The Centre for Market Reform of Education

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Editor: Gabriel Heller Sahlgren

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The Centre for Market Reform of Education

Editor's Pick

The Evolution of Charter School Quality

By: Patrick L. Baude, Marcus Casey, Eric A. Hanushek, and Steven G. Rivkin

NBER Working Paper No. 20645

Free version:
https://hanushek.stanford.edu/sites/default/files/publications/Baude%2BCasey%2BHanushek%2BRivkin%202014%20NBER%20w20645.pdf

Ever since charter schools were first introduced in the American education landscape in the early 1990s, they have been extremely controversial. As a market-based reform, opponents have voiced opposition to what they perceive to be a hidden privatisation of education, whereas proponents have suggested that charter schools both can improve achievement by themselves, while also producing healthy competition for existing state schools.

Few, however, have considered the dynamics of the charter school landscapes. In this paper, economists Patrick Baude and colleagues track the evolution of charter school quality over time in Texas, a state with one of the highest proportions of charter schools across the US, and analyse what may lay behind the observed changes.

The authors find that charter school quality has in fact increased in Texas between 2001 and 2011. In the beginning of the period, the distribution of value added in mathematics and reading achievement in the charter sector lies to the left of the distribution of state school value added, but then catches up by shifting to the right – and then finally outperforming the state school sector slightly by moving slightly to the right of them.

This is not because state school quality has declined, but because charter school quality has increased. On average, average improvements in the charter sector amount to 0.11 standard deviations (SD) in mathematics and 0.20 SD in reading. The authors conclude that 'there is compelling evidence that market forces are generating dynamic improvements in the charter sector'.

The gains occur for three principal reasons: (1) there are improvements among existing charter schools that persist throughout the period of study by about 0.06 SD and 0.11 SD in mathematics and reading respectively, (2) higher closure rates among low value added charter schools, and (3) average value added among new charter schools starting during the period is much higher than that of schools that closed. Indeed, the difference between closing charter schools and new entrants amounts to wholly 0.28 SD in mathematics and 0.40 SD in reading.

The strong variation between poorly performing exiting schools and higher-quality new schools suggest significant differences between the charter management organisations that expanded and those that contracted during the period. Indeed, the authors find a strong positive relationship between the value added among a charter school organisation's schools and the number of schools the same charter management organisations open subsequently. In other words, excellence is scaling up.

The authors also explore specific policy-relevant reasons for the improvements in the sector, and find that there has been an expansion in the share of charter schools using the No Excuse paradigm (from about 20% to 40%), and that pupil composition has become more favourable in charter schools. The latter means that pupils selecting charter schools are now more similar to state school pupils rather than having lower achievement on average, which was the case earlier. Yet the largest impact seems to be associated with the decrease of pupil mobility in charter schools, which should be expected as the sector matures. However, much of the performance gains cannot be explained by these factors.

Overall, these are very important findings, displaying that market forces can function well in education. When the school market was new, the large variation of charter school quality in the early years may be expected since many operators had little experience. With time, however, good schools have begun to weed out bad ones – generating dynamic improvements in the sector as a whole. Note that the state school sector also improved during the time period, suggesting that charter school improvements did not come at the expense of state school quality.

The lessons are the following: (1) don't presume that market-based reforms based on parental choice and the introduction of new types of schools will pay off immediately. In the beginning it is likely that the new schools will vary significantly, simply because there will be good and bad ones – and it is very difficult to know in advance which ones will perform the best. But that is precisely why the market exists, since (2) as markets mature, so do the privately operated schools – and overall achievement increases as a result. Furthermore, this is provides further evidence that (3) unlike state schools, which rarely close, poorly performing privately operated schools do– and this is a major reason why we may be inclined to prefer the latter.

All this is highly relevant for the debate about English free schools. We should not expect that all new free schools are going to be great. When the market is new, the variability is likely to be strong – which is precisely what we have been observing. There are good free schools and bad free schools. But this does not mean that the free schools policy has failed. Given these authors' research, we might instead expect that the good ones will expand and crowd out the bad ones with time. Just like markets are supposed to work.

Effects of Policy and Practice – Developed World

The Long Run Human Capital and Economic Consequences of High-Stakes Examinations

By: Victor Lavy, Avraham Ebenstein, and Sefi Roth

NBER Working Paper No. 20647

Free version:
https://www2.warwick.ac.uk/fac/soc/economics/staff/vlavy/lavy_eben_roth_hifgstakes_march_11_2014_text_and_tables.pdf

Cognitive performance during high-stakes exams can be affected by random disturbances that, even if transitory, may have permanent consequences for long-term schooling attainment and labour market outcomes. The authors evaluate this hypothesis among Israeli high school students who took a series of high stakes matriculation exams between 2000 and 2002. As a source of random (transitory) shocks to high- stakes matriculation test scores, they use exposure to ambient air pollution during the day of the exam. First, they document a significant and negative relationship between average PM2.5 exposure during exams and student composite scores, post-secondary educational attainment, and earnings during adulthood. Second, using PM2.5 as an instrument, they estimate a large economic return to each point on the exam and each additional year of post-secondary education. Third, they examine the return to exam scores and schooling across sub-populations, and find the largest effects among boys, better students, and children from higher socio-economic backgrounds. The results suggest that random disturbances during high-stakes examinations can have long-term consequences for schooling and labour market outcomes, while also highlighting the drawbacks of using high-stakes examinations in university admissions.

