Education Policy Research in Michigan

Brian Jacob
Gerald R. Ford School of Public Policy
University of Michigan
Outline of the Talk

- Background
- Michigan Consortium for Educational Research (MCER)
  - Research on high school reforms in MI
- Related research projects
  - Charter Schools
  - Community Colleges
- Present some (very) preliminary analysis on trends in college going in Michigan
What is MCER?

- Michigan Consortium for Educational Research
- IES-funded collaboration between:
  - University of Michigan
  - Michigan State University
  - State of Michigan
    - Department of Education (MDE)
    - Center for Educational Performance and Information (CEPI)
Objectives

- Engage stakeholders and education experts in research for the benefit of public education in Michigan
- Provide research-based evidence to policymakers in Michigan
- Inform national policy initiatives for improving education
MCER Data Goal

State Data
MEAP, MME, ACT, graduation, enrollment, demographics, school ID

Nat’l Student Clearinghouse
College enrollment, degree completion

Data Collection
Transcripts, end-of-course exams

Detailed Student-Level Longitudinal Dataset
Inaugural Research Questions

- **What is the effect of the Michigan Merit Curriculum student outcomes?**
  - Using a comparative interrupted time series research design
  - Several potential comparison groups including “unaffected” districts in Michigan and neighboring states.
  - Outcomes will include course-taking patterns, student achievement, high school graduation and postsecondary attendance and (eventually) completion.

- **What was the effect of the Michigan Promise Scholarship on college entry, choice and completion?**
  - Using a regression discontinuity research design

- **Do these effects vary by school and district?**
  - Can any such differences be attributed to practices of schools?
  - or are they driven by variation in student characteristics?
Comparative Interrupted Time Series Design

Circle = Control Group
Triangle = Treatment Group
Comparative Interrupted Time Series Design

Circle = Control Group
Triangle = Treatment Group
Comparative Interrupted Time Series Design

- **Circle** = Control Group
- **Triangle** = Treatment Group
Comparative Interrupted Time Series Design

Effect = A – B

Circle = Control Group
Triangle = Treatment Group
The Effect of Charter Schools on Educational Outcomes

- **Research Questions:**
  - What is the impact of attending a charter school on student outcomes, including standardized achievement scores, high school completion and college enrollment?
  - Does the impact vary for various subgroups?
  - What practices/programs/policies of charter schools are associated with positive impacts?

- **Sample:**
  - Charter schools that were oversubscribed and thus required to offer admissions through a random lottery.
  - Many schools over many years, including elementary and secondary schools.

- **Research Design:**
  - Compare the outcomes of students who “won” the admissions lottery to those who “lost” the admissions lottery.
  - Examination associations between school-specific “impact” estimates and school characteristics (i.e., programs/practices).

- **Data:**
  - Match applicant records from charter schools with administrative data from the MDE.
  - Track students through college using student longitudinal database we have created with MDE as part of the MCER (see below).

- **Funding**
  - Smith Richardson Foundation
  - Institute for Education Sciences, U.S. Dept. of Ed.
The Economic Returns to Community College

**Research Questions:**
- What is the economic return to various community college certificates and degrees?
- Do these effects vary by college, student subgroup, or over time?
- What practices/programs/policies of charter schools are associated with positive impacts?

**Sample and Data:**
- Macomb, Oakland, Washtenaw and Jackson community colleges
- Complete student transcript data for all students from 2000-2011
- Linked via SSNs to earnings and employment data provided by Michigan DOL

**Research Design:**
- Standard regression models controlling for pre-college characteristics
- Individual fixed effects models
- Instrumental variables models that exploit the non-linear admissions rules for specific highly desirable programs such as nursing, medical technicians, etc.

**Funding**
- Institute for Education Sciences, U.S. Dept. of Ed.

**Related Projects**
- Pilot projects with CCs involving remediation, on-line instruction, student supports, financial aid, etc.
Where Are We at Baseline? Trends in High School Graduation and College Enrollment in Michigan

• Key Transitions
  – HS dropout – grade by grade
  – HS graduation
  – College entry
  – College persistence

• Variation by
  – District & school
  – Race, sex, poverty
Analytic Sample

• 9th grade cohorts of 2004 & 2005
  – On-time HS graduation is 2008 & 2009
  – Pre-MM

• Defining a 9th grade cohort
  – In 9th grade in MI public school in relevant year
  – Minus deaths, transfers to private/home school, moves out of state
9th Grade Cohort Survival Function

![Graph showing the survival function for 9th grade cohort across different grade levels, from 9th to 12th grade, and key milestones such as Graduate HS', Enroll in College, and Persist to 2nd Year. The x-axis represents the grade level, and the y-axis represents the fraction of cohort remaining. The graph shows a decrease in the fraction of the cohort remaining from 9th grade to 12th grade.]
• 80% HS graduation rate
• 5% of sample drops out in each grade
• No “critical” transition year
Does State Currently Get Drop-outs Right?

<table>
<thead>
<tr>
<th>State Reported Exit Codes</th>
<th>Highest Grade Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Dropped out (%)</td>
<td>1.14</td>
</tr>
<tr>
<td>Still enrolled (%)</td>
<td>1.4</td>
</tr>
<tr>
<td>Unknown (%)</td>
<td>0.74</td>
</tr>
<tr>
<td>GED/Certificate (%)</td>
<td>0.11</td>
</tr>
<tr>
<td>Other (%)</td>
<td>0.18</td>
</tr>
<tr>
<td>Total (%)</td>
<td>3.57</td>
</tr>
</tbody>
</table>
How do outcomes differ within and across districts?
Graduation rates differ substantially across districts – and within the larger districts
College entry varies more (across & within districts) than does HS graduation
College Enrollment by District

Notes: Enrollment is within 16 months of on-time HS graduation
Share of college entrants that makes it past first year
Variation across districts in practices, or heterogeneity in students?
High School Graduation of Poor Students

Notes: Graduation defined as whether student ever graduated HS
High School Graduation of Non-Poor Students

Fraction

District

District Average

High School Average

Notes: Graduation defined as whether student ever graduated HS
High School Graduation by Income

Notes: Graduation defined as whether student ever graduated HS
High School Graduation of Black Students

Notes: Graduation defined as whether student ever graduated HS
High School Graduation by Race

Notes: Graduation defined as whether student ever graduated HS
Race Gap in High School Graduation

Notes: Graduation defined as whether student ever graduated HS
College Enrollment of Black Students

District

Fraction

Notes: Enrollment is within 16 months of cohort’s on-time HS graduation
Race Gap in College Enrollment

Notes: Enrollment is within 16 months of on-time HS graduation
College Persistence of Black Students

Notes: Persistence defined as still enrolled 12 months after start date
Notes: Persistence defined as still enrolled 12 months after start date
College Persistence by Income

Notes: Persistence defined as still enrolled 12 months after start date
College Enrollment by District

Only Students Scoring Proficient on Grade 11 Exam

Notes: Enrollment is within 16 months of on-time HS graduation
College Enrollment by District

Only Students Scoring Advanced on Grade 11 Exam

- District Average
- High School Average

Notes: Enrollment is within 16 months of on-time HS graduation
College Enrollment by District

Only Students Scoring Not Proficient on Grade 8 Exam

△ District Average  • High School Average

Notes: Enrollment is within 16 months of on-time HS graduation
College Enrollment by District

Notes: Enrollment is within 16 months of on-time HS graduation