INTRODUCTION TO SPECIAL ISSUE ON THE PROPERTY TAX AND THE FINANCING OF K–12 EDUCATION

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The property tax is the mainstay of local K–12 education revenue. Public schools derive over 80 percent of their local own-source revenue from the property tax (Reschovsky 2014).[1] At the same time, nearly half of total property tax dollars collected in the United States is used to finance public elementary and secondary education (U.S. Census Bureau 2013, 2014). This close link between property taxation and school finance is one motivation for this special issue. Another motivation is the state and local fiscal aftermath of the Great Recession.

Over the past few years the financing of public elementary and secondary education has become particularly challenging. In real per pupil terms, total revenues devoted to public education fell by 6.2 percent between the 2008–09 and 2011–12 school years.[2] Although comprehensive revenue data are not yet available for the most recent years, existing evidence points to a continued decline in financial support for public education. Data from the U.S. Census Bureau's *Quarterly Summary of State and Local Tax Revenue* indicate that per capita real local government property tax revenues (for school and non-school purposes) declined by 3 percent between fiscal years 2011 and 2013 (Collins and Langley 2014). And a survey conducted by the Center on Budget and Policy Priorities found that in 33 states, real

1. There is substantial variation across states in the share of local school revenues from the property tax. In nine states and the District of Columbia, property taxes account for less than 60 percent of local revenues, while in ten states over 90 percent of local revenues come from the property tax (Reschovsky 2014).
2. Authors' calculation based on revenue data from the National Center for Education Statistics (NCES 2014).

doi:10.1162/EDFP_e_00140

per-student state education aid was lower in fiscal year 2014 than in fiscal year 2008 (Leachman and Mai 2014).

Although research is needed on the consequences of these reductions in revenue on education, we do know that many school districts around the country responded to reduced revenues by laying off employees. In fact, the U.S. Bureau of Labor Statistics (2013) reports that between the employment peak in June 2009 and June 2013, education employment by local governments fell by 340,000, a decline of 4.2 percent. During this same period, public school enrollment grew by 1.4 percent (NCES 2013).

Current projections are for significant increases in both K–12 enrollment and cost per pupil. The NCES (2013) projects that per pupil expenditures will increase from an average of $10,518 in 2009–10 to $12,530 in 2021–22. The NCES also projects substantial increases in public school enrollment, although growth projections for specific states vary and are generally much higher for the southern and western states (8.9 percent and 12.7 percent, respectively, from 2010 to 2021) than for the Northeast and Midwest (2.2 percent and 2.4 percent, respectively). Although public policies and priorities can change, based on current policies and revenue projections, it is unlikely that revenues in support of public education will grow at a sufficient rate to match the projected growth in student enrollment and in costs.

National data indicate that in 2011–12, 10 percent of total public education revenue came from the federal government, with the rest split fairly evenly between state and local government sources (U.S. Census Bureau 2014). Federal government programs in support of education are classified as domestic discretionary expenditures. Although to date Congress has done little to rein in the growth of spending on entitlement programs, it has mandated strict limits on the growth of domestic discretionary expenditures through the Budget Control Act of 2011 and the fiscal year 2014 Congressional budget agreement. The Congressional Budget Office (2013) predicts that relative to the gross domestic product, domestic discretionary spending will decline through at least 2023. Given these overall spending caps, along with competition from other pressing domestic needs, reductions in real per pupil federal education support appear likely.

School funding systems vary tremendously across states. There will undoubtedly be great variation in future trends in state support for public education across states. Several long-run structural problems face many state governments, however, and these are likely to constrain future state funding for public education. On the revenue side, many states have narrow sales tax bases that exclude many services and, as a result, fail to grow proportionally to their economies. The revenue problems are exacerbated by the inability of

states to collect sales taxes on many Internet and mail order purchases. In the past few years, a number of states have adopted individual income tax cuts. These tax cuts have generally been enacted with no offsetting revenue increases, or they have been funded using revenue from one-time state budget surpluses.

