



February 2018

Public-Private Educational Partnerships in Developing Countries: A Special Focus on Liberia

M. Danish Shakeel

Doctoral candidate, Department of Education Reform, University of Arkansas

“My research in Kenya suggested that these poor families had always been able to afford private schools. Before free primary education, they were already in private schools. The real conundrum for me was why the development experts hadn’t already figured this out.”

—James Tooley, 2009, p. 125.

Introduction

Education policy in the developing world has focused on expanding access to government-operated schools (Dixon, 2013). For instance, the government of Kenya abolished the school fee (Tooley, 2009), while the state and federal governments of India built more public schools, hired more teachers, and passed laws to increase school enrollment (Muralidharan, 2013; Pratham, 2012). At the same time, such countries have witnessed a sharp growth in the number of low-cost private schools, many of which cater to relatively poor, fee-paying parents. Abolishing the school fee in Kenya did not lead fee-paying parents to reject private schools, primarily because of their conviction that public schools offered poor instructional quality (Tooley, 2009). The same is true in India: Annual Status of Education Report (ASER) surveys¹ show that private-school enrollment increased from approximately 19% in 2006 to 26% of students in 2011.

In general, private schools account for at least 20% of the total primary-school enrollment in developing countries (Baum et al., 2014), and the growth of this sector has occurred despite increased spending on public schooling and near-universal access to free public primary schools (Glewwe & Muralidharan, 2016). Fieldwork indicates that low-income parents reject free government schools² and select low-cost private schools for a variety of reasons that range from teacher absenteeism and low academic quality in the public sector, to the higher academic quality, presence of religious values, and school safety in the private schools (Shakeel & Wolf, *forthcoming* 2018).

¹ Available at <http://www.asercentre.org/>

² Evidence exists that even though they are free, most public schools in Liberia charge additional and unauthorized fees (The research team, 2017, p. 14).

Educational public-private partnerships are a middle ground between public and private schools. These public-private partnerships are schools that are publically funded, but operated by private organizations. Support for such public-private partnerships³ has recently reemerged and rests upon the following factors:

- An increasingly important role of private schools in boosting school enrollment, especially for traditionally underserved students (Baum et al., 2014);
- Increased parental demand for private schools, even after increased government spending on public schools and near universal access to them (Glewwe & Muralidharan, 2016);
- Growth in public-private partnerships for early childhood development interventions (Gustafsson-Wright, Smith, & Gardiner, 2016);
- Non-state actors' already providing many public education services beyond teacher salaries (The research team, 2017, p. 12);
- Some evidence⁴ that private (religious and philanthropic) schools fare better in learning outcomes and teaching in comparison to public schools (Ashley & Wales, 2015).

Thus, researchers are understandably interested in private-school programs in developing countries. Their key question: Which kind of schools are most effective at generating academic achievement and /or civic values (Doolittle & Connors, 2001; Friedman & Friedman, 1990; Gutmann, 1999; Neal, 2002, Ravitch, 2013)? The evidence from experimental studies shows moderate, aggregate benefits of private-school-scholarship interventions on academic achievement in the United States, but by contrast, substantial benefits in developing countries (Shakeel, Anderson & Wolf, 2016). This is partly due to the larger gap between the quality of public and private schools in poorer countries. In both developing and developed nations, however, the parents who select private schooling express greater satisfaction with their schools' quality (Shakeel & Wolf, forthcoming 2018).

A recent public-private initiative in Liberia has provided occasion to investigate the results of such an experiment through a randomized control trial (RCT). The study looks at the initial effects of Liberia's experiment with enabling private operators to run public schools (Romero, Sandefur, & Sandholtz, 2017). Known as the Partnership Schools for Liberia⁵ (PSL), the program, described in full below, funded eight private contractors to manage 93 elementary and middle schools and compared the results with those from 93 similar public schools. The authors found that, after one year of private management, student learning increased by 60% over peers in comparable public schools; teachers were 20 percentage points more likely to be present in PSL schools and 16 percentage points more likely to be engaged in instruction during class time in a random check; and

³ Although publicly funded options for access to privately administered schooling exist in some parts of the developing world (such as school vouchers in Chile), contracting out public schools to private providers is a relatively new phenomenon. Some examples include National Rural Support program in Pakistan (Rasmussen et al., 2007), concession schools in Bogota, Colombia (Barrera-Osorio, 2006) and Fe Y Alegría in Latin America (Allcott & Ortega, 2009).

