Small Distances that Matter: Effects of Local Community College Openings on Enrollment and Degree Completion

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Abstract

Many students attend colleges close to their homes. How important is the proximity of colleges in students' enrollment choices? In this paper, I explore this question using administrative data on the universe of public high school students in Texas matched to all within-state college enrollment at public two-year and four-year colleges. I use an event study analysis around the openings of community colleges to estimate the causal effect of the availability of a two-year college within 20 minutes driving time of students' high schools. I find that local students do enroll in the new community colleges, but this enrollment response is primarily substitution away from other colleges rather than the effect of enrollments from new students who otherwise would not have enrolled in any college. I also find evidence that students who gain access to a more proximate community college have an increased likelihood of completing a two-year associate's degree with no difference in their four-year bachelor's degree completion rates.

1 Motivation

The decision of whether and where to enroll in college is one of the biggest human capital investment decisions made by students and their families, with important consequences for individuals' long term outcomes. A large body of literature has been devoted to understanding how the price of college (in terms of tuition and financial aid) affects students' enrollment and degree completion (Dynarski et al., 2023b). However, students have many other factors to consider when making their college choices, and differences in price alone are not enough to explain observed socioeconomic, racial, gender, and other gaps in postsecondary access and success (Dynarski et al., 2023a). This paper estimates the causal effect of one such factor, the geographic proximity of community colleges relative to students' homes, on students' enrollment and degree completion.

The availability of accessible colleges close to home is likely to be particularly important for low-income students and students with jobs or family obligations that prevent them from moving away for college. For commuting students, even small changes in the distance to the nearest college could add up over time to have a meaningful impact on their educational trajectories. Yet, estimating the impact of college proximity is challenging because neither students nor colleges are randomly located across space. In this paper, I overcome this challenge by using plausibly exogenous variation in college choice sets from community college openings in a difference in difference framework, comparing the educational outcomes of students who graduated from high school just before versus just after the college opens. To also account for unobserved trends in local labor markets and education demand, I compare students very close (within 20 minutes driving time) to those slightly further away (20-40 minutes driving time, in the same commuting zone) from the new colleges.

The setting for my study is Texas, where I identify five community colleges that open between 1997 and 2012. I use administrative data covering all Texas public high school students linked to enrollment and degree completion outcomes at all Texas public two-year and four-year postsecondary institutions. In interpreting results, it is helpful to understand the variation in distance to college that comes from these community college openings. All five community colleges opened in large metropolitan areas, where numerous two-year and four-year colleges already existed. While the opening colleges did decrease treated students' distance to the nearest community colleges, the treatment magnitudes are small; on average, treated students' travel time to the new college was around 10 minutes driving time closer than their next-nearest option. Yet, I find that these small distances can matter for students' educational outcomes.

In theory, the opening of a local community colleges could affect both students' extensive and intensive margin enrollment effects. First, students who otherwise would not have enrolled in any postsecondary education may be induced to attend college. Second, students may substitute away from other college options in favor of the nearby college. I find that students who attend high schools within 20 minutes driving time of an opening community college do enroll in the new colleges, but this enrollment response is primarily substitution away from other colleges rather than extensive margin enrollment. A small amount (around one percentage point) of substitution is away from public four-year colleges, raising some concerns about students being "diverted" from attending a four-year college and obtaining a bachelor's degree. However, the bulk of students substitute away from other local two-year colleges; treated students are around 10 percentage points less likely to attend an existing two-year college within 60 minutes driving time than control students.

Despite the low extensive margin effects and potential diversionary effects, the results on students' degree completion are encouraging. Students within 20 minutes of the opening college are more likely to complete an associate's degree and no less likely to complete a bachelor's degree. This implies that in this context, the commuting time saved from a closer college can increase students' persistence in associate's degree completion without sacrificing bachelor's degree completion rates. These findings can help inform policymakers considering college openings, closings, or mergers.

The rest of the paper proceeds as follows: section 2 reviews related literature, section 3 describes the data, section 4 lays out my empirical strategy, section 5 discusses identification, section 6 presents results, and section 7 concludes.

2 Literature Review

This paper relates to the large literature on the relationship between college proximity and educational outcomes, most of which are either descriptive in nature or have used college proximity as an instrument for studying the returns to education (Card, 1995; Cameron and Taber, 2004; Carneiro and Lee, 2009; Long and Kurlaender, 2009; Turley, 2009; Carneiro et al., 2011; Hillman, 2016; Klasik et al., 2018; Mountjoy, 2022; Acton et al., 2024, 2025). However, because people and colleges are not randomly located, results may reflect residential sorting as well as causal effects. My strategy of using a differences in differences design around college openings allows me to control for fixed unobservable neighborhood characteristics, yielding plausibly causal estimates of the effect of college proximity for students near the opening colleges. This paper also relates to the long line of work on how changes in tuition affect students' enrollment decisions, see Dynarski et al. (2023b) for a literature review. While I do not study direct tuition changes, my results speak to enrollment responses to changes in commuting costs.

The most closely related papers are those that use the establishment of colleges to study effects on enrollment and other outcomes. Berlingieri et al. (2022) and Nimier-David (2023) offer European perspectives from Germany and France, respectively, and focus primarily on the effects of new technical colleges on local economic development. Frenette (2009) studies the enrollment effects of conversions of two-year colleges to four-year colleges in Canada. Howard and Weinstein (2022), Russell et al. (2022), and Lapid (2017) are the existing studies using college openings in the United States context, and they all focus on four-year colleges. In contrast, I study the openings of two-year colleges, a context where distance is more likely to be salient since, on average, two-year college students attend college much closer to home than four-year college students. To illustrate this point, Figure 1 show the cumulative distribution functions of the driving time between Texas students' high school locations and the college in which they enroll, separately for two-year and four-year students. While around half of two-year college students attend a college within 20 minutes driving time of their high school, only around 10 percent of four-year students do. I additionally contribute to this literature by using detailed student-level data on enrollment and degree attainment to study students' substitution patterns between colleges.

3 Data

I use administrative data from the Education Research Center (ERC) at the University of Texas at Dallas covering the universe of Texas public high school students from 1993 to 2020. In addition to including detailed high school enrollment, standardized test scores, demographics, and background characteristics, these data can be matched to all within-state postsecondary enrollment and degree completion.

I supplement these individual-level data with high-school level information on locations and characteristics from the National Center for Education Statistics (NCES) Common Core of Data (CCD). The CCD includes exact locations (latitude and longitude) for high schools, which I use to proxy for students' home addresses in my distance calculations. I then obtain locations of all public and private, not-for-profit two-year and four-year colleges in Texas from several sources. First, I take latitude and longitude from the Integrated Postsecondary Education Data System (IPEDS). However, because some college systems with several campuses report data from multiple campuses under one IPEDS observation, I supplement them with individual campus locations collected from the Texas Higher Education Coordinating Board (THECB), the American Association of Community Colleges (AACC), and the Texas Association of Community Colleges (TACC).[1] Finally, I calculate the average driving time between each high school and each college in Texas using Open Route Services (OPR, 2024; QGIS, 2024).

