



Do administrators respond to their accountability ratings? The response of school budgets to accountability grades



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ABSTRACT

This paper examines how school administrators reallocate resources to schools in response to marginal changes in accountability ratings. We study this through an analysis of budgetary changes for schools on the margin of distinct rating boundaries. By determining how close each school is to an accountability grade change we are able to conduct a regression discontinuity analysis on schools that are on either side of the sharp line that separates school ratings. If administrators care about accountability ratings on the margin we would expect to see changes in budgetary allocations that reward higher performing, or punish lower performing, schools. Using data in Texas from 1994 to 2002, we find evidence suggesting that schools with higher ratings received more funds than others, and the differential funds were targeted toward administration/training, counseling and extra-curricular activities.

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1. Introduction

Accountability systems have been a rapidly growing element of the US public education system since the late 1990's. These systems generally evaluate schools based upon student performance on statewide standardized tests, and assign simple ratings based on the aggregate test score results of all tested students and students in certain sub-groups. The ratings are designed to be informative to parents and state legislators, and one objective of school accountability ratings appears to be to direct pressure from these two groups onto school and district administrators. While there is an extensive literature on within-school responses to the tests upon which the ratings are based, there is very little exploration of whether there are resource allocation responses by school districts.¹ If parents and/or legislators use the ratings for any

of their decisions on school choice, school administrators might respond by allocating resources between schools in response to the ratings. The difficulty for researchers has been to identify the impact of state accountability ratings from other causes of budgetary choices. Our work here develops a regression-discontinuity framework of schools on the margin between one rating and the next, and analyzes whether the budgetary response of school districts depends on whether a school lies on one side of the rating boundary or the other.

There are two ways to think about how accountability grades might impact resource allocation by school districts when they are making resource allocation decisions between schools. On the one hand, the district might only be worried about “good” versus “bad” schools, and thus base resource allocations based on the long-term impression from

Chiang (2009), Jacob (2005), Reback (2008), Hanushek and Raymond (2004, 2005), and Rockoff and Turner (2010) find test score improvements as a result of state or city based accountability regimes. Rouse et al. (2013) also show schools change behavior in response to accountability ratings. To our knowledge, only Craig, Imberman, and Perdue (2013) and Chiang (2009) check budgetary responses to accountability ratings.

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¹ Dee and Jacob (2011) and Neal and Schanzenbach (2010) find evidence that the Federal No Child Left Behind (NCLB) law increases achievement.

accountability ratings. This reasoning might imply that there are no marginal decisions; e.g., resources are directed toward schools based on their long-term performance. On the other hand, given the substantial resources that state governments and school districts invest in administering as well as assessing school performance on an annual basis, it would make sense that district decisions would still respond to short-term incentives. In this instance, especially if pressure to improve in the short-term is applied from the state government, districts may incentivize schools by providing rewards to highly rated schools and punishments to underperforming schools, or alternatively districts may attempt to bolster schools that under-perform.

In addition to an examination of whether school districts allocate funds based on a school's accountability grade, we examine the within-school allocation of resources. This aspect of budget allocations may be the result of school district behavior, or may result from choices made by the school's principal and other decision makers. That is, schools which barely succeed, or which marginally fail, to obtain the next higher accountability grade may reallocate resources within the school. This reallocation may serve to increase the chances of surpassing the threshold in the next year, or to reward employees and students for performance in this period. Examples would be that schools that find they fall just short of the next grade might reallocate resources toward instruction, or schools which barely are able to achieve the next grade may "reward" students with more funding for extracurricular activities.

To test the impact that annual accountability ratings have on school district as well as individual school financial allocations, we utilize a regression discontinuity (RD) design to compare the budgetary response to annual changes in rating for schools marginally on either side of each rating boundary. The sharp discontinuity occurs because school grades are based on the percentage of students that pass the accountability exam—if the school misses the cutoff by just one student it receives a lower accountability grade. Due to random factors, schools that just barely receive a higher rating should be a valid comparison group for schools that just barely receive a lower rating (Lee, 2008). To implement the RD strategy, therefore, we carefully re-create the scoring matrix and identify schools where the rating is marginal based mainly on exam performance. Our RD strategy thus tests for whether there are annual budgetary changes in response to a school's success or failure to surmount the marginal rating hurdle independent of any change in underlying school quality.

Our analysis here offers a different strategy for finding allocation changes compared to Craig, Imberman, and Perdue (2013), who use a "rating shock" strategy based on the change in the rating system in Texas. They find that school districts reallocate funds to schools which were threatened with a drop in their accountability grade, but that the incremental resources were temporary and generally disappeared after 3 years. This paper differs in that, while Craig, Imberman and Perdue (2013) consider responses to a potential long-term change in ratings, we investigate whether administrators respond to the annual changes in school ratings.

Whether and how administrators respond to such marginal changes in school performance is important for a few reasons. First, such an analysis provides insight

into the objective function of school administrators which is poorly understood. While Craig, Imberman and Perdue (2013)'s findings suggest that administrators care about long-term school quality, administrators may also worry about the reputational consequences and sanctions—both explicit (e.g., punishments imposed by accountability systems) and implicit (e.g., loss of enrollment)—from published rating changes due to marginal differences in underlying factors. Second, if administrators do provide either inducements or punishments for changes in ratings, such behavior could increase incentives to game accountability systems or "teach to the test." Third, in this study we look at the impacts of accountability ratings on school finances under a routine setting, the impacts of which could differ substantially from cases such as in Craig, Imberman and Perdue (2013) where unique and non-repeatable settings are used. Fourth, while we cannot fully separate the behaviors of district administrators from principals (with the exception of total funding which is entirely under the purview of the district) we can nonetheless gain some insight into how principals respond when their accountability pressure is relaxed (increased) by getting a higher (lower) rating in accountability systems by estimating impacts on changes in categorical expenditures. Our knowledge of such principal behaviors is rather thin as it is difficult to separate principals' efforts from teachers'. Rouse et al. (2013), for example, find evidence that getting a failing rating leads to more teacher resources via a survey, they are not able to assess the impacts on specific spending categories, overall school funding, or the impacts of getting a high rating. Thus, our study complements Rouse et al. (2013) and Craig, Imberman and Perdue (2013) by providing some needed insight into how principals respond to accountability pressures.

For our analysis we focus on the accountability system in place in Texas from 1994 through 2002 called the Texas Assessment of Academic Skills (TAAS). Under this system, schools were given ratings based on student performance on test scores and, to a lesser extent, attendance, dropout and graduation rates.² While the system has since been replaced, first with the Texas Assessment of Knowledge and Skills (TAKS) until 2012 and then the State of Texas Assessments of Academic Readiness (STAAR) afterward, we only analyze the TAAS system here. Our preliminary analyses showed discontinuities in the densities of the forcing variable under the TAKS regime. Under that regime schools were able to acquire temporary "exceptions" that allowed them to negate falling below ratings cutoffs for some subgroups. This led to bunching above the thresholds leaving us unable to determine how much of the bunching was due to the structure of the system and how much was due to manipulation that would negate the validity of the regression discontinuity design.³ Fortunately, we find little evidence of similar problems during the TAAS regime. For the STAAR system, the implementation is too recent to conduct a full analysis and thus we leave that to future research. Hence, under the TAAS system, we find evidence that school districts provided small budgetary

² The attendance requirements were abandoned in 1999–2000.

³ For the estimates using data from the TAKS period see Craig, Imberman and Perdue (2009).

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