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John Yinger

The Maxwell School, Syracuse University, joyinger@syr.edu

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It's Elementary

A Monthly Column by EFAP Director John Yinger
August 2016

Longitudinal Student Data and State Education Aid Formulas

A recent column in *The New York Times* demonstrates that longitudinal student data is vital not only for studying education policies, such as charter schools or whole-school reform, but also for estimating education costs and designing state education aid formulas.¹

This column was written by Susan Dynarski, who is a professor at the University of Michigan. Professor Dynarski describes her research project with Katherine Michelmore, who is my new colleague at Syracuse. This project focuses on the relationship between poverty and student achievement in Michigan, using eligibility for a free or reduced price lunch as an approximation for poverty status. Many scholars have shown, of course, that students in families below the poverty line have a lower average performance on standardized tests than do students from non-poor families. Dynarski and Michelmore take this analysis a step farther by showing that students in families that are persistently poor do not perform as well, on average, as students in families that fall below the poverty line in some years but not in others. This performance difference is equivalent to about one grade of learning.

Dynarski and Michelmore also show that persistent poverty is an indicator of a family's "depth of disadvantage." On average, families that are persistently poor have lower incomes and parents with less education than families that are occasionally poor. Moreover, the performance gap between persistently and occasionally poor families can already be seen in third grade and persists through eighth grade.

So why are these results relevant for education costs and state aid? Dynarski gives the answer:

Many federal, state and local programs distribute money based on the share of a district's students who are eligible for subsidized meals. But schools that have identical shares of students eligible for subsidized meals may differ vastly in the share of students who are deeply poor. The schools with the most disadvantaged children have greater challenges and arguably need more resources.

¹ Susan Dynarski, "Why American Schools Are Even More Unequal Than We Thought," *The New York Times*, The Upshot, Economic Vies, August 12, 2016. Available at: <http://www.nytimes.com/2016/08/14/upshot/why-american-schools-are-even-more-unequal-than-we-thought.html?rref=collection%2Fsectioncollection%2Fupshot&action=click&contentCollection=upshot®ion=rank&module=package&version=highlights&contentPlacement=4&pgtype=sectionfront>.

Research on education costs and their role in state aid formulas, which are frequent subjects of my columns, usually measure student disadvantage using the share of students who are eligible for a free or reduced price lunch in a given year. School-district-level data sets do not provide information on the share of students who are persistently poor by this measure. The only way to obtain this information is with data that cover individual students over time—that is, with student-level longitudinal data. Existing studies therefore cannot estimate the extent to which persistent poverty leads to higher education costs than does occasional poverty. The Dynarski/Michelmore estimates suggests that this difference might be large.

If they are not based on accurate costs estimates, the poverty weights in state education formulas will also not be accurate, and the associated education aid amounts will not be fair. Students in districts with high concentrations of persistent poverty will not receive the aid they need to meet their state’s performance targets.

Longitudinal student-level data sets are also needed to shed light on other aspects of education costs. Many studies have estimated added school-district costs associated with a concentration of students who have limited English proficiency (LEP).² Although some studies estimate the costs of concentrated poverty along with the costs of a concentration of LEP students, no study has been able to determine whether costs increase with the share of students who have both of these disadvantages. Student-level data is needed to make this determination. Moreover, no study has been able to determine whether education costs depend on the grade pattern of LEP students. Do the extra costs of LEP students decline over time if these students enter a district at an early grade, for example? Questions like this one cannot be answered without a longitudinal student-level data set.

This analysis applies, of course, to every state. Several states in addition to Michigan have given scholars access to longitudinal student-level data sets, with steps to protect student confidentiality. I hope scholars will soon make use of one of these data sets to address issues in the estimation of education costs such as the ones discussed in this column. Many other states, including New York, have not given scholars access to longitudinal student-level data. As indicated in my April and June columns this year, this type of data could provide valuable information about education policy in addition to its contribution to a deeper understanding of education costs.

If you have done so already, please take a look at the petition in my June column (http://cpr.maxwell.syr.edu/efap/about_efap/ie/June_2016.pdf) and add your name to the list of scholars calling for an accessible longitudinal student-level data set for New York.

² See, for example, Phuong Nguyen-Hoang and John Yinger, “Education Finance Reform, Local Behavior, and Student Performance in Massachusetts,” *Journal of Education Finance* 39 (4) (2014), pp. 297-322; Tae Ho Eom, William Duncombe, Phuong Nguyen-Hoang, and John Yinger, “The Unintended Consequences of Property Tax Relief: New York State’s STAR Program,” *Education Finance and Policy* 9 (4) (Fall 2014), pp. 446-480; and William D. Duncombe and John Yinger, “Making Do: State Constraints and Local Responses in California’s Education Finance System,” *International Tax and Public Finance* 18 (3) (June 2011), pp. 337-368.