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How Did Foreclosures Affect Property Values in Georgia School Districts?

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Abstract

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I. 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 have speculated that local governments will suffer significant revenue losses from these tax base effects, either immediately or in the near future. However, the actual impact of these recent foreclosures on property tax values (and on property tax revenues) is largely unknown at present.¹

The main difficulty in conducting this type of research is the availability of foreclosure information at the local government level. However, we were able to obtain such data from a commercial organization, RealtyTrac. These proprietary data provide annual information for the period 2006 through 2011 on foreclosure “activity” (e.g., the flow of newly foreclosed properties into foreclosure filings), a period that both precedes and follows the Great Recession, which lasted officially from December 2007 to June 2009.² For either activity or inventory data, these data are available at a highly disaggregated level (e.g., on a zip code basis). We purchased these data, and merged them with information on local government property taxes and socio-demographic-economic data, in order to examine the impacts of foreclosures on local government property tax values. We focus on school districts in the State of Georgia, using detailed information on property tax assessments for local school districts in the State of Georgia. We attempt to answer the question: How did foreclosures in the Great Recession affect property values in Georgia school districts? Our current and still preliminary analysis suggests that property values declined for school districts in Georgia following the Great Recession as a result of foreclosures.

II. HOUSING PRICES, FORECLOSURES, AND SCHOOL DISTRICT PROPERTY VALUES

The Great Recession had serious and negative effects on the level of economic activity, and these effects have in turn depressed revenues of most governments that are reliant upon taxes whose bases vary closely with economic activity, like income and sales taxes. However, an important feature of the property tax is that its base (e.g., assessed value) does not automatically change over time.³ With the property tax, any decrease in the market value of housing does not necessarily translate into a decrease in assessed value (and so into a decrease in revenues), in the absence of a formal and deliberate change in assessment. Lags in these reassessments, caps on the amount by which assessed

values can be changed in any given year, and the ability to make deliberate changes in millage rates combine to 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, unlike other taxes that are much more closely linked to economic activity. Of course, foreclosures may affect assessed values. However, this link is not automatic, and it depends upon discretionary changes in administrative policies.

There is some work that examines the various impacts of economic factors on property tax revenues. For example, Doerner and Ihlanfeldt (2011) focus directly on the effects of house prices on local government revenues, using detailed panel data on Florida home prices during the 2000s. They conclude that changes in the real price of Florida single-family housing had an asymmetric effect on government revenues: price increases do not raise real per capita revenues, but decreases tend to dampen revenues. In related work, Lutz (2008) concludes that asymmetric responses are due largely to lags between changes (positive or negative) in market prices and assessed values, to caps on assessment increases, and to decreases in millage rates in response to increases in home prices. Also, Alm, Buschman, and Sjoquist (2011) document the overall trends in property tax revenues in the United States from 1998 through 2009, and they find that local governments, on average, were largely able to avoid the significant and negative budgetary impacts seen most clearly for state and federal governments, at least through 2009, although there was substantial regional variation in these effects; Alm, Buschman, and Sjoquist (2011) also examine the experience in Georgia for the same 1998-2009 period, and again they find local school districts were in many cases able to maintain a steady pattern of collections by increasing millage rates. In related work, Alm, Buschman, and Sjoquist (2009) and Alm and Sjoquist (2009) examine the impact of economic factors on Georgia school district finances,

and show the relevance of economic factors (including state responses to local school district conditions).

However, all of these studies use data that reflect only a previous recession (e.g., the 2001 recession) or that only go through the very start of the housing crisis in the Great Recession. There is no work that examines the impact of foreclosures resulting from the Great Recession on the property tax base. The next section discusses our approach for examining this issue.