For my main analysis, I focus on the initial enrollment decisions of students who have recently graduated from high school. My primary sample consists of individuals who have valid tenth grade standardized test scores and graduated from Texas public high schools between 1996 and 2020. Because the test scores are not comparable across years, I standardize them within cohort.

[1] These data were originally collected by Acton et al. (2024) and subsequently used in Acton et al. (2025), who note the importance of collecting the supplemental locations as it more than doubles the number of two-year colleges campuses in the data set.

4 Empirical Strategy

The challenge in estimating the effect of college proximity on enrollment is that students who live near colleges may be unobservably different from students who live further away. For example, families who value college more may choose to live in an area with more colleges. Areas with colleges may also have different local labor markets than those without colleges. In either case, students who live close to colleges may be more or less likely to enroll for reasons other than the fact that they have one nearby. To deal with this challenge, I use newly established colleges and compare the college enrollment rates of students from nearby high schools before and after the colleges opens. To also account for local trends in enrollment that would have occurred without the new college, I compare nearby high schools to high schools slightly further away in a generalized difference-in-difference framework.

I leverage the opening of five two-year colleges in Texas from 1997 to 2012. All of these openings were additions of branch campuses to existing community college systems, but their locations and enrollments are distinct from those of existing branches.[2] I do not consider openings of satellite campuses that have very limited educational offerings (e.g., only specific majors). The new locations were in or near metro areas: Tarrant County Community College System near Fort Worth; Alamo Community College District Colleges outside San Antonio; Lone Star College System outside Houston.

Panel (a) of Figure 2 shows the locations of the opening colleges; panel (b) adds all other existing public two-year colleges in Texas; and panel (c) additionally adds all public and private non-profit four-year institutions in Texas. The maps are also shaded by population quartile, where the darker counties have higher populations. These maps illustrate an important fact to keep in mind when interpreting results: these college were opened in densely-populated areas of the state near other existing colleges, so most nearby students would have already had some college options not too far away. At the same time, the potential time savings are non-negligible, especially when considering cumulative commuting times over multiple years; on average, students who fall into my treatment group would save

[2]There were several other community college campus openings over this time period (e.g., Austin Community College), but I do not use them because they do not have separate enrollment records in the data.

about 10 minutes driving time (one-way) by attending the opening college rather than their next-closest option.

Within my difference-in-difference framework, I must decide which students live near enough to the opening college to be considered "treated." I also need to choose a control group of students who are similar to the treated students, but the control group should not be affected by the opening college. To choose these groups, I apply the "ring method" by defining an inner ring of treated students within a certain distance of the opening college and an outer ring of control students who lie just outside the inner ring. A similar strategy has been used in previous literature in a variety of settings, e.g. Alexander et al. (2019) and Currie and Moretti (2003). To choose the ring sizes, I adapt methods from Cattaneo et al. (2024) and Butts (2023).[3]

To visualize the distances traveled by students to each opening college, Figure 3 shows binned scatter plots of student enrollment *in the new college* by the distance between each enrolled students' high school and the opening college. The bin sizes are chosen in an integrated mean square error (IMSE)-optimal way following Cattaneo et al. (2024). The x-axis gives the distance between each students' high school and the opening college, and the y-axes shows the proportion of students in that bin who enroll in the opening college within one year of high school graduation (e.g., panel (b) shows that around 10% of students who lived within 15 minutes of Alamo NW Vista enrolled in Alamo NW Vista, around 7% of students who lived 15-20 minutes away from Alamo NW Vista enrolled in Alamo NW Vista, etc.).

In all five plots, students who live within around 20 minutes travel time of the opening college are quite likely to enroll in the opening college. This likelihood quickly dissipates for students who live more than 20 minutes away from the opening college. Based on this evidence, to simplify interpretation and maximize power, I pool across all college openings and define the treated group as students who live within 20 minutes of any opening college. I define control students as those who live from 20 to 40 minutes away from an opening college and are in the same commuting zone as that opening college. Because they are

[3] Butts (2023) proposes choosing many rings to trace out a "treatment effect curve" but I stick to two rings since the treatment effect of enrolling in the opening college dissipates very rapidly.

adjacent to the treated students and are within the same commuting zone, these students are exposed to similar local labor markets. However, Figure 3 show that they are unlikely to have their enrollment greatly affected by the presence of the opening college.

In results below, I treat estimates of living near the opening college on enrollment *in that college* as a kind of "first stage" to then study more interesting downstream effects, such as enrollment in any college or enrollment by sector.[4] In other words, the relevant research question is not whether students who live near the opening college enroll there, but rather where those students are coming from. Is the new college attracting students who otherwise would not have enrolled in any college, or is it drawing enrollments away from other existing colleges?

Advances in the difference-in-difference literature in recent years has warned about potential biases from using two-way fixed effects estimation in settings with staggered treatment timing (see Baker et al. (2025) and references therein). To overcome these issues with two way fixed effects estimation, I instead use the imputation estimator from Borusyak et al. (2024) to estimate the effects of living within 20 minutes of an opening college, relative to living slightly further away. My general model is,

$$Y_{it} = D_{it}\Gamma_{it}\boldsymbol{\theta} + \phi_{s(i)} + \rho_{cz(i)t} + \beta_X X_{it} + \epsilon_{ist} \tag{1}$$

where Y_{it} is some outcome of interest (e.g., enrollment in any college), D_{it} is a treatment indicator, $\phi_{s(i)}$ and $\rho_{cz(i)t}$ are high school and year by commuting zone fixed effects, X_{it} is a vector of individual characteristics including race, ethnicity, gender, economic disadvantage status, and math and English language arts standardized test scores, and ϵ_{it} is an error term. I cluster standard errors at the high-school level.

We are interested in some target parameter, τ_w, that sums or averages over individual-specific treatment effects with pre-specified weights, i.e., $\tau_w = \sum w_{it}\tau_{it} = w_1'\Gamma\theta$. With unrestricted treatment effect heterogeneity (i.e., $\tau_{it} = \theta_{it}$), the Borusyak et al. (2024) estimator proceeds by using untreated observations only to estimate ϕ, ρ, and β by OLS in the

[4] It is not literally a first stage because I am not conducting an instrumental variables analysis, but it serves a similar function conceptually.

regression

$$Y_{it} = \phi_{s(i)} + \rho_{cz(i)t} + \beta_X X_{it} + u_{ist} \tag{2}$$

Then, for each treated observation, to obtain an estimate of the individual treatment effect τ_{it}, set

$$\hat{Y}_{it}(0) = \hat{\phi}^*_{s(i)} + \hat{\rho}^*_{cz(i)t} + \hat{\beta}^*{}_X X_{it} \tag{3}$$

and

$$\hat{\tau_{it}}^* = Y_{it} - \hat{Y}_{it}(0) \tag{4}$$

where Y_{it} is the observed value for treated individual i in year t and $\hat{Y}_{it}(0)$ is the predicted value from equations (2) and (3). Finally, estimate the target parameter τ_w by a weighted sum of the individual treatment effects, $\tau^*_w = \sum w_{it}\tau^*_{it}$. In the results below, I choose the weights to focus on the event-study style estimates of dynamic treatment effects by relative year. Specifically, I trim the sample to five years before and five years after the college opening and present estimates of the average treatment effect on the treated by years since opening (opening year, one year after opening, two years after opening, etc.).

