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Measuring the Impact of Tax and Expenditure Limits on Public School Finance in Colorado

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Abstract

This research explores the effect of tax and expenditure limitations, especially the Taxpayer's Bill of Rights (TABOR), on school finance in Colorado. It quantifies the distributional and equity effects of property tax burdens on the median household in each of Colorado's school districts. Through regression analysis and descriptive statistics we find that property taxes have become more unequal and less progressive as a result of TABOR induced distortions in school finance. Through a simulation we find that just over 80 percent of Colorado taxpayers are paying more in school property tax because of TABOR-caused drastic mill levy reductions in certain districts.

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Introduction

> Limitations … are shaping the [public] sector in unintended ways. … While the effects are often asymmetrical, they are not random. They produce both general and varied effects. Effects vary by type of government and service subgroup, and by the demographics of resident populations. These constraints are producing systematic effects which are reshaping the local public sector, distorting fiscal and service delivery structures (Mullins 2004, 146-147).

Tax and expenditure limitations (TEL) matter. While research is inconclusive as to whether they consistently result in their stated effect of reducing the size and scope of government (Resnick 2008), it is universally agreed that they have unintended consequences. Many of these consequences are distributional, and among the more significant distributional impacts is that on school finance. In Colorado, these impacts are myriad. They affect the source of funding for schools as well as inter-district and inter-taxpayer tax burden equity. It is largely the taxpayer burden impacts that are the subject of this report, particularly as they relate to the impacts on property tax burdens across taxpayers in Colorado's 178 school districts.

Over the years, Colorado has become increasing less reliant on the local property tax and increasingly more reliant on state aid for the funding of public schools. On its face, Colorado's experience is not all that different from other states in the country. "…court ordered [school] finance reforms have undoubtedly played a role in bringing about the observed decreased reliance on local property taxes and increased reliance on state funding of education (Blankenau and Skidmore 2002, 52). However, while Colorado's outcome mirrors those of the nation, its path to this outcome differs greatly. As we acknowledge below, court ordered reform in other states undoubtedly influenced education finance policy in Colorado. However, and more significantly, the continuing shift in Colorado has been locked into the state constitution by a series of somewhat independent but certainly interrelated policy actions begun in the 1980s and continuing through the early 2000s. Specifically, it was the interaction of Colorado's most recent public school finance act, its TELs, and interaction with other constitutional mandates that resulted in the ever increasing funding shift in Colorado.

In Colorado the funding shift is only the start of the story. The shift for funding schools from property tax and onto state funding is as well documented in Colorado as elsewhere. However, our deeper exploration reveals that not only did the interaction of the state's TELs and its school finance act result in a funding shift, but that interaction also resulted in a myriad of distortions and perverse outcomes in the system of funding K-12 education. These distortions, which are the focus of this research, range from household and district equity disparities to situations in which taxpayers in demographically similar districts are facing property tax burdens that are significantly different. In addition, under the Taxpayers Bill of Rights (TABOR), the TEL designed to place a limit on all taxes paid in Colorado, taxpayers in 74 of the state's 178 school

districts currently pay more in school property taxes than they would if TABOR were never enacted. These 74 districts contain 81% of the state's population.

The following analysis is composed of four major sections:

- The literature is not silent on the impacts of TELs on school finance. The first section of this paper reviews a sample of the existing research.
- The literature review is followed by a history and chronology of Colorado's experience with TELs with a specific emphasis on how they have impacted school finance. TELs have introduced distortions, particularly with respect to the use of the property tax as a source of local funding for schools.
- The next section of this paper presents our research findings, with a specific emphasis on the distortions at the taxpayer rather than the jurisdictional level. While district level funding distortions have been studied previously in Colorado and elsewhere, the impact of TELs and school finance on tax burdens for households and other taxpayers largely has been ignored by previous studies.
- Finally, we conclude with key learnings, both for Colorado and for other states. While each state differs in its school finance formula, its existing TELs, and the specifics of any proposed TELs, findings from Colorado suggest that the interactions between limits, particularly on the property tax, and school finance schemes are likely to result in distributional impacts that serve to distort a system of school finance designed to exist in the absence of TELs.

The Literature

Researchers have been examining the effects of TELs almost since the beginning of the modern tax revolt in 1978. And while the literature is replete with studies of many aspects of TELs, the specific impact of TELs and school finance on taxpayer burdens is an area that has received very little attention. To the extent research has examined the interaction of school finance and TELs, it has predominantly focused on a political economy exploration of why TELs pass and a public finance exploration of the fiscal impacts of TELs on school finance, education spending, jurisdictional revenue and expenditure capacity, and student performance. To the extent the research has explored distributional effects, it has primarily focused on governments and not on households or other taxpayers.

In an early study, Merriman (1986) identified that TELs had distributional or distortionary effects. In his study of New Jersey, he found that not all communities[1] were equally affected by the imposition of that state's TEL. Specifically, low-density, high-tax capacity jurisdictions were found to be more adversely affected by the TEL than other jurisdictions. However, as Merriman notes, this finding is in conflict with the findings from studies of other states, leading to the conclusion that "the design of a TEL may have important distributional consequences" (Merriman 1986, 360). An earlier study of Colorado showed similar findings. "Even though the

[1] A community level analysis in New Jersey is germane to our work here on school districts as the majority of school districts in NJ are contiguous with and funded through the municipalities.

comprehensive TABOR amendment was applicable to all governments uniformly, the resulting consequences were not uniform to all governments. Municipalities of smaller population have been more constrained than municipalities of larger population" (Brown 2000, 46). Further distributional impacts of TELs were found by Mullins and Joyce (1996), this time between state and local government. Their research demonstrates increased centralization at the state level, increased use of nontax sources of revenue at the local level, and an increasing lack of capacity for local governments to respond to the needs of certain populations, leading to potential equity distortions in the jurisdictions covered by the TEL. In later studies perhaps the most germane for this research, Mullins (2004) showed that limits had a significant impact on revenue and expenditure disparity across a nationwide panel of 38,804 general purpose governments, including school districts, and Green and Weiss (2009) provide a framework for quantifying the equity and distributional impacts of property tax expenditures in Wisconsin.

Researchers have also explored K-12 service level disparities in the presence of TELs. Figlio (1998) explores the effects of local TELs on the provision of school services in Oregon under Measure 5. Oregon's TEL was shown to have two specific impacts: it adversely affected the provision of school services by raising student-teacher ratios and this same effect did not extend to administrative expenditures. The ratio of administrative to instructional expenditures did not decline in the presence of the TEL, suggesting that TELs in Oregon resulted in direct impact to the level of service provided in the classroom. At the district level, Figlio also found distributional effects; not all districts were affected equally by the TEL. "…my analysis of the distributional effects of Measure 5 suggests that some school districts have been affected much more than others" (Figlio 1998, 58).

From a political economy perspective, Blankenau and Skidmore, in their 2002 and 2004 research, explore the interrelationships between TELs and school finance, with a particular emphasis on court ordered reform. In 2002, they explore the impact of education reform on TELs but not the opposite relationship. Building on the argument by Fischel (1989) that the Serrano decision disrupted a political equilibrium and ultimately facilitated the passage of Proposition 13 in California, the authors extend Fischel's California finding by studying all referendum states for the period 1978-1990 and conclude that court ordered education reform does, in fact, increase the chance that a state will successfully enact a TEL.

In their later work, Blankenau and Skidmore (2004) examine the joint relationship of education reform and TELs on education spending. They find that TELs and court ordered reform cannot be considered separately when examining school finance. Specifically, their findings indicate that in states with court ordered reform but no local TELs, the mandated reform has no effect on local school funding. However, in states with court ordered reform and local TELs, the mandate serves to reduce local own-source school funding. Furthermore, and of direct interest for our work because of its suggestion that TELs introduce distributional effects and distortions into existing systems of school finance, the authors find that "court-ordered reform absent TELs has no effect on aggregate own-source spending, a positive effect on state aid, and a positive net effect on total expenditures. However, reform in the presence of TELs has no effect on total education spending but reduces own-source spending and increases state aid. Thus the findings suggest that if increased state aid has been allocated primarily to poorer districts, … the cost has

been that wealthier districts have reduced overall spending when TELs are present" (Blankenau and Skidmore 2004, 141).

The literature supports the contention that TELs introduce distortions into the system of funding and the provision of public education services. However, the level of analysis in each of these studies is the jurisdiction. With the exception of early analyses of California in the wake of Proposition 13 (O'Sullivan, et al, 1995), little has been written on distortions to taxpayer burdens. And, in California the impacts to horizontal equity under the provisions of Proposition 13 were somewhat transparent; acquisition value systems always affect horizontal and perhaps vertical equity. In this sense, one might reasonably argue that Proposition 13 was designed to distort. In Colorado, the distortions were not immediately obvious; it is only with more than 20 years of hindsight that the multiple distortions are presenting themselves.

TELs and School Finance in Colorado

> The imposition of tax and expenditure limitations on the local public sector is likely to result in local structural adjustments in fiscal and service delivery responsibility as governments attempt to evolve mechanisms to continue to satisfy demands for local public services. This may have serious implications for the ability of local populations to exercise voice and control over the totality of the public service/tax package made available to them and, thus, the accountability and responsiveness of government. It is also likely that the effect across local jurisdictions is not uniform. Some governments may be constrained more than others, resulting in a relative reduction in the ability to meet the needs of populations in more constrained settings. ***The outcome with regard to local discretion may be one of an asymmetric truncation of the ability to exercise local choice, such that the variation in service availability across jurisdictions increases. While this increased variation may superficially appear as Tiebout inspired, it will be driven not by responsiveness to local desires, but by a reinforcement of differential abilities to respond*** (Mullins 2004, 118, emphasis added).

In 1956, Tiebout argued that people vote with their feet and select communities with the package of tax burdens and services that best suits them. "Just as the consumer may be visualized as walking to a private market place to buy his goods, the prices of which are set, we place him in the position of walking to a community where the prices (taxes) of community services are set. Both trips take the consumer to market" (Tiebout 1956, 422). But, as Tiebout also argues, and Mullins highlights, this model holds when the tax burden and service level differences between communities are a result of the quasi-market interaction between buyers (citizen residents) and sellers (the manager of the community).

As demonstrated in this section, the core district level disparities in Colorado did not result from the quasi-market interactions between residents and their government (school district in this case) but rather as a consequence of the specific interactions of statewide policies of school finance and constitutional limitations. An explanation of Colorado's school finance system and its constitutional TELs and spending mandate is helpful in seeing the dynamics that are driving the distortions in property tax support for schools.

School Finance in Colorado

As is the case with many other states, Colorado's primary role in the state funding of K-12 public education is framed by two original provisions of the Colorado Constitution. The first provision, found in Article IX, Section 2, directs that:

> The general assembly shall, as soon as practicable, provide for the establishment and maintenance of a **thorough and uniform system** of free public schools throughout the state, wherein all residents of the state, between the ages of six and twenty-one years, may be educated gratuitously. [*Emphasis added.*]

The second provision, Article IX, Section 15, requires that:

> The general assembly shall, by law, provide for organization of school districts of convenient size, in each of which shall be established a board of education, to consist of three or more directors to be elected by the qualified electors of the district. **Said directors shall have control of instruction in the public schools of their respective districts.** [*Emphasis added.*]

From one perspective, these provisions appear to be contradictory. After all, how can a system be "uniform" if control over each component of the system is vested in (currently 178) locally elected school boards? Over the course of Colorado's history, the General Assembly has resolved this apparent contradiction by determining that its primary role is providing school districts equalized access to financial capacity, while the role of local school boards is largely administrative, supervisory, and curricular. For this reason, the primary aim of the state's school finance acts throughout its history has been to guarantee the revenue-raising capacity of the state's very disparate school districts through a variety of financial mechanisms. In addition, over the past four decades, the state has also attempted to equalize the total per-pupil spending of districts based on enrollment characteristics and other factors. At the same time, each district makes local determinations about the delivery of educational services and whether to exceed the level of funding provided by law by imposing additional local taxes.

The diversity of property tax base characteristics among the 178 school districts in Colorado, however, has resulted in tax base disparities among Colorado's school districts that have been too large for the state to overcome through any financing formula. In FY 2014-2015, for example, the assessed value per pupil ranged from a high of $3,722,144 in Pawnee (Weld County) to a low of $16,028 in Edison (El Paso County). In other words, Pawnee's tax base per pupil was 232 times higher than Edison's. While districts with low property wealth per pupil receive almost their entire school finance act funding from the state, little or no state support is provided to districts with high property wealth per pupil. Historically, districts with very high property wealth per pupil have received a set minimum amount of state aid.

Over the past 40 years, Colorado has used three basic mechanisms to determine the local and state shares of school funding. From 1973 to 1988, the school finance act employed a "modified power equalization" formula in which the state guaranteed the ability of each district to generate a specified revenue amount per mill for each pupil every year. Districts with low property wealth per pupil were backfilled by state aid up to the state guaranteed amount, while districts with high wealth per pupil were provided a "minimum guarantee." The 1973 act also set an amount of total combined state and local revenue per pupil that each district was authorized to receive each year. Because the state controlled both the total amount of funding per pupil and the state-guaranteed

amount that the tax base of each district could generate per pupil, it was able to control the growth of the local and state shares each year. The percentage shares of school finance act funding provided by state aid and the property tax were determined annually in each year's school finance bills enacted by the legislature and the Governor. Under the formula, districts that wanted to raise and spend more property taxes than permitted under the formula were allowed to levy additional mills either by a state board or by a local election. These additional mills are considered override levies and will be referred to as such in the remainder of this analysis.

