EdWorkingPaper No. 25-1130

Early Impacts of the FAFSA Requirement in Texas

Sie Won Kim
Texas Tech University

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VERSION: January 2025

Suggested citation: Kim, Sie Won. (2025). Early Impacts of the FAFSA Requirement in Texas. (EdWorkingPaper: 25 -1130). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/nm07-qp45

Early Impacts of the FAFSA Requirement in Texas*

Sie Won Kim†

January 14, 2025

Abstract

In 2021−22, Texas implemented a policy requiring all public high school seniors to complete a financial aid application. This paper examines the early impacts of this requirement on Free Application for Federal Student Aid (FAFSA) completion rates and college enrollment using a difference-in-differences model. First, using a sample of high schools in Texas, I find that the FAFSA requirement increases FAFSA completion rates in public schools by 6.3 percentage points relative to private schools. Second, using a multi-valued discrete treatment, I find positive effects on FAFSA completion rates across all treated schools, ranging from 3.1 to 7 percentage points. Furthermore, this increase in FAFSA completion rates is associated with an increase in college enrollment for schools with lower pre-treatment FAFSA completion rates.

JEL Classification: H75, I21, I22, I23

Keywords: Financial aid, FAFSA, Higher education

*I would like to thank the conference participants at the 2024 American Economic Association (AEA) Annual Meeting and the 2023 American Education Finance and Policy (AEFP) Annual Conference for their helpful comments and suggestions.

†Department of Economics, Texas Tech University, Lubbock, TX 79409, USA; E-mail address: siewon.kim@ttu.edu

1 Introduction

The high cost of attending college poses a significant barrier for many students pursuing postsecondary education, with 86 percent of first-time undergraduate students receiving some type of financial aid at four-year degree-granting postsecondary institutions in 2020−21.[1] Completing the Free Application for Federal Student Aid (FAFSA) is a crucial step in accessing federal, state, and institutional financial aid, including Pell Grants, loans, and scholarships. Given that a financial barrier is one of main obstacles to higher education, increasing FAFSA completion rates is expected to promote college attendance by improving students' access to necessary financial support.

In response to these challenges, several states have introduced policies requiring high school seniors to complete financial aid applications to graduate. These policies aim to increase the number of students who fill out FAFSA applications, hence increasing their access to financial aid and to postsecondary education. Beginning in the 2021−22 school year, Texas implemented a financial aid application requirement for high school seniors following Louisiana (2017−18) and Illinois (2020−21). Alabama also adopted a similar FAFSA policy during the same school year.

This paper aims to evaluate the early impacts of the FAFSA completion policy in Texas, providing insights that are relevant to Texas and other states considering similar measures. The research questions are as follows: 1) What is the effect of the financial aid application requirement in Texas on FAFSA completion rates? 2) To what extent do changes in FAFSA completion rates affect college enrollment rates?

Using a sample of Texas high schools from the 2018−19 to 2022−23 school years, I estimate the effect of the financial aid application requirement on FAFSA completion rates and college enrollment. First, I compare public schools to private schools, as private schools

[1] Table 331.20. First-time, full-time degree/certificate-seeking undergraduate students enrolled in degree-granting postsecondary institutions (U.S. Department of Education, 2023).

are not subject to the financial application requirement. The early effect from the first year after the policy implementation shows a 6.3 percentage points (10.3 percent) increase in FAFSA completion rates in public schools compared to private schools. Doubly robust DiD estimators show slightly higher effects, ranging from 6.6 to 7.9 percentage points, after controlling for student demographics among schools. Additionally, I estimate the treatment effects of the Texas FAFSA policy using state-level data and find results consistent with the school-level analysis (Appendix B).

Next, I exploit the variation in pre-treatment FAFSA completion rates across public schools. While the FAFSA completion requirement applies uniformly to all public Texas high school seniors, the intensity of the treatment differs as schools have varying pre-treatment FAFSA completion rates. I find that the treatment effects on the treated intensity groups are all positive, ranging from 3.1 to 7 percentage points. Furthermore, this positive impact on FAFSA completion is associated with a higher college enrollment for the two lowest FAFSA completion deciles, but not for other decile groups.