III. GEORGIA SCHOOL DISTRICT DATA

We focus on a single state (Georgia) rather than all states or a group of states. By focusing on a single state, we do not need to consider how to control for the many ways in which institutional factors may differ across states. Georgia is also a good state to 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, in 2008 property tax revenue as a share of total taxes for local governments was 65.1 percent in Georgia compared to 72.3 percent of the U.S.⁴ In terms of school funding, property taxes as a share of local revenue in 2008 were 68.9 percent for the U.S. and 64.9 percent for Georgia.⁵

Our data are taken from several sources. To measure foreclosure activity, we use proprietary data purchased from RealtyTrac covering the period 2006 through 2011. RealtyTrac reports foreclosure “activity” in terms of foreclosure legal filings and notices on a zip code basis. We measure foreclosure activity using RealtyTrac’s “notice of trustee sale” counts for each year, aggregating zip code observations into the corresponding counties.

We obtained from the Georgia Department of Revenue the annual property tax base (referred to as “Net Digest” in Georgia) for each of the 180 school districts in Georgia for 1997 through 2011, extending two years beyond the official end of the Great Recession. The base is as of January 1st of

the respective year. We also use various socio-demographic-economic data (e.g., income and population) measured at the county level in attempts to explain changes in the base. Because variables used in these regressions are at the county level, digest and revenue variables for the 21 city school districts are added to those for the county school systems in the same counties to obtain countywide totals.

Georgia is broadly similar to other states in the local government practice of and reliance upon property taxation, although there are some distinctive Georgia features. Property tax assessment is conducted only by county governments in Georgia, but county assessments are all evaluated by the state every year, comparing actual sales of improved parcels during the year to assessed values to determine if they are at the appropriate assessment level relative to fair market value, which is legally set at 40 percent.⁶ The resulting “Sales Ratio Studies” report an “Adjusted 100% Digest” figure for each school district in the state, along with the calculated ratio. We use these adjusted 100% digest data, covering the periods 2000 through 2011, as an alternative measure of the property tax base that is presumed to more closely track market values.

Georgia has no general assessment limitation, although one county has an assessment freeze on homesteaded property. Note that in 2009 the State of Georgia imposed a temporary freeze on assessments across the state, potentially affecting property tax revenue only in school year/fiscal year 2010. However, with net and adjusted digests declining on a per capita basis for most counties in 2009 through 2011 period, it is not likely that the freeze had a material negative effect on assessments.

IV. SOME PRELIMINARY RESULTS

Figures 1 and 2 show the distributions of annual changes, respectively, in per capita net digest and per capita adjusted 100% digest across the 159 counties from 2001 through 2011. (Note that the bar in the box represents the median and the box captures the observations in the 2nd and 3rd quartile.)

Table 1 provides some basic summary statistics on foreclosures across the state, with the mean and median number of foreclosures by zip code for 2006 through 2011, where foreclosures are measured by the number of properties put up for public auction (i.e., those properties subject to a notice of trustee sale).⁷ Total foreclosures almost doubled between 2006 and 2010, before declining in 2011. The mean number of foreclosures is much larger than the median, implying that the distribution is highly skewed. The distribution of foreclosures per capita is also skewed, but not as pronounced.

Table 2 shows the distribution of the number of Georgia zip codes by the number of years that the zip code had non-zero foreclosures. Over 65 percent of the zip codes had foreclosures in each of the 6 years, while only 7 percent had no foreclosures in all 6 years. This distribution suggests that very little of the state was immune to the foreclosure crisis. Indeed, the geographic distribution of foreclosures per owner occupied housing unit indicates significant geographic patterns across all years. As one would expect, urban and suburban counties (particularly in the Atlanta metropolitan area) have the most foreclosures. However, there are large numbers of foreclosures in many of the less urban zip codes as well.

Figure 3 shows the distribution each year of foreclosures per 100 housing units in each of Georgia's 159 counties. The median number of foreclosures by county increased from 0.17 per 100 housing units in 2006 to 1.18 per 100 units in 2010, more than a six-fold increase in the median.

There is a high positive correlation between foreclosure activity in 2006 and 2011 across the counties. This correlation is 0.78 when measured relative to housing units and 0.74 when measured

on a per capita basis, indicating that counties with above (below) average foreclosure activity before the housing crisis remained above (below) average at its peak.

