

## **International Evidence on Expenditures and Class Size: A Review**

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This paper reviews international evidence on the effects of expenditures and class size on student achievement. International student achievement tests such as the Third International Mathematics and Science Study (TIMSS) and Programme for International Student Assessment (PISA) exams provide rich data on student performance and family background and on school resources in countries around the world. The paper uses those data to present both the aggregate picture and microeconomic evidence on the association between educational expenditures and student performance. The aggregate results suggest that higher educational expenditures are not systematically associated with superior student performance across countries or over time.

The student-level evidence on the effects of class size presented here uses data from the TIMSS with a special focus on countries in western Europe. After a brief presentation of conventional estimates of the association between class size and student performance within many countries and a discussion of possible biases remaining in those estimates, the paper presents results of two quasi-experimental identification strategies that try to extract the causal effect of class size on student performance in each of the countries. One strategy is based on natural cohort fluctuations, the other on rule-induced discontinuities.

The microeconomic evidence suggests that around the world, class size is not a major determinant of student performance in lower secondary grades. In fact, in all countries where the identification strategies can be implemented with reasonable precision, substantial class-size effects can be ruled out. The international evidence also suggests that there is effect heterogeneity, in that noteworthy class-size effects are observed only in countries with relatively low teacher salaries and teacher education.