⁴ Ashley and Wales (2015) conduct a systematic review of the effect of private schools in developing countries.

⁵ A summary of PSL and results of the evaluation were recently highlighted by BBC news. Available at <https://www.bbc.com/news/amp/business-42413639>

students in PSL schools spent twice as much time learning each week. The evaluation also found that academic performance varied among the eight private contractors, and that the program's costs were high. The PSL program, the research team's first-year findings, and criticism garnered by the report, are explored in depth below.

The Partnership Schools for Liberia

Liberia offers a unique setting to explore the effects of public-private partnerships in the provision of education. Outside donors primarily fund the education system—75% of its \$40 million per year budget comes from external funding (Romero et al., 2017, p. 12). In addition, the national enrollment rate is very low: compulsory education lasts 6 years in Liberia (from age 6-11),⁶ but only 38% of Liberia's eligible students attend primary school, compared to an average of 90% worldwide (The World Bank, 2015). Liberia's public schools characteristically produce low levels of learning; only a quarter of adult women who have completed elementary school can read a full sentence (Liberia Institute of Statistics and Geo-Information Services, 2014). Understandably, the demand for private schooling is high: approximately half of all enrolled K-12 students attend non-public (private, mission and community) schools (Ministry of Education - Republic of Liberia, 2016).

In September 2016, the Liberian Ministry of Education allowed private-school operators to run 93 public schools, known as “partnership schools,” in a project called “Partnership Schools in Liberia” (PSL).

PSL's design includes the following elements:

- **Contractors.** Six of the eight selected contractors (YMCA, Omega, BRAC, Rising Academy, Street Child and More Than Me) were chosen through a competitive bidding process from a total of 11 bids.⁷ Bridge International Academies was selected outside the process, and Stella Maris – also chosen outside of the process - did not complete the contracting process and did little work. Only three of the contractors had not previously provided educational services in Liberia.
- **Number and location of PSL schools.** The Liberian Ministry of Education selected 185 schools to be part of the PSL program. The private-school contractors identified pairs of similar schools that they were willing to run, and one school from each pair was randomly selected for the contractor to actually run. The 93 schools that had been randomly selected served as the treatment group (and the other school in the pair that was not randomly selected served as control schools). While all schools in the PSL program were similar to one another, they were more privileged than the *average* Liberian school in several ways: PSL cohorts (both treatment and control) had higher staffing levels, better infrastructure, and better access to roads. (Romero et al., 2017, p. 8).

⁶ Available at <http://uis.unesco.org/country/LR>

⁷ Available at <http://moe.gov.lr/partnership-schools-for-liberia/>

Under the terms of PSL, the contractors maintain the following responsibilities:

- *Control over some school inputs*, such as books, computers and uniforms. PSL schools could also provide extra-curricular activities.
- *Open admissions*. The contractors could not engage in selective student admissions.
- *Professional development for teachers*. The contractors could invest in teacher professional development.
- *Instruction from the Liberian national curriculum*. Although PSL schools teach the Liberian national curriculum, the contractors could and often do surpass the requirements through additional hours and/or subjects.
- *Annual assessments*. Regulations for annual testing and reporting of results apply to PSL schools.
- *Reports on attendance*. The PSL schools are required to provide data to the government on daily teacher and student attendance similar to non-PSL students.
- *Adhere to the government's hiring and dismissal policies*. As the teachers in PSL and non-PSL schools are public servants, no school has authority to dismiss a teacher. Teacher accountability in PSL schools is only through monitoring and support.

The government, for its part:

- *Owns and maintains all school buildings*. The government owns and finances the schools. PSL schools remain within public sector and are free to all students.
- *Guarantees one teacher per grade for PSL schools*. The government assures PSL schools one teacher per grade and pays teachers' salaries.

