



# Demand for new cities: Property value capitalization of municipal incorporation



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## ABSTRACT

This paper investigates property value capitalization of municipal incorporation. Using detailed data from the metropolitan Atlanta area, our empirical strategy combines difference-in-differences hedonics with a relatively underutilized matching method from the class of monotonic imbalance bounding methods that approximates a fully blocked randomized experiment. We find that new city formation is positively capitalized into property values within the new city, increasing 4–5% in the two years following new city formation compared to the two years prior and 12–13% over the entire analysis period. The results also indicate that capitalization is stronger for parcels with greater potential for redistribution.

## 1. Introduction

The number of municipal governments is on the rise in the U.S., with new city formation particularly prevalent within urban counties where populations are more heterogeneous. According to the U.S. Census Bureau, at least 203 new municipal governments were created from 2000 to 2014. These newly incorporated municipalities are part of an overall trend towards the voluntary formation of subordinate units of government to provide public goods and services in specified geographic areas, including special purpose districts, homeowner's associations, community improvement districts, etc. New public good jurisdiction formation may reflect a desire for a different mix of policies, public goods, and taxes than currently provided by higher level governments. Similarly, it may limit redistribution through local taxes and public services – effectively allowing wealthier residents to avoid subsidizing public goods and services for lower income residents. The voluntary formation of new political jurisdictions may also be an attempt to limit interactions with people of different groups in public goods space.

The change in property values caused by the change in the public good-price bundle associated with new public good jurisdictions reveals the extent to which people value them. In the case of new municipal incorporations, the effect of new city formation on property values likely varies across space and may depend on the underlying reason(s) for incorporation. It will also depend upon the relative

change in property taxes and the associated change in valued amenities. These valued amenities could include the mix of public goods and policies as well as interactions with homogenous groups and the general benefits associated with decentralized provision. As long as the new municipality is relatively small compared to the larger county, theory predicts capitalization of the costs and benefits into property values within the city and little effect on county property values outside the city (Hoyt, 1999).

This research studies the property value capitalization of municipal incorporation in the core counties of the metropolitan Atlanta area. During the sample period, seven new cities incorporated from the unincorporated areas of Fulton, DeKalb, and Gwinnett counties. Using housing transaction data from 2000 to 2014, we estimate the capitalization of new city formation into housing values within newly incorporated areas.

The non-random nature of new city formation presents a challenge to empirically identifying the causal effect of new city formation on property values. Our empirical strategy builds upon the recent literature showing that combining difference-in-differences with data pre-processing methods provide estimates close to those from an ideal experiment. We obtain counterfactuals by applying a relatively underutilized matching method from the class of monotonic imbalance bounding methods that approximates a fully blocked randomized experiment. We construct pre-treatment neighborhood characteristics for every parcel in the metro-Atlanta area and determine which factors

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place unincorporated parcels most “at-risk” for incorporation. We then draw the set of counterfactual sales from parcels matched on the most important pre-period “at-risk” characteristics on a new city-by-new city basis. Covariate balancing tests, pre-treatment outcome trends, and results from our placebo test confirm our data pre-processing method produces valid counterfactuals and reliable results. [Online Appendix B](#) demonstrates that our strategy is preferable to a typical hedonic estimator, the repeat sales estimator, and an estimator that combines the difference-in-differences and border fixed effects methodologies.

We find that new city formation is positively capitalized into property values within the new city. Our estimates indicate that property values increase 4–5% in the two years following new city formation compared to the two years prior. Capitalization effects become stronger with time, with an estimated 12–13% increase over the entire analysis period. These results are robust to the inclusion of resident, service, and job characteristics of the neighborhood. Our findings suggest that homebuyers value the decentralized provision, local control, curtailed redistribution, and limited interactions with groups of different people associated with new city formation, despite the associated increase in property taxes. We also demonstrate that the capitalization effects are stronger for homes with a higher value relative to the unincorporated areas of their county, suggesting that limiting redistribution is an important benefit driving new city property increases.

Our findings contribute empirical evidence to important debates in the literature on decentralized provision, property tax capitalization, and endogenous political jurisdiction formation. We provide strong evidence that people value decentralized provision of local public goods (subject to limited economies of scale in provision), suggesting that the voluntary formation of local public good jurisdictions is welfare-enhancing. Although there is some evidence in support of this notion for homeowner’s associations, school districts, and special purpose districts, this research is the first to do so for a general purpose municipal incorporation. The change in public goods and services within municipalities is primarily funded through property taxes. Therefore, under certain assumptions about the consistency of changes in capital-land ratios and positive property value capitalization, our results also provide evidence in support of the benefits view of property taxation. We also demonstrate that new municipal formation is driven by concentrations of relatively high value properties – properties for which the potential for redistribution through public goods and property taxes is highest – and that capitalization increases as the potential for redistribution increases.