Inputs in the Production of Early Childhood Human Capital: Evidence from Head Start

By: Christopher Walters

NBER Working Paper No. 20639

Free version: http://eml.berkeley.edu/~crwalters/papers/HS_2_2014.pdf

Studies of small-scale "model" early-childhood programs show that high-quality preschool can have transformative effects on human capital and economic outcomes. Evidence on the Head Start program is more mixed. Inputs and practices vary widely across Head Start centres, however, and little is known about variation in effectiveness within Head Start. This paper uses data from a

multi-site randomized evaluation to quantify and explain variation in effectiveness across Head Start childcare centres. The author answers two questions: (1) How much do short-run effects vary across Head Start centres? and (2) To what extent do inputs, practices, and child characteristics explain this variation? To answer the first question, he uses a selection model with random coefficients to quantify heterogeneity in Head Start effects, accounting for non-compliance with experimental assignments. Estimates of the model show that the cross-centre standard deviation of cognitive effects is 0.18 test score standard deviations, which is larger than typical estimates of variation in teacher or school effectiveness. Next, he assesses the role of observed inputs, practices and child characteristics in generating this variation, focusing on inputs commonly cited as central to the success of model programs. His results show that Head Start centres offering full-day service boost cognitive skills more than other centres, while Head Start centres offering frequent home visiting are especially effective at raising non-cognitive skills. Head Start is also more effective for children with less-educated mothers. Centres that draw more children from centre-based preschool have smaller effects, suggesting that cross-centre differences in effects may be partially due to differences in counterfactual preschool options. Other key inputs, including the High/Scope curriculum, teacher education, and class size, are not associated with increased effectiveness in Head Start. Together, observed inputs explain about one-third of the variation in Head Start effectiveness across experimental sites.

Money for nothing: Estimating the impact of student aid on participation in higher education

By: Lorraine Dearden, Emla Fitzsimons, and Gill Wyness

Economics of Education Review (December 2014)

Published version (free):
http://www.sciencedirect.com/science/article/pii/S0272775714000910

Understanding how higher education (HE) finance policy can affect HE decisions is important for understanding how governments can promote human capital accumulation. Yet there is a severe lack of evidence on the effectiveness of student aid in encouraging HE participation outside of the US, and none at all for the UK. This paper exploits a reform that took place in the UK in 2004, when maintenance grants were introduced for students from low income families, having been abolished since 1999. This reform occurred in isolation of any other policy changes, and did not affect students from relatively better off families, making them a potential control group. The authors use a difference-in-difference framework to estimate the effect of the reform on HE undergraduate participation. They find a positive impact of maintenance grants, with a £1000 increase in grants leading to a 3.95 percentage point increase in participation.

The Centre for Market Reform of Education

The Labour Market Returns to a For-profit College Education

By: Stephanie Riegg Cellini and Latika Chaudhary

Economics of Education Review (December 2014)

Published version:
http://www.sciencedirect.com/science/article/pii/S0272775714000934

Working paper version (free):
home.gwu.edu/~scellini/Index/Research_files/Returns-Oct2013.pdf

A lengthy literature estimating the returns to education has largely ignored the for-profit sector. In this paper, the authors estimate the earnings gains to for-profit college attendance using restricted-access data from the 1997 National Longitudinal Survey of Youth (NLSY97). Using an individual fixed effects estimation strategy that allows them to control for time-invariant unobservable characteristics of students, they find that students who enrol in associate's degree programs in for-profit colleges experience earnings gains of about 10% relative to high school graduates with no college degree, conditional on employment. Since associate's degree students attend for an average of 2.6 years, this translates to a 4% return per year of education in a for-profit college, slightly lower than estimates of returns for other sectors found in the literature.