I also use the robust pre-trend testing from Borusyak et al. (2024) to test whether the outcomes of treated and untreated groups were diverging before the treatment. This pre-testing is done with a separate regression from the treatment effects estimation, and uses only untreated observations. Note that as opposed to traditional event study pre-trends tests, the reference group is the first year after trimming (e.g., 5 years before the college opens). When estimating treatment effects in the years after the college opens (i.e., relative time > 0), the estimation assumes that the parallel trends assumption holds and estimates effects relative to the average of all pre-treatment periods.

5 Identification

In order to estimate causal effects, I must make two assumptions: generalized parallel trends and no anticipation. Generalized parallel trends assumes that the untreated potential outcomes would evolve in parallel between the treated and untreated groups, conditional on covariates. No anticipation assumes that the treated group does not respond to treatment before it happens. Note that these assumptions are weaker than those required in estimation that uses college proximity as an instrument for education, i.e., distance to college is as good as random conditional on covariates. The primary concern in the instrumental variable setting is residential sorting on unobservable factors that cannot be controlled for in the data. In contrast, my difference-in-difference set-up allows for residential sorting based on fixed unobservable neighborhood characteristics, which will be controlled for with my high school fixed effects. Residential sorting that is specifically in response to the colleges opening could violate my assumptions, but seems unlikely in this context. Because I define treatment based on the students' high school of attendance, a violation would require a students' family to relocate to attend a closer high school in anticipation of the new community college opening, which seems unlikely given the large fixed cost of moving and the availability of many other community colleges (relatively) nearby.

A second concern is that colleges may be located in economically prosperous areas, so that outcomes of individuals living in those areas are due to other characteristics of the areas unrelated to the nearby colleges. Once again, if the area was already prosperous before the college opened, those unobservable characteristics of the area should be captured by the high school fixed effects. However, the high school fixed effects will not account for *growth* in local prosperity, which may be related to growing demand for education. I do several things to account for this. First, I define treatment and control groups to be within the same commuting zone, so they should face similar trends in local labor markets. Growth in prosperity and demand for education in the area within 40 minutes driving time of the opening college is not a problem unless it is significantly different between the treated (less than 20 minutes away from the college) and control (20-40 minutes away) areas, meaning that it would have to be highly localized to constitute a violation of the assumption. Therefore, this set-up still allows for the possibility that developers are choosing where to locate colleges based on unobserved demand, so long as they are not precisely choosing the location due to highly local differences. Even in the case that developers are precisely locating colleges based on demand for education, we would expect at least some of that demand to show up as an increasing pre-trend in my event study. That is, college enrollment from high schools near the opening college should be increasing in the years before the college opens. While there may be some evidence of increasing pre-trends in the years prior to the college opening, they are quantitatively small.

6 Results

In this section, I show results on the effect of having a new community college open within 20 minutes driving time for high school graduates initial enrollment choices. First, in the top panel of Figure 4, I show the "first-stage" effect on enrolling in the opening college itself. The estimates show that relative to students who attend high schools between 20 and 40 minutes away from the opening college, students who attend high schools within 20 minutes driving time are around six percentage points more likely to enroll in the new college in the year that it opens. This figure climbs to 11 percentage points one year after the college opens, and stabilizes around 12 percentage points for the following several years. This result can be thought of as a summary measure of the differences in enrollment probability by distance shown in the binscatter plots in Figure 3.

Next, in the bottom panel of Figure 4, I investigate whether the opening of a new community college has an extensive margin effect, that is, whether students who live nearby the new college are more likely to enroll in any kind of college after the new college opens. Focusing first on the treatment effects after the college opens, estimates show a small, marginally significant increase in enrolling in any college of around one percentage point. This implies that the new college may have drawn in a few students who otherwise wouldn't have enrolled in any college, but the effect is small (around 1 percentage point, or 2 percent of the baseline mean enrollment rate). The pre-trend coefficients also show evidence of a quantitatively small, marginally significant increase in college enrollment in the two years before the new college opens. Thus, the opening of the new college does not appear to have any meaningful impact on local students' extensive margin college enrollment.

Figure 5 shows enrollment by sector, and show suggestive evidence that the new community college induced some local students to substitute away from enrolling in a public four-year college. The top panels shows that students within 20 minutes of the new college were around two to three percentage points more likely to enroll in any two-year public college, relative to students slightly further away. However, there also appears to be a small increasing pre-trend in the years before the college opens. Meanwhile, the bottom panel shows around a one percentage point decrease in the probability that nearby students would enroll in a four-year public college, but the estimates are not statistically significant. If the new college is causing a decrease in four-year college enrollment, it may be cause for concern given prior work that finds negative degree completion and earnings effects of enrolling in a two-year college relative to a four-year college (Reynolds, 2012; Mountjoy, 2022). I return to this issue below in my analysis of degree completion results.

Next, I explore whether students who experience a college opening nearby actually enroll closer to home (as proxied by their high school location). Figure 6 shows the treatment effect on enrolling in any college within 20 minutes or within 60 minutes, unconditional on any college attendance. In the years after the new college opens, treated students are around five to 10 percentage points more likely to enroll within 20 minutes. They are also around 1 percentage point more likely to enroll in a college within 60 minutes. Appendix Figure A1 shows that the magnitudes increase to around 16 percentage points for enrollment within 20 minutes after conditioning on some college enrollment.

Figure 7 shows that treated students are primarily substituting away from other, slightly further away two-year colleges. The top panel shows that treated students are around 8 percentage points less likely to enroll in an existing college (i.e., not one of the opening colleges) within 60 minutes of their high school. There is a very small decrease in the likelihood of enrolling in a public four-year college within 60 minutes, implying that any potential substitution away from four-year colleges likely came from relatively nearby college options.

It may seem surprising that opening a new college has such small effects on extensive margin enrollment and primary induces students to substitute away from other nearby two-year colleges, but the geographic and institutional context help explain this outcome. Recall from Figure 2 that the opening colleges were located in large, metropolitan areas that already had many local college options. In fact, for treated students, if they attended the opening college instead of their next closest option, they would only save around 10 minutes driving time, on average.