At the same time, the differences between PSL and the control schools are important:

- *PSL schools have first choice from among recent teacher graduates*. The PSL program evaluation lasts for three years. PSL contractors have the first pick of new teacher training graduates throughout this period. Note that recent teachers, however talented, do not necessarily constitute superior teachers.
- *PSL schools receive an additional \$50/per pupil*. The per-pupil expenditure in Liberian public schools is approximately \$50. The government provides an additional \$50 per-pupil to PSL intervention schools.⁸
- *PSL schools are allowed to cap class sizes*. The MOU between PSL contractors and the government authorizes contractors to cap class size at 65. One contractor - Bridge International Academies - is authorized to cap the class size at 55, but capped them at 45 in most cases. Local media reports indicate that there had been more than 75 students in a class in some schools prior to the intervention (Mukpo, 2017).

⁸ Note that Bridge International Academy and Stella Maris, who did not apply to be part of the PSL program through a competitive process, do not receive the additional \$50 per student a year.

As part of the PSL program, an external, independent evaluation led by the Center for Global Development and Innovations for Poverty Action informs the public and the government about the program's impacts during its first three years.

In September 2017, the research team from Center for Global Development released preliminary findings from PSL's first year of operation.⁹ What were the initial program effects, and are they transferable to other schools in Liberia or elsewhere?

The research team found the following:

- *Positive academic results.* The intervention produced statistically significant and positive results on student learning as measured by test scores. The estimated average effect of the intervention, measured across all providers, was 0.18 s.d. in English and 0.18 s.d. in mathematics. Note that the tests were created by the researchers evaluating the PSL, and were based on commonly used international assessments—the Early Grade Reading Assessment (ERGA), Early Grade Mathematics Assessment (EGMA), Uwezo, and Trends in International Mathematics and Science Study (TIMSS) assessment.¹⁰ The researchers calculate that, “The gains are the equivalent of 0.56 additional years of schooling for English and 0.66 years of schooling for math.”
- *Positive effects on teachers.* Teachers in PSL schools had better attendance: during a random check, teachers in PSL schools were 20 percentage points more likely to be present. Teachers' engagement in instruction during class time also improved: teachers in PSL schools were 16 percentage points more likely to engage with students in lectures and discussions or to monitor students' progress. The time devoted to instruction also increased twofold in PSL schools.
- *Variability between providers.* The small sample size (only eight contractors) and the differences in their prior experience in Liberia make it difficult to draw relevant policy conclusions from variability in performance. However, the research team found that providers clustered into three distinct groups, based on the improved academic achievement of their students. The first group produced an increase of 0.27 s.d. on all subjects (YMCA, Rising Academies, Street Child and Bridge International Academies). The second group produced an increase of 0.15 s.d. (BRAC and More than Me). The third group produced an increase of 0.01 s.d., i.e., the result was statistically null (Omega and Stella Maris).
- *High cost of intervention.* The average per-pupil cost in Liberian public schools is \$50. The PSL schools were provided an extra \$50 per-pupil, as the government determined that \$100 per-pupil expenditure¹¹ was a realistic medium-term goal (Werner, 2017). The government plans to increase the per-pupil subsidy in the second year of PSL and also include a meal program currently not covered by the contractors. But the research team estimates that some

⁹ It is common practice among economists and program evaluators to set out their findings in the format of a working paper. Such a procedure allows academic feedback and suggestions for possible improvements in writing and empirical analysis before the paper finally goes through the publication process in a peer-reviewed journal.

¹⁰ For additional details see online Appendix F of Romero et al. (2017).

¹¹ World Bank data shows that this is comparable to per-pupil expenditure by governments such as Tanzania in 2014, Pakistan in 2015, Ghana in 2014 and India in 2010.

contractors exceeded the amount provided by the government, perhaps by as much as \$600 per pupil. More importantly, the research team does not find a clear correlation between higher per-student costs and higher learning gains. For instance, Bridge International Academies had a \$663 per-pupil ex-ante budget, and Youth Movement for Collective Action a \$57 per-pupil ex-ante budget. As discussed before, both of these contractors are in the group that produced an increase of 0.27 s.d. in all subjects. However, one should be cautious about drawing long-term conclusions about the intervention's costs. This is because the researchers did not have full access to providers' *actual* costs, nor did the researchers know which of the costs are fixed costs (e.g. one-time costs, such as improving the school building) and which are variable costs (e.g. costs that will need to be paid indefinitely, such as salaries).