This paper contributes to the recent literature on statewide FAFSA requirement policies. Louisiana was the first state to implement a mandatory FAFSA policy in the 2017−18 school year. Deneault (2023) uses a difference-in-differences model with a continuous treatment variable and finds that the FAFSA requirement policy increases FAFSA completion rates and college enrollment in Louisiana, particularly among low-income students and schools. Similarly, this paper finds positive effects on FAFSA completion rates using private schools as a control group. Furthermore, by using pre-treatment FAFSA rates as a measure of discrete treatment intensity, I find positive effects on FAFSA completion rates across all treated intensity groups, but positive effects on college enrollment only for schools with low pre-treatment FAFSA rates.

This paper also contributes to the broader literature on policies aimed at promoting FAFSA completion rates. For instance, FAFSA experiments have shown that personalized interventions lead to increased FAFSA completions and higher college persistence (Bettinger et al., 2012; Castleman and Page, 2016). I find that the statewide FAFSA policy is effective in increasing FAFSA completion rates across all public schools. For college enrollment, I find a positive effect of the mandatory FAFSA policy specifically for schools in the first and second lowest FAFSA decile groups. This limited effect on college enrollment is consistent with experimental studies on large-scale informational interventions in postsecondary education (Avery et al., 2021; Bergman et al., 2019; Bird et al., 2021; Gurantz et al., 2021; Page et al., 2023). These findings suggest that more personalized and targeted policy implementation, along with additional support and resources at the school level, may enhance the effectiveness of the FAFSA requirement in increasing college enrollment rates.

2 Background and data

2.1 Financial aid application requirement in Texas

In 2018, the Texas Commission on Public School Finance recommended a policy requiring high school seniors to complete a financial aid application. At the time, Texas had a FAFSA completion rate of 56 percent, lagging 27 percentage points behind Tennessee and Louisiana, the two states with the highest rates (Texas Commission on Public School Finance, 2018). This gap was concerning given the state's low college enrollment rates among economically disadvantaged students. Only 40 percent of the state's 240,000 low-income eighth graders enrolled in college within four years, and nearly $300 million in federal Pell grants went unclaimed annually due to unsubmitted FAFSA applications (Texas Commission on Public School Finance, 2018). Additionally, racial and ethnic disparities contributed to the problem. In the 2021−22 school year, 73.8 percent of Black students and 75.5 percent of Hispanic students enrolled in Texas public schools were identified as economically disadvantaged,[2] compared to 31.7 percent of white students (Texas Education Agency, 2024). By implementing a FAFSA requirement for high school seniors, Texas aimed to increase FAFSA completion rates and improve access to postsecondary education, particularly for students from economically disadvantaged backgrounds.

Starting with the graduating class of 2022, Texas mandated that all public high school seniors complete and submit either a FAFSA or the Texas Application for State Financial Aid (TASFA),[3] with an option to submit an opt-out form for those who choose not to participate.

2.2 Data sample

I create a panel of $1,197$ high schools in Texas from the $2018-19$ to $2022-23$ school years by merging three datasets.[4] First, I use school-level dataset from the Office of Federal Student Aid (FSA),[5] which provides the number of FAFSA application completions for each application cycle. By dividing the number of FAFSA application completions by the number of seniors at each school, I compute FAFSA completion rates. I exclude high schools with missing data or fewer than five applications as this data is not provided by the FSA.

Next, I use the Texas Higher Education Data (THED) provided by the Texas Higher Education Coordinating Board. This dataset includes the number of high school graduates from each public high school in Texas who enrolled in two-year or four-year colleges in Texas. Although the THED data does not capture students enrolling in out-of-state institutions, this limitation is mitigated by the fact that Texas has the highest ratio (0.93) of in-state students to first-time enrollment in their home state as of fall 2020.[6] When computing the college

[2] The Texas Education Agency (TEA) defines economically disadvantaged status based on eligibility for free or reduced-price meals.

[3] Non U.S. Citizens or non-permanent residents who have lived in Texas for 3 years prior to graduating from a Texas High School are eligible to submit the TASFA.