Effects of Policy and Practice – Developing World

Private school effects in urban and rural India: Panel estimates at primary and secondary school ages

By: Abhijeet Singh

Journal of Development Economics (forthcoming)

Published version:
http://www.sciencedirect.com/science/article/pii/S0304387814001175

Working paper version (free):
https://www.dropbox.com/s/jqi40dnutk2omgn/Private_school_premium_-_July_2014.pdf

The author presents the first value-added models of learning production in private and government schools in India using unique panel data from Andhra Pradesh state. He examines the heterogeneity in private school value-added across different subjects, urban and rural areas, medium of instruction, and across age groups. Further, he also estimates private school effects on children's self-efficacy and agency. In rural areas, he finds a substantial positive effect (> 0.5 standard deviations) of private schools on English, no effect on mathematics and heterogeneous effects on Telugu for 8–10 year old students; at 15 years, there are modest effects (< 0.2 standard deviations) on mathematics and Telugu receptive vocabulary. He finds no evidence of a positive effect in urban areas or on psychosocial skills. Results on comparable test domains and age groups correspond closely with, and further extend, estimates from a parallel experimental evaluation.

You get what you pay for: Schooling incentives and child labour

By: Eric V. Edmonds and Maheshwor Shrestha

Journal of Development Economics (November 2014)

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http://www.sciencedirect.com/science/article/pii/S0304387814001047

Working paper version (free):
https://www.dartmouth.edu/~eedmonds/documents/transed.pdf

Can schooling promotion deter child participation in hazardous forms of child labour? The authors examine two interventions intended to promote schooling and deter child labour for children associated with carpet factories in Kathmandu. The first intervention provides scholarships for school-related

expenses. The second provides the scholarship and an in-kind stipend conditional on school attendance. Paying for schooling expenses promotes schooling but only at the beginning of the school year when most schooling expenses occur. The scholarship combined with the conditional stipend increases school attendance rates by 11%, decreases grade failure rates by 46%, and reduces carpet weaving by 48%. Financial support lasted one year. Effects on schooling and weaving do not persist past the year of support. "You get what you pay for" when schooling incentives are used to combat hazardous child labour.

General Education

Compulsory Schooling, Education, Depression, and Memory: New Evidence from SHARELIFE

By: Laura Crespo, Borja López-Noval, and Pedro Mira

Economics of Education Review (December 2014)

Published version:
http://www.sciencedirect.com/science/article/pii/S0272775714000892

Working paper version (free): http://www.cemfi.es/ftp/wp/1304.pdf

In this paper, the authors provide new evidence on the causal effect of education on adult depression and cognition. They use SHARE data and schooling reforms in several European countries as instruments for educational attainment. They find that an extra year of education has a large and significant protective effect on mental health; the probability of suffering depression decreases by 6.5 percentage points. They find a large and significant protective effect on cognition as measured by word recall. The authors also explore whether heterogeneity and selection play a part in the large discrepancy between OLS and IV (LATE) estimates of the effect of education on depression and cognition. Using the data available in SHARELIFE on early life conditions of the respondents such as the individuals' socioeconomic status, health, and performance at school, they identify subgroups particularly affected by the reforms and with high marginal health returns to education.

Validating Teacher Effect Estimates Using Changes in Teacher Assignments in Los Angeles

By: Andrew Bacher-Hicks, Thomas J. Kane, and Douglas O. Staiger

NBER Working Paper No. 20609

Free version:
https://scholar.harvard.edu/files/andrewbacherhicks/files/bacher-hicks_kane_staiger_validating_teacher_effects.pdf)

In a widely cited study, Chetty, Friedman, and Rockoff (hereafter CFR) evaluate the degree of bias in teacher value-added estimates using a novel "teacher switching" research design with data from New York City. CFR conclude that there is little to no bias in their estimates. Using the same model with data from North Carolina, Rothstein argued that the CFR research design is invalid, given a relationship between student baseline test scores and teachers' value-added. In

this paper, the authors replicated the CFR analysis using data from the Los Angeles Unified School District and similarly found that teacher value-added estimates were valid predictors of student achievement. They also demonstrate that Rothstein's test does not invalidate the CFR design and instead reflects a mechanical relationship, given that teacher value-added scores from prior years and baseline test scores can be based on the same data. In addition, the authors explore the (1) predictive validity of value-added estimates drawn from the same, similar, and different schools, (2) an alternative way of estimating differences in access to effective teaching by taking teacher experience into account, and (3) the implications of alternative ways of imputing value-added when it cannot be estimated directly.

Measuring value-added in higher education: Possibilities and limitations in the use of administrative data

By: Jesse M. Cunha and Trey Miller

Economics of Education Review (October 2014)

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http://www.sciencedirect.com/science/article/pii/S0272775714000582

This paper develops a general methodology for measuring the value added of institutions of higher education using commonly available administrative data. The authors approach recognises the data limitations and selection problems inherent in higher education, and highlights the challenges these issues pose for education policy. Combining information from different administrative sources in the state of Texas, they follow the universe of Texas college applicants from the time of application (pre-enrolment) through public college and into the labour market. In specifications that do not control for selection, they find large, significant differences across colleges in terms of persistence, graduation, and earnings; however, these differences decrease substantially when they control for selection of students into colleges. In light of the growing interest in using value-added measures in higher education for both funding and incentivising purposes, the authors' methodology offers unique evidence and lessons for policy makers.