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Are Rural Schools (in)efficient and (un)productive?

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What is the Issue?

In recent years, small rural and poor school districts have faced pressure to raise standards, become more efficient, share services, and balance their budgets, all of which have become increasingly challenging in light of recent cuts in state aid to education and a new property tax cap. Many of these districts have been accused of being inefficient or unproductive. In contrast, advocates often argue that smaller rural districts are among the most productive and efficient in the state with their high graduation rates and relatively low spending. In this publication we explore the question: *Are rural schools more or less efficient or productive than schools in other locales?*

Definitions of District Locale

To inform the question, one must first define rural. The Federal National Center for Education Statistics describes a school's location as: City, Suburban, Town, or Rural. Each type has three subcategories for a total of twelve location codes. For City and Suburb, these are gradations of size: Large, Midsize, or Small. Towns and rural areas are further distinguished by their distance from an urbanized area: Fringe, Distant, or Remote¹.

In addition to the federal location codes, the NYS Education Department has created *Needs to Resource Capacity* (N/RC) categories. The N/RC Index is a measure of a district's ability to meet the needs of its students with local resources. The N/RC district categories are: *New York City (NYC); Large City (Big Four)* – Buffalo, Rochester, Syracuse, and Yonkers; *High Need Urban-Suburban (HN Urb/Sub); High Need Rural (HN Rural); Average Need (Ave. Need); and Low Need*². By using both codes, N/RC categories can be broken down geographically, and federal rural school districts can also be classified as *High, Average or Low Need* districts.

Expenditures per Student

One measure of efficiency is determining how much it "costs" to graduate a student in four years. Figure 1 shows the significant variation in expenditures per student among districts based on the 2006 9th grade cohort (followed through 2010). The highest costs per graduate (\$137,714 to \$166,389) are seen in Big 4, mid-size/large cities, and large suburbs, as well as in Low-Need and Remote Rural districts. The lowest cost per graduate is seen in a HN Rural and Mid-Size suburban district at \$52,849. HN Rural districts' cost per graduate is fairly consistent, ranging from \$78,430 - \$87,265, with the exception of one district at \$52,849. The range of rural districts' cost per graduate by federal locale is broader, ranging from \$69,494 - \$141,893.

Student Outcomes

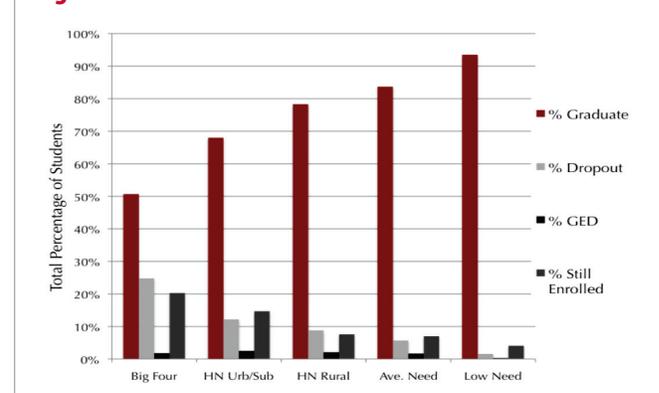
Student performance and outcomes are important indicators of school district productivity. Figure 2 shows various measures of student outcomes for the same 2006 9th grade cohort examined in Figure 1. HN Rural dropout rates are about fifteen percentage points lower than those among Big Four districts. HN Rural districts also had higher graduation

Figure 1: Per Graduate Expenditures for Four Year 2006 Cohort

Federal (NCES)	NYS ED Need-to-Resource Capacity Categories (NRC)					Total
	Big 4	HN Urb/Sub	HN Rural	Ave. Need	Low Need	
11 - City: Large	\$ 145,622	.	.	.	.	\$ 145,622
12 - City: Mid-size	\$ 166,389	.	.	.	.	\$ 166,389
13 - City: Small	.	\$ 103,738	.	\$ 77,486	.	\$ 92,685
21 - Suburb: Large	\$ 137,714	\$ 123,240	.	\$ 74,533	\$ 86,778	\$ 85,392
22 - Suburb: Mid-size	.	\$ 74,110	\$ 52,849	\$ 68,696	\$ 61,512	\$ 67,228
23 - Suburb: Small	.	\$ 99,723	\$ 82,008	\$ 72,071	.	\$ 75,830
31 - Town: Fringe	.	\$ 73,837	\$ 78,430	\$ 71,189	\$ 83,614	\$ 73,802
32 - Town: Distant	.	\$ 74,268	\$ 82,495	\$ 67,340	.	\$ 76,400
33 - Town: Remote	.	\$ 76,879	\$ 81,365	\$ 70,955	.	\$ 77,750
41 - Rural: Fringe	.	\$ 69,495	\$ 84,979	\$ 67,357	\$ 86,005	\$ 72,839
42 - Rural: Distant	.	.	\$ 82,225	\$ 74,671	\$ 73,428	\$ 78,500
43 - Rural: Remote	.	.	\$ 87,265	\$ 95,562	\$ 141,893	\$ 97,840
Total	\$ 154,029	\$ 105,133	\$ 82,516	\$ 73,511	\$ 87,997	\$ 80,941

rates than the Big Four districts and HN Urb/Sub districts respectively. Interestingly, based on our analysis, an increase of \$1,000 in per-pupil expenditure is associated with a decrease in graduation rates by 0.1%. Finally, graduation rates in high need rural districts are higher for non-poor students than in other more urban high need settings. However, poor students graduate at similar rates in rural and non-rural communities (for more discussion on outcomes for poor and non-poor students, see http://nyruralschools.org/downloads/Productivity_Brief.pdf).

Figure 2: Student Outcomes of a 4-Year Cohort



Conclusion

Simply arguing that rural school districts are more or less efficient and productive is misleading; it is important to identify the variation among rural (and non-rural) school districts. High need rural districts are relatively efficient in terms of cost per graduate, and while rural communities with greater local resources (low need) have higher graduation rates (and therefore may be viewed as more productive), they spend substantially more per graduate. It is our hope that these findings can be used to inform conversations and decisions regarding efficiency and productivity across the wide variety of school district types in New York State. ▲

¹ National Center for Education Statistics (NCES). Identification of Rural Locales. Retrieved July 18th, 2011 from: http://nces.ed.gov.ccd.rural_locales.asp.

² New York State Education Department. New York State Board of Regents Proposal on State Aid to School Districts For School Year 2010-2011. Retrieved July 18th, 2011 from: <http://www.p12.nysed.gov/stateaidworkgroup/2010-11RSAP/RSAP1011final.pdf>.