Is the Partnership Schools in Liberia model transferable to other contexts – both in other parts of Liberia and in other countries? It may be too early to tell, for the following reasons:

- *First-year findings.* First-year evaluations, in general, only allow modest conclusions. For instance, the impacts of school vouchers initially dip but generally improve year on year (Shakeel, Anderson, & Wolf 2016). Any educational intervention affects household and school-level inputs in ways that affect the program's outcomes (Glewwe & Muralidharan, 2016). The third-year findings will therefore be more informative for policymakers as they contemplate scaling up PSL or transferring the model to other countries.
- *Limited geography.* For reasons noted above, the Liberian government restricted the initial phase of the project to well-traveled areas. It is not clear whether partnership schools in less populated areas can attract high-quality contractors.
- *Teaching supply.* The Liberian government gave PSL schools first choice in hiring recent graduates of teacher training institutions. The researchers estimate that approximately half of the increased learning gains were due to changes in the composition of teachers at PSL schools.¹² It is therefore not clear whether such a policy could continue under a scaled-up version of PSL.

In sum, the PSL project clearly improved learning in the contracted schools. The PSL schools were located in areas with better road connectivity and the program enjoyed unique financial and teacher-supply support from the government. Further, it should be noted that spillover effects—that could be both negative and/or positive—are not accounted for. For instance, the largest contractor, Bridge International Academy, dismissed many of their teachers and hired newly-trained teachers.¹³ This may have resulted in weaker teachers working in other Liberian schools (an unintended negative consequence for those students). In contrast, recent research shows that there are spillover effects for younger siblings when their older siblings experience a higher quality teacher; thus, there might

¹² Note that the researchers measured this by using the teachers' age, and found a large impact of having younger teachers at PSL schools.

¹³ Note that it is unclear the circumstances in which this happened. As stated above, PSL teachers are public servants and the government pays their salaries. However, the data from Bridge Academies International shows that many of the teachers employed at Bridge schools at the beginning of the year were not working at the Bridge schools by the end of the year.

also be positive spillovers within PSL students' families.¹⁴ Therefore, policymakers should be cautioned against scaling the program until it has been piloted in *average* Liberian schools, evaluated thoroughly through a longer time frame, and the effects of the program are studied across the entire school system (or at least nearby public schools).

Klees's Critique

The National Center for the Study of Privatization in Education at the Teachers College, Columbia University studies, and is generally critical of,¹⁵ educational public-private partnerships. In October 2017, the Center released a working paper authored by Steven Klees (University of Maryland) that critiques the research team's evaluation and the PSL model itself.

Klees (2017) criticizes the first-year evaluation report on the following methodological grounds:

- *The researchers' preferred specification estimating the effects of the PSL program on student outcomes did not include student pre-test scores.* It is common to employ multiple model specifications in empirical analysis. For their evaluation of the PSL program, the research team used four different model specifications to estimate the effects of PSL schools on student outcomes: (1) no controls, (2) adding a fixed effect for school pairs, (3) adding¹⁶ student and school controls, and (4) adding students' pre-test scores. The evaluation team reports all of their estimates, but focus the majority of their analysis on specification 3. Klee argues that specification 4 should be the focus of the analysis. Estimates from specification 4 reduce the estimated effect of the PSL from a 66% annual increase in English and 56% increase in math to a 42% increase in English and 50% increase in math. Klee argues that specification 4 is the preferred specification because it controls for previous student pre-test scores and that not doing so is "an extremely unusual procedure." The researchers who conducted the evaluation of PSL argue that they focus on specification 3 because the pre-test scores were collected relatively late, after students have already showed some learning gains (and therefore, specification 4 under-estimates the actual effect of the PSL program). The researchers support this claim by showing that there is a significant difference between treatment and control students in reading and math at the baseline, but not in any time-invariant student characteristics or on abstract reasoning (which is less malleable than reading and math scores). The researchers also show that difference between the treatment and control group at baseline grows based on when the treatment group's test score were collected.¹⁷ Klee dismisses this argument, stating that it is "based on very little evidence" (4).