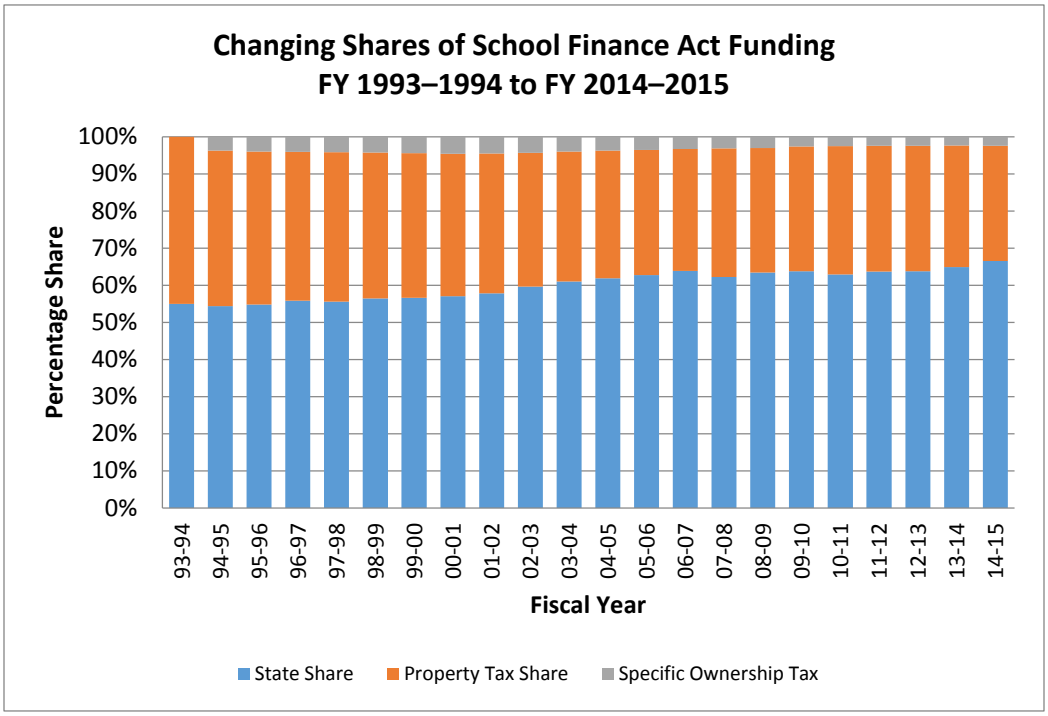
Although in 1982 Colorado's Supreme Court found the state's school finance act to be constitutional, the threat of pending litigation and mounting pressure from school districts motivated the General Assembly to replace the 1973 school finance law in 1988. The Public School Finance Act of 1988 determined total funding for school districts by calculating district costs per classroom unit, which varied with each school district's "setting category." Setting categories were intended to provide largely similar amounts of funding to similar districts that shared the same geographical and enrollment characteristics. The local share of funding for each district was to be provided, in most cases, by a uniform statewide mill levy. At the time the act was passed, some districts' levies were substantially above the uniform rate and others were substantially below. The levies of many districts were forced to migrate to the uniform rate over a phase-in period. By controlling the dollar-amount increases associated with classroom units in each district, as well as the uniform mill levy and phase-in period, the legislature was able to control the growth of the state and local shares of school finance act funding.

The 1988 act allowed the state to maintain its flexibility in determining the property tax and state aid shares of school funding. Under this construct, the state could have transferred burden to the local property tax, resulting in an acceleration of the local share and allowing the state to protect the General Fund from an increasing responsibility to fund schools. However, the state chose to do just the opposite. In the late 1970s, surplus General Fund money was appropriated to reduce local property taxes throughout Colorado. In the late 1980s and again in the early 1990s, the state increased its share in order to hold down local property taxes. Statewide property taxes for schools were held below the 1989 nominal levels for five years through 1994.

School districts became increasingly dissatisfied with the 1988 act after a relatively short lifespan. The 1988 act was repealed and replaced in 1994 with the school finance law that is still in effect today, which calculates total funding for districts using a per-pupil base amount that is uniform throughout the state but adjusted for the enrollment size of each district, the number of "at-risk" children, and a factor intended to recognize the diverse costs of living in different parts of the state. As with prior acts, school finance funding is a shared responsibility of the state General Fund and local school district property taxes with a small share coming from the local school districts' allocation of specific ownership (motor vehicle) tax receipts. The 1994 act continued the uniform levy concept embedded in the 1988 act, but levy increases for districts below the uniform rate were stalled by the mill levy limit imposed by TABOR. Again, local districts were allowed to levy additional override mills to enrich their educational programs if authorized through an election, but the overrides were initially limited to a variance of 20% of total program funding initially, increased to 25% during the 2009 legislative session.

For the decade and a half after passage of the Public School Finance Act (PSFA) of 1994, the state's percentage share of funding began to rise steadily. This was not due to any specific provisions of the act itself, but rather as a result of limits placed in Colorado's constitution. The change in state and local shares over this period is shown in Figure 1. The local share, provided mostly by property taxes, slowly declined, putting the state in the position of paying for its portion of school spending increases while also having to provide state funding to make up for the amount of school funding that property taxes could not provide.

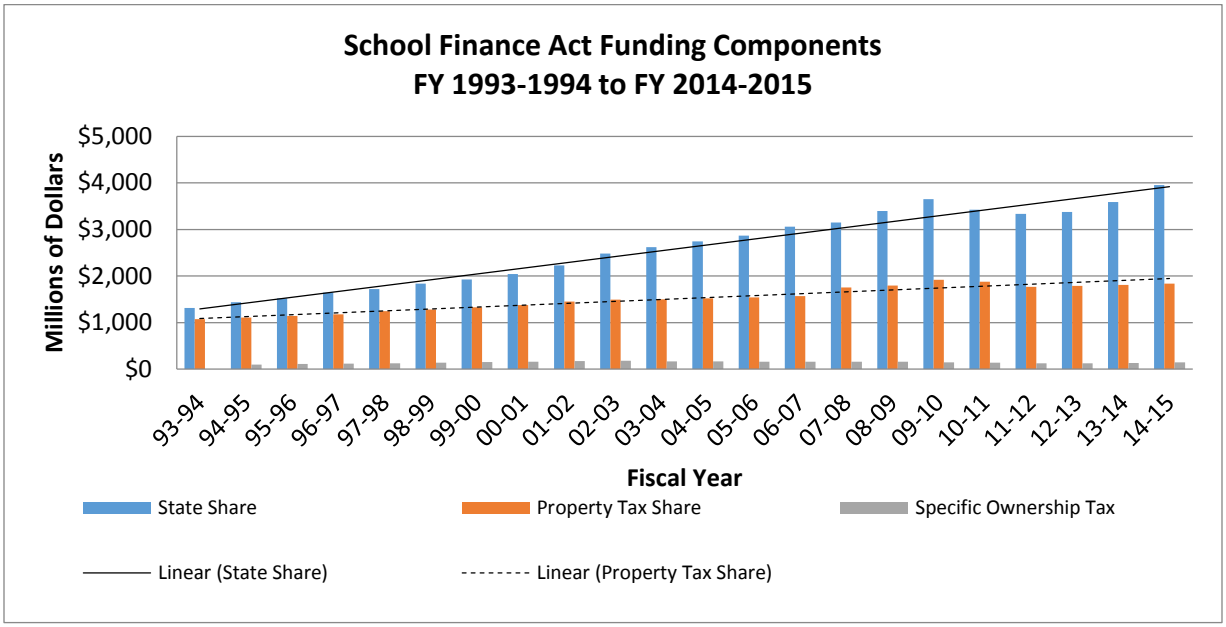
Figure 1: Changing Shares of School Finance Act Funding



Source: Colorado Department of Education

Over the period shown in Figure 2, the total school finance program rose by 147 percent. School district property taxes rose by 83 percent, so state funding was forced to grow by 200 percent.

Figure 2: School Finance Act Funding Components



Source: Colorado Department of Education

In previous school finance acts, Colorado's General Assembly and Governor made straightforward policy decisions regarding the appropriate balance between state and local funding proportions. But the state's power to make this determination under the 1994 act has been dramatically impacted by a trio of constitutional amendments: the Gallagher Amendment (1982) and TABOR (1992), which have held down local property taxes, and Amendment 23 (2000), which put additional pressure on the state to finance annual funding increases for schools.

The Gallagher Amendment

The Gallagher Amendment (Gallagher) was one provision of a comprehensive constitutional property tax reform measure referred to voters by the General Assembly at the 1982 general election. This provision set the assessment ratio[2] for most nonresidential property at 29 percent of actual value and the assessment ratio for residential property at 21 percent of actual value. It also required that the residential ratio be reset during each biennial reassessment cycle to ensure that residential property would not grow as a percentage of the total taxable valuation base statewide. Beginning in 1987 and over the following two decades, as population growth and

[2] In Colorado, the assessment ratio determines the percentage of a property's value subject to property tax. So under the 1982 ratios set forth originally in the law, the property was valued for tax purposes in the following way: For a $100,000 valued residential property with an assessment ratio of 21%, $21,000 of value would be subject to the property tax mill levy. For an equally valued $100,000 nonresidential property with an assessment ratio of 29%, $29,000 of value would be subject to the property tax mill levy. As discussed later in this section, since the 1982 enactment of Gallagher, the residential assessment ratio has fallen to a current 7.96% while the non-residential rate remained at 29%. Today, for those same $100,000 properties, the residential property would be taxed on a value of $7,960 while the nonresidential property would still be taxed on $29,000 of value.

rising home values led to stronger growth in residential properties relative to the rest of the tax base, the residential assessment rate was reduced in order to comply with the Gallagher requirements.

TABOR

TABOR was initiated to the Constitution by voters in 1992. It contains four provisions affecting the calculation of total funding entitlements and the state and local shares of each school district's funding:

- **A prohibition on assessment ratio increases** without statewide voter approval resulting in the continued reduction of the residential assessment ratio even during periods when it would have otherwise been increased due to market conditions (Article X, section 20(4)(a)).

- **An overall spending limit** for each district, consisting of the district's prior year spending base plus enrollment and inflation. This restricts annual growth in total program support for each district (Article X, section 20(7)(b)).

- **A property tax revenue limit** of each district's prior year property tax collections plus enrollment growth and inflation (Article X, section 20(7)(c)).

- **A provision prohibiting mill levy increases** without voter approval (Article X, section 20(4)(a)).

Amendment 23

Amendment 23, an amendment to the Colorado Constitution that originated through the initiative process in 2000, contains four major provisions that require:

- **Increases in statewide base per-pupil funding** of at least inflation (as measured by the Consumer Price Index for Denver-Boulder-Greeley) plus 1 percent for 10 years from FY 2001–2002 to FY 2010–2011, and by the rate of inflation after that (Article IX, section 17(1)).

- **Increases in funding for categorical programs** of at least the minimum rates of increase set for the per-pupil funding base (Article IX, section 17(1)).

- **Transfers of an amount equivalent to one-third of 1 percent of federal taxable income (about 7.2 percent of state income tax collections) to a State Education Fund**, which the amendment created outside the TABOR and General Fund appropriations limits (Article IX, section (4)).

- **Restrictions on the state from using the newly created State Education Fund to supplant General Fund appropriations** by creating a maintenance-of-effort requirement. This mandates an increase in General Fund appropriations by a minimum of

5 percent per year for the first 10 years as long as state personal income growth in each year was 4.5 percent or more (Article IX, section 17(5)).

So What Happened? First Gallagher Affected Local Property Tax Bases

Under the Gallagher Amendment, the residential assessment rate was reduced from 21 percent to 18 percent in 1987 and subsequently adjusted downward six times to a rate of 9.74 percent in 1997. The rate remained constant until 2001, when it was reduced to 9.15 percent. It was lowered to its current level of 7.96 percent in 2003. Studies conducted by the state Division of Property Taxation determined that, absent the assessment-ratio increase prohibition in TABOR, the rate would have climbed four times between 1998 and 2009. Figure 3 compares the percentage distribution between actual and assessed values for residential and nonresidential property, along with the applicable residential assessment rate for 1984 through 2014. The table shows that by 2014 actual residential values make up a little more than 75 percent of total property values, but only 42.6 percent of the tax base.

Figure 3: The Gallagher Amendment's Effect on Tax Base

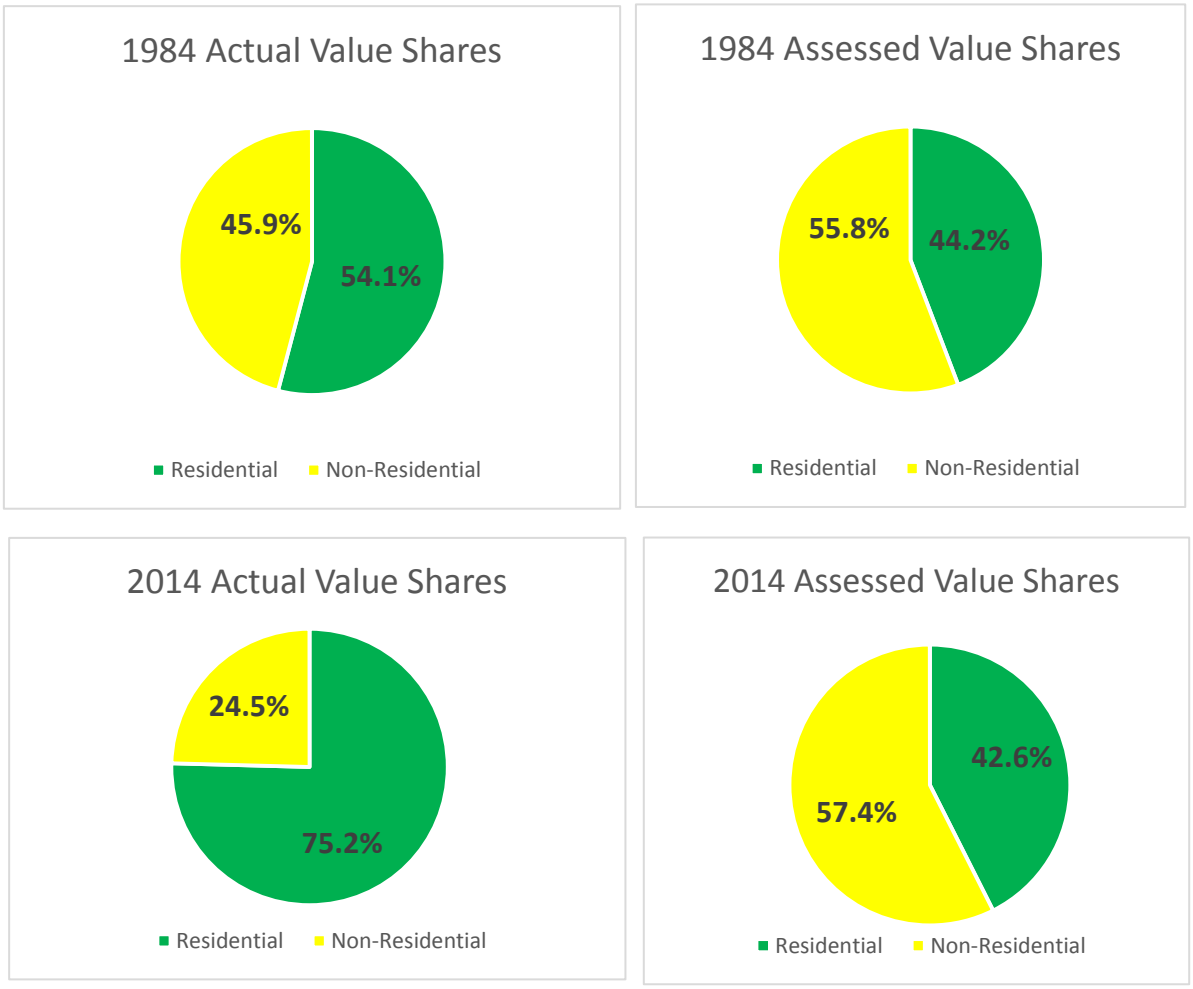
Year	Share: Residential Actual Value	Share: Non-Residential Actual Value	Residential Assessment Rate	Share: Residential Assessed (Taxable) Value	Share: Non-Residential Assessed (Taxable) Value
1984	54.1%	45.9%	21.00%	44.2%	55.8%
1985	54.4%	45.6%	21.00%	44.5%	55.5%
1986	54.8%	45.2%	21.00%	45.0%	55.0%
1987	60.8%	39.2%	18.00%	48.4%	51.6%
1988	61.4%	38.6%	16.00%	46.0%	54.0%
1989	62.5%	37.5%	15.00%	45.5%	54.5%
1990	63.1%	36.9%	15.00%	46.1%	53.9%
1991	63.7%	36.3%	14.34%	45.6%	54.4%
1992	64.7%	35.3%	14.34%	46.5%	53.5%
1993	67.1%	32.9%	12.86%	46.4%	53.6%
1994	67.5%	32.5%	12.86%	46.8%	53.2%
1995	71.8%	28.2%	10.36%	46.7%	53.3%
1996	72.0%	28.0%	10.36%	47.0%	53.0%
1997	72.3%	27.7%	9.74%	45.9%	54.1%
1998	72.6%	27.4%	9.74%	45.9%	54.1%
1999	72.6%	27.4%	9.74%	46.3%	53.7%
2000	72.9%	27.1%	9.74%	46.6%	53.4%
2001	74.8%	25.2%	9.15%	47.1%	52.9%
2002	75.3%	24.7%	9.15%	47.7%	52.3%
2003	77.5%	22.5%	7.96%	47.7%	52.3%
2004	77.7%	22.3%	7.96%	47.1%	52.9%
2005	77.8%	22.2%	7.96%	46.9%	53.1%
2006	77.8%	22.2%	7.96%	46.1%	53.9%
2007	77.6%	22.4%	7.96%	46.2%	53.8%
2008	77.6%	22.4%	7.96%	46.2%	53.8%
2009	76.1%	23.9%	7.96%	43.3%	56.7%
2010	77.0%	23.0%	7.96%	46.1%	53.9%
2011	76.3%	23.7%	7.96%	44.3%	55.7%
2012	76.2%	23.8%	7.96%	43.9%	56.2%
2013	75.6%	24.4%	7.96%	43.4%	56.6%
2014	75.5%	24.5%	7.96%	42.6%	57.4%