On the spending side, funding for K–12 education must compete with other priorities. In many states, spending on Medicaid will grow faster than state tax revenues, a trend influenced in part by the aging of the population. Many states are also facing large and growing unfunded pension liabilities. Addressing these unfunded liabilities will undoubtedly require substantial increases in state government pension contributions. Although polls indicate that voters favor increased spending on education over spending in other areas, unless state governments make politically difficult decisions to increase taxes, states' growing Medicaid and pension obligations may crowd out spending on K–12 education (Pew Research 2011).

With diminished prospects for increased funding from federal and state governments, local school districts will likely play an increasingly important role in funding public education. Increasing local government funding for public education will require the politically difficult step of increasing property taxes or, if that proves impossible, the development and widespread adoption of alternative sources of local government revenue. Neither strategy will be easy to implement.

This rather bleak picture of the prospects for public education funding raises a number of research questions. For example, can state governments adopt policies that would make the property tax more publicly acceptable? What role do alternative local sources of revenue play in funding public education? Can their role be increased? Is it possible to design state education aid systems that result in a more steady flow of state aid during economic downturns? Can state policies aimed at providing property tax relief be made more effective? Can state aid systems be reformed in ways that increase the educational opportunities of all students?

As a means of encouraging new research on these and related issues, we organized a conference on Property Tax and the Financing of K–12 Education. The conference was held at the Lincoln Institute of Land Policy in Cambridge, MA, in October 2013. This special issue of *Education Finance and Policy* contains revised versions of five of the papers presented at the Lincoln Institute conference, plus two papers submitted as part of the journal's Call for Papers for the special issue. All the published papers went through the journal's peer review process. We served as guest editors, working closely with the journal's editors, Tom Downes and Dan Goldhaber.

SUMMARY OF PAPERS

The paper, "Did Cuts in State Aid During the Great Recession Lead to Changes in Local Property Taxes?" by Rajashri Chakrabarti, Max Livingston, and Joydeep Roy, analyzes whether local revenue, and property taxes in particular, acted as a stabilizing force when school districts faced cuts in state aid following the Great Recession. Chakrabarti, Livingston, and Roy make use of a detailed panel data set of 628 New York school districts (all but the largest districts) from 2005 to 2012.

As in many states, education aid in New York was cut following the recession. Per pupil aid, which peaked at $8,700 in 2009, fell to $8,200 in 2012. Prior to the Great Recession, per pupil local funding, property tax revenue, and state aid had risen steadily. Once state aid declined in 2009, the rate of increase of local funding and especially property taxes increased. Chakrabarti, Livingston, and Roy's panel data analysis indicates that on average a reduction of one dollar of state aid led to a 19-cent increase in property taxes and a 26-cent increase in local funding. Further analysis demonstrates that most of the property tax increases in response to cuts in state aid occurred in the school districts in the upper quartile of per pupil property wealth.[3] Although more research is clearly needed, these results suggest that the challenges of raising revenues to finance public education are likely to be particularly severe in lower-wealth school districts.

The paper, "Michigan and Ohio K–12 Educational Financing Systems: Equality and Efficiency," by Michael Conlin and Paul N. Thompson, reminds the reader how much state and local fiscal behavior varies across the United States. Real median state aid per pupil fell steadily from 2002 to 2010 in Michigan (from $8,700 to $7,700) and rose in Ohio (from $5,200 to $7,800).[4] Over this same time period real median local revenue per pupil rose in both states.

The core of the Conlin and Thompson paper is a description of two very different school finance systems, with different implications for equity and efficiency. Michigan and Ohio have similar numbers of students and school districts, and spend nearly the same amount on educating each student, but the similarities end there. In 1996, Michigan dramatically reduced its reliance on the local property tax, substituting increased funding from state income and sales taxes. Michigan restricts local districts from increasing property taxes to fund operating expenditures. Ohio's school finance system is characterized by greater local control and districts face no limits on raising revenue for either operating or capital spending.