¹⁴ Javaeria A. Qureshi, "Siblings, Teachers, and Spillovers on Academic Achievement," *Journal of Human Resources* 53, no. 1 (2018): 272–297.

¹⁵ https://www.washingtonpost.com/news/answer-sheet/wp/2016/07/14/why-the-movement-to-privatize-public-education-is-a-very-bad-idea/?utm_term=.1e7a9eb338b3

¹⁶ Note that each specification adds additional elements to the previous specification.

¹⁷ That is, there is a larger gap between the treatment and control group if the treatment group was tested at the end of the data-collection period than if the data was collected at the beginning of the data-collection period.

- *The researchers' analysis of which factors contributed to gains in student learning is essentially correlational and ad hoc.* Klee argues that the section in the evaluation report that attempts to understand the mechanisms behind the changes in student learning is “completely invalid” because it is “ad hoc” and only “statistical correlations” (6). It should be noted that the authors of the evaluation do not claim that this section is a causal model; rather they attempt to address “which changes mattered for learning outcomes...as best as possible,” and that their results are suggestive (36).

Klees also criticizes the PSL model on ideological grounds. Here, his primary objection is that there is no need for educational public-private partnerships, since government schools can themselves implement reforms. PSL’s gains in test scores, he writes, derive from changes “that could be easily implemented in government schools without any need for outsourcing to the private sector.” He repeats this point several times: “The government can easily change the curriculum to have teachers in regular government schools spend more instructional hours on English and math;” “the Ministry could implement smaller class sizes in government schools;” the government could better train new teachers (8, 9). He concludes,

It is reasonable to assume that the gains in test scores has nothing to do with the privatization model of the PSL. Rather, longer hours, focusing teaching on English and math, smaller class sizes, better teacher training, and more access to basic inputs are more than reasonable explanations of why PSL students scored higher—all factors that have nothing to do with privatization and could easily be implemented in government schools throughout the nation (9).

And, “PSL is a waste of resources. There is a huge international literature that clearly answers the question of whether private schools are better than public schools...They are not” (13). Finally, he writes, “[These are] changes that could easily be made in regular public schools” (14).

Klees’s comments here depart from the empirical record, ignoring much of the history of education in developing countries as well as the research record on the positive effects of non-public schools. For example, his call for an increase in teacher salaries as a cure to teacher absenteeism (Klees, 10) was tried in Indonesia in 2009-2012, which doubled its teacher salaries unconditionally - to no effect on student achievement (de Ree et al., 2017). The teacher salaries in India are in the 90th percentile of public-sector salaries, and yet teacher absenteeism is substantial. Moreover, random visits to government schools in India reveal that teachers are often engaged in non-teaching activities during teaching hours (Kremer et al., 2005; Muralidharan et al, 2014). It has been observed in prior interventions in various countries that a well-designed program with positive impacts implemented by non-profit organizations may fail when implemented by government at a large scale (Romero et al., 51). Why? Because the identity of the organization running the program is the largest predictor of its effectiveness (concerning its impact within studies of similar programs) (Vivalt, 2015). A government-led program would likely differ in its impacts from the PSL model. Klees’s assertion that governments can implement the same intervention to the same effect may not hold in the real world.

More broadly, Klees neither references nor rebuts systematic reviews carried out by the United Kingdom's Department for International Development (DFID) that provide ample evidence for the positive effects of private schools in developing countries.¹⁸ Klees does not cite field experiments in developing countries that have found a clear, private school advantage based on student achievement, teaching, infrastructure, and other measures,¹⁹ nor four recent experimental studies (two in India and two in Colombia) that show positive and cost-effective academic results from private school vouchers (Shakeel, Anderson & Wolf, 2016).