Source: Colorado Department of Local Affairs, Division of Property Taxation

The pie charts contained in Figure 4 further demonstrate how Gallagher has distorted the property tax base in Colorado since the early 1980s. The difference between the percentage shares of actual and assessed values indicates the amount of the residential tax base that is no

longer available to support the local share of school funding. We estimate that statewide residential assessed values would have been $63.88 billion higher in 2014 if the original assessment rate for residential property had remained at 21 percent.

Figure 4: Actual and Assessed Value Shares Under Gallagher



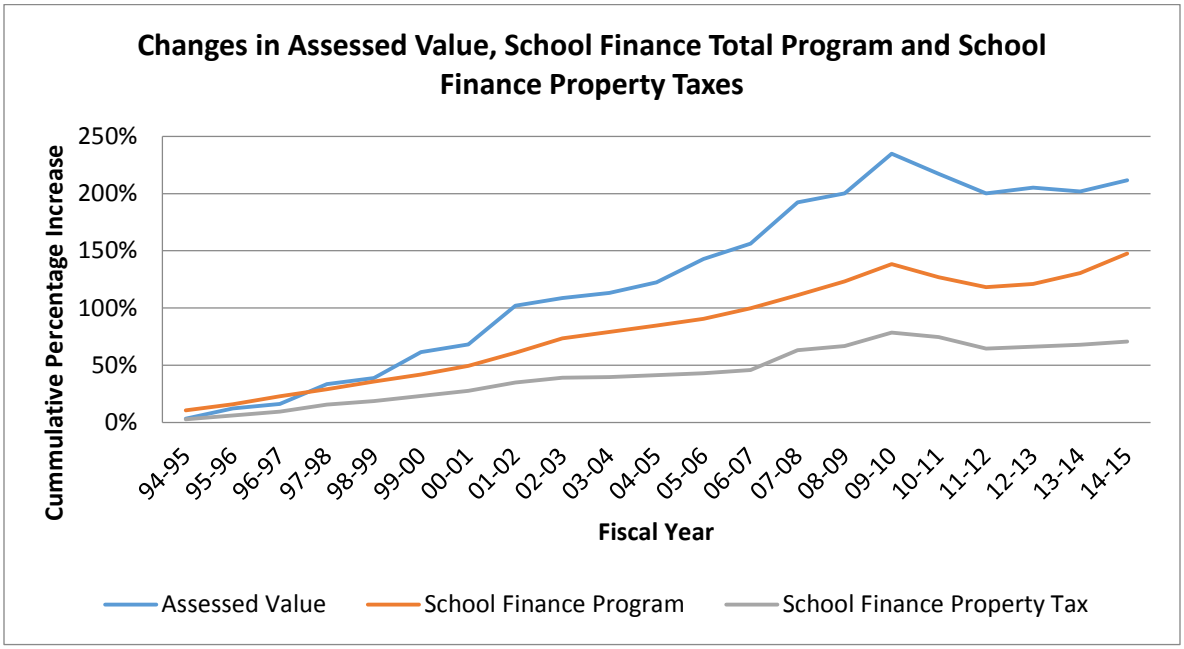
Source: Colorado Department of Local Affairs, Division of Property Taxation

The distortion in property tax base caused by Gallagher manifests itself, district by district, in the specific circumstances surrounding the productivity of the local property tax in supporting the local share of school funding. This is further complicated by the fact that the residential assessment rate is set statewide. Each of Colorado's 178 school districts must accept the statewide calculation of the assessment rate for residential property without regard for the specific split between residential and nonresidential property in the district.

Figure 5 compares the cumulative growth rates of statewide assessed values, statewide total program funding for schools and total school district property tax collections from FY 1994–1995 to FY 2014–2015. At first glance it appears that the property tax base is sufficient to fund the local share of the school finance act. However, in actuality property taxes are levied locally by each of the state's 178 school districts, their tax bases vary dramatically, and the economic dynamics affecting the various components of each district's tax base cause even greater variability over time. In addition to tax base variations, enrollment variations also significantly impact the property tax mill levies needed to sustain the local share.

For example, in districts with very high growth rates in components of their tax bases and relatively slower growth in enrollments, the growing tax base per pupil drives levies[3] downward, reducing the rate of property tax collections relative to the district's tax base. Districts with high concentrations of residential property also have diminished tax bases resulting from the fact that, under the Gallagher Amendment, for every $100 of actual residential value, property is assessed at only $7.96, less than one-third of the $29 rate assessed for $100 of actual value for most classes of nonresidential property.

Figure 5: Changes in Assessed Value, School Finance Total Program, and School Finance Property Taxes



Source: Colorado Department of Education and Colorado Department of Local Affairs, Division of Property Taxation

Second, TABOR Caused School Finance Mill Levies to Plummet

The history of falling school mill levies dates to the 1992 passage of TABOR. Several of TABOR's provisions (outlined above) apply: TABOR's property tax revenue limit allows district property taxes to change each year only by the rate of growth in enrollment and inflation for each district, TABOR's limits prohibit mill levies from increasing without a vote, and TABOR provides that valuation for assessment ratios (controlled by the Gallagher amendment) also cannot increase without a popular vote.

[3] It is important to note that by referring to levies here and in the remainder of this section, we are referring only to the base school program levy. As discussed later in findings, many districts have received approval from their voters for other levy components including those to pay debt service on district bonds and to augment base program expenditures with what are called override levies.

In addition, the provisions of Amendment 23 required that base per-pupil funding in Colorado increase faster than allowed by the limits in TABOR by specifying that funding be increased by statewide enrollment growth plus inflation plus 1% for the first 10 years of the amendment's implementation, and by enrollment growth and inflation each year thereafter.

The combination of these limits and spending mandates has resulted in a further shift of the funding burden for the state equalization program from the local property tax to state aid. This happens primarily due to the multiple assessed value and enrollment circumstances that occur across the state's very diverse 178 school districts over time. Some illustrations and case studies are helpful.

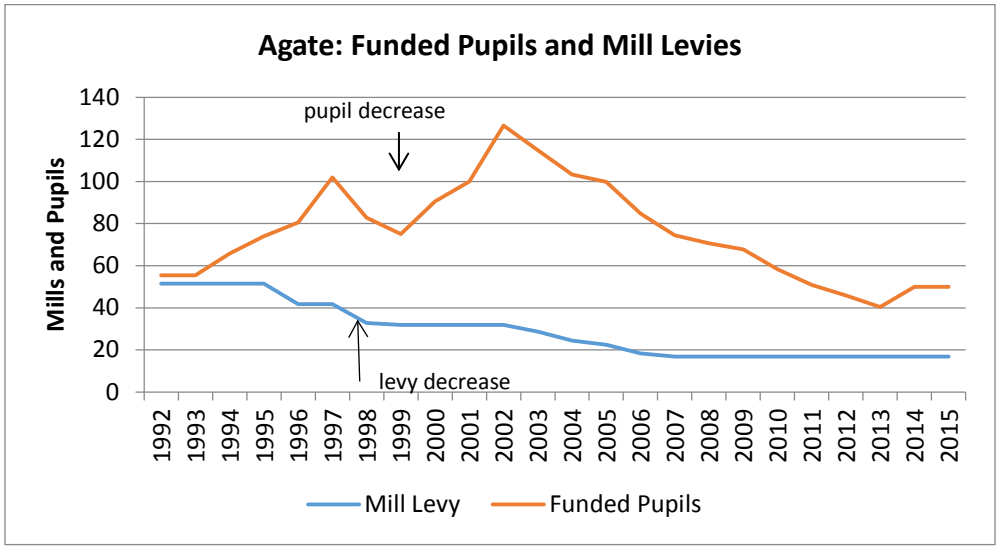
Illustration 1

Some districts have fluctuating enrollments which increase in some years but decline in others. During periods of decline the TABOR property tax revenue limit is correspondingly reduced, so the district mill levy must be reduced in order to avoid violating the district's property tax limit. Once the mill levy is reduced, it cannot be increased without a vote even if the district experiences enrollment increases in subsequent years. In subsequent years, shortfalls in per-pupil funding are made up with state aid.

Case Study 1: Enrollment fluctuations in the Agate School District leave district with permanently reduced mill levies and elevated state aid.

Agate is a small, rural school district in eastern Colorado that experienced fluctuations in its enrollment in the late 1990s, as illustrated in Figure 6. In FY 1996-1997, Agate's enrollment was at its highest level in several years. The district was levying 41.8 mills and receiving slightly less than two-thirds of its funding from the state. Over the next two years, Agate's enrollment dropped by about 25 percent. To comply with the revenue-raising limit in TABOR, the district reduced its levy by nine mills in FY 1997-1998 and by a total of 9.9 mills over the course of two years. Thus, the district did not have as much capacity to support new students when, in FY 1999-2000, the district's enrollment began increasing again, a trend that lasted four years.

Figure 6: Agate, Funded Pupils and Mill Levies

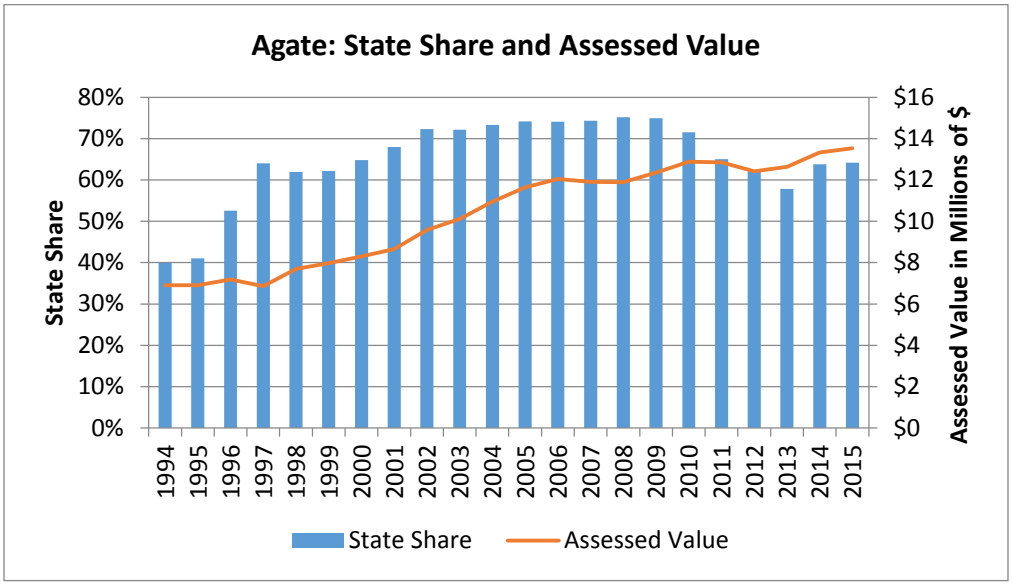


Source: Colorado Department of Education

In FY 2002-2003, the district's enrollment began trending downward, resulting in five consecutive years of levy reductions until the tax rate for the levy freeze[4] was established at just under 17 mills. Figure 7 shows the state share and assessed value for the Agate school district.

[4] In 2007, the legislature passed Senate Bill 07-199 which declared that TABOR's property tax revenue limit was no longer in force for 174 school districts. These districts had received prior voter approval for an exception from TABOR in order to receive the increased funding provided by the passage of the Public School Finance Act of 1994. This legislation is commonly referred to as the levy freeze. More specifics on the levy freeze legislation are presented later in the paper.

Figure 7: Agate, State Share and Assessed Value



Source: Colorado Department of Education

By way of background, Agate entered the TABOR era with a levy for school finance that was 29 percent higher than the prevailing levy among school districts. Agate was required to levy mills in addition to the uniform rate to pay for funding above the foundation amount provided in the act. This type of additional funding is not uncommon after a significant change in a school finance law and is frequently referred to as a hold harmless provision. When the 1994 act was passed, Agate no longer qualified as a hold harmless district, but by then state law mirrored the provisions of TABOR with respect to mill levies. State policymakers were concerned about eroding tax rates. However, in FY 1995-1996, the rates for high-levy districts were reduced. This reduction is apparent in both Figures 6 and 7.

