Foreclosures and local government revenues from the property tax: The case of Georgia school districts ☆

James Alm [a,*], Robert D. Buschman [b], David L. Sjoquist [b]

[a] *Tulane University, United States*
[b] *Georgia State University, United States*

ARTICLE INFO

ABSTRACT

Historically, local governments in the United States have relied on the property tax as their main source of own-source revenues. With the recent collapse of housing prices and the resulting increase in foreclosures that followed the "Great Recession", many observers have speculated that the local governments would suffer significant revenue losses, either immediately or in the near future. However, to our knowledge there is no existing work that examines the impacts of these recent foreclosures on property values and the subsequent impacts on property tax revenues and other dimensions of the property tax system. We use proprietary information from RealtyTrac on annual foreclosure "activity" (e.g., the flow of newly foreclosed properties into foreclosure filings), for the period 2006 through 2011, merged with information on local government revenues and economic data, to estimate the impacts of foreclosures on local government property tax revenues, as well as on market values and property tax levies. We focus on school districts in the State of Georgia, and address the question: How have recent foreclosures stemming from the Great Recession affected the property tax system of local governments? Across various specifications, we find that foreclosure activity had significant impacts on property tax bases, levies, and revenues.

1. Introduction

Historically, local governments in the United States have relied on the property tax as one of their main sources of own-source revenues. With the collapse of housing prices and the resulting increase in foreclosures that followed the "Great Recession", many observers speculated that local governments would suffer significant revenue losses, either immediately or in the near future. However, the actual impact of foreclosures on property tax revenues is, surprisingly, unknown at present. While there are several studies of the effect of foreclosures on value of foreclosed property and its immediate surrounding properties, to our knowledge there is no existing work that examines the impacts of these recent foreclosures on property tax revenues, as well as on other aspects of the property tax system. Our purpose in this paper is to explore the effect of foreclosures on the property tax base, its levy, and its revenues.

To conduct this research we obtained annual information from RealtyTrac for the period 2006 through 2011 on foreclosure "activity" (e.g., the flow of newly foreclosed properties into foreclosure filings).[1] For either activity or inventory data, these data are available at the zip code level. This period both precedes and follows the Great Recession, which lasted officially from December 2007 to June 2009. We use these data, along with demographic and economic controls, to estimate the impacts of foreclosures on property values, property tax levies, and revenues for school districts in the State of Georgia in an attempt to address the question: How have recent foreclosures stemming from the Great Recession affected the property tax system of local governments?

We focus on a single state (Georgia) rather than all states or a group of states. Looking at differences across local school systems within a single state has some advantages over considering differences across states. By focusing on a single state, we need not consider how to control for the many ways in which institutional factors may differ across states; of particular relevance for this paper, we also need not consider how to control for the impacts of foreclosure laws and assessment practices, both of which vary widely across states. Georgia is also a good state to

[1] These propriety data were purchased from RealtyTrac, with the Lincoln Insitute of Land Policy providing funding for the purchase. RealtyTrac also provides these data on a monthly basis and a quarterly basis, and also makes available information on the "inventory" of foreclosed properties (e.g., the stock of foreclosures).

use to study the effects of the Great Recession and its impact on foreclosures. Georgia is in many ways roughly an "average" state. For example, Georgia's median household income in 2006 was $46,832, ranking it 24th in the U.S.; local share of funding for K-12 in 2006 was 47.8% in Georgia compared to 43.7% for the U.S.; in 2006, property tax revene as a share of state and local tax revenue was 28.7% for Georgia and 30.8% for the U.S. Of some note, Georgia was hit hard by the Great Recession; Georgia's unemployment rate went from 4.7% in 2006 to 10.2% in 2010 while the U.S. unemployment rate went from 4.6% to 9.6%.

We examine detailed information on the property tax system for local school districts in the State of Georgia, focusing on the impact of foreclosures (and other factors) on the property tax base, its levy, and its revenues. Our empirical analysis indicates that larger increases in personal income per capita, in population, and in employment all positively and statistically significantly affect the percentage change in the tax base; importantly, our results also show significant negative effects of foreclosures. We also estimate regressions to see whether foreclosure activity affects the property tax levy and property tax revenues, with other factors (e.g., income, population, and employment growth) held constant. Again, we find that foreclosure activity has significant impacts. For example, a rise in foreclosures is associated with a reduction in the levy, and foreclosures have a negative impact on revenues, after controlling for changes in the base and other factors. Overall, we find that foreclosure activity had significant impacts on the property tax base, on property tax levies, and on property tax revenues.

