

**The Impact of Incentives to Allocate Teachers Across Schools and Subjects:  
An Analysis of the Florida Critical Teacher Shortage Program and the Miami-Dade School  
District School Improvement Zone Initiative**

**Educational Policy, Finance and Systems, Goal #3 (Efficacy and Replication)**

***Brief description of the proposed project***

The purpose of this project is to evaluate the impact of two policies designed to improve student outcomes by providing targeted incentives to teachers: Florida's state-wide effort at recruiting and retaining teachers in Critical Teacher Shortage areas and the Miami-Dade School District's initiative to re-allocate teachers to low-performing schools in their School Improvement Zone. The Florida Critical Teacher Shortage Program (FCTSP), begun in 1984, has two components. The tuition reimbursement program provides tuition assistance for teachers to obtain certification in designated "critical teacher shortage" subject areas while the loan forgiveness program enhances the compensation of eligible Florida teachers by repaying student loans if they continue in teaching. In 2004, the Miami-Dade County School District designated 39 schools as a School Improvement Zone based on three criteria: low academic performance on the Florida Comprehensive Achievement Test (FCAT) for three years, low performance in feeder schools, and leadership capacity. The initiative was a comprehensive school reform effort that included a core literacy program, a structured curriculum, extended school days, a lengthened school year, and enhanced professional development opportunities. We shall focus on the teacher compensation component of the program. As an inducement to participate and as compensation for the increased instructional time, teachers in the zone were paid 20 percent more than teachers in corresponding schools outside the zone. The pay differential is quite sizable, roughly three times the size of the premium paid to teachers in a differential-pay program in North Carolina. The program was implemented for three years, 2005/06-2007/08.

Our analysis of the FCTSP will examine the program's effect on the number of teachers recruited into teaching, the length of time they stay in teaching, and their contribution to student learning or "value-added." While the program has been in effect for 25 years, there is considerable variation over time in the subject areas designated as "critical shortage areas." This variation creates natural comparison groups across different subject areas. A difference-in-difference estimator will be employed to study the impact of the program on teacher labor supply. We will estimate linear regression and hazard models to compare teacher entry and retention before and after the program's application to a given subject area (first difference) and for teachers in eligible and ineligible subjects (second difference). Analysis of the program's impact on student learning will be accomplished by estimating value-added models of student achievement and determining the effect of the credentials obtained by teachers who were recruited/retained as a result of the program.

Our evaluation of Miami/Dade's School Improvement Zone (SIZ) will determine if the salary differentials and enhanced professional development opportunities for teachers in the SIZ schools lead to an improvement in teacher quality (as measured by teacher value-added) in these schools, either by attracting high-quality teachers from schools outside the zone or by improving the retention rate of superior teachers within the zone. In addition, we will investigate the impact of the lengthened school day and year and the standardized curriculum in the SIZ on student achievement. Since the criteria for including schools is not precise, we will use a fuzzy

regression discontinuity design to estimate the impact of the SIZ program on teacher labor market decisions and student achievement.

Data from the Florida Education Data Warehouse (FLEDW) will be used in evaluating both the FCTSP and SIZ programs. The FLEDW contains individual-level longitudinal data for the universe of public school students and teachers in the state from 1995 forward. We have detailed information on teachers and each component of their compensation, including funding from the FCTSP and SIZ programs, as well as rich data on students and linkages between teachers and the students they teach in all grades K-12.

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**Duration of the project:** Four years, Fall 2010 – Summer 2014.

**Estimated budget:** \$400,000 per year x 4 years = \$1,600,000