Illustration 2

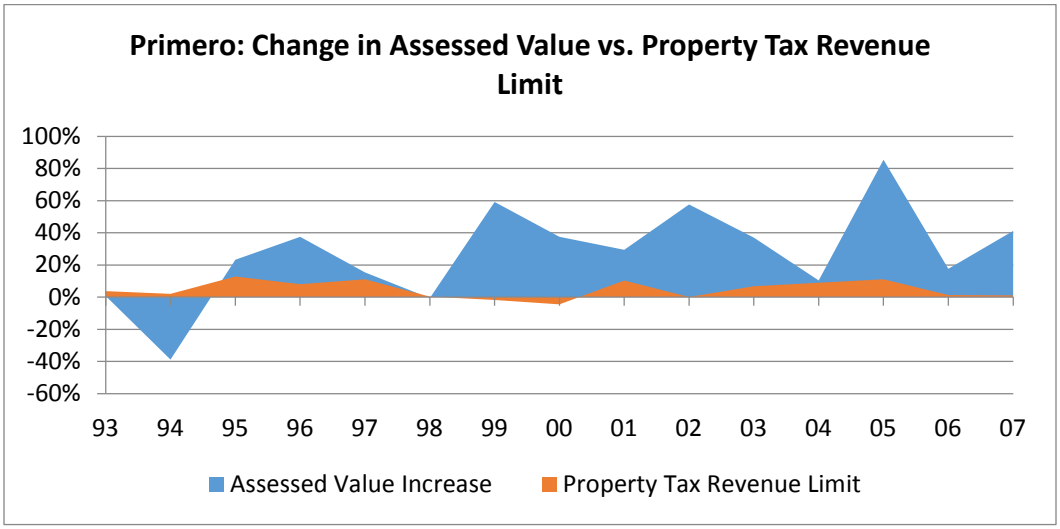
Another illustration focuses primarily on assessed value increases. In some districts, for example, mineral, oil, and gas production fluctuates. In years when production is increasing, the district's mill levy must be reduced to comply with the TABOR property tax revenue limit. In years when production declines and assessed value decreases, the mill levy cannot be increased due to the mill levy limit in TABOR. Once again, when the mill levy is reduced, it is permanently "ratcheted" down and any subsequent shortfalls are made up by state aid.

Case Study 2: Oil and gas development in the Primero School District drives mill levies down

The Primero School District provides an example of such a phenomenon. Primero is a small school district in south central Colorado, just north of the New Mexico border. In the year preceding the implementation of TABOR, the district levied the uniform rate of 40 mills on $17.1 million of assessed value, and received 44.6 percent of its total funding from the state. Even at that time, 88.5 percent of the district's tax base was made up of nonresidential property.

Almost immediately thereafter, in FY 1993-1994, the district experienced a decline in assessed value that pushed its state share to 62.7 percent. In the years that followed, through FY 2006-2007 when the property tax revenue limit was discontinued[5], the district's assessed value generally increased at a greater rate than the its property tax revenue limit as oil and gas production in the district surged. As a result, Primero's levy continually dropped so that property tax collections did not exceed those permitted under TABOR's revenue limit. By FY 2006-2007, the district's levy had fallen to its current, frozen level of 1.68 mills. Figure 8 compares Primero's change in assessed value to its property tax revenue limit under TABOR for 1993 through 2007.

Figure 8: Primero, Change in Assessed Value vs. Property Tax Revenue Limit



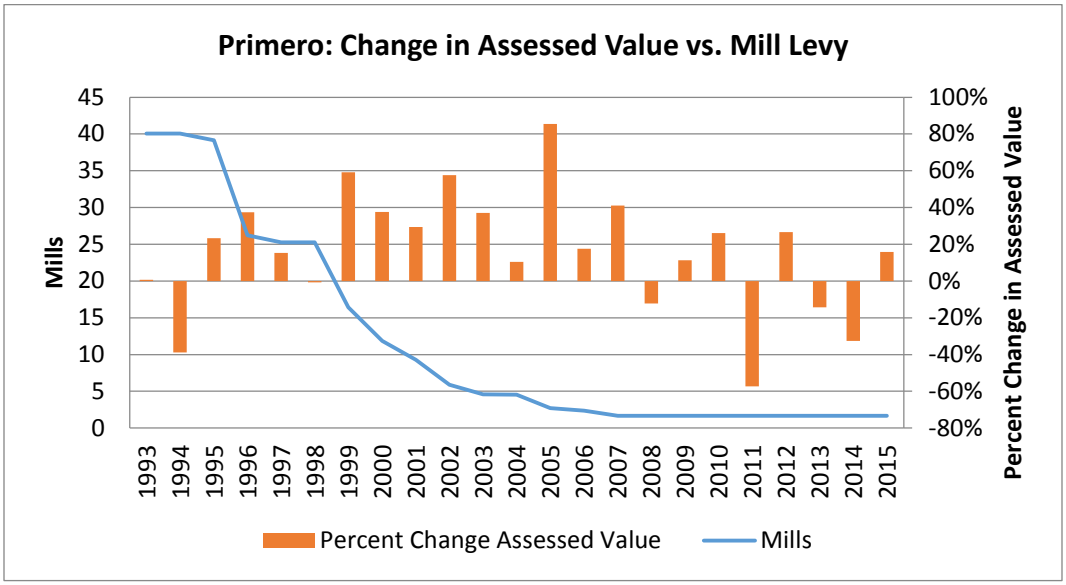
Source: Colorado Department of Education

Since FY 2006-2007, oil and gas production, which is the mainstay of the district's assessed value, has been extremely volatile. In the eight years since the district's levy was frozen, oil and gas abstract assessed value ranged from $501.3 million to $130.6 million. In these two years, the district's total abstract assessed value was $523.8 million and $163.6 million, respectively. Figure 9 depicts the percentage change in the Primero's assessed value compared to its mill levy over the entire time period since the passage of TABOR; the volatility in recent years is particularly high.

With the freeze on the district's levy, the state's contribution to the district's school finance funding changes as assessed value changes. In FY 2014-2015, the Primero School District received 81.8 percent of its school finance funding from the state. The proportion was a decrease from the FY 2013-2014 rate of 82.7 percent, but an increase from the FY 2012-2013 rate of 75.1 percent. Figure 10 shows the percentage state shares for the district since the passage of TABOR.

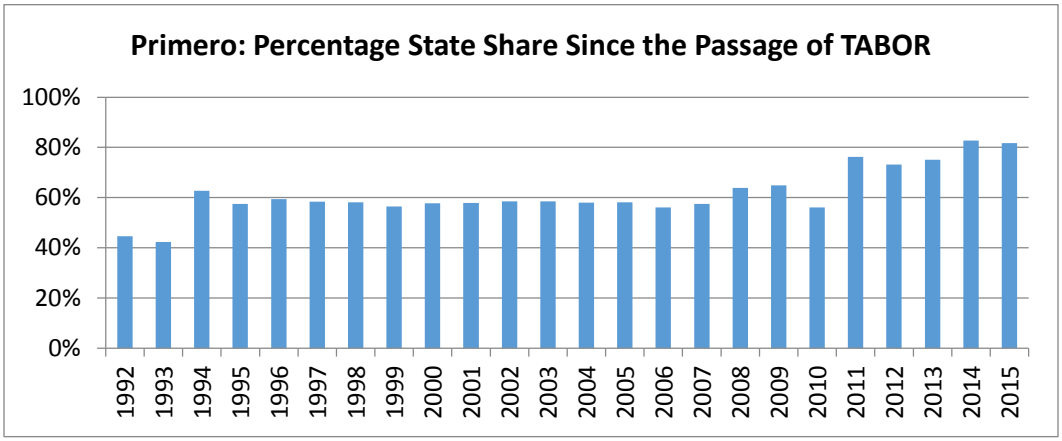
[5] For most districts the property tax limit was discontinued with the levy freeze legislation passed in 2007. See the section on levy freeze below.

Figure 9: Primero, Change in Assessed Value vs. Mill Levy



Source: Colorado Department of Education

Figure 10: Primero, Percentage State Share Since the Passage of TABOR



Source: Colorado Department of Education

The district's levy of 1.68 mills is just one-twelfth of the state average mill levy for the school finance act. Homeowners in the Primero school district pay $13.37 per $100,000 of market value for the support of schools and the median residential taxpayer pays $28.70 per year in base school property taxes.

Illustration 3

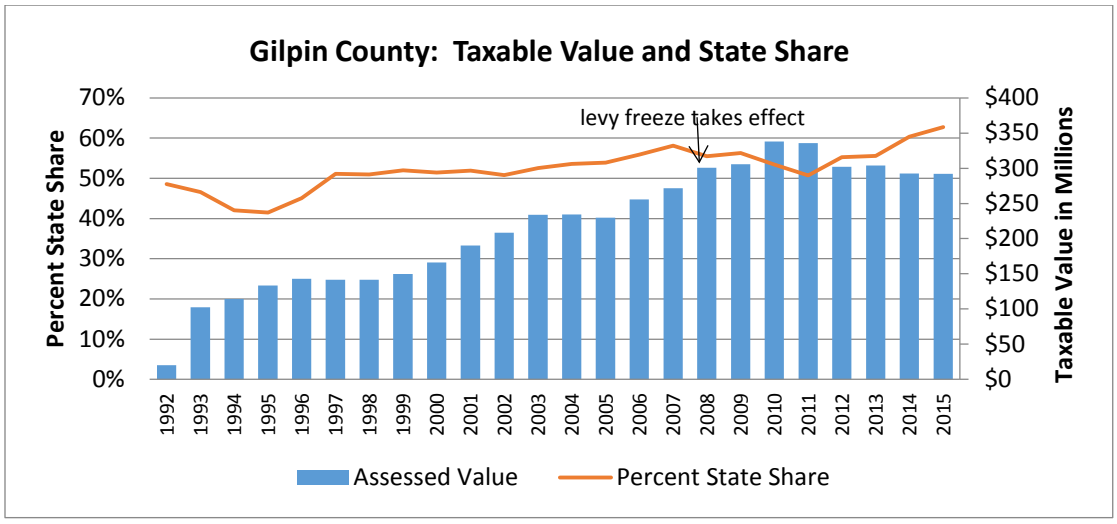
A final illustration concerns districts that have significant economic development not associated with enrollment increases (which would allow the property tax limit to increase), such as the enactment of limited stakes gaming in Gilpin and Teller Counties, construction of new major

public utilities, new oil and gas facilities, and recreational developments in mountain communities. In most cases, the precipitous growth of assessed value from these activities forces mill levies to be reduced to a fraction of the rates paid by other districts.

Case Study 3: In Gilpin County School District increases in taxable value did not reduce state aid.

In 1990, two years before the adoption of TABOR, state voters approved an initiative to permit limited gaming in three Colorado cities, beginning October 1, 1991. Two of these cities are located in Gilpin County, also the headquarters of the Gilpin County School District. In the year during which the gambling initiative was adopted, the taxable value of property located in the school district totaled $20.4 million. Two years later, and the first year the district's property taxes were subject to the revenue restrictions of TABOR, the district's taxable value quintupled. The increase in district property taxes, however, was limited to inflation plus the percentage change in enrollment, a minor change given the substantial increase in taxable value. As a result, the district's levy to support the school finance act plummeted from 40 mills to 8 mills in one year. The proportion of the district's funding from the state, at about 49 percent in the year prior to TABOR's enactment, originally began to fall but as school district per pupil funding began increasing at a rate greater than inflation, the state share of school district funding also began increasing. Today, the state pays 63 percent of the school finance cost in Gilpin County, while the district's levy of four mills is one of the lowest levies in the state and one-fifth of the statewide average levy. If the uniform levy concept that preceded TABOR were still in effect today, Gilpin County's levy, at about 13 mills, would still be low relative to the majority of school districts, but the district would fully fund its base school budget. State sales and income taxes would not be subsidizing low property tax rates in that district. Figure 11 shows this relationship for Gilpin County.

Figure 11: Gilpin County, Taxable Value and State Share



Source: Colorado Department of Education

The decrease in the tax rate is reflected in what homeowners pay in property taxes to support the school finance act. Before gambling, Gilpin County homeowners paid about $575 in property taxes per $100,000 of market value; today they pay $32. On average, homeowners statewide pay $163 per $100,000 of market value to support the school finance act.

Impacts of TABOR, the Gallagher Amendment, and Amendment 23 on School Finance Policy Over Time

When combined over time, the implications of TABOR's multiple limits, Amendment 23, and the Gallagher amendment are four fold. First, there has been constant downward pressure on mill levies in many districts that has resulted in a growing disparity in tax burden to support public education. Second, the local school property tax has been unable to reap the benefit of economic growth resulting in weaker growth of local support for schools. Third, the irreversible nature of the weakening local share and mandated spending increases is driving up the state share of school funding at a faster rate than the growth of state revenue, so school finance appropriations are consuming an ever increasing share of the state's revenue growth. Finally, with the guarantee of state aid to backfill reductions in local mill levies, school districts face no incentive to ask the voters to maintain their levies at a constant level for the base public school equalization program. Instead, districts with reduced levies gain some "breathing room" on their general operating levies providing them the opportunity to ask voters for special "override levies" for added general support, or for capital levies for facilities and controlled maintenance. As discussed later in the findings section, this dynamic may open the door to wealth-related spending disparities among districts.

This dynamic began to happen almost immediately. Initially, the School Finance Act of 1994 provided additional funding for most Colorado school districts. For most districts, the amounts authorized by the new funding formula increased by more than their spending limits allowed under the restrictions of TABOR, so they needed voter approval to retain the extra money. Because the additional funding came from the state share at no cost to district taxpayers and because local mill levies were not increased, nearly all of Colorado's 176 (at that time) school districts sought and received voter approval during the 1990s. Since school district spending limits were eased by these elections, the overall spending limits imposed by TABOR ceased to be a significant factor in the state's formation of school finance policies.

However, TABOR also separately limits both the rate and revenue derived from the property tax. Despite the easing of overall school district spending limits, TABOR's mill levy and property tax revenue limits began to force local levies downward, as described in the illustrations above, and to play a significant role in both the shift in the division of funding between state and local property taxes and inter-local tax burden disparities.

In FY 1993–1994, 12 districts had mill levies above the uniform rate of 40 mills, 64 districts had levies below the uniform rate and 99 districts were at the uniform rate. By FY 2014–2015, only 39 districts were at the maximum rate of 27 mills and 139 districts were below this rate.