We have also made some initial attempts to estimate the determinants of the adjusted 100% digest (as a proxy for market values), using as explanatory variables income and population growth (measured in terms of year-to-year percent changes). Importantly, we also include measures of foreclosure activity because foreclosed properties tend to sell at discounted prices, and studies suggest that foreclosures may have spillover effects on the market values of other properties in the jurisdiction (Frame, 2010).

These results are preliminary. Even so, they suggest significant negative effects of foreclosures, controlling for income and population growth. The coefficient estimates on foreclosures per 100 housing units suggest that a marginal increase of one foreclosure per 100 homes (or approximately the increase in median foreclosures from 2006 to 2011) is associated with a roughly three percent decline in the adjusted 100% digest over each of the two following years. Similarly, an increase of one foreclosure per 1000 population is associated with nearly a one percent decline in the adjusted 100% digest after one year and a slightly lower percent decline in the following year. Again, these regression results are preliminary, and so they are not reported here. The addition of other economic or demographic control variables is certainly worth exploring.

V. CONCLUSIONS

How have foreclosures driven by the Great Recession affected the property values of local governments? We focus on school districts in Georgia for the period before, during, and after the Great Recession, and we estimate the impact of foreclosures on market values. Our results are

preliminary, but they suggest that foreclosures have had a significant, negative impact on taxable values in Georgia.

ENDNOTES

¹ There is some work by Jaconetty (2011), who examines the legal issues surrounding foreclosures. There is also a project funded by MacArthur Foundation that will focus on the effects of foreclosures in Cook County, IL, as reported online at <http://www.lisc-chicago.org/news/category/Assessors-Office-to-Assess-Impact-of-Foreclosures.html>. See also Frame (2010), who reviews several recent studies of these effects. Note that all of this work largely precedes the Great Recession.

² RealtyTrac also provide these data on a monthly and quarterly basis and also make available information on the “inventory” of foreclosed properties (e.g., the stock of foreclosures).

³ The assessment process is analyzed in detail by Diaz (1990) and McAllister et al. (2003).

⁴ Revenue data are from 2008 State and Local Government Finances, U.S. Census Bureau, available online at <http://www.census.gov/govs/estimate/>.

⁵ The U.S. value excludes the 9 states that either have essentially a state school system or that do not have independent school districts.

⁶ If the actual assessment ratio is not between 36 and 44 percent of fair market value, then a penalty of \$5 per parcel is imposed. If the ratio is less than 36 percent, then the county is also required to pay the difference between the actual property tax revenue that the state collects from its 0.25 mill property tax rate and the level that the state would have collected if the digest had been assessed at 40 percent.

⁷ There are 982 zip codes in Georgia, although only 733 have positive populations according to the Census Bureau. While RealtyTrac reports positive foreclosures in a handful of zip codes with no reported population, we ignore these zip codes.

REFERENCES

Alm, James and David L. Sjoquist (2009). The Response of Local School Systems in Georgia to Fiscal and Economic Conditions. *Journal of Education Finance* 35 (1): 60-84.

Alm, James, Robert D. Buschman, and David L. Sjoquist (2009). Economic Conditions and State and Local Education Revenue. *Public Budgeting & Finance* 29 (3): 28-51.

Alm, James, Robert D. Buschman, and David L. Sjoquist (2011). Rethinking Local Government Reliance on the Property Tax. *Regional Science and Urban Economics* 41 (4): 320-331.

Diaz, III, Julian (1990). How Appraisers Do Their Work: A Test of the Appraisal Process and the Development of a Descriptive Model. *The Journal of Real Estate Research* 5 (1): 1-15.

Doerner, William M. and Keith R. Ihlanfeldt (2011). House Prices and Local Government Revenues. *Regional Science and Urban Economics* 41 (4): 332-342.