Yet, these small distances could matter for students' longer term outcomes since they add up over time for commuting students. Figure 8 shows treatment effects on associate's degree completion within four, or six, years of high school graduation. Note that interpretation of the pre-periods in these specifications is tricky, since students who graduated a few years before the college opened still might be treated by the new college if, for example, they are induced to transfer from another college to the new one or if they didn't enroll in any college right after high school but are induced to enroll several years later when the new college opens.[5] For this reason, I consider these students treated (albeit with a different type of treatment) and re-define period 0 to be four years before the college opens for the outcome of degree completion within four years, etc. In the figures, the green line denotes this period, while the red line corresponds to the cohort who graduated from high school in the same year that the college opened.

Both plots show positive impacts on college openings on on associate's degree completion, especially for students who graduated from high school after the college opened (i.e., those after the red line). Note that outcomes are measured four, or six, years in the future, e.g., in the top panel, the coefficient at the red line (re-defined period 4) estimates the impact that the opening college has on treated students' likelihood of completing an associate's degree within four years for the cohort who graduated from high school in the year that the college opened. It does *not* imply that this cohort earned their associate's in the same year that the college opened. Overall, treated students who graduated from high school in the years following the college opening are around 1 percentage point more likely to complete as associate's degree within four to six years of high school graduation. While these effects are small in absolute terms, they are large in relative terms, since only around six percent of students earn an associate's degree within six years.

[5] This was not a concern in the estimation of enrollment effects since I restricted enrollment to be within one year of high school graduation.

Figure 9 repeats this exercise for bachelor's degree completion within four to six years of high school graduation. Overall, they do not show much evidence of decreases in bachelor's degree attainment, implying that any initial four-year enrollment diversion did not translate into differences in four-year degree completion. This implies that diverted students were either able to successfully transfer to four-year colleges and complete their degrees, or were unlikely to complete a bachelor's degree in the first place.

7 Conclusion

This paper has used an event study design to estimate the effect of proximity to a new community college on nearby students' enrollment and degree completion. I find suggestive evidence that compared to students slightly further away, students located within 20 minutes of the opening college do enroll in the new college, but most of the effect comes from substitution away from other colleges rather than enrollments from students who otherwise wouldn't have attended college. Most substitution was from other local two-year colleges, but the new colleges may have induced a small number of students to be "diverted" from enrolling in a four-year college.

Despite the small extensive margin enrollment effect, treated students were more likely to complete an associate's degree within four to six years of high school graduation, implying that college proximity can increase persistence even if it doesn't draw many new students in. Additionally, treated students were no less likely to earn a bachelor's degree, implying that the initial decrease in four-year enrollment did not lead to decreases in degree completion.

In light of these findings, it is important to keep in mind the context of the opening colleges. The new colleges were located in areas where students already had several nearby college options, so while treated students did see a decrease in their potential commuting time to their closest college, the decreases in distance were relatively small (about 10 minutes driving time). Thus, these results do not speak to the potential effects of placing a new community college in a rural area without any local education options. However, related descriptive work in Texas suggests that new community colleges may have more of an extensive margin effect if they were located in "education deserts," i.e., 30 minutes or more from the nearest community college. In complementary work, Acton et al. (2024) and Acton et al. (2025) show that low-income and underrepresented minority students who live in community college deserts are less likely to enroll in any college or earn any degree.

Future work will probe robustness of results to alternative treatment definitions, estimate heterogeneity in effects by student characteristics (e.g., race-ethnicity) and explore more outcomes, such as college quality and major choice.

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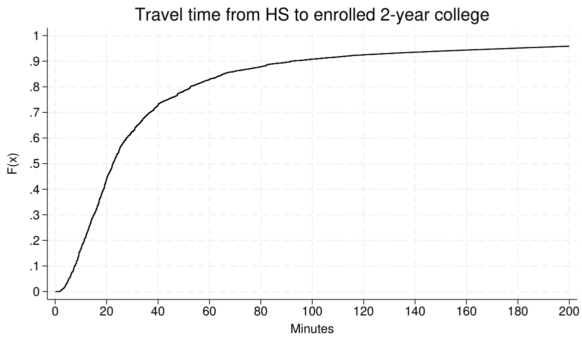
8 Figures and Tables

Table 1: Timing of Opening Community Colleges in Texas

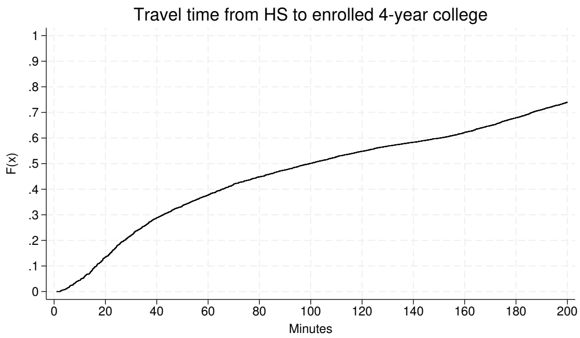
Year	College
1997	Tarrant County SE
1999	Alamo NW Vista
2003	Lone Star Cy-Fair
2010	Tarrant County Trinity River
2012	Lone Star University Park

Notes: This table lists the names and opening year of the five opening community colleges used for analysis.

Figure 1: CDF of Student Travel Times to Enrolled Colleges



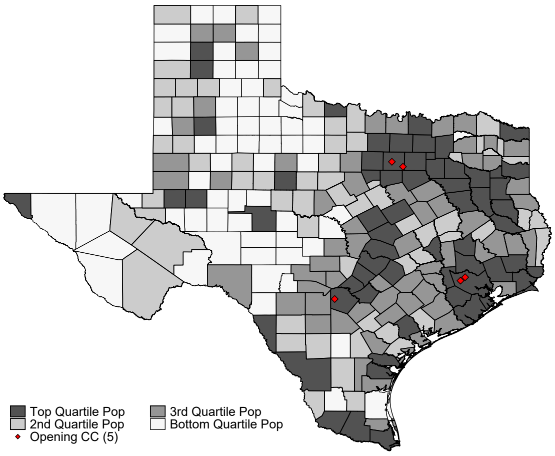
(a) Two-Year College Students



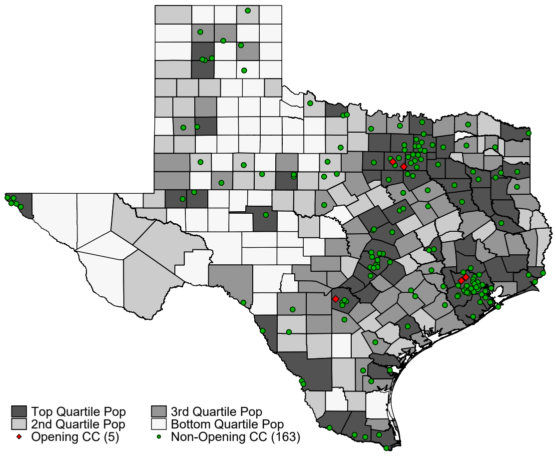
(b) Four-Year College Students

Notes: Cumulative distribution function of the distance in driving time between students' high school of attendance and college of attendance. Left figure includes all Texas public high school students who enroll in any Texas 2-year public college within one year of high school graduation; right figure shows the analagous figure for those who enroll in a 4-year college.

