

Access to Postsecondary Schooling and the GED: New Regression Discontinuity Evidence from Massachusetts

Background/Context:

As the returns to education in the United States have grown, workers without high school diplomas have experienced wage stagnation and disproportionate rates of unemployment (Goldin & Katz, 2009; Autor, 2014). The GED provides a way for individuals who lack a traditional high school diploma to earn a high school equivalency (HSE) credential that meets the minimum educational requirements for entry into most postsecondary institutions, as well as for some jobs and vocational training programs.

The GED has been criticized as a poor substitute for a high school diploma because the labor market outcomes of GED recipients are closer to those of dropouts than graduates, perhaps because students who take the GED lack the non-cognitive skills needed to succeed in the labor market (Heckman, Humphries, & Kautz, 2014). Tyler, Murnane, and Willett's (2000) analysis is the first attempt to generate a causal estimate of the signaling value of the GED in a regression discontinuity (RD)-like framework. Tyler, Murnane, and Willett find large positive wage impacts for marginal white GED recipients, but not for minorities. Subsequent analyses have explored the impact of passing the GED on various subgroups including women (Boudett, Murnane, & Willett 2000), foreign-born students (Clark & Jaeger 2006), prisoners (Nuttall, Hollmen, & Staley 2003), and students with disabilities (Wagner et al. 2005), and on non-wage outcomes, including recidivism (Nuttall, Hollmen, & Staley 2003), health outcomes (Kenkel, Lillard, & Mathios 2006), and postsecondary education (Cameron & Heckman 1993; Maralani, 2011; Jepsen, Mueser, & Troske, 2016).

A recent paper by Jepsen, Mueser, & Troske (2016) has cast doubt on the validity of past RD estimates of the credential's value. Jepsen, Mueser, & Troske (hereafter, "JMT") note that past RD analyses have used "a composite score based on multiple test attempts as their forcing variable" without accounting for the endogenous nature of individuals retesting to push their final score over the passing threshold. Using first scores in a statewide Missouri sample of GED test takers, JMT find no effect of GED receipt on postsecondary outcomes or earnings for women and only transitory or very small effects for men.

The contribution of our study is two-fold. First, we provide updated evidence on the educational returns to taking the GED in Massachusetts using first score instead of total score. Second, we highlight a self-selected population of students who are the primary recipients of public investment related to the GED: students in publicly-funded Adult Basic Education (ABE) classes. By comparing the effects of GED receipt for ABE and non-ABE students, we seek not only to inform future policy investments in GED preparation, but also to provide evidence on how non-cognitive skills, which we believe ABE students are positively selected for, might influence the returns to this credential.

Research Questions: Our study investigates two primary research questions: (1) What is the effect of earning a GED on postsecondary enrollment and attainment?, and (2) How does the effect of earning a GED differ for dropouts who do/do not enroll in ABE courses?

Setting: This study covers individuals who took the GED from 2002-2013 in Massachusetts.

Population: In this study, we compare the effects of obtaining a GED for non-graduates who did/did not not participate in ABE before taking the GED.

Program: Nationally, ABE encompass a suit of publicly-funded, low or no-cost education services for adults. The most popular ABE courses in Massachusetts are GED/HSE test preparation, basic literacy and numeracy courses, and English language courses for non-native speakers. Twenty thousand students attend ABE classes in Massachusetts thousands of others remain on the waitlist for these services each year.

Research Design: This study uses a fuzzy regression discontinuity (RD) approach to compare the outcomes of students who narrowly did/did not exceed the passing thresholds of the GED on their first test attempt. The GED consists of five subtests in different subjects. In order to pass the GED during this period, students were required to score a minimum 410 (out of 800) in every subject test and to achieve a minimum total score of 2250 (out of a possible 4000). We consider multiple thresholds for our RD analysis, though only some are sufficiently binding. This study improves on previous research by using only the first tested score for individuals instead of relying on total score (e.g. JMT, 2016).

Data Collection and Analysis: The data used in this analysis comes from the Massachusetts Department of Elementary and Secondary Education (MA DESE). In our analysis, we compare RD-based estimates of the causal effect of obtaining a GED on postsecondary enrollment, persistence, and attainment for students who did and did not enroll in ABE courses prior to taking the exam.

Findings: We find that obtaining a GED has no effect on the enrollment or degree attainment of non-graduates who do not enroll in ABE classes but has large positive effects (~30 percentage points) on college enrollment for ABE students, as well as positive effects (~13 percentage points) on degree/certificate attainment for female ABE students. We also find correlational evidence that ABE students are more likely to retest if they fail their GED on their first attempt, but less likely to pass overall, suggesting that the ABE population is positively selected on dimensions of non-cognitive skill like grit and persistence but negatively selected on dimensions of academic skill relative to the general GED testing population.

Conclusions: We focus our analysis at this stage on college enrollment and attainment, consistent with research that suggests the primary benefit of earning a GED may be through access to postsecondary education (e.g. JMT, 2016). To provide a more complete picture of the differences in life experiences for GED recipients/non-recipients, we are seeking to add data on wages and, possibly, criminal activity to this analysis.

Works Cited

Autor, D. (2014). Skills, education, and the rise of earnings inequality among the “other 99 percent”. *Science*, 344, 843-851.

Boudett, K. P., Murnane, R. J., & Willett, J. B. (2000). Second-chance strategies for women who drop out of school. *Monthly Labor Review*, 123, 19.

Cameron, S. V., & Heckman, J. J. (1993). The nonequivalence of high school equivalents. *Journal of Labor Economics*, 11(1, Part 1), 1-47.

Clark, M. A., & Jaeger, D. A. (2006). Natives, the foreign-born and high school equivalents: New evidence on the returns to the GED. *Journal of Population Economics*, 19(4), 769-793.

Goldin, C. D., & Katz, L. F. (2009). *The race between education and technology*. Harvard University Press

- Heckman, J. J., Humphries, J. E., & Kautz, T. (2014). The economic and social benefits of GED certification. In *The myth of achievement tests: The GED and the role of character in American life*, 268-289.
- Kenkel, D., Lillard, D., & Mathios, A. (2006). The roles of high school completion and GED receipt in smoking and obesity. *Journal of Labor Economics*, 24(3), 635-660.
- Jepsen, C., Mueser, P. R., & Troske, K. R. (2016). Labor-market returns to the GED using regression discontinuity analysis. *Journal of Political Economy*, 124(3), 621-649.
- Maralani, V. (2011). From GED to college: Age trajectories of nontraditional educational paths. *American Educational Research Journal*, 48(5), 1058-1090.
- Nuttall, J., Hollmen, L., & Staley, E. M. (2003). The effect of earning a GED on recidivism rates. *Journal of Correctional Education*, 90-94.
- Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After High School: A First Look at the Postschool Experiences of Youth with Disabilities. A Report from the National Longitudinal Transition Study-2 (NLTS2)*.