[4] College enrollment data and private school data are available up to the $2021-22$ school year.

[5] https://studentaid.gov/data-center/student/application-volume/fafsa-completion-high-school

[6] Table 309.10. Residence and migration of all first-time degree/certificate-seeking undergraduates in degree-granting postsecondary institutions (U.S. Department of Education, 2023).

enrollment rate, an increase in high school graduation rates would lead to a decline in college enrollment rates, even if the same number of students attend college after high school. This would be a concern if pre-treatment FAFSA decile groups have varying graduation rates. However, I find that graduation rates are consistently high across all decile groups, ranging from 97.1 percent to 98.6 percent, and remain stable from 2018−19 to 2021−22.

Lastly, I collect public school characteristics from the Common Core of Data (CCD), including the racial and ethnic composition of students and the proportion of students eligible for free or reduced-price lunch. For private schools, I use data from the Private School Universe Survey (PSS). However, since participation in the PSS is voluntary, the number of private schools (categorized as regular secondary schools offering 12th grade) available for the main analysis is limited ($n = 96$).

Columns (1)−(4) of Table 1 present the descriptive statistics for the key variables for public and private schools before and after the implementation of the FAFSA requirement in Texas. Columns (1) and (2) show an increase in FAFSA completion rates in public schools from 61 percent to 70 percent, while school demographics and college enrollment remain relatively constant. In contrast, columns (3) and (4) show that private schools have a similar pre-policy FAFSA completion rate of 58 percent, but the increase is only 3 percentage points. Regarding school demographics, private schools have a higher share of white students and a lower share of Hispanic students compared to public schools.

Table 1: Descriptive statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Public schools		Private schools		%FAFSA completion decile		
	Pre-2022	2021−22	Pre-2022	2021−22	Lowest	5th decile	Highest
Grade 12 enrollment	280.96	279.98	55.06	54.24	195.21	343.68	187.39
	[246.26]	[243.61]	[51.44]	[53.69]	[179.58]	[264.10]	[168.67]
FAFSA completion	0.61	0.70	0.58	0.61	0.44	0.59	0.81
	[0.10]	[0.11]	[0.15]	[0.13]	[0.08]	[0.04]	[0.07]
White	0.30	0.29	0.62	0.60	0.35	0.32	0.10
	[0.24]	[0.24]	[0.22]	[0.22]	[0.27]	[0.23]	[0.15]
Hispanic	0.50	0.50	0.21	0.22	0.54	0.46	0.77
	[0.28]	[0.28]	[0.20]	[0.21]	[0.27]	[0.24]	[0.26]
FRPL	0.53	0.54	.	.	0.63	0.50	0.69
	[0.26]	[0.26]			[0.22]	[0.25]	[0.22]
Any college	0.45	0.45	.	.	0.35	0.43	0.55
	[0.11]	[0.10]			[0.10]	[0.09]	[0.12]
Two-year college	0.21	0.20	.	.	0.18	0.20	0.21
	[0.08]	[0.08]			[0.08]	[0.07]	[0.10]
Four-year college	0.25	0.25	.	.	0.17	0.24	0.34
	[0.10]	[0.10]			[0.07]	[0.08]	[0.15]
Observations	3,303	1,101	288	96	333	330	330

Notes: The table reports means and standard deviations by school type and pre- and post-treatment periods (columns (1)−(4)). Columns (5)−(7) display the sample statistics of public schools by pre-treatment FAFSA decile group. The pre-treatment periods include the 2018−19 to 2020−21 school years. The 5th decile represents schools in the 40th to 50th percentile. The means of the shares of FAFSA completion, the shares of white and Hispanic students, the shares of free or reduced-price lunch (FRPL) eligible students, and college enrollment rates are weighted by the grade 12 enrollment. Standard deviations in brackets. The sample consists of $1,101$ public and 96 private high schools in Texas.