Klees does raise the problem of cost; he estimates that the PSL intervention and its evaluation amounted to \$25 million for the three-year period. This is no meagre investment and should not be entered lightly. Klees is also right to call for more stringent cost-effectiveness analysis in the future.

Concluding Thoughts

The Partnership Schools in Liberia represents the most recent experiment with non-public educational delivery in the developing world. The working paper released by the Center for Global Development and Innovations for Poverty Action examines PSL's first year only; evaluations in Years 2 and 3 will offer more insights as the program stabilizes. The working paper and the program itself have been criticized by another, prominent institution. However, whichever method is used to analyze program effects, it does seem that PSL led to learning gains and that the intervention is costly in its first year. The evaluation reports from subsequent years will indicate whether the gains are sustainable and at what cost.

References

Allcott, H., & Ortega, D. E. (2009). The Performance of Decentralized School Systems: Evidence from Fe Y Alegría. In F. Barrera Osorio, H.A. Patrinos, and Q. Wodon (Eds.) *Emerging Evidence on Vouchers and Faith-Based Providers in Education*. Washington DC: The World Bank.

Ashley, D. L., and Wales, J. (2015). The impact of non-state schools in developing countries: A synthesis of the evidence from two rigorous reviews. EPPI-Centre, SSRU, UCL Institute of Education, London, UK. [DFID Education Rigorous Literature Review].

Barrera-Osorio, F. (2006). The impact of private provision of public education: empirical evidence from Bogota's concession schools. World Bank Policy Research Working Paper No. 5465.

Baum, D., Lewis, L., Lusk-Stover, O., & Patrinos, H. (2014). *What Matters Most for Engaging the Private Sector in Education: A Framework Paper*. The World Bank, Washington, DC.

¹⁸ See here. <https://www.gov.uk/government/publications>

¹⁹ See here. <https://www.povertyactionlab.org/>

- Berner, A. R. (2017). *Pluralism and American public education: No one way to school*. Springer.
- Chaudhury, N., Hammer, J., Kremer, M., Muralidharan, K., & Rogers, F. H. (2006). Missing in action: Teacher and health worker absence in developing countries. *The Journal of Economic Perspectives*, 20(1), 91-116.
- de Ree, J., Muralidharan, K., Pradhan, M., & Rogers, H. (2017). Double for Nothing? Experimental Evidence on an Unconditional Teacher Salary Increase in Indonesia. *The Quarterly Journal of Economics*.
- Dixon, P. (2013). *International aid and private schools for the poor: Smiles, miracles and markets*. Edward Elgar Publishing.
- Doolittle, F., & Connors, W. (2001). Designing education voucher experiments: Recommendations for researchers, funders, and users. In H. M. Levin (Ed.) *Privatizing education: Can the marketplace deliver choice, efficiency, equity, and social cohesion?* Boulder, CO: Westview Press, Perseus Books Group.
- Duflo, E., Hanna, R., Ryan, S.P. (2012). Incentives work: getting teachers to come to school. *Am. Econ. Rev.* 102 (4), 1241–1278.
- Friedman, M., & Friedman, R. (1990). *Free to choose: A personal statement*. Orlando, FL: Houghton Mifflin Harcourt.
- Glewwe, P., & Muralidharan, K. (2016). Improving education outcomes in developing countries: Evidence, knowledge gaps, and policy implications. *Handbook of the Economics of Education*, 5, 653-743. Amsterdam, Netherlands: Elsevier.
- Gustafsson-Wright, E., Smith, K., & Gardiner, S. (2016). *Public-private partnerships in early childhood development: the role of publicly funded private provision*. Brookings Institution.
- Gutmann, A. (1999). *Democratic education*. Princeton, NJ: Princeton University Press.
- Hess, F. M. (2017). *Letters to a Young Education Reformer*. Harvard Education Press.
- Klees, S. J. (2017). *Liberia's Experiment with Privatizing Education*, Working Paper 235, National Center for the Study of Privatization in Education, Teachers College, Columbia University, October 26, 2017, accessed at <http://ncspe.tc.columbia.edu/working-papers/WP235.pdf>
- Kremer, M., Muralidharan, K., Chaudhury, N., Rogers, F.H., Hammer, J. (2005). Teacher absence in India: A snapshot. *J. Eur. Econ. Assoc.* 3, 658–667.
- Liberia Institute of Statistics and Geo-Information Services. (2014). *Liberia demographic and health survey 2013*. Liberia Institute of Statistics and Geo-Information Services.
- Ministry of Education - Republic of Liberia. (2016). *Liberia education statistics report 2015-2016*.
- Muralidharan, K. (2013). Priorities for primary education policy in India's 12th five-year plan. In *India Policy Forum* (Vol. 9, No. 1, pp. 1-61). National Council of Applied Economic Research.