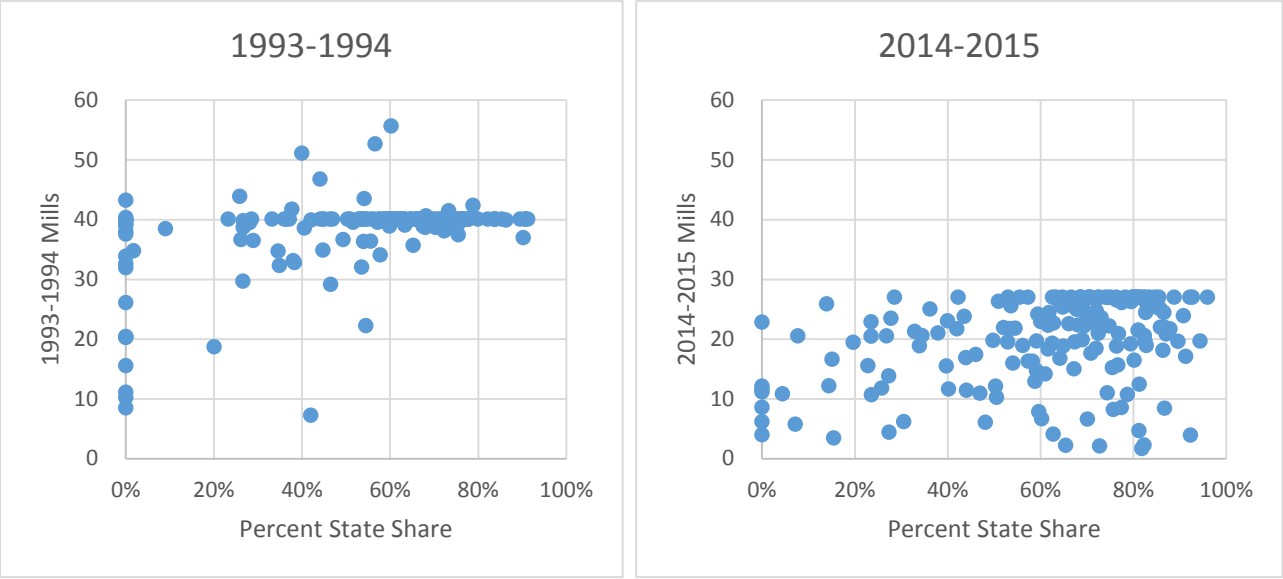
Consistent with the illustrations above, the data from Colorado show that since the 1992 passage of TABOR the assessed value of some districts grew dramatically faster than their enrollments

plus inflation. These districts were forced to lower their levies, in many cases to a level below 10 mills, to avoid violating TABOR's property tax revenue limit. Many of these same districts continued to enjoy having the majority of their funding come from the state. Generally, this phenomenon occurred in districts with significant commercial and energy production activities which serve to dramatically increase the property tax base without placing upward pressure on public school enrollments. Since future levy increases are subject to a vote under TABOR, and since the school finance formula essentially holds districts harmless in times of declining or more slowly growing valuations, shortfalls in financing program costs for schools in the districts with permanently reduced levies came from the state General Fund in the form of increasing state share.

Figures 12 and 13 depict this phenomenon over a more than twenty-year period. In FY 1993–1994, only three districts had levies of 10 mills or less, and two of the three received very little state aid. In FY 2014–2015, 21 districts had levies of fewer than 10 mills. Of those 21 districts, 13 received at least half of their total program funding from the state, four received between 15 percent and 50 percent of their funding from the state, and four received little or no funding from the state.

In the districts currently levying less than 10 mills for school programs, residential taxpayers have enjoyed property tax reductions from 59.05% to 97.41% since 1993-1994. Of the 21 districts currently taxing at a base levy of 10 mills or less, all but four have seen their state share increase and nine are in the top quartile for household income in the state. In essence, Colorado taxpayers are subsidizing extremely low levies in a small sample of districts, many of which are quite wealthy. The equity distortions caused by these phenomena are the subject of the analytic findings presented later in this paper.

Figure 12: Mill Levy vs. State Share



Source: Colorado Department of Education

Figure 13: Change in Tax Burden and State Share in Districts Currently Levying Fewer than 10 Mills, 1993-1994 to 2014-2015

District Name	2014-2015 Program Mills	2014-2015 Property Tax on $100,000 residence (RAR = 7.96)	2014-2015 Property Tax on $100,000 valued non-residential property	2014-2015 State Share	1993-1994 Program Mills	1993-1994 Property Tax on $100,000 residence (RAR = 12.86)	1993-1994 Property Tax on $100,000 valued non-residential property	1993-1994 State Share	Percent Decrease in residential property tax	Percent Decrease in non-residential property tax	Change in State Share (in % units)	District Median HH Income Rank - 2014
PRIMERO	1.68	$ 13.37	$ 33.60	82%	40.080	$ 515.43	$ 1,162.32	63%	-97.41%	-97.11%	19	54
RANGELY	2.116	$ 16.84	$ 42.32	73%	11.104	$ 142.80	$ 322.02	0%	-88.20%	-86.86%	73	32
PARACHUTE	2.231	$ 17.76	$ 44.62	65%	22.265	$ 286.33	$ 645.69	54%	-93.80%	-93.09%	11	34
IGNACIO	2.274	$ 18.10	$ 45.48	82%	36.646	$ 471.27	$ 1,062.73	49%	-96.16%	-95.72%	33	69
DEBEQUE	3.43	$ 27.30	$ 68.60	15%	39.831	$ 512.23	$ 1,155.10	0%	-94.67%	-94.06%	15	90
NORWOOD	3.91	$ 31.12	$ 78.20	92%	35.658	$ 458.56	$ 1,034.08	65%	-93.21%	-92.44%	27	63
PAWNEE	4.005	$ 31.88	$ 80.10	0%	40.080	$ 515.43	$ 1,162.32	53%	-93.81%	-93.11%	(53)	133
GILPIN	4.075	$ 32.44	$ 81.50	63%	7.250	$ 93.24	$ 210.25	42%	-65.21%	-61.24%	21	13
ASPEN	4.412	$ 35.12	$ 88.24	27%	8.491	$ 109.19	$ 246.24	0%	-67.84%	-64.16%	27	9
RIFLE	4.7	$ 37.41	$ 94.00	81%	39.689	$ 510.40	$ 1,150.98	71%	-92.67%	-91.83%	10	55
MEEKER	5.767	$ 45.91	$ 115.34	7%	32.055	$ 412.23	$ 929.60	54%	-88.86%	-87.59%	(47)	44
TELLURIDE	6.053	$ 48.18	$ 121.06	48%	10.194	$ 131.09	$ 295.63	0%	-63.25%	-59.05%	48	16
PLATTE VALLEY	6.181	$ 49.20	$ 123.62	0%	38.676	$ 497.37	$ 1,121.60	27%	-90.11%	-88.98%	(27)	11
GILCREST	6.2	$ 49.35	$ 124.00	31%	29.666	$ 381.50	$ 860.31	27%	-87.06%	-85.59%	4	59
DURANGO	6.601	$ 52.54	$ 132.02	70%	36.462	$ 468.90	$ 1,057.40	29%	-88.79%	-87.51%	41	48
CHEYENNE	6.674	$ 53.13	$ 133.48	60%	15.558	$ 200.08	$ 451.18	0%	-73.45%	-70.42%	60	111
KIT CARSON	7.814	$ 62.20	$ 156.28	60%	20.392	$ 262.24	$ 591.37	0%	-76.28%	-73.57%	60	29
BAYFIELD	8.229	$ 65.50	$ 164.58	76%	34.726	$ 446.58	$ 1,007.05	35%	-85.33%	-83.66%	41	30
HANOVER	8.433	$ 67.13	$ 168.66	87%	40.080	$ 515.43	$ 1,162.32	61%	-86.98%	-85.49%	26	58
AGUILAR	8.52	$ 67.82	$ 170.40	77%	40.080	$ 515.43	$ 1,162.32	68%	-86.84%	-85.34%	9	154
PRAIRIE	8.597	$ 68.43	$ 171.94	0%	33.098	$ 425.64	$ 959.84	38%	-83.92%	-82.09%	(38)	86

Source: Colorado Department of Education

Since 2000, Amendment 23 Further Distorted State and Local Shares

At the same time per-pupil base funding was growing by inflation plus 1 percent, it was generally thought that the per-pupil local share of the school finance act could only grow by the rate of inflation due to TABOR's property tax revenue limit. This 1 percentage-point difference between the amount the local share could grow and the rate of total program growth required by Amendment 23 placed an increasing burden on the state share. In the six years before Amendment 23 took effect, the state share increased from 54.3 percent of total program costs to 57.1 percent, a rise of 2.8 percentage points. In the first six years after Amendment 23 took effect, the state share grew from 57.1 percent to 63.9 percent, an increase of 6.8 percentage points.

The Mill Levy Freeze, Enacted in 2007

In an effort to curtail the continual erosion of the local property tax and the local share of school funding despite the constitutional hurdles of TABOR, the legislature acted during the 2007 session. Senate Bill 07-199 declared that TABOR's property tax revenue limit was no longer in force for 174 school districts because they had received prior voter approval for an exception from TABOR in order to receive the increased funding provided by the passage of the Public School Finance Act of 1994.

Under this legislation, districts were required to freeze their levies at the number of mills imposed in the year prior to passage of the legislation (mills levied in 2006 for payment in 2007). The law also capped all districts' levies at 27 mills, reducing the rate in districts with higher mill levies. Four districts, however, were not affected by the legislation. Of the four, two districts had not previously sought voter approval, one district sought voter approval but its election was unsuccessful, and one district's ballot language did not provide for an exception from TABOR's property tax revenue limit. The four districts are Cherry Creek in Arapahoe County, Colorado Springs and Harrison in El Paso County, and Steamboat Springs in Routt County. In FY 2014-2015, the four districts comprised 8.99 percent of the assessed valuation of all school districts statewide and 10.18 percent of all school finance act property taxes collected throughout the state. They received 11.7 percent of total state equalization payments made that year.

Some districts continued to be required to reduce their levies after passage of the mill levy freeze legislation, but these reductions occurred in high property wealth districts that received little or no state aid so that they would not exceed the total funding entitlements specified by the school finance act. In those cases, the levy reductions were attributable to the school finance act's total funding formula, not to TABOR's property tax revenue limit. There is little doubt that the mill levy freeze has required school districts to collect more school property taxes, stabilizing the local and state shares of school funding since 2007. The mill levy freeze and the levy cap of 27 mills resulted in a net increase in statewide property tax collections of about $118 million and $130 million respectively for the two fiscal years immediately succeeding the passage of the levy freeze.

For most districts, the mill levy freeze will result in property tax collections increasing at the same pace as assessed valuation growth. However, on a statewide basis, this relationship breaks down over time for one or more of several reasons:

- The levies of the four districts still governed by TABOR's property tax revenue limits are likely to keep or perhaps increase the percentage of state aid they currently receive.

- Some districts have experienced or will experience strong assessed valuation growth that will require levy reductions so they do not collect more in property taxes than the total funding they are entitled to receive under the act.

- Some districts will experience enrollment declines that will reduce their total program funding, triggering a reduction in their mill levies so they do not collect more in property taxes than the total funding they are entitled to receive.

- Some districts will experience rapid enrollment increases, boosting their total program funding without a corresponding increase in assessed values, so their state aid distributions will increase.

For these reasons and perhaps others, the levy freeze is an incomplete solution and the distortions will continue to mount. The next section presents the findings from our research into the specific taxpayer and district-level distortions introduced into the system since the passage of TABOR.

Findings: This History Has Resulted in Multiple Distortions in Colorado

As the literature demonstrates, TELs have been shown to result in district or jurisdictional distortions. However, these effects do not end at the district level. In Colorado, there are distortional, equity, and most importantly distributional impacts at the taxpayer level. These previously unstudied Colorado effects are the subject of the next sections of this paper.

Distortions to Household Tax Burden

It is easy and obvious to highlight the extremes. In Colorado, the Primero School District is the most extreme case with the lowest base levy in the state. In 1990 (before TABOR and the 1994 Act) the program levy in Primero was 37.66. Currently Primero levies 1.68 mills, a 95.54 percent decrease in mills without a commensurate increase in assessed value. The median residential taxpayer[6] in the Primero School District now pays $28.70 per year in school property taxes and is taxed at an effective rate of 0.05 percent. This is a drop from an effective rate of 1.2 percent in 1990 when the median taxpayer paid $189.92. If school property taxes had grown with inflation between 1990 and 2014, taxpayers in Primero would have paid $369.82 in 2014. Furthermore, in

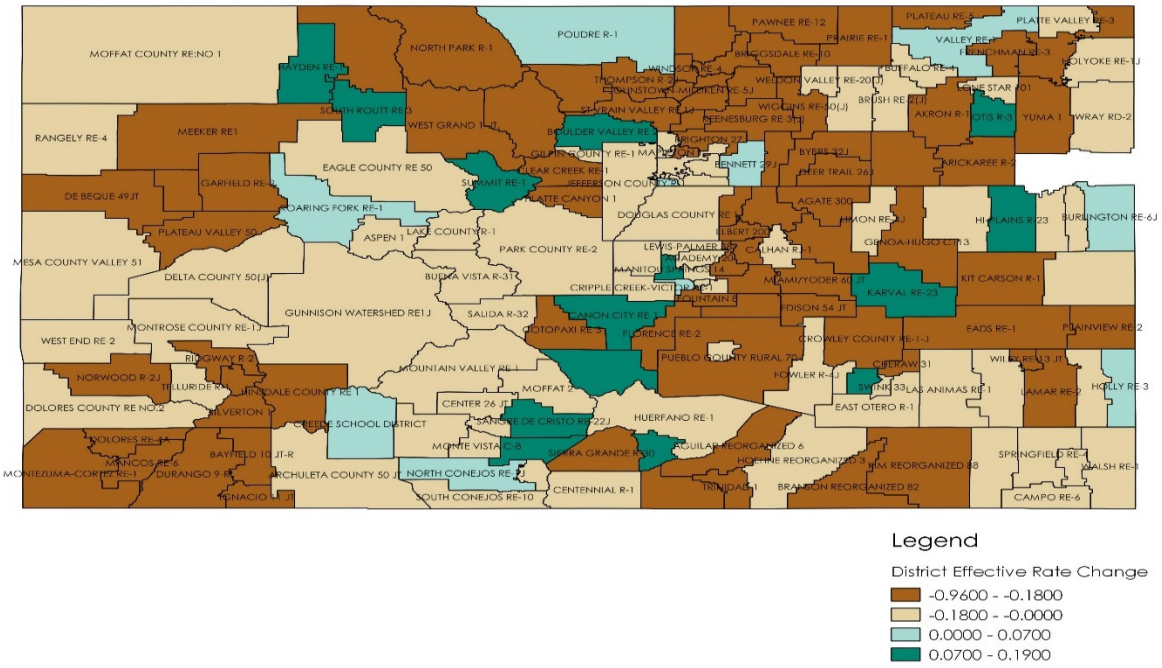
[6] For the remainder of this analysis, the median taxpayer is defined at the taxpayer with both a median priced house and the median household income for the district. Medians for the districts for 2010 and 2014 are from the five year American Community Survey data for the five-year period ending in the analysis year. Medians for the years 1990 and 2000 are from the SF3 data collected from the long form census survey.

this environment of declining nominal and real taxes, the Primero School District currently receives 82 percent of its base funding from the state General Fund.

However, the experience of one district does not provide evidence of distortion. If a similar dynamic occurred in all districts in the state, then the combination of Colorado's limits and its school finance act simply served to reduce the tax burden universally. However, as the following sections demonstrate, the effect was not universal. The best way to measure the effect on tax burden across Colorado's households and to understand the distortions introduced in the wake of 1992 is to examine the changes in the effective rates paid by the median taxpayer in each school district.

While the effective tax rates for the majority of median residential taxpayers fell between 2000 and 2014, the median taxpayers in 27 of the state's districts saw their effective tax rates increase over that same period. Figure 14 shows the distribution of the change in effective rates on the median taxpayer.