3. The authors argue that the larger property tax increases in high wealth districts are due in part to the structure of New York State's school tax relief program, STAR, which is the subject of the Eom et al. paper in this special issue.
4. Conlin and Thompson report dollar magnitudes in 2010 dollars.

Michigan distributes state revenue relatively evenly across school districts, although districts in the wealthiest quintile receive about $600 more in state revenue per pupil than other districts. In Ohio, state aid disproportionately benefits the poorest districts so districts in the wealthiest quintile receive from $3,000 to $5,800 less state revenue per pupil than the poorest districts. From examining fiscal patterns by wealth quintile, the authors conclude that Michigan's strategy of restricting use of local property taxes for operating expenditures is not as effective a mechanism for reducing inequality as Ohio's strategy of providing disproportionate aid to the poorest districts. Furthermore, their finding that Michigan districts, which are constrained in operating but not capital spending, spend more per pupil on capital expenditures than Ohio districts implies that Michigan's system may distort school spending decisions, and thus create inefficiencies.

Two papers are concerned with the unintended consequences of state legislation to provide property tax relief to taxpayers. "The Unintended Consequences of Property Tax Relief: New York's STAR Program" by Tae Ho Eom, William Duncombe, Phuong Nguyen-Hoang, and John Yinger examines New York's School Tax Relief (STAR) program, enacted in 1997 to provide state-funded property tax exemptions. STAR is the most important property tax relief program in New York. Over three million taxpayers are eligible and the program cost $3.3 billion in 2012. In a nutshell, STAR provides partial exemptions from school property taxes for owner-occupied primary residences but does not provide direct property tax relief to either renters or business owners. STAR exemptions lower a homeowner's property tax bill and the state reimburses the school district for the lost revenue. New York has adjusted STAR exemptions over the years and exemptions are not the same for all school districts. One adjustment called the "sales price differential factor" (SPDF) provides increased exemptions in the counties with median residential sales prices above the statewide median sales price.

Eom et al. put together a data set of New York school districts (except for New York City) for the years 1998–99 to 2010–11 to estimate the impact of STAR. They find STAR changes the tax price[5] of education for homeowners, thereby inducing voters to spend about 3 to 4 percent more on education on average. But this increased spending is achieved by increasing property tax rates, which undercuts the goal of STAR. Indeed, after induced higher school spending and property taxes are taken into account, almost 80 percent of the original property tax relief is offset in the "upstate big three" cities (Albany, Buffalo, and Syracuse), and upstate small cities and rural districts

5. "Tax price" in the public sector is analogous to price in the private sector. A common definition of tax price is the cost to a particular taxpayer of an extra unit of a public good (see Hettich 2005).

find over 40 percent of their original property tax savings has been offset. The authors conclude with some suggestions for making STAR more equitable and reducing its unintended consequences. For example, they recommend eliminating the SPDF for exemptions because it channels a disproportionate amount of state aid to the wealthiest school districts.

In "Unintended Consequences: The Impact of Proposition $2\frac{1}{2}$ Overrides on School Segregation in Massachusetts" Jeffrey Zabel analyzes the impact on racial segregation of Massachusetts' tax limitation override process. A major mechanism limiting property tax burdens in Massachusetts is the citizens' initiative passed in 1980 known as Proposition $2\frac{1}{2}$. This tax limit restricts both the total amount of property taxes that a jurisdiction can collect each year and the growth rate of its property tax levy. Specifically, the levy ceiling limits the total amount collected to 2.5 percent of the value of all taxable property. The levy limit caps the growth in the property tax levy to 2.5 percent, with adjustments for growth in the property tax base attributable to net new construction. With the approval of a referendum by a majority of local voters, these levy limits can be permanently increased. Zabel's research makes use of data on 208 of the 351 Massachusetts cities and towns and thirty-one years of override data (from 1982 to 2012). Over this period, the annual number of override attempts ranged from 31 to 548 and the percentage of wins ranged from 33 percent to just over half.