The remainder of the paper begins with a discussion of relevant background information in [Sections 2 and 3](#). Our empirical strategy and data are detailed in [Section 4](#). [Section 5](#) discusses our preferred strategy and these results are presented in [Section 6](#). [Section 7](#) contains placebo tests and robustness checks. We provide some concluding remarks in [Section 8](#).

## 2. Background theory

New municipal incorporations are representative of a larger set of subordinate governments formed to provide public goods in a particular geographic area. Economic theory suggests a number of reasons for endogenous formation of new political or public good jurisdictions. Studying local governments in the U.S., [Alesina et al. \(2004\)](#) suggest that people are willing to forgo economies of scale in order to limit interactions with people of different (racial and income) groups. [Leon-Moreta \(2015\)](#) also finds that population heterogeneity is an important predictor of new city formation – noting that income largely trumps racial and ethnic heterogeneity (even with municipal incorporations in the South comprising a large portion of the sample). The literature following [Tiebout \(1956\)](#) does not consider economies of scale in public good provision and highlights the role of income. People “vote with their feet” and choose jurisdictions offering their preferred mix of local

policies, public goods, and taxes. In these models, wealthier residents have an incentive to create new jurisdictions in order to avoid redistribution through local taxes and public goods. [Kenny and Reinke \(2011\)](#) empirically confirm this notion, finding that the richest neighborhoods have the strongest incentive to incorporate new municipalities. Related work on fiscal federalism suggests that people may form new public good jurisdictions because they value decentralized provision for any number of reasons, including efficiency gains, more local control over policies, and preferred mix of taxes and services.

Although heterogeneity certainly plays role in our context, economies of scale in public good provision do not seem to be a motivating factor for new city formation since scale economies are typically small in local public good provision ([Wilson 2006](#)). As described in more detail in [Section 3](#), this is particularly true for the set of public goods and services provided by the new cities analyzed in this paper. Additionally, public goods that experience scale economies were already in place at the time of incorporation in our context. For example, each new metro Atlanta city contracts with existing local government providers of water and sewer services – thereby continuing to benefit from any economies of scale in provision for these services where one would expect moderate economies of scale. On the other hand, each new city provides codes enforcement services for which we expect very small (if any) economies of scale.

We therefore argue that our context more closely relates to Tiebout and fiscal federalism type mechanisms since our new cities change the local public goods bundles as well the tax burden for households residing within the new jurisdiction. Importantly, new municipal property taxes constitute the primary local public good financing mechanism. As pointed out by [Hamilton \(1975\)](#), efficient provision and circumvented redistribution occur in the Tiebout context if people are highly mobile, there are binding zoning constraints within jurisdictions, and there exist a sufficient number of communities to accommodate all preferences for public good-tax bundles. Under these assumptions, property taxes become efficient user fees for public goods. The “benefit view” of the incidence of the property tax follows from the Tiebout-Hamilton logic.

According to public finance scholars, the debate over whether the benefit view or the opposing “capital tax” view correctly describes the incidence of the property tax is one of the most important unresolved issues in state and local public finance ([Youngman 2002](#); [Fisher 2009](#); [Zodrow 2014](#)). Capitalization of changes in the local public good-property tax bundle provides evidence in support of the benefits view according to [Oates \(1969\)](#), [Hamilton \(1983\)](#), and [Fischel \(2001\)](#). However, [Ross and Yinger \(1999\)](#) point out that in a Tiebout-Hamilton world with a sufficient number of communities and property taxes as user fees for public services, capitalization should not occur in the long-run. One could view new municipal incorporation as a response to an insufficient number of communities in a Tiebout-Hamilton world. If this is the case, then proponents of the benefits view would predict the adoption Hamilton-type zoning and building regulations by new municipalities ([Fischel 1992](#)). Consistent with this view, we find that every new city in our study chooses to take direct control of zoning and building regulations – a process that was controlled by the county government prior to incorporation. Further, [Hamilton](#) suggests that when there are not enough communities, capitalization provides evidence in support of the benefits view. The Tiebout-Hamilton-Oates-Fischel benefits view of the property tax would therefore predict in our context: i) positive capitalization of new municipal incorporation into property values, ii) capitalization increases with potential for redistribution, and iii) positive capitalization to the extent that benefits exceed or are beyond the scope of the public services financed through efficient user fee property taxes. We find evidence supporting all three of these predictions.

On the other hand, the “capital tax” view postulates that the property tax is a distortionary tax that inefficiently alters the location of capital across jurisdictions. [Nechyba \(2001\)](#) and [Zodrow \(2007,](#)

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