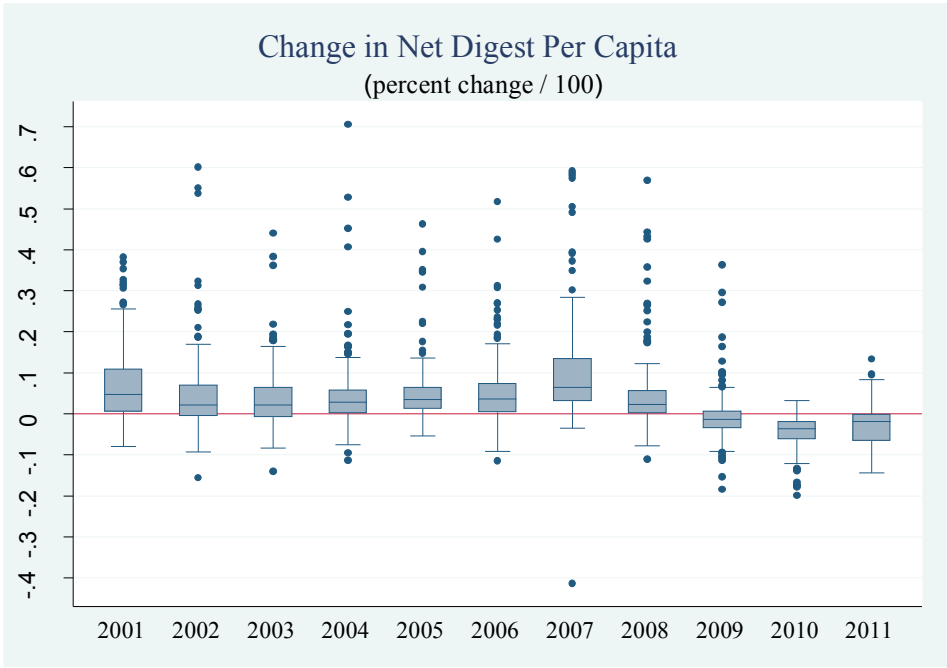
Frame, W. Scott (2010). Estimating the Effect of Mortgage Foreclosures on Nearby Property Values: A Critical Review of the Literature. *Economic Review, Federal Reserve Bank of Atlanta* 95 (3): 1-9.

Jaconetty, Thomas A. (2011). How Do Foreclosures Affect Real Property Tax Valuation? And What Can We Do About It? Working Paper presented at National Conference of State Tax Judges, Lincoln Institute of Land Policy, Cambridge, MA.

Lutz, Byron (2008). The Connection Between House Price Appreciation and Property Tax Revenues. *National Tax Journal* 61 (3): 555-572.

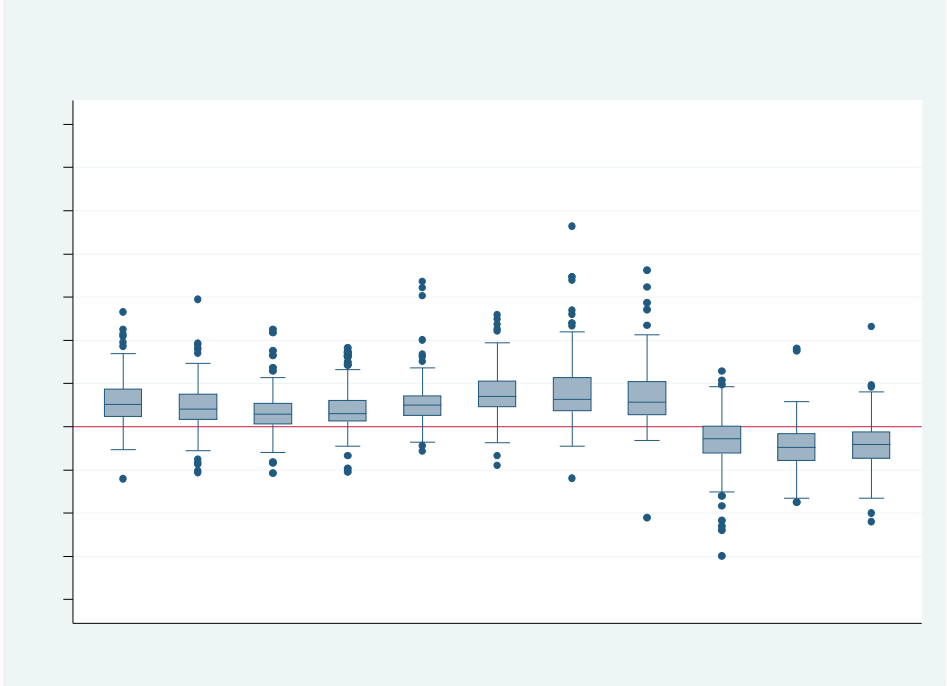
McAllister, Pat, Andrew Baum, Neil Crosby, Paul Gallimore, and Adelaide Gray (2003). "Appraiser Behavior and Appraisal Smoothing: Some Qualitative and Quantitative Evidence". *Journal of Property Research* 20 (3): 261-280.