Previous research had shown that not all towns are equally likely to pass overrides, and specifically that high-income towns were more likely to be successful in passing one. Zabel hypothesizes that the greater likelihood for high-income towns to pass overrides could account for some of the increasing segregation across school districts in Massachusetts from the 1980s to the present. He finds towns that pass overrides have lower minority enrollments than those towns that don't. Furthermore, he finds successful overrides earmarked for schools reduce nonwhite enrollments in a town's schools by nearly 7 percent four years after the successful override. Presumably this is because successful overrides are a signal that attracts households with high demand for education and deters households without such a high demand. In sum, Zabel concludes that the override process linked to Proposition $2\frac{1}{2}$ has the unintended consequence of increasing racial segregation across school districts in Massachusetts.

Phuong Nguyen-Hoang examines unintended consequences of a different kind in "Tax Increment Financing and Education Expenditures: The Case of Iowa." Tax increment finance (TIF) is a tool now used in forty-eight states to either reduce blight or promote economic development. Once a TIF district is designated, for the length of its duration the assessed value of all taxable property in the district prior to TIF designation (the base value) and any

increases in assessed value (the incremental value) are treated differently. The TIF governing authority uses some or all of the taxes on the incremental value to finance development, while property tax receipts from the base value continue to be channeled to the various overlapping jurisdictions, including school districts. Upon expiration of the TIF district, all of the incremental value and the base value can be taxed by the various overlapping jurisdictions. Nguyen-Hoang's question is how Iowa TIFs affect school spending. Iowa is an interesting case study because of its heavy TIF usage. In 2011 Iowa had 2,200 TIF districts and 86 percent of the school districts contained one or more TIF districts.

Nguyen-Hoang uses a panel data set on Iowa school districts between 2001 and 2011 to explore the effect of TIFs on the tax price of school spending and thus the demand for school spending both during and just after the expiration of a TIF district. He finds that TIFs reduce school spending modestly and do not increase spending once they expire. Considering the various types of TIFs, he finds residential and industrial TIFs reduce school spending but commercial TIFs do not. Finally, he finds that TIFs have a greater negative effect on school spending in low-income or low-wealth districts than in high-income or high-wealth districts. Based on his empirical results, Nguyen-Hoang makes several policy suggestions. Most importantly, he suggests school districts be allowed to opt out of a TIF district, as is policy in some other states, and that some of the legislative measures making it easier to approve a TIF district in Iowa, such as the repeal of the requirement that a district be characterized as blighted, be rolled back.[6]

The final two papers examine alternatives to the property tax for funding elementary and secondary education. In "The Rise of School-Supporting Nonprofits," Ashlyn Aiko Nelson and Beth Gazley construct a national panel data set of school-supporting nonprofits, which include parent teacher associations, parent teacher organizations, charitable school foundations, and booster clubs. They report the number of such organizations increased by 230 percent from 1995 to 2010 and their revenues increased from about $197 million in 1995 to $880 million in 2010. But on a per pupil basis, these school-supporting nonprofits are still very small. Average per pupil voluntary contributions from these nonprofits were about $28 in 2010 while in that same year average per pupil spending in K–12 schools was $10,615.[7]

Nelson and Gazley's empirical analysis highlights several important patterns. Larger districts are more likely to receive revenues from a

6. For an overview of the state requirements for TIF programs, see Kenyon, Langley, and Paquin (2010, pp. 70–71).
7. The U.S. Census Bureau (2014) reports that in fiscal year 2012, 2.5 percent of total public elementary and secondary school revenue came from "voluntary contributions and other local revenues."

school-supporting nonprofit, and the more well-off districts (measured by property tax revenues per pupil, education levels, household income, and unemployment rates) are more likely to receive revenues from school-supporting nonprofits and receive higher per-pupil contributions. Most importantly, the data show that contributions from school-supporting nonprofits do not generally serve as a substitute for property tax financing. Instead, school districts with higher revenues from federal sources and from property taxes also have higher contributions from school supporting charities.