- Mukpo, A. (2017). In Liberia, a town struggles to adjust to its new charter school. Retrieved from <https://gemreportunesco.wordpress.com/2017/04/12/in-liberia-a-town-struggles-to-adjust-to-its-new-charter-school>
- Muralidharan, K., Das, J., Holla, A., Mohpal, A. (2014). The Fiscal Costs of Weak Governance: Evidence from Teacher Absence in India. NBER Working Paper 20299.
- Neal, D. (2002). How vouchers could change the market for education. *The Journal of Economic Perspectives*, 16(4), 25–44.
- Pratham. (2012). ASER 2011 (Provisional): Annual Status of Education Report (Rural). Pratham, New Delhi.
- Rasmussen, S. F., Piracha, M. M., Bajwa, R., Malik, A., & Mansoor, A. (2007). Scaling up rural support programmes in Pakistan. In D. Narayan and E. Glinskaya (Eds.) *Ending Poverty in South Asia: ideas that Work*. World Bank Publications.
- Ravitch, D. (2013). *Reign of error: The hoax of the privatization movement and the danger to America's public schools*. New York: NY: Vintage Books.
- Romero, M., Sandefur, J., & Sandholtz, W. A. (2017). Can outsourcing improve Liberia's schools? Preliminary results from year one of a three-year randomized evaluation of partnership schools for Liberia. Center for Global Development. Working paper 462. Available at <https://www.cgdev.org/publication/partnership-schools-for-liberia>
- Quereshi, Jeria A. "Siblings, Teachers, and Spillovers on Academic Achievement," *Journal of Human Resources* 53, no. 1 (2018): 272–297.
- Scafidi, B. (2017). Back to the staffing surge: The great teacher salary stagnation and decades-long employment growth in American Public Schools. Ed Choice, IN.
- Shakeel, M. D., Anderson, K. P., & Wolf, P. J. (2016). The participant effects of private school vouchers across the globe: A meta-analytic and systematic review. EDRE Working Paper No. 2016-07.
- Shakeel, M.D., & Wolf, P.J. (forthcoming, 2018). Poor parents are careful choosers: Dispelling the myth that school choice harms the poor. In P. Dixon & S. Humble (Ed.), *School choice around the world: What we can learn from national and international contexts*. Amsterdam, The Netherlands: IEA Publications.
- Singh, A. (2015). How standard is a standard deviation? a cautionary note on using sds to compare across impact evaluations in education. Retrieved 31/07/2017, from <http://blogs.worldbank.org/impactevaluations/how-standard-standard-deviation-cautionary-note-using-sds-compare-across-impact-evaluations>

The World Bank. (2015). Life expectancy. (data retrieved from World Development Indicators, <http://data.worldbank.org/indicator/SE.PRM.NENR?locations=LR>)

Tooley, J. (2009). *The beautiful tree: A personal journey into how the world's poorest people are educating themselves*. Washington, DC: Cato Institute.

Vivalt, E. (2015). *How much can we generalize from impact evaluations?* Unpublished Manuscript, New York University.

Werner, G.K. (2017). Liberia has to work with international private school companies if we want to protect our children's future. Quartz Arica. Retrieved 07/20/2017, from <https://qz.com/876708/why-liberia-is-working-with-bridge-international-brac-and-rising-academies-by-education-minister-george-werner/>.

Wolf, P. J., & Macedo, S. (2004). *Educating citizens: International perspectives on civic values and school choice*. Brookings Institution Press.