Figure 14: Graphical Representation of the Change in Effective Rates: 2000 to 2014[7]

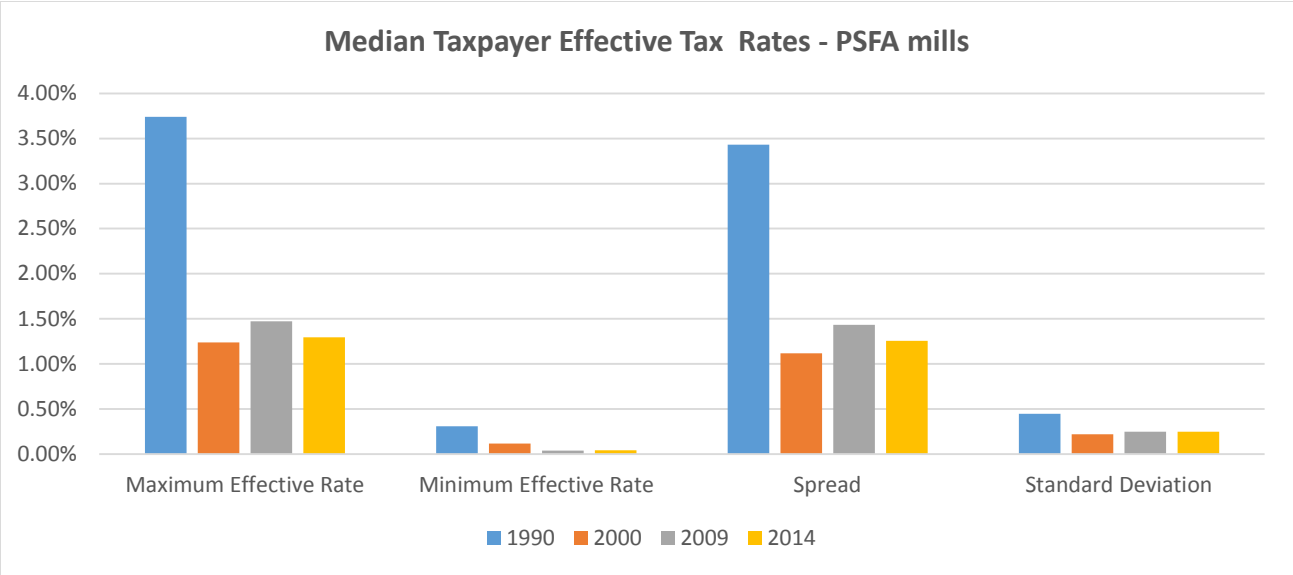


While the passage of the 1994 Act appears initially to have brought down rates and inequality across districts, over time maximum effective rates across the districts have generally increased while minimum effective rates have continually decreased. This has resulted in a generally widening variation, as measured by both the spread and the standard deviation of effective rates as shown in Figure 15. Since 2000, the school property tax burden across Colorado has become more unequal as subsets of districts have had their levies driven down by TABOR. It is

[7] In 2000, Colorado had only 176 school districts. So we cannot calculate change in effective rates for those districts. They are coded white in this map.

important to note that the mill levy freeze does appear to be mitigating some of this inequality. However, as outlined above, the levy freeze remains an incomplete solution.

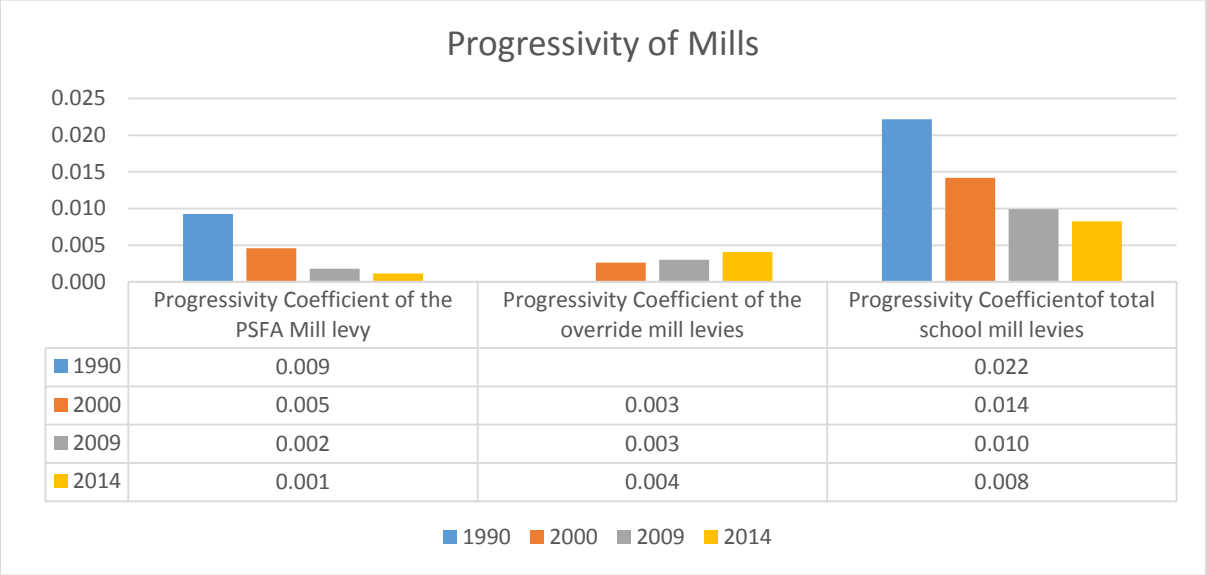
Figure 15: Median Taxpayer Effective Tax Rates – PSFA Mills



Source: Author's calculation from ACS, Colorado Department of Education data

While property taxes for the base school program became more unequal in the wake of TABOR's impact on the 1994 Act, they also became less progressive. Figure 16 below shows the coefficient on household income for a series of equations that regressed effective tax rates on household income in 1990, 2000, 2009, and 2014. If the system were gaining progressivity, there would be a larger positive relationship between effective rates and household income over time. Or, the coefficient of a regression of effective rates on income would be getting larger. Instead, for the base levy, that coefficient has fallen since 1990. Total school levies, which represent the totality of levies and include the sometimes large override levies for school programs and bond levies for debt service on capital, also became steadily less progressive. And progressivity matters if, as is the case in many districts in Colorado, decreasing progressivity is accompanied by an increasing and unequal (across districts) reliance on state aid.

Figure 16: Progressivity of Mills[8]



	Progressivity Coefficient of the PSFA Mill levy	Progressivity Coefficient of the override mill levies	Progressivity Coefficientof total school mill levies
1990	0.009		0.022
2000	0.005	0.003	0.014
2009	0.002	0.003	0.010
2014	0.001	0.004	0.008

It is notable that the only levy that became increasingly progressive over this time period was the override levy. Override levies were a seldom used option under the 1988 Act. In 1990, only 12 districts had approved override levies. However, since the passage of the 1994 Act they have become a far more common element of the system of school finance in Colorado. As described above, an override levy is a locally approved mill levy which supplements the base program expenditures in a district.

The impact of the override levies will be further covered below in the analysis of district distortions. But the increasing progressivity of this component of school finance leads to the hypothesis that wealthier districts are more likely to approve such levies. Some of these wealthier districts were beneficiaries of falling base levies under TABOR, allowing for more "room" to approve other taxes. Generally progressivity is viewed as an equity enhancing component of a tax system. However, in this case where the only component exhibiting increases in progressivity is the override levy, it suggests greater funding disparity across districts and perhaps decreasing equity.

Distortions Across Districts

It is reasonable to hypothesize that the TABOR-caused distortions to household tax burdens, as described above, would also extend to school districts. The logical supposition is as follows: falling base levies made "room" in the property tax in those districts which were the beneficiaries of the very low base levies, and for those districts, because of the low base property tax burden, it would be easier to gain approval[9] for override levies. If this were the case, districts

[8] In 1990, only 12 districts assessed override levies. For 164 districts, the override levy was zero. With such minimal use of this levy in 1990, it was not possible to meaningfully calculate a progressivity coefficient.

[9] Remember, all levy increases in Colorado are subject to a vote.

with the largest decrease in base levies should be the heaviest users of override levies, suggesting that the distortions to school funding forced by TABOR and very directly acting on household equity would extend to district equity by increasing the variation in per pupil spending across districts.

It is further reasonable to hypothesize that Gallagher's shift of relative tax burden to nonresidential taxpayers would lead to district level distortions in the use of override levies. Since most nonresidential taxpayers pay 3.64 times the amount of property tax on a property of the same value[10], and since most nonresidential taxpayers don't vote in local elections, the logical supposition with respect to Gallagher is that districts that are more heavily nonresidential would more likely be heavier users of override levies.

In order to test these hypotheses, we ran a stepwise regression testing for the relationship between eight explanatory variables and the level of override levies in effect in 2014. The explanatory variables may be characterized as variables related to TABOR, variables related to Gallagher, and demographic variables and are as follows:

- TABOR related/affected variables
    - Base program mills in 2014
    - The change in base program mills between 1990 and 2014
    - The effective rate paid for the base levy in 2014
    - The change in the effective rate for the base levy between 1990 and 2014
    - The change in state share between 1990 and 2014

- Gallagher related/affected variable
    - Residential share of total valuation in 2014

- Demographic variables
    - Median household income
    - Educational attainment of the head of household (as measured by the share of households in the districts headed by someone with a bachelor's degree or higher)
    - Population in the district
    - Assessed valuation per pupil in 2014

All demographic variables except for assessed valuation per pupil in 2014 are from the five-year American Community Survey sample period ending in 2013. Significant coefficients on some or all of the TABOR and/or Gallagher related variables would support our hypotheses that TABOR and/or Gallagher are contributing to district level distortions as well as individual taxpayer level ones. Figure 17 shows the results of the stepwise regression.

[10] The assessment rate on most nonresidential property is 29%. For residential property, the rate is 7.96%. The ratio of 29% to 7.96% is 3.64.

Figure 17: Stepwise Regression Results on the Use of Override Levies

Dependent Variable: MILLS_OR_2014
Method: Stepwise Regression
Date: 05/14/15 Time: 10:28
Sample (adjusted): 1 176
Included observations: 170 after adjustments
Number of always included regressors: 1
Number of search regressors: 10
Selection method: Stepwise forwards
Stopping criterion: p-value forwards/backwards = 0.1/0.1

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	-1.273874	1.187191	-1.073015	0.2848
POP	2.68E-05	4.35E-06	6.146960	0.0000
ED_ATT	13.43090	2.786070	4.820733	0.0000
AV_PER_PUPIL_14	-2.81E-06	8.72E-07	-3.228421	0.0015
PSFA_MILL_CHG	0.205758	0.063091	3.261279	0.0013
CHG_EFF_RATE	-250.3092	104.5744	-2.393598	0.0178

R-squared	0.370895	Mean dependent var	4.091959
Adjusted R-squared	0.351715	S.D. dependent var	5.171445
S.E. of regression	4.163850	Akaike info criterion	5.725413
Sum squared resid	2843.373	Schwarz criterion	5.836089
Log likelihood	-480.6601	Hannan-Quinn criter.	5.770324
F-statistic	19.33753	Durbin-Watson stat	1.498900
Prob(F-statistic)	0.000000		

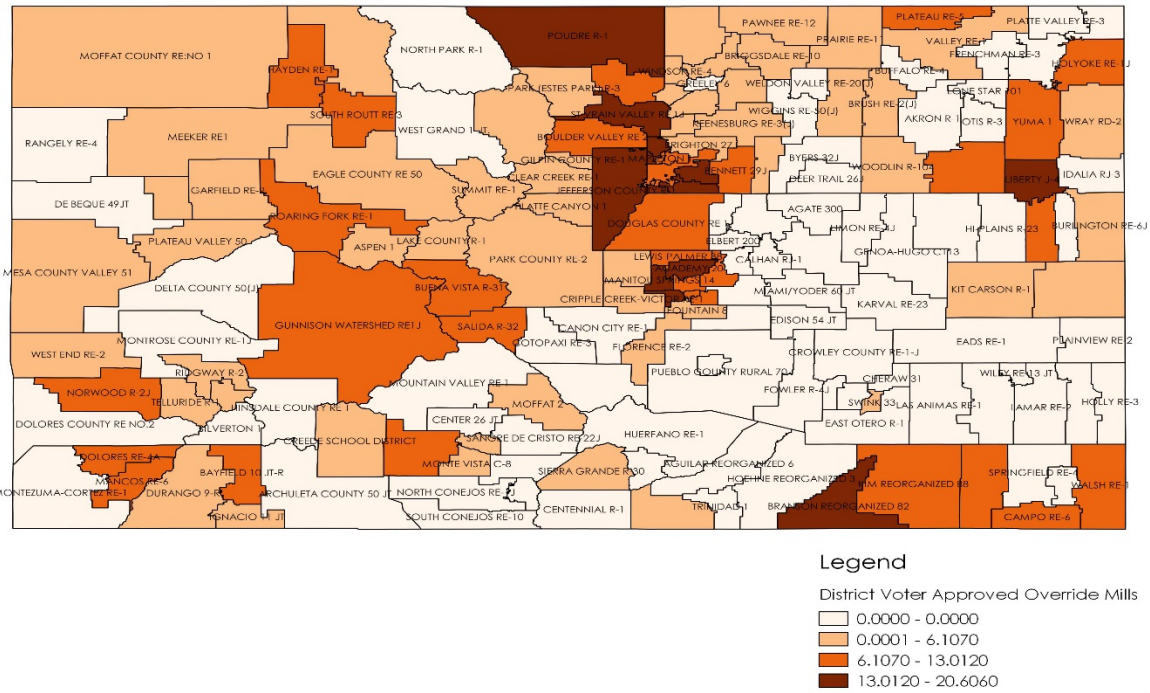
Selection Summary

Added POP
Added ED_ATT
Added AV_PER_PUPIL_14
Added PSFA_MILL_CHG
Added CHG_EFF_RATE

Note: p-values and subsequent tests do not account for stepwise selection.

Our findings demonstrate variation in the use of overrides across districts, suggesting that there is an impact to district equity. See Figure 18 for a geographic representation of the use of overrides across the 178 school districts. And, we find that both TABOR related and demographic variables explain the variation in the level of 2014 override levies.

Figure 18: Geographic Representation of the Use of Override Levies Statewide



Source: Colorado Department of Education

Two of the TABOR driven variables are significant in explaining the level of override levies: the change in base program mills between 1990 and 2014 and the change in base levy effective tax rates on the median household between 1990 and 2014. However, in somewhat of a contradiction they have opposite signs. We would expect larger declines in both effective tax rates and mill levies to be correlated with use of override levies. Since larger declines are represented by bigger negative (and thus smaller) numbers, we would expect both of these TABOR variables to have negative signs. By this reasoning, the change in effective tax rates has the correct sign while the change in mill levies does not.

Effective tax rates are the best measure of household tax burdens since they relate taxes paid to household income. So, the negative sign on this variable provides strong support to the "room in the levy" hypothesis. Households are demonstrating that as their effective tax burdens fall, at least in part due to declines in base school mill levies, they are more likely to approve override levies.

