CLSRN

# Labour Market Matters

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**Special points of interest:**

- Study finds that better school principals can result in improved student achievement
- Class Size Reduction (CSR) policy might be more effective if it targets specific student sub-populations rather than mandating costly, but not necessarily efficient across-the-board reductions in class size

***"In terms of principal experience, they find that more experienced principals and those with a longer tenure in a school have no significant impact on student performance."***

**Elizabeth Dhuey (University of Toronto)**

## Principals Matter: Better Quality School Leaders Mean Better Test Scores

As school leaders, principals can influence student achievement in a number of ways, such as: hiring and firing teachers, monitoring instruction, and maintaining student discipline, among others. Previous research has shown that the most effective principals focus on policies that boost performance of low-achieving students. A study by CLSRN affiliates Elizabeth Dhuey (University of Toronto) and Justin Smith (Wilfrid Laurier University) entitled: ***"How Important are School Principals in the Production of Student Achievement?"*** (CLSRN Working Paper no. 90) tries to measure the effect, if any, of individual principals on gains in student math and reading achievement between grades four and seven.

The study analyzes data files obtained from the Ministry of Education in British Columbia, containing information such as: test data on all students writing the Foundation Skills Assessment (FSA) Tests[1] between 1999 – 2006; data on student gender, background and general area of residence; as well as data from all public schools in British Columbia from 1995 through 2006 that includes school characteristics and information on school principals.

Results show that principals have a substantial impact on both math and reading scores. A one standard deviation shift up the principal quality distribution - roughly equivalent to switching from the median principal to one of the top principals - can increase achievement by approximately 0.2 standard deviations in math and reading.

As a principal's effectiveness can vary depending on the school, the concept of "match effects" – the part of principal effectiveness that can change from school to school – is also examined in the study. The study found that a good match between principal and school can substantially increase test scores. An improvement in the principal-school match by one standard deviation improves student performance by approximately 0.15 standard deviations in math and in reading. Interestingly, the study finds that the level of principal experience has no significant effect on student achievement.

In terms of principal experience, they find that more experienced principals and those with a longer tenure in a school have no significant impact on student performance. This implies that, at least in British Columbia, what matters for student achievement is finding a principal with good fixed attributes and assigning that individual to the correct school.

These results have important implications for policy. The main implication is that shifting principals between schools has the potential to match a principal with school needs, and significantly reduce achievement gaps. Some of this improvement depends on where the principal works, but a sizable portion of the positive effective of this kind of reorganization creates is portable across schools.

**Justin Smith (Wilfrid Laurier University)**

A point for further research is to identify the best principals and learn more about the attributes that make them so effective. Information gleaned from such research could be used to train underperforming principals.

[1] Each year since 1999, students in the fourth and seventh grades in British Columbia are tested in reading, writing, and math using the Foundation Skills Assessment (FSA) tests. All students are expected to participate in the tests, with the exception of some ESL students and students with special needs.

# Class Size Reduction: Not all it's Sized-up to be?

Class Size Reduction (CSR) is one of the most active and highly politicized issues in the education reform debate both in Canada and the United States. In the United States, proponents of class size reduction draw heavily on the results of Student/Teacher Achievement Ratio "STAR" project to support their initiatives. CSR has played a large role in recent policy debates in the search for mechanisms to reduce the achievement gap between disadvantaged children and other children. Many educational groups in Canada believe that the STAR Project is the most reputable study on the impact of CSR.[1] Past research using Project STAR data has reported results such as: minority students disproportionately benefitting from small class sizes as well as larger gains being experienced in inner-city schools relative to urban, suburban and rural schools. By reporting larger gains for disadvantaged students, the political appeal of CSR policies increased. A paper entitled ***"Experimental Estimates of the Impacts of Class Size on Test Scores: Robustness and Heterogeneity"*** (CLSRN Working Paper no. 77) by CLSRN affiliates Steven Lehrer and Weili Ding (both of Queen's University) finds that much of the previous research based on STAR project data may overstate, or over generalize the benefits of CSR on general student educational attainment outcomes.

**Weili Ding (Queen's University)**

***"[T]he researchers find no significant additional benefit of CSR for minority or disadvantaged students in Kindergarten"***

The STAR Project was a four-year study, on the impact of reduced class sizes, funded by the Tennessee General Assembly, and conducted by the State Department of Education. Over 7,000 students entering kindergarten in 79 schools were randomly assigned to one of the three intervention groups: small class (13 to 17 students per teacher), regular class (22 to 25 students per teacher), and regular-with-aide class (22 to 25 students with a full-time teacher's aide).

While the majority of Project STAR research has focused

**Steven Lehrer (Queen's University)**

solely on test scores in reading, mathematics and word recognition; Ding and Lehrer also investigate the impacts of CSR on non-cognitive skills, such as listening, motivation and self-concept, using multiple inference procedures and allowing for flexible heterogeneity.

Several new findings expands on what is learnt from Ding and Lehrer's previous research on this area.[2] One finding is that while CSR leads to significant improvement in cognitive achievement measures, it appears to provide few benefits in the development of non-cognitive skills. Further, the researchers find no significant additional benefit of CSR for minority or disadvantaged students in Kindergarten. The results also indicate that students with higher test scores benefitted the most from small classes for examined subject areas. The researchers postulate that the larger effects from CSR for student who already score high marks in school, may suggest that family background is very important and that interventions within schools may only reinforce and encourage already established beneficial home preparation habits for a small fraction of the population.

A limitation of the STAR data is the limited number of student home background data was collected. In particular, the STAR project data does contain information on the extent and variation to which parents make investments into their children at home. For example, parents may change their educational investments at home, such as by providing additional resources to their child, as a response to their child being assigned to a larger class.

The researchers conclude that CSR may be more effective for certain groups of individuals and for certain evaluative criteria over others. In this case, CSR policy might be more effective if it targets specific student sub-populations rather than mandating costly, but not necessarily efficient across-the-board reductions in class size. Understanding why CSRs were only effective in some subjects but not others is a direction for future research.

[1] The Manitoba Teachers' Society. Class Size: Less is more. The Manitoba Teacher's Society; Written Submission to Class Size and Composition Commission November 2001.

[2] Weili Ding and Steven Lehrer. "Multi-Period Education Experiments: The Dynamic Impacts of Class Size Reductions" CLSRN Working Paper no. 35. July 2009

## Endnotes

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