2. Housing prices, foreclosures, and school district property tax revenues

Local governments in the United States typically rely on several sources of own-source revenues, including individual income taxes, general sales taxes, specific excise taxes, fees and charges, and local property taxes. Of these, the dominant source is by far the property tax. In 2011, local property taxes accounted for roughly three-fourths of total local government tax revenues and for nearly one-half of total local own-source revenues (including fees and charges).[2]

The Great Recession had serious and negative effects on the level of economic activity, and these effects have in turn depressed tax revenues, especially for taxes whose bases vary closely with economic activity, like income and sales taxes (Anderson, 2010; Mikesell and Mullins, 2010; Boyd, 2010). However, an important feature of the property tax is that its base (i.e., assessed value) does not automatically change over time since, in the absence of a formal and deliberate change in assessment, any change in the market value of housing does not necessarily translate into a change in assessed value. Lags in these reassessments, combined with caps on the amount by which assessed values can be changed in any given year and with deliberate changes in millage rates, mean that changes in the overall level of economic activity that may affect housing values may not actually affect property tax revenues in any immediate or obvious way.[3]

There are several channels by which changes in the housing market may affect local government tax revenues (Lutz, Molloy, and Shan, 2011). The most obvious is of course via the property tax, and it is this channel upon which we focus.[4]

As a *general* framework in which the property tax might be modeled, consider a simple setting. Suppose a local jurisdiction imposes a property tax at tax rate t on a tax base B. Revenues R equal $R = t B$. Suppose now that either the tax rate or the tax base of each tax changes. Then the percentage change in tax revenues equals[5]:

$$\Delta R/R = \Delta t/t + \Delta B/B; \tag{1}$$

that is, the percentage change in tax revenues equals the percentage change in the tax rate plus the percentage change in the tax base. Finally, suppose that the tax base of the property tax is some function of the level of economic activity, denoted as Y. With a change in the level of economic activity, the percentage change in any tax base due to a changed economic environment can be written as $\Delta B/B = \varepsilon(\Delta Y/Y)$, where ε is the elasticity of the tax base with respect to the level of economic activity. The percentage change in total revenues now becomes:

$$\Delta R/R = \Delta B/B + \Delta t/t + \varepsilon(\Delta Y/Y) \tag{2}$$

where $\Delta B/B$ now represents the deliberate administrative or policy change in the tax base, $\Delta t/t$ represents the administrative change in the tax rate, and $\varepsilon(\Delta Y/Y)$ denotes the (automatic) change in the tax base stemming from its link with economic activity. This equation summarizes the various channels by which revenues of any tax are affected by a change in policy actions or in external circumstances. Revenues can change if the tax rate or the tax base changes; revenues can also change if the level of economic activity changes, provided that the tax base is linked in some way to economic activity, as measured by ε. If the tax base cannot change, either because it is not responsive to economic activity, because it requires a deliberate but unforthcoming policy action, or because it is administratively constrained, then the only remaining source of a change in revenues is from a change in the tax rate.

Using this general framework as a starting point, we argue that the more *specific* framework between foreclosures and property tax revenues in a geographic area runs as follows: weak economic conditions and declining house prices increase foreclosures; foreclosures decrease market values of the foreclosured houses and also of nearby homes in the community; these decreases in housing prices eventually get translated into decreases in assessed value through the assessment process; and decreases in assessed value lead local governments to change the property tax rate. The final result could be either a decrease or no change in property tax revenues. Note that this framework suggests that foreclosures also affect property tax assessments and tax rates. It is this framework that forms the basis for our estimations.

There are several papers that estimate the effect of foreclosures on individual house values; see Frame (2010) for a survey. Typical of the effects of a foreclosure on the house value are the findings of Campbell et al. (2011), who show that a foreclosure reduces the home value by 22%; similar effects have been found by Shilling et al. (1990) and, more recently, by Pennington-Cross (2006). Studies have also found that foreclosures reduce the value of neighboring homes but that the effect is small and is contained within a short distance of the foreclosure. For example, Immergluck and Smith (2006) find that property price declines about 1.0% as a result of a foreclosure within one-eighth of a mile, and by about 0.15% for a foreclosure between one-eighth and one-quarter of a mile away; see also Leonard and Murdoch (2009), Lin et al. (2009), and Campbell et al. (2011).

The link between the change in housing value and assessed value has been explored by Lutz (2008), who estimates that it generally takes about three years for changes in housing prices to feed through in any significant way to property tax revenues. His empirical results suggest a long-run elasticity of property tax revenue with respect to home prices of only 0.4, in part because it takes time for local officials

---

[2] See http://www.census.gov/govs/estimate.

[3] The assessment process is analyzed in detail by Diaz (1990), Quan and Quigley (1991), Wolverton and Gallimore (1999), and McAllister et al. (2003).

[4] Note that other channels are also possible, including those more closely linked to economic activity. For example, real estate transfer taxes depend upon the volume and the value of real estate transactions, although these taxes are of relatively little importance. Also, a decline in the housing market may depress new housing construction, thereby reducing sales tax revenues generated by the materials used in construction and by the furnishing for a new home, and a decline in home construction and the resulting fall in employment may also reduce income taxes. Finally, a decline in housing values may reduce consumer expenditures (and so sales tax revenues) via wealth effects.

[5] Note that for simplicity Eq. (1) ignores the cross partial term (or $\Delta t \Delta B$) since this term will be of a second order.