The positive sign on the change in the level of the mill levy appears inconsistent with the "room in the levy" hypothesis. However, one might argue that households do not react as strongly to the change in the absolute level of the mill levy since it is not a direct measure of tax burden. For example, a relatively large change in a high mill levy may still leave a household with a significant property tax effective rate and thus still result in the defeat of override levies. So, while the two TABOR related variables carry different signs, we conclude that significant negative coefficient on the change in effective tax rate variable provides some evidence that

overrides are more heavily used in districts in which declines in base levies have taken pressure off household tax burdens, thus providing "room" to gain approval for override levies.

In addition to the TABOR related variables, most of the demographic factors were significant in this regression. Spending variations by district are also a function of the size, tax base and educational attainment of those living in the district. In 2014, Colorado districts with higher override levies were larger in population, had a higher share of households headed by someone with a bachelor's degree or higher, and had lower assessed value per pupil[11]. It may seem initially that assessed value per pupil has the wrong sign in this regression. If assessed value per pupil were a measure of wealth, one would expect that wealthier districts would be more likely to have higher override levies. However, if assessed value per pupil is interpreted as a measure of tax base, the negative sign is plausible. Residents may be willing to compensate for lower tax base with override levies to enhance school funding, even in light of the state equalization support.

Interestingly, while the assumptions of the Tiebout hypothesis are violated in Colorado with respect to program funding for schools, override levies appear to demonstrate "voting with your feet" behavior. While variations in base levies are largely out of the control of the citizens or the school district officials because of TABOR's property tax limit and its effect on the 1994 Act, override levies are very much subject to the quasi market whose players are the district officials and the citizens. Our regression results support the proposition that Coloradans are sorting themselves into school districts by preferences for a level of school services. Overrides are correlated with socio demographic variables such as wealth, size and educational attainment of the head of household in the district as well as with the TABOR related variables. This suggests that in addition to the "room in the tax base" hypothesis, override behavior also reflects "voting with your feet" behavior to express preferences for education. In fact, Coloradans aren't just voting with their feet…override levies are subject to an actual vote. It is beyond the scope of this research but worth considering whether the override mechanism, particularly with respect to the extent it is distorted by TABOR, is creating a level of wealth related spending disparity that could be constitutionally unacceptable to the courts.

There is evidence that TELs in Colorado, particularly TABOR, are distorting base school property tax burdens across households and districts. In addition to the distortional and equity impacts outlined above, there are further impacts. While there is no real world counterfactual, our models demonstrate that there are significant distributional impacts from TABOR. Not everyone in Colorado has experienced a limiting effect on their property taxes because of TABOR. In fact, as the following section describes, the majority of Coloradans are paying more in local property taxes for schools than they would if TABOR had never passed.

The Ultimate Question of Distortions Caused by TABOR – What Would Tax Burdens Be Had It Not Passed?

[11] It is possible that assessed value per pupil is a Gallagher affected variable. One way a district will have lower assessed value per pupil is if it is more highly residential and thus has a larger share of property assessed at the residential rate of 7.96%. However, there are other reasons for lower assessed value per pupil as well. It was outside the scope of our research to determine the reason for the lower assessed value per pupil in each of the 178 districts.

It is reasonable to consider what would have happened had TABOR not been adopted and the uniform levy requirements from the 1994 Act had remained in effect and unaffected by the property tax and mill levy limits imposed by TABOR. Admittedly, TABOR's passage is more than two decades in the past. No one can know what would have happened to school finance during the periods of economic growth and recession in the years since TABOR's enactment, as decisions would have been left to state policymakers. However, it is possible to make reasonable assumptions and model the local share of school finance funding without TABOR's property tax revenue limit and prohibition on tax rate increases without a vote.

In a simulation, we modeled a uniform levy for FY 2014-2015 using the state revenues that were actually appropriated in that year. This approach allowed us to isolate the effects of the property tax and mill levy limits contained in TABOR on individual districts and statewide under neutral assumptions concerning the total amount of state and local funding in the system of school finance. That is, we remained agnostic on the question of whether the funding dedicated to schools was too high or too low and instead took the current level as given.

The findings from our simulation reveal that TABOR forced fairly significant redistributional effects on school funding in Colorado. The model indicates that in FY 2014-2015 a uniform levy framework similar to the one in effect immediately preceding the enactment of TABOR would have resulted in a uniform rate of 22.888 mills compared with today's maximum levy of 27 mills.

Without any change in total funding, property owners in 74 districts would have paid a combined $160.2 million less in school property taxes than they did under the current mill levy framework and in 104 districts, property owners would have paid a combined $160.2 million more. [12]

The 74 districts that would have paid less in property taxes account for about 41.5 percent of the 178 school districts. However, these districts educate four out of every five pupils funded under the school finance act and contain 81 percent of the state's population. One of the primary reasons for the property tax reduction is the decrease from the current maximum levy of 27 mills to the simulated uniform rate of 22.888. In contrast, the 104 districts that would contribute more to the funding of the school finance act through increased property taxes represent approximately 20 percent of students statewide and approximately one-third of the tax base.

The dynamics of the estimated uniform levy and the resulting district state shares are illustrated in Figure 19. Twenty-five districts have levies less than the uniform rate of 22.888 mills, but these districts receive no state aid. For the remaining districts, the proportion of state aid depends on the property tax revenue generated by the uniform levy.

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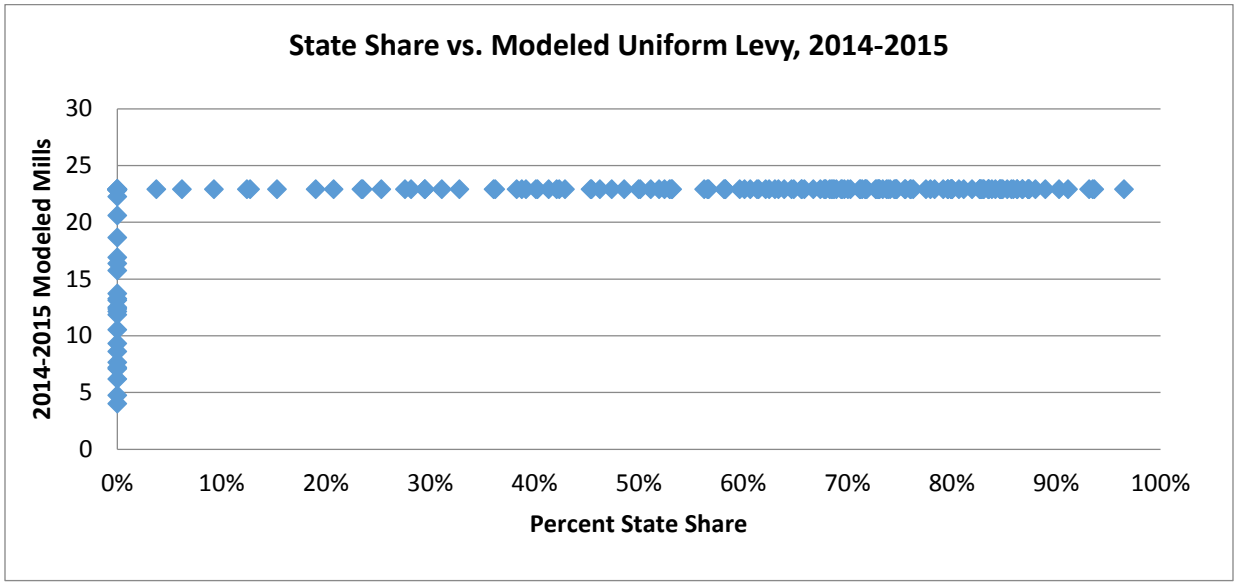
[12] In recent years, state budget constraints resulted in a state policy decision to prorate funding under the finance act. This proration is referred to as the negative factor. The negative factor reduces state aid in proportion to each district's total program funding per pupil. However, if districts can pay for the full amount of their funding within the restrictions on local tax rates, they are not subject to the negative factor proration. In our modeling of a uniform levy, we permitted district levies to float up to capture all allowable funding, even the amount attributable to the negative factor, as long as the levy did not exceed the uniform rate. This methodology, which is consistent with current law, allowed 26 districts to capture more funding, totaling $28 million in property taxes, than is currently provided to them. We note, however, that the result of this methodology is to increase funding to districts based solely on property wealth, an idea that is antithetical to most school finance theory.

Figure 19: State Share vs. Modeled Uniform Levy



Source: Colorado Department of Education

At first pass, it seems counterintuitive that a limit such as TABOR could result in 81 percent of Coloradans paying ***more*** in school property taxes than they would absent the limit. However, this result must be analyzed in the context of how a fixed pie of resources for schools gets divided and distributed among the state's 178 districts.

Because of the dynamics around levies described above, TABOR is essentially forcing the state share to disproportionally support districts whose base levies have been driven dramatically low. As demonstrated previously in Figure 13, many of these districts with very low levies are recipients of high levels of state aid. During the years between the passage of TABOR and the 2007 levy freeze, in most of these districts state aid ***increased*** as local mill levies fell due to TABOR. When viewed from this redistributional perspective, it is no longer counterintuitive that the majority of the state's population is paying more under TABOR than if the amendment had never passed. In essence, since most of the larger districts in Colorado were not the ones whose levies were driven down by TABOR, the 81 percent of the state's population living in these districts were left subsidizing low levies in a subset of the state's smaller districts whose levies were driven down.

Which Are the Winner and Loser Districts, and What Do They Look Like?

TABOR has created winners and losers when it comes to tax burden from the base school levy. In order to better understand the characteristics of the winner and loser districts, we estimated a logit model with the dependent variable "TABOR_HIGHER". The 74 districts paying more under TABOR were coded as "1"; all other districts were coded as "0". The results of this estimation are shown below in Figure 20.

Figure 20: Logit Model Predicting Characteristics of Winner and Loser Districts Under TABOR

Dependent Variable: TABOR_HIGHER
Method: ML - Binary Logit (Quadratic hill climbing)
Date: 05/14/15 Time: 10:32
Sample: 1 178
Included observations: 178
Convergence achieved after 9 iterations
Covariance matrix computed using second derivatives

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	12.26353	3.079821	3.981896	0.0001
ASSD_VAL_PER_PUP_14	-3.95E-05	9.11E-06	-4.331712	0.0000
PUPILS_14	3.81E-05	3.01E-05	1.264249	0.2061
STATE_SHARE_15	-11.67008	3.115460	-3.745861	0.0002

McFadden R-squared	0.420436	Mean dependent var	0.415730
S.D. dependent var	0.494238	S.E. of regression	0.368830
Akaike info criterion	0.831848	Sum squared resid	23.67015
Schwarz criterion	0.903349	Log likelihood	-70.03450
Hannan-Quinn criter.	0.860844	Restr. log likelihood	-120.8400
LR statistic	101.6110	Avg. log likelihood	-0.393452
Prob(LR statistic)	0.000000		

Obs with Dep=0	104	Total obs	178
Obs with Dep=1	74		

Districts paying more under TABOR share the following characteristics: as measured by the number of pupils, they are large (although this variable is only weakly significant), they receive smaller state share, and they have lower assessed value per pupil. Perhaps the most interesting finding here is related to assessed value per pupil.

Taxpayers in districts with higher assessed value per pupil are likely to be paying ***less*** property tax under TABOR than they would if TABOR had never passed. It is difficult to justify this as good tax policy. First of all, if taken as a measure of tax capacity or tax base, higher assessed value per pupil districts should have more capacity to support property taxes, not less. Instead these districts have seen TABOR erode their property taxes by forcing levies downward.

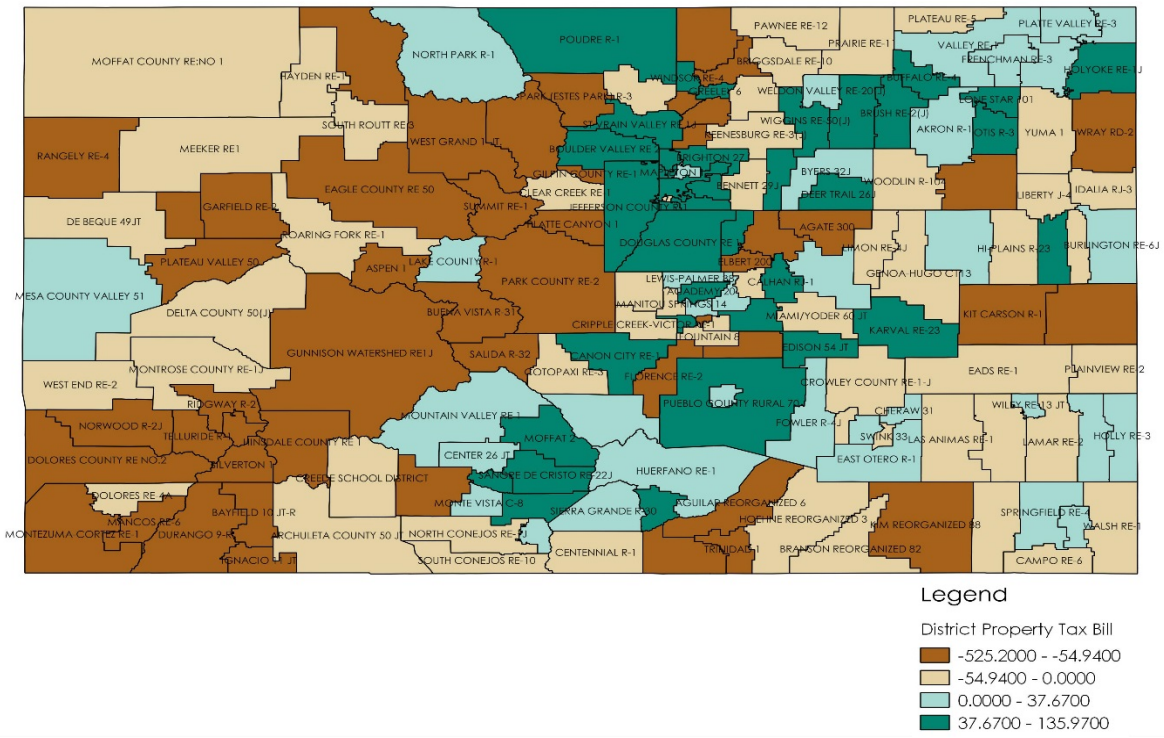
Not all, but many of these districts are resource wealthy. As described above in the case study about the Primero School District, it is the very existence of this resource wealth that would have forced the district to reduce levies in order to comply with the TABOR property tax limit. However, as was the case with Primero, in some of these resource-rich districts state share of school funding continued to rise. TABOR is forcing all Coloradans to subsidize low levies in select districts through both higher property taxes in the remaining districts and increased levels of state share (financed by all Coloradans through statewide taxes).

