Charter School Performance --
A Quest for Quality

Southern Legislative Conference
July 2011

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Overview

• Rapid Review of Charter Schools

• Findings from CREDO and other research

• Insights to date
School Choice in US

• Public vs. Private Schooling
  – 10% students attend private schools
  – 80% private schools religious based

• Limited use of education vouchers (<1%)

• Since 1991, 41 states have created laws to allow charter schools
  – Independent public schools
  – Revokable permits -- charter
  – “Flexibility for Accountability”

• Today, over 5000 charter schools
Charter School Cross Pressures

• The Promise of Charter Schools:
  – School reform policy
  – Models of innovation
  – Focus on underserved students
  – Vehicles for competition in public K-12
Research Questions

1. What is the overall impact of charter schools?
2. What explains the variation in performance?
3. What can charter schools reveal about the path to school improvement?
Study Approach
Details of CREDO studies

• 2009 study of 15 states and DC
• Other studies since then:
  – 2010 New York City, New York State
  – 2010 New Orleans
  – 2010 Indiana
  – 2011 Pennsylvania
• Have another 5 states underway
CREDO Charter School Studies

• Quality = the amount of learning that a school produces in its students
• Examine student academic growth based on year-to-year standardized test scores
• All other factors (age, grade, starting points, race, poverty) held constant
• The counterfactual: what students would have learned in their “regular” schools
Virtual Control Record Process

Charter School Student

MATCHING VARIABLES:
✓ Race/ethnicity
✓ Gender
✓ English proficiency
✓ Lunch status
✓ Special education status
✓ Grade level

MATCHING VARIABLE:
✓ Test scores from $t_0$

Feeder School(s) Students

Provide List of Potential Match Schools

Find Matches Based on Demographic Variables

Eliminate Matches Who Attend Charter Schools

Match Test Scores

Virtual Control Records
Pointy-headed Technical Moment

• We need to create measures of growth
• But state achievement tests differ
  – By subject
  – By grade
  – By state
  – By year

• To counter this, we transform the scores into a standard Bell Curve – Z scores
Standardized Z Scores

Scale scores

- $\sigma$    $\mu$    $\sigma$

z-scores

$\mu$ is the mean, $\sigma$ is the standard deviation, and $Z$ scores are the number of standard deviations away from the mean.
Student Level: Growth Over Time

$$zt_t = zt_0 + z_{growth}\quad (z_{growth} < 0)$$  
Student lost ground

$$zt_t = zt_0 (z_{growth} = 0)$$  
Student’s rank unchanged

$$zt_t > zt_0$$  
Student gained ground

Avg. cohort growth in a state

$$zt_0 = 0 \quad zt_t = 0$$
Findings
Compared to TPS, Charter Schools growth is:

Worse Than

Exactly the same

Better Than

The “Sound Bite”
Overall Impact of Charter Schools, Circa 2009

Overall Charter Effect

Growth (in standard deviations)

- .01**
- .03**

* Significant at p ≤ 0.05  ** Significant at p ≤ 0.01
Impact of Charter Schools by State

Growth (in standard deviations)

National Avg. AR AZ CA CO

* Significant at p ≤ 0.05 ** Significant at p ≤ 0.01

Reading Math
Impact of Charter Schools by State

Growth (in standard deviations)

-0.1
-0.0
0.0
0.1

National Avg.
DC
FL
GA
IL

Reading
Math

* Significant at p ≤ 0.05
** Significant at p ≤ 0.01

-0.01**
-0.03**
-0.01
-0.02**
-0.03**
-0.01**
-0.02**
-0.01
-0.00
0.00
0.02**
Impact of Charter Schools by State

Growth (in standard deviations)

National Avg.  LA  MN  MO  NC

-0.01**  -0.03**

-0.06** -0.06**

-0.02**  -0.03**

-0.03** -0.03**

-0.01*

-0.03**

* Significant at p ≤ 0.05  ** Significant at p ≤ 0.01
Impact of Charter Schools by State

Growth (in standard deviations)

- National Avg.
- NM
- OH
- TX

* Significant at p ≤ 0.05
** Significant at p ≤ 0.01

Reading
Math

-.01** -.03**
-.02**
-.05**
-.01
-.05**
-.06**
-.05**
NYC Charter School Impact

Overall Charter Effect

- **0.06** Significant at \( p \leq 0.05 \)
- **0.12** Significant at \( p \leq 0.01 \)

* \( * \) Significant at \( p \leq 0.05 \)  ** \( ** \) Significant at \( p \leq 0.01 \)
Indiana Charter School Impact

Overall Indiana Charter Effect

- Reading: 0.05**
- Math: 0.07**

Indianapolis Charter Effect

- Reading: 0.04**
- Math: 0.08**

* Significant at p ≤ 0.05
** Significant at p ≤ 0.01
Pennsylvania Charter School Impact

Overall Pennsylvania Charter Effect

* Significant at $p \leq 0.05$   ** Significant at $p \leq 0.01$

Growth (in standard deviations)

Reading

Math

-.04**

-.09**
Effect of Policy Variables

Growth (in standard deviations)

-0.1
-0.0
0.0
0.1

Cap
90% of Cap
Multiple Authorizers
Appeals

* Significant at $p \leq 0.05$
** Significant at $p \leq 0.01$

-0.03**
-0.04**
-0.08**
0.02**
Insights to Date
The Quest for Quality Continues

• State policies matter a lot!
• Free market not fully realized – yet? ever?
  – Information access, uptake
  – Change is not costless
• A mix of incentives and oversight – and oversight of the overseers – show better results
• New Orleans and TN – quality laser focus
Find the 2009 report and individual state reports at http://credo.stanford.edu
Thank You