

Factors That Affect College Graduation Rates of Minorities

Eben Mudede-Drake and Mauricio Duran

I. Abstract

This paper examines the factors that affect college graduation rates of minority students. We control for whether an institution is private or public, the institutions' admission rates, institutional expenditures, and the percentage of the institutions' faculty who are minorities. We find that institutions with higher admissions rates have higher minority graduation rates, that institutions with a higher percentage of faculty who are minorities have lower minority graduation rates, and that institutions with higher instructional expenditures have lower minority graduation rates.

II. Empirical Model and Variables

$$UMGR_{it} = f(P_{it-6}, F_{it-6}, ADMIT_{it-6}, AS_{it-6}, SS_{it-6}, IST_{it-6}, EF_i)$$

- $UMGR_{it}$ is an institutions' graduation rate of African American, Hispanic, and Native American students.
- P_{it} is a dummy variable: 0=public institution, 1=private institution.
- F_{it} is the percent of faculty who are underrepresented minorities. Calculated by dividing the number of underrepresented faculty by the total number of faculty.
- $ADMIT_{it}$ is the percent of students who are admitted to the institutions. Calculated by dividing the number of students who were accepted to the institution by the total number of students who applied.
- AS_{it} is academic support expenditures, which include writing centers, learning support services and tutoring sessions.
- SS_{it} is student service expenditures which include health centers and fitness facilities.
- IST_{it} is instructional expenditures which include the salaries of professors.
- EF_i are school fixed effects.

III. Theory and Hypotheses

- ADMIT is hypothesized to have an inverse relationship with UMGR because we expect more selective institutions to only accept students who are more prepared for higher education.
- P is hypothesized to have positive relationship with UMGR because we expect private institutions to provide smaller class sizes which allows students to interact with their professors in class and during office hours, thus creating an intimate learning environment.
- F is hypothesized to have a positive relationship with UMGR because we expect that underrepresented minority students will feel more comfortable and be willing to reach out to faculty members who are also underrepresented minorities.
- AS is hypothesized to have a positive relationship with UMGR because we expect students to perform better when there are more learning support services.
- SS is hypothesized to have a positive relationship with UMGR because we expect student cultural integration to be enhanced by student services.
- IST is hypothesized to have a positive relationship with UMGR because we expect higher instructional expenditure to enhance student learning.

IV. Data

- We collected necessary annual data for 351 public and private colleges. This sample was determined by selecting colleges that were non-profit, four-year institutions, and Carnegie classified as either Liberal Arts or Doctoral.
- Data Sources:
 - The Integrated Postsecondary Education Data System (IPEDS)
<https://nces.ed.gov/ipeds>

V. Empirical Results

C (Constant)	0.092 (0.195)
P	-0.022 (-0.669)
ADMIT	0.009* (1.873)
F	-0.034* (-8.686)
AS	0.268 (0.711)
SS	0.146 (1.315)
IST	-0.629* (-1.866)
Adjusted R-Squared	0.45

Coefficient estimates (t-statistics). * Indicates significance at the 5% level.

VI. Conclusion

- The insignificance and sign reversals for coefficients in the model indicate it is difficult to account for under represented minority student graduation rates on a per-school basis. Whether or not underrepresented minority students choose to drop out may depend more on the individuals' experiences than the characteristics of the institutions they attend. This suggests that future research on this question should be carried out using longitudinal data.