Figure 1. Distribution of Net Digest Changes by County, 2001-2011



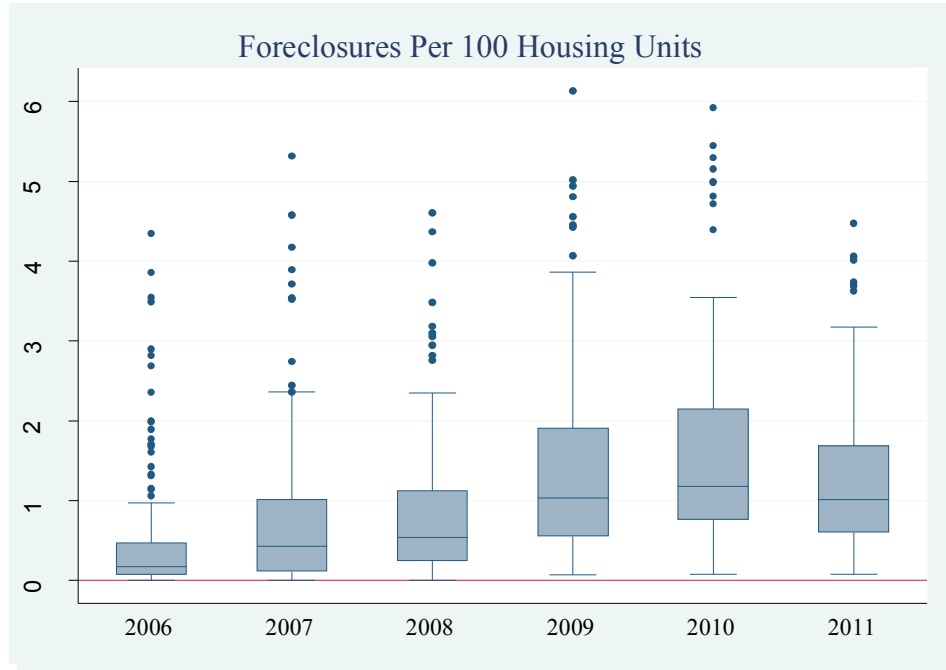
Source: Authors' calculations from Georgia Department of Revenue data.

Figure 2. Distribution of Adjusted 100% Digest Changes by County, 2001-2011



Source: Authors' calculations from Georgia Department of Revenue data.

Figure 3. Foreclosures Per 100 Housing Units by County, 2006-2011



Source: Authors' calculations from RealtyTrac data.

Table 1. Foreclosures in Georgia by Zip Code, 2006-2011

Year	Total Foreclosures	Mean Number	Median Number
2006	55,615	75.87	4
2007	75,191	102.58	11
2008	75,307	102.74	16
2009	97,195	132.60	30
2010	110,963	151.38	38
2011	85,865	117.14	31
Total, 2006-2011	500,136	682.31	136

Source: Authors' calculations from RealtyTrac data.

Table 2: Number of Georgia Zip Codes with Positive Foreclosures by Year

Years with Positive Foreclosures	Number of Zip Codes	Percent
6	478	65.21
5	85	11.6
4	49	6.68
3	31	4.23
2	16	2.18
1	23	3.14
0	51	6.96
Total	733	100

Source: Authors' calculations from RealtyTrac data.