This project evaluates the impact of the Michigan Merit Curriculum (MMC) and the Michigan Promise Scholarship (MPS) on student outcomes. The primary objective of the project is to determine whether the MMC and/or the MPS have significantly altered: course-taking, student achievement, high school graduation rates, and postsecondary attendance. The analysis pays particular attention to whether these reforms affect students differentially based on their socioeconomic status, gender, race and geography.

In order to compare those exposed to the MMC and the MPS and those not exposed, our sample includes the 2000-2001 8th grade cohort through the 2009-2010 8th grade student cohort. We will examine effects by student race, gender, 8th grade achievement, geography, school or district level demographics, and baseline course-taking. Moreover, we explicitly examine effects for more complicated interactions, such as low achieving students in high income schools.

### Michigan Merit Curriculum

- All Michigan graduates must pass 16 rigorous academic courses including Algebra I and II, Geometry, Biology, and Chemistry or Physics.
- Complete an end of course assessment measuring student mastery of content expectations.
- Districts have substantial latitude in shaping course content and assessments therefor.
- Expect considerable variation across the state in the fidelity with which the MMC is implemented and in the impact of the MMC on student learning.

### Michigan Promise Scholarship

- Provides up to $4000 for college. Eligible students must take the Michigan Merit Exam (MME), graduate high school (or earn a GED) and enroll in an approved postsecondary institution within 2 years of high school.
- Students may earn the MPS by:
  - Earning a qualifying score on the MME or ACT.
  - They will receive $1000 if the first and second years of college and an additional $2000 after completing 2 years of postsecondary schooling.
- Complete 2 years of college with a GPA of 2.5.
- They will receive $4000 after completing 2 years of postsecondary schooling.

### Research Design

- This project uses quasi-experimental methods to capture effects of both the MMC and the MPS.

**Michigan Merit Curriculum**

- We use an interrupted time-series (ITS) design, controlling for student and school characteristics, to identify the impact of the MMC on student outcomes.
- The ITS design compares the trends in student outcomes of 6 pre-MMC cohorts to 4 post-MMC cohorts.

**Michigan Promise Scholarship**

- To identify the effect of the MPS on college entry, choice, and completion, we exploit the discontinuous MPS eligibility requirements. Eligibility for the initial MPS award is determined whether or not a student’s MMC score is greater than the arbitrary cut-score.
- The regression discontinuity design compares the outcomes of students just above and just below the MMC cut-score.

### Data and Analysis

1. To answer how the MMC affects student achievement:
   - We will use an interrupted time series approach. The effect of the MMC is identified from the pre-treatment trend in the outcome of interest (11th grade test score, indicator for high school graduation, or an indicator for college attendance).
   - We take into account student demographic variables to control for compositional changes in the population of Michigan’s high school students.
   - We observe students’ prior test scores to further control for compositional changes as well as any reforms that affected student achievement during elementary and middle school.

2. To answer what the MMC affects course-taking:
   - Using the ITS approach, the dependent variable will be a measure of courses taken by each student including: the number of math or science courses taken as well as dichotomous measures of the courses taken (e.g. trigonometry, chemistry).
   - Given that course titles can be misleading (Cogan, Schmidt, & Wiley, 2001); we plan to assess the content of courses through a review of school-level course handbooks as well as the end-of-course exams that teachers administer in key subjects. Together, these data will allow us to build sequences of courses that demonstrate whether or not there is an increase in the rigor of student course-taking. Transcript data collection will not take place until spring 2011.
   - At the school level, we will also examine how potential teacher staffing shortages affected a school’s ability to fully implement the MMC.
   - Specifically, we plan to document the number of PTE teachers (per student) teaching math and/or science courses in each school.

3. To estimate the effect of the MPS on student postsecondary attendance:
   - The $1000 given to high school graduates who met the MME requirements at the beginning of their first two years in postsecondary schooling is a discontinuous function of students’ scores on the MME.
   - This aspect of the MPS allows us to use a regression discontinuity design to analyze the program’s effects on college entry and choice.
   - We will obtain data on students’ postsecondary enrollment and choice from the National Student Clearinghouse.

### Results

We are in the preliminary stages of our data collection and have assembled some basic school level statistics to provide a sense of the Michigan educational environment changed over the last decade. As evidenced by Table 1 and 2, both the number of Michigan schools and the average student enrollment per school has decreased over the past ten years. Since 00-01 the mean student enrollment has decreased with schools enrolling, on average, ten fewer students in 07-08 than in 00-01. To examine how a school’s student composition varies by year, we observed the mean proportion of students receiving a free and reduced lunch as well as race/ethnicity in a school.

### Discussion

- Fulfilling MCRE’s mission to provide research-based evidence to policymakers and administrators in Michigan and inform national policy initiatives for improving education, the results from this project will provide useful policy feedback to the State of Michigan that will allow them to make any mid-course adjustments that the evaluation suggests would be beneficial.
- Moreover, since both the MMC and MPS are similar to reforms already enacted or planned in other states, we anticipate that our findings will also inform the national dialogue on high school reform policy.