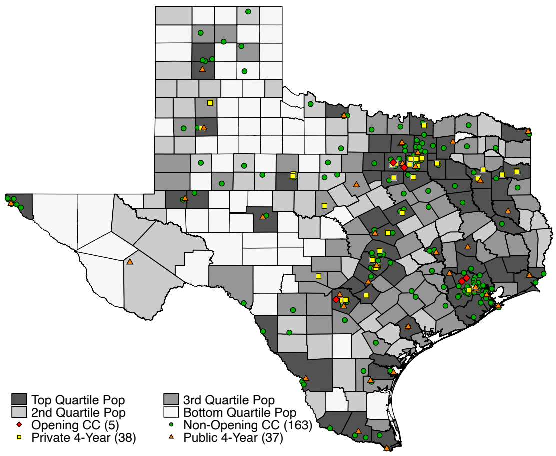
Figure 2: Location of Colleges in Texas



(a) Opening 2-Year Colleges



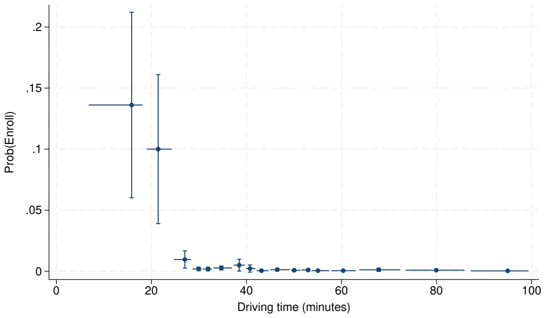
(b) All 2-Year Colleges



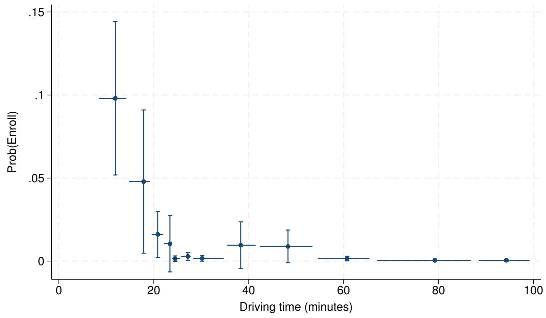
(c) All 2-Year and 4-Year Colleges

Notes: Map shading corresponds to county-level population quartiles; e.g., the darkest counties have the highest population in the state. Red diamonds show opening community colleges used for analysis; green circles plot other community colleges, yellow squares show private four-year colleges and orange triangles show public four-year colleges.

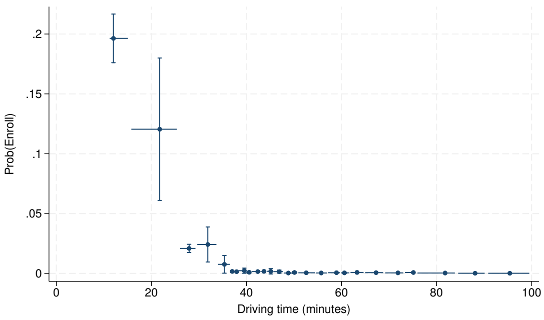
Figure 3: Enrollment in Opening Colleges by Distance from Opening College