In Colorado, the distribution of oil, gas, and other resource deposits is not uniform across the state. Some school districts have the good fortune of being located in areas of significant

resource wealth. It is generally accepted that this mineral resources translate into a wealthier tax base and in an undistorted property tax system unevenly benefits some districts over others. However, it is difficult to argue that it is good tax policy to reduce local tax burdens in those districts and then use the statewide contributions to the state General Fund to essentially subsidize the low tax burdens in these high wealth districts, regardless of the source of the property wealth. Our assessment of TABOR's winners and losers demonstrates that this is precisely what is happening in Colorado.

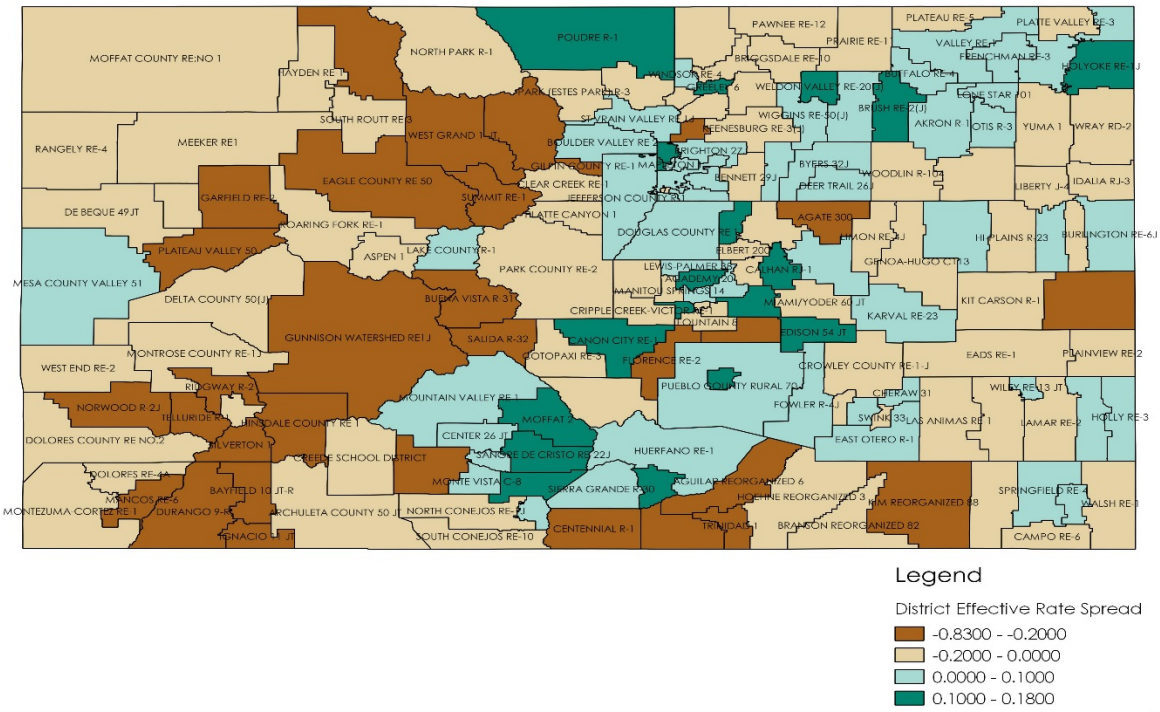
The maps below show, by school district, the change in property taxes and the effective tax rate spread the median taxpayer in each district is bearing as a result of TABOR. A positive number means the median taxpayer is facing a higher tax bill and effective tax burden under TABOR than if TABOR had never passed. Districts with negative spreads are experiencing TABOR driven reductions in their effective tax rates.

Figure 21: Geographical Representation of Change in Taxes Paid Under TABOR vs. No-TABOR Analysis, 2014



Source: Author calculation from ACS, Colorado Department of Education data

Figure 22**: Geographical Representation of Effective Rate Spread Map of Effective Rate with TABOR Less Effective Rate without TABOR, 2014**



Source: Author calculation from ACS, Colorado Department of Education data

In 2014, the Cheyenne Mountain School District, in El Paso County, experienced the greatest increase in effective property tax rates from TABOR. The median taxpayer in Cheyenne Mountain is paying an effective rate 0.18 percentage points higher than if TABOR had never passed. The district receiving the most benefit is the Durango School District (La Plata County) where the median taxpayer is paying an effective rate 0.83 percentage points lower.

In terms of dollars, the district most adversely affected by TABOR's limits is once again Cheyenne Mountain where the median taxpayer is paying an additional $135.97 in property taxes for schools. At the other extreme, the largest beneficiary is the Steamboat Springs School District (Routt County) where the median taxpayer saved $525.20 because of TABOR. Steamboat Springs is one of the four districts not covered by the levy freeze and is the 28th wealthiest district in the state as measured by median household income.

School Finance and TELS in Colorado: Lessons Learned

We believe that other states can learn a great deal from Colorado's long experience with TELs as they impact school finance. In many ways, Colorado policymakers and voters have created a "perfect storm" of overlapping and conflicting constitutional provisions. Individual actions, each of which appeared to Colorado citizens to make sense in a vacuum, combine to create a toxic formula for very confused tax policy. The ability of policymakers and citizens to achieve predictable outcomes when making policy is greatly reduced by the unpredictable ways TELs and the school finance law interact. The situation is made more difficult by the fact that Colorado's TELs are all constitutional, so addressing them requires voters to understand

extremely complex issues and support equally complex solutions in the context of election seasons when they are being bombarded over the airwaves and news media with other issues. The road ahead for Colorado will certainly be a difficult one.

So what advice do we have for others around the country as they consider TELs and school finance policy? Here are our suggestions:

Recognize That Statutory Enactments Allow for Necessary Revision; Constitutional Enactments Generally Do Not

School finance law is created by statute for several reasons. It needs to be changed and updated periodically as educational cost drivers and school district circumstances change over time. Because of the significant variation of school district characteristics within each state, school finance law tends to be extremely complex, so it is best fashioned in the deliberative environment of state legislatures and other representative bodies. When school finance law is constrained by TELs and other constraints, unforeseeable and unintended outcomes often occur. Addressing these outcomes requires a rebalancing of school finance law and the TELs that constrain it, which requires both TELs and school finance policy to be fine-tuned. Fine tuning of complicated financing formulae and TELs is best done in statute which can be amended and thus kept up to date. This allows for conflicts to be resolved by statute rather than requiring constitutional changes which often are extremely difficult to achieve.

Acknowledge the Unique State/Local Relationships Embodied in School Finance

School districts are generally different than other local governments. Although both may be governed by locally elected officials, public K-12 education law is rooted in state constitutional provisions that create requirements which are implemented by the state legislative body and interpreted by the courts. While residents of cities, counties, and other local governments can, by exercising their right to vote, determine the levels of taxes and spending they are willing to sustain, this is frequently not the case in school districts. In many states, and certainly in Colorado, state laws set the minimum revenue to which districts are entitled. A combination of state and local taxes is used to provide that revenue.

Limits on local district property taxes contravene the constitutional requirement establishing public K-12 education as a statewide system and results in the distortions described above. To the extent that property tax limits are desirable, a statewide revenue limit allows a state legislative body to work within that limit to achieve equitable results for taxpayers statewide – for what is essentially a statewide program. Certainly changes in the taxable value of property and other characteristics vary among different geographic regions of a state, with some areas, classes of property, and enrollments showing strong gains while others stagnate or even decline. However, a statewide limit allows legislators to address these differences while always moving toward a goal of taxpayer equity within the context of their duty to "…establish a thorough and uniform system of free public schools." (Article IX, section 2, Colorado Constitution).

Consider the Varied Impacts of Tax Rate Limits

When compared to income and sales taxes, the property tax has generally been considered the more stable, "recession-proof" tax either because of the ability to change the tax rate to raise the desired amount of revenue or the perception that the value of taxable property rarely decreases. However, the crumbling of the housing market within the last decade and the fluctuations in oil and gas production that result from changes in the international market have demonstrated that decreases can occur, and they can occur on a large scale. Limits on tax rates remove the stability that has long been cited as a benefit of the property tax, because decreases in assessed value translate directly into decreases in property tax revenue.

Tax rate limits may also put policy makers in the position of choosing between two competing goals such as maintaining levies as high as possible so as to not dilute the local revenue raising capacity versus providing for financial equity among school districts. As has been demonstrated in Colorado, some school districts are funded at higher levels than other similarly situated school districts because of their property wealth. Reducing funding disparities may mean reducing the property tax levies of some districts. But under TABOR, once a levy is reduced, it cannot be increased without voter approval, no matter how low the tax rate or what happens to assessed value.

Conversely, limits on tax rates may also drive higher tax bills. As the economy and housing market improve over the new few years, the change in homeowners' tax bills will be directly related to the change in the taxable value of their home. While it was not unusual in the past for taxpayers with value increases greater than the average to have tax bills increase at a higher rate than average, the rebound in the housing market may result in significant property tax increases in Colorado's population centers. It will be interesting to see how this plays out in Colorado in the next few years.

Take Care When Exempting New Taxable Value from Limits

As we have demonstrated, rapid growth in assessed value from natural resource and recreational development, typically not associated with a corresponding growth in enrollment, has forced drastic school district mill levy reductions due to the property tax revenue limit in TABOR. This has happened because the “local growth” feature of the limit is calculated based only on enrollment growth plus inflation. For local governments other than school districts, the “local growth” feature of the property tax revenue limit is based on the value of new construction and increased mineral or natural resource production plus inflation. Arguably, this adjustment allows the limit to provide for the same level of government services to be extended to new housing developments and commercial and industrial centers while protecting the existing tax base from bearing the increased costs. The fact that this adjustment was not permitted for school districts caused or contributed to declines in levies for many school districts. The result in these districts is that property owners actually had their taxes reduced – with no negative consequences on district funding levels. Similar to other local governments, an exemption for new construction and production results in new taxpayers or mineral production not paying their share of the cost of funding school districts.[13]

[13] In Colorado, after 15 years of mill levy declines caused by the property tax revenue limit of TABOR, the 2007 mill levy freeze legislation largely resolved this issue.

Anticipate Perverse Incentives

TELs frequently incentivize policymaking in unanticipated ways. For example, since mill levies in Colorado can only be raised with voter approval, many local governments are incentivized to keep levies from being reduced whenever possible. In many instances, when city, county, and other local levies are reduced, local officials label the reductions as "temporary rate reductions" so that subsequently they can be raised back to their original levels in a future year without voter approval. These actions are taken in order to protect their future revenue capacity from erosion. However, in Colorado there is no incentive for school districts to denominate their levy reductions as "temporary rate reductions" because state aid forever holds them harmless from future tax base capacity erosion. In fact, if a school district reduced its levy as a temporary reduction, then restored it to its original levy the following year, there would be no difference in district funding, but instead, the increased property tax would only serve to reduce their state aid. Districts asking property taxpayers to pay more, so that state aid could be reduced, is unlikely. The only way a temporary rate reduction mechanism for schools could be effective is for it to be required by law for all districts. Other examples of incentivized behavior in Colorado include the labeling of some broad based revenue sources as "fees" instead of taxes, creation of quasi-governmental authorities to provide services that would otherwise be provided by state or local governments, and declaration of some functions as "government owned businesses," to place them outside the constraints of the limits. In Colorado, the implications of these incentivized behaviors are significant, and will no doubt be the subject of research for years to come.

Don't Enact Static Solutions in a Dynamic World

Over two and a half millennia ago, ancient Greek philosophers observed the constancy of change. The philosopher Heraclitus is credited with formulating the concept that change may be the only constant in the world around us. This is particularly true of economic systems whose components grow, shrink, and are changed by innovation and the ever changing demands of consumers. Change is especially dynamic in smaller local economic systems which tend to be less diversified so that the impact of change in any one component of the system is more strongly felt. In Colorado, localities have been strongly affected by energy development, recreational development, in and out-migration in various communities, changes in consumption patterns, change in financial markets, the emergence of new industries like biotechnology and renewable energy, and the far reaching effects of information technology on where and how products are bought and sold. School districts are also impacted by enrollment increases and declines, changing academic standards, changes in curriculum, creation of charter schools, and ever changing federal and state mandates and requirements.

In contrast to the constantly evolving economic, financial, and regulatory environments, TELs typically recognize and adjust for only one or two components of change. In the case of TABOR for Colorado school districts, only a measure of inflation and enrollment changes are recognized. This is also true of Amendment 23. The Gallagher Amendment freezes the Colorado property tax base statewide with only a minor adjustment for new construction. The impacts of placing relatively inflexible static limits on Colorado's state and local public finance systems have been to create unanticipated distortions and displacements in the distribution of state school aid, to

disproportionately distribute tax burdens to pay for the local share of school funding through the property tax, and to make reform of the system of school finance extremely difficult, as demonstrated most recently in Colorado with a failed ballot measure intended to fund a program of education reform. As one of our authors has noted elsewhere, TELs effectively cast tax systems in soft concrete. Reform becomes extremely difficult (Resnick 2008).

Inevitably, placing static, inflexible TELs over dynamically changing financing systems will create unanticipated problems. If TELs are to be implemented, they should appropriately account for the myriad drivers of change. It seems obvious that even the best attempt to comprehensively incorporate components of change will fall short, so the TELs should be capable of being changed and fine-tuned periodically. And the problems and unanticipated consequences of static TELs in a dynamic world increase geometrically as one static TEL is laid upon another. This is a certain recipe for disaster.

Conclusion

A recent issue of the journal *Education Finance and Policy* was wholly dedicated to the proceedings from a 2013 Lincoln Institute of Land Policy conference titled, "Property Tax and the Financing of K-12 Education." According to the summary of those proceedings, three themes emerged at the 2013 meeting: the unintended consequences on education finance from state level legislation, the potential for school finance and property tax policies to introduce distributions and inequities into the system of public education, and the importance of the property tax in the financing mechanisms for K-12 education (Kenyon and Reschovsky 2015). While our research on Colorado was conceived and conducted separate from the policy conference in 2013, it could easily have been included in sessions on any of the three emergent themes. School finance in Colorado is a microcosm of phenomena occurring at varying degrees across the US.

As Kenyon and Reschovsky observe "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" (Kenyon and Reschovsky 2015, 36). This is also the case for this exploration of the effect of TELs on school finance in Colorado. While our research findings summarize previously unrecognized distributional and equity impacts, particularly the counterintuitive finding that the majority of Coloradans are paying higher school property taxes under TABOR, we too are left with many aspects of school finance in Colorado to explore. For example:

- Have the TEL induced district level distortions undermined the state's mandate for a through and uniform system of public schools?

- Have the TEL induced district level distortions affected school performance across districts?

- What options are available to Colorado to restore the productivity of the local school property tax which has been eroded by TABOR?

- What options are available to Colorado to undo the de facto policy that the first dollars of state aid are used to backfill for low levies in the districts whose levies have been most impacted by TABOR?

- To what extent are similar distortions occurring in other states whose school finance systems are operating under the restrictions of TELs?

These questions and others will form the basis for our continued exploration of school finance under TELs in Colorado and nationally.

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