In "So Slow to Change: The Limited Growth of Nontax Revenues in Public Education Finance, 1991–2010," Tom Downes and Kieran M. Killeen look at additional potential revenue sources that could supplement or substitute for property taxes. They hypothesize that just as state and local governments generally increased their reliance on charges and miscellaneous revenues (which include fees) significantly in the 1970s, school districts might increase their reliance on fees and other sources of local nontax revenue in response to the fiscal constraints of the Great Recession. They analyze Census data on student fees, including those for student transportation and school lunches, and on other miscellaneous nontax revenues.

Downes and Killeen find these revenues grew from FY1992 to 2011, but at a slower rate than other revenue so that fees and miscellaneous revenues became a smaller fraction of total revenue. By FY2011, fees and miscellaneous revenues were still under $400 per pupil. Downes and Killeen offer two major hypotheses for the lack of growth in these revenues.[8] One is that in schools the opportunity for fee-based financing appears to be quite limited. Another is that school districts and other governments may be more likely to change their financing structures, including a greater reliance on fees and other nontax revenues, in the face of long-term structural changes (such as the imposition of tax and expenditure limitations) than as a reaction to an economic downturn, which is by its very nature a temporary phenomenon.

CONCLUSION

Three central themes emerge from the papers in this special issue. The first is the potential for unintended consequences to arise from state legislation. Eom et al. find New York's prominent property tax relief program, STAR, induces voters to increase school spending and raise property taxes, thereby undercutting much of the intended property tax relief. Zabel finds property tax overrides in Massachusetts have led to increased racial segregation. And

8. According to U.S. Census Bureau (2014) data, in 2012 charges and other local nontax revenue accounted for 5 percent of total public school revenues.

Nguyen-Hoang finds the use of TIF in Iowa has led to modest reductions in education spending.

A second theme is the potential for state school finance and property tax policies to provide greater advantages for high-wealth or high-income school districts than for low-wealth or low-income districts. In some cases, this pro-wealthy tilt is an explicit program feature, such as with the sales price differential adjustment factor in STAR, which channels a disproportionate amount of property tax relief to the wealthiest school districts, and with Michigan's state aid system, which sends about 7 percent more state aid per pupil to the wealthiest districts than other districts. In other cases, the tilt toward districts that are already more well-off arises in more indirect ways. Chakrabarti, Livingston, and Roy find high-wealth school districts are more likely to respond to cuts in state aid by increasing property tax revenues. Zabel notes higher income towns are more likely to pass property tax overrides. Nguyen-Hoang finds TIFs have a greater negative effect on school spending in low-income or low-wealth districts than in high-income or high-wealth districts. Finally, Nelson and Gazley find well-off districts are more likely to receive revenue from school-supporting nonprofits and their per-pupil contributions tend to be higher.

A third theme is the enduring importance of the property tax in the funding of public education in the United States. As demonstrated by the papers by both Nelson and Gazley and by Downes and Killeen, nontax revenue plays a relatively minor role in the funding of public schools. Also, there exists no evidence that the share of revenue from student fees and charges, school-supporting nonprofits, or from miscellaneous nontax revenues has increased during or after the Great Recession.

These findings suggest that in order to ensure sufficient funding for public education into the future, efforts should be made to make the property tax a more appealing source of revenue. These property tax improvements might include the expansion of well-designed targeted property tax relief programs (such as circuit breakers), the adoption of property tax deferral programs for taxpayers facing high property tax burdens or rapid increases in their property tax bills, and improvements in tax administration that focus on increased transparency.

Given the great diversity in school finance and property tax systems across the United States and the fiscal challenges ahead, the papers in this special issue cannot possibly provide insights into the full range of policies needed to assure adequate and equitable funding for public education. However, it is our hope these papers will be thought-provoking for both policy makers and researchers, and also inspire additional research on property taxation and school funding.

The authors want to thank Bethany Paquin for her excellent research assistance and editing suggestions and Joan Youngman for her helpful suggestions on a previous draft.

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