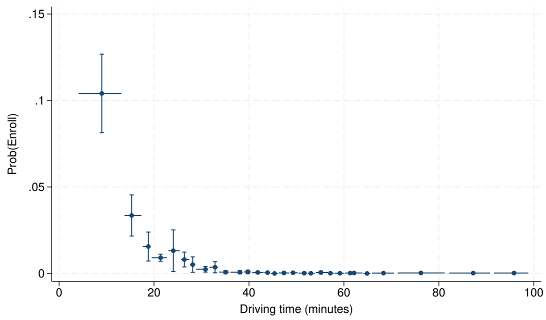
(a) Tarrant County SE



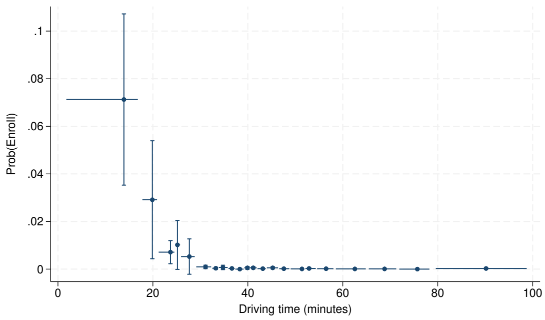
(b) Alamo NW Vista



(c) Lone Star Cy Fair



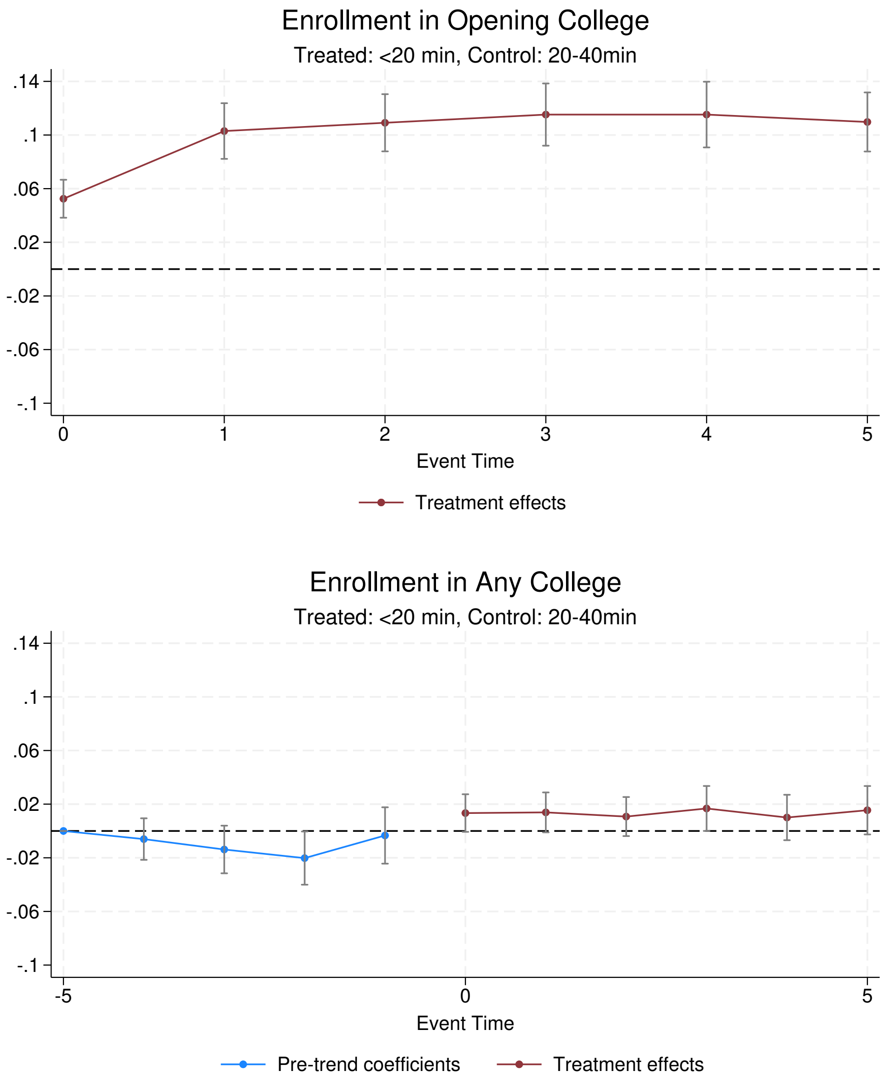
(d) Tarrant County Trinity River



(e) Lone Star University Park

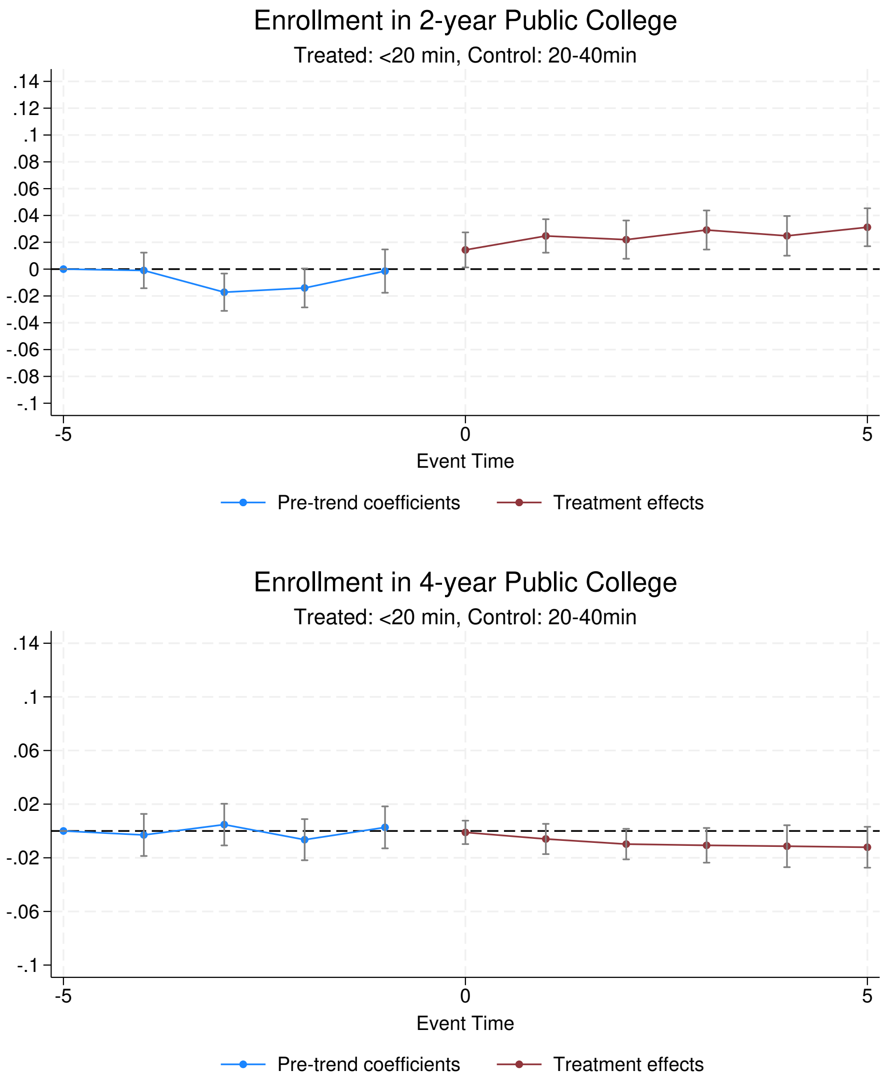
Notes: Plots created using partitioning-based binscatter least squares estimation with IMSE-optimal bins (Cattaneo et al., 2024). Each bin shows the proportion of students who enroll in the opening college within the first 3 years after opening, among all students living within the bin distance of the opening college. Each subfigure shows a separate opening community college used in analysis.

Figure 4: Enrollment Effects of College Openings



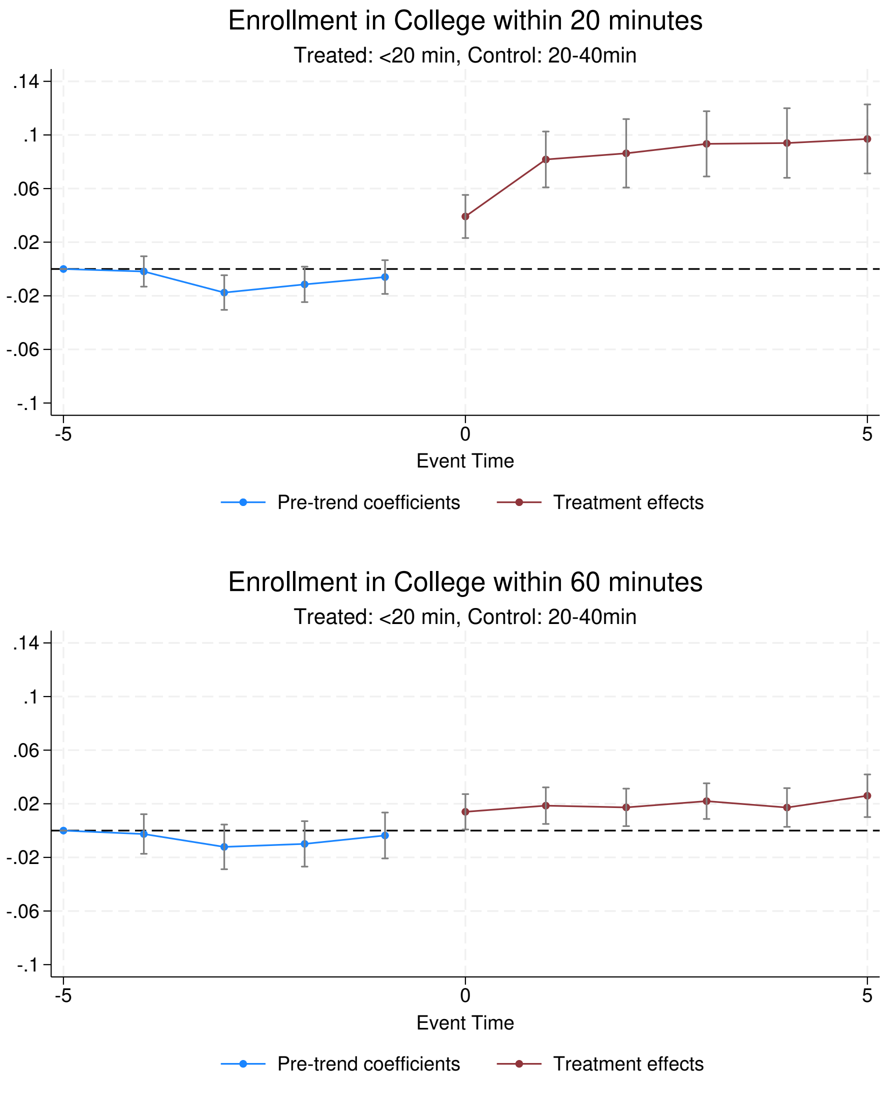
Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level.

