 + \$38) = 0.13$]. Birnbaum (2021) reports stadium activity generates approximately 39% of average MLB team revenue, which translates to \$158 million for ANLBC. By this metric, \$38 million represents 19% of combined development revenue ($\$38 / [\$158 + \$38] = 0.19$).
10. I also explored potential stadium effects using sales tax revenue that is disaggregated into sub-categories by the Georgia Department of Revenue (2021). However, the sub-categories are aggregated to include economic sectors that are likely substitutes (e.g., the "Food and Bar" category includes grocery and liquor stores as well as restaurants and bars) and largely unrelated sectors (e.g., entertainment is included in a miscellaneous category includes transportation, education, health care, financial services, etc.). Synthetic control comparisons generated using these data, and employing the same matching variables used for aggregate tax revenue, were mixed and produced poor pre-treatment fits. Overall, the comparisons do not indicate stadium effects; and even if they estimated post-stadium deviations, it would not be appropriate to draw inferences regarding the contributing sectors from their aggregated categories.
11. ELOST sales tax revenues are shared between two public school systems: Cobb County School District (92.7%), which serves most of the county, and Marietta City Schools (7.3%), which serves the City of Marietta.
12. The Board of Commissioners initially planned to use SPLOST revenue to help fund a stadium-related pedestrian bridge project, but the board ultimately decided against using SPLOST funds when faced with a legal challenge (Gargis, 2017b).
13. The special service district assesses separate taxes on hotel stays and commercial/multifamily-residential property. The boundary closely follows the Cumberland CID boundary, which covers roughly seven square miles around the stadium. The self-taxing Cumberland CID also taxes commercial property in the district. It made an initial \$10 million contribution to fund the development, but it does not contribute to its regular funding (Gillooly, 2013). See, Bradbury (2022b) for a discussion of the Cumberland CID and special service district tax obligations.

Disclosure statement

The author is a faculty affiliate of the Bagwell Center for the Study of Markets and Economic Opportunity at Kennesaw State University. The author serves as an appointed member on the Development Authority of Cobb County, which often participates in development projects in Cobb County, including projects that involve ANLBC. This project is unrelated to his role on this County government committee (which is uncompensated), and he has no financial interest in any related project. The author is solely responsible for the content in this article. No party had the right to review the paper prior to its circulation.

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