Figure 5: Enrollment Effects of College Openings, by Sector



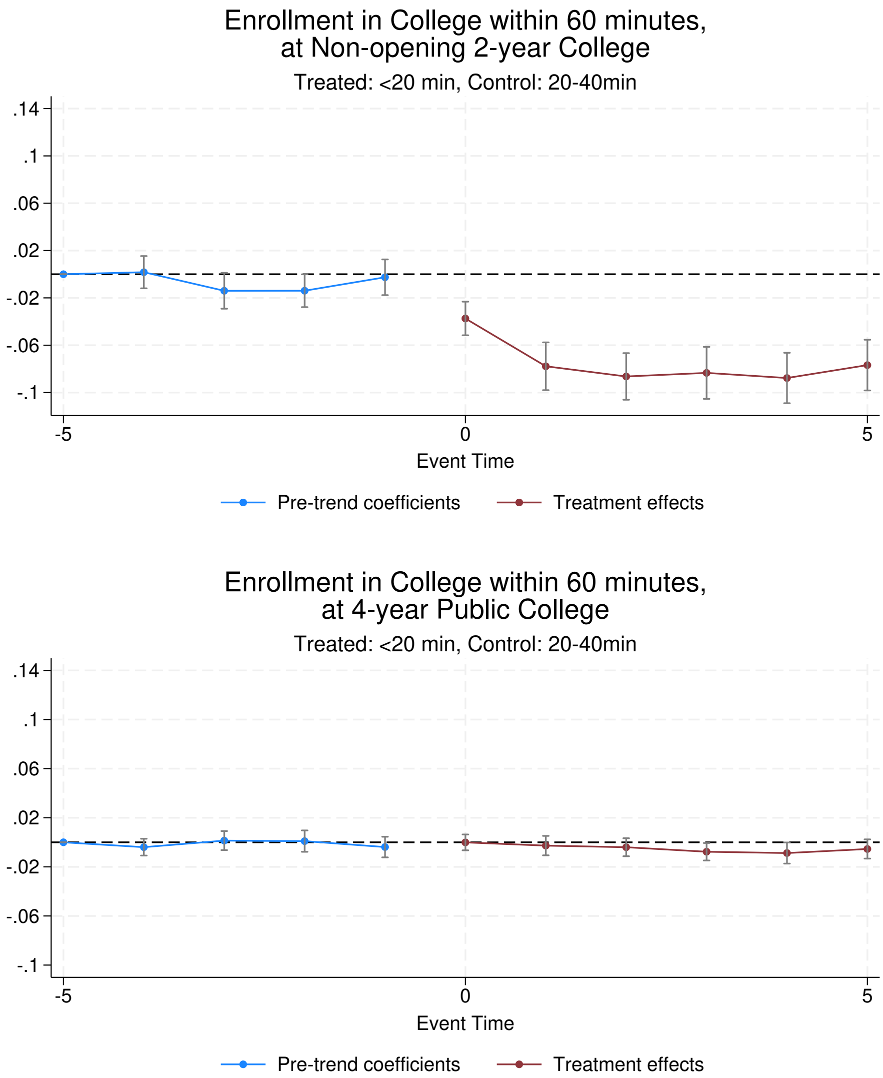
Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level.

Figure 6: Enrollment Effects of College Openings, by Proximity



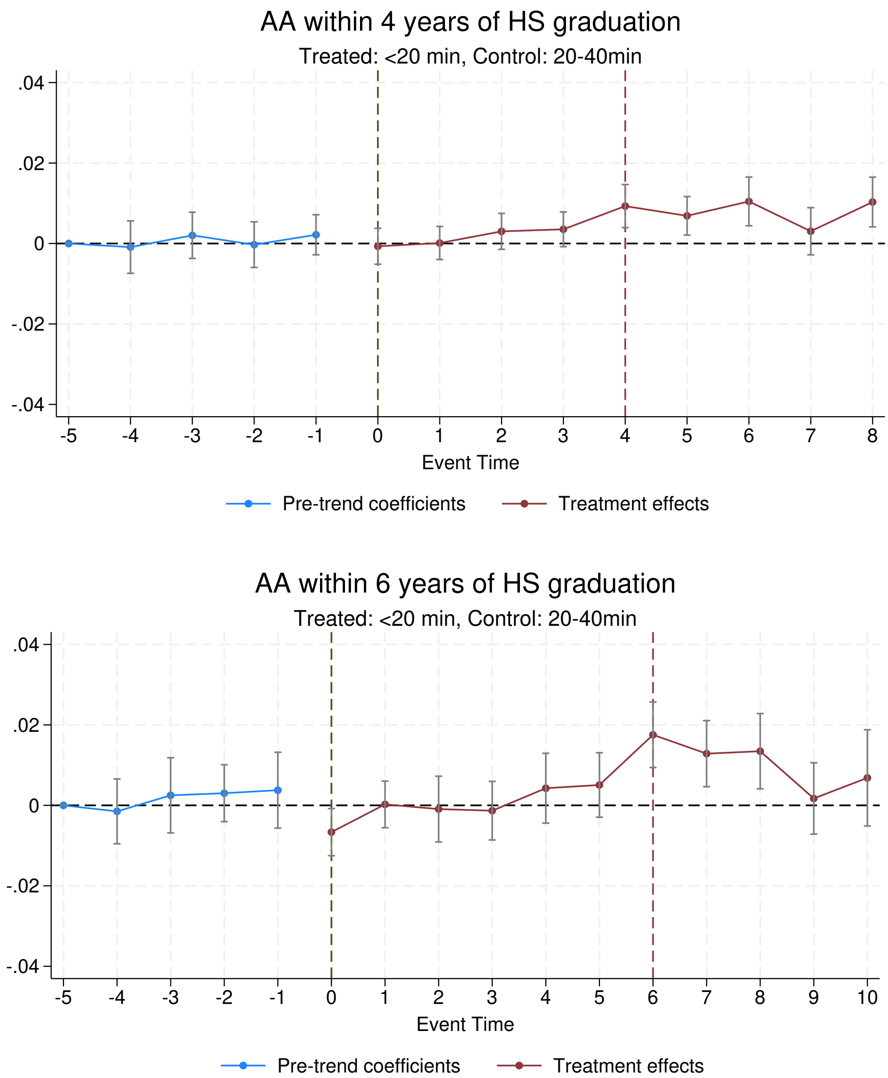
Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level.

Figure 7: Enrollment Effects of College Openings at Existing Local Colleges



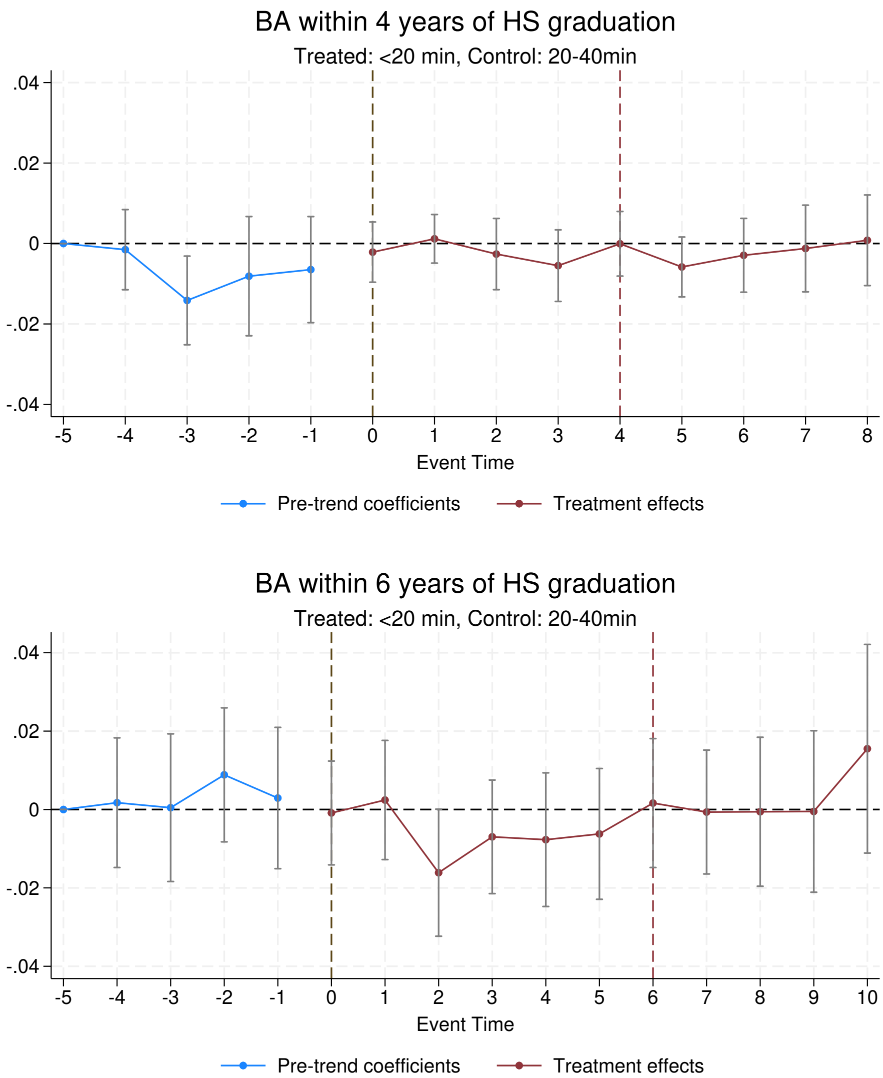
Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level.

Figure 8: Associate's Degree Attainment Effects of College Openings



Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level. Red line corresponds to the cohort that graduates from high school in the year that the college opens; green line corresponds to the cohort that graduates from high school X years earlier for the outcome "AA within X years."

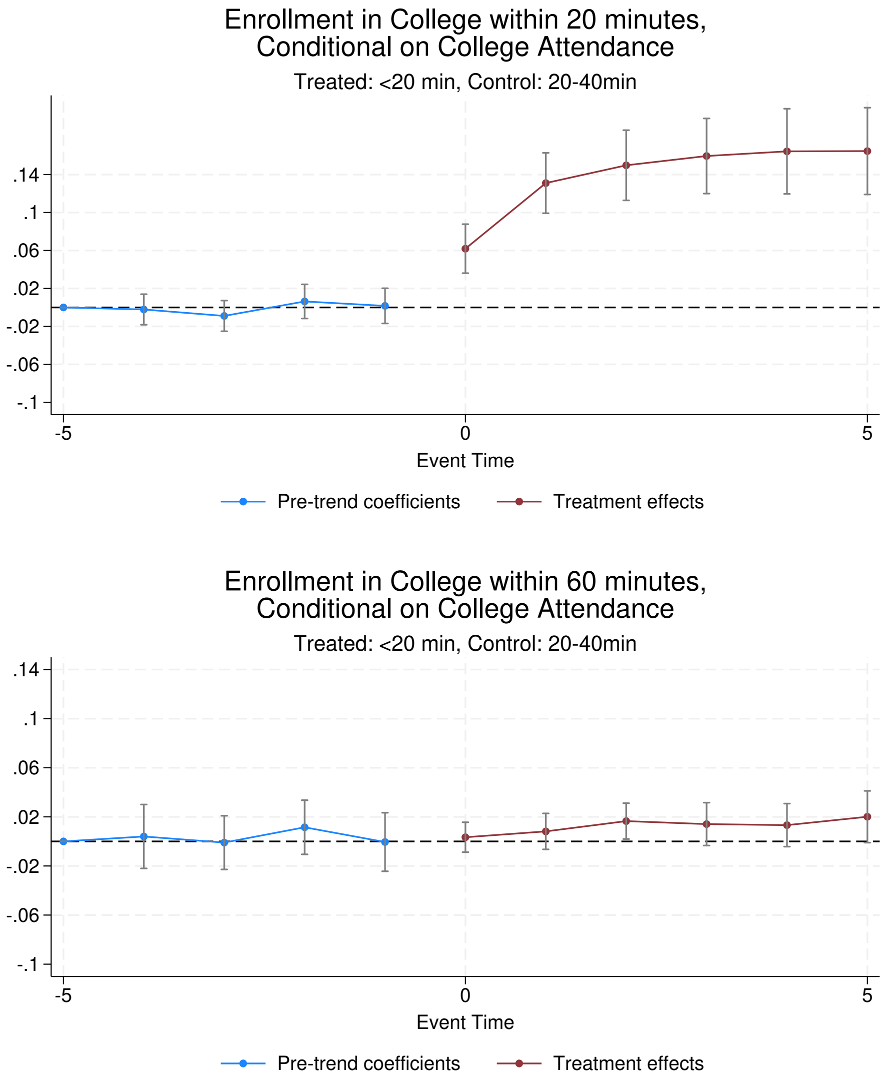
Figure 9: Bachelor's Degree Attainment Effects of College Openings



Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level. Red line corresponds to the cohort that graduates from high school in the year that the college opens; green line corresponds to the cohort that graduates from high school X years earlier for the outcome "BA within X years."

A Supplementary Tables and Figures

Figure A1: Enrollment Effects of College Openings, by Proximity, Conditional on Some College Enrollment



Notes: Coefficients plotted from equation (1) estimated using the imputation estimator from Borusyak et al. (2024). Gray bars represent confidence intervals at the 95% level.