Columns (5)−(7) show descriptive statistics for public schools by pre-treatment FAFSA decile group. The difference in FAFSA completion rates between the lowest and highest decile groups is 37 percentage points. The relationship between FAFSA completion rates and various school characteristics is complex. For instance, the share of free or reduced-price lunch (FRPL) eligible students decreases from 63 percent in the lowest decile to 50 percent in the fifth decile, but then increases back to 69 percent in the highest decile. This suggests that schools with the highest FAFSA completion rates also serve a larger proportion of low-income students, and pre-treatment FAFSA completion rates do not necessarily correspond to low- or high-income schools. Similarly, the share of Hispanic students is higher in both the lowest and highest deciles than in the fifth decile.

College enrollment rates also vary by pre-policy FAFSA completion rates. Two-year college enrollment remains relatively stable, ranging from 18 percent to 21 percent. However, four-year college enrollment increases from 17 percent in the lowest decile to 34 percent in the highest decile, suggesting that higher FAFSA completion rates may be more strongly associated with enrollment at four-year institutions.

3 Empirical strategy

3.1 Difference-in-differences model

I use private schools as a control group for public schools, as private schools are not subject to the financial aid application requirement in Texas. I estimate the treatment effect on public schools relative to private schools by estimating the following model:

$$\%FAFSA_{it} = \beta_0 + \beta_1 \left(Public_i \times Post_t\right) + \delta_i + \delta_t + \varepsilon_{it} \tag{1}$$

where $\%FAFSA_{it}$ is the FAFSA completion rate among seniors in high school i in year t. Year t refers to the school year that ends in the spring of year t. The treatment variable, $Public_i$ equals one if high school i is a public school and zero otherwise. $Post_t$ is a binary variable that equals one if the year of observation is after 2022. δ_i and δ_t denote school and year fixed effects, respectively. ε_{it} is an idiosyncratic error term. The parameter of interest, β_1 measures the average treatment effect of the FAFSA completion requirement on public schools compared to private schools in Texas.

While balance in covariates between treatment and control groups is not required for a DiD design, differences in school characteristics, such as student demographics, between public and private schools may imply a violation of the parallel trends assumption. As a robustness check, I use doubly robust DiD estimators to control for student demographics.

3.2 Discrete treatment by pre-treatment FAFSA completion rates

While comparing public and private schools provides a clear identification strategy, I use an alternative empirical strategy that focuses on public schools due to the limited number of private schools in the sample and the lack of college enrollment data for private schools. I exploit the variation in pre-treatment FAFSA completion rates by categorizing the high schools into ten decile groups. This discrete treatment variable is similar to the continuous treatment measure used in Deneault (2023). Figure A.1 shows the distribution of pre-treatment FAFSA completion rates, which illustrates the potential for increases in completion rates post-treatment. The first decile group (i.e., below 10th percentile group) has the highest potential increase in FAFSA completion rates as $(1 - \%FAFSA_{i,pre})$ measures the potential increase in FAFSA completion rates in response to the FAFSA requirement for high school seniors in Texas. The top decile group (i.e., above 90th percentile group) will have the lowest potential increase in FAFSA completion rates. I use this top decile group as a control group to minimize any potential impacts of the policy on their FAFSA completion rates. However, I acknowledge that this group may still be affected by the policy, unlike private schools. The differences in pre- and post-treatment mean FAFSA completion rates for the top decile group and private schools are 5.8 percentage points (a 7 percent increase) and 3 percentage points (a 5.1 percent increase), respectively.

I estimate the effect of financial aid application requirement on FAFSA completion rate and college enrollment by the following DiD model with multi-valued discrete treatment D_i:

$$Y_{it} = \beta_0 + \sum_{j=1}^{9} \beta_j \left(\mathbf{1}\left\{D_i = d_j\right\} \times Post_t\right) + \delta_i + \delta_t + \varepsilon_{it} \tag{2}$$

where Y_{it} is an outcome variable such as FAFSA completion rate and two- or four-year college enrollment rate of high school i in year t. Year t refers to the school year that ends in the spring of year t. $Post_t$ is a binary variable that equals one if the year of observation is after 2022. The discrete treatment variable, D_i indicates a decile group of $\%FAFSA_{i,pre}$. For example, $D_i = d_5$ represents schools in the 40th to 50th percentile. $\%FAFSA_{i,pre}$ is the FAFSA completion rate of high school i in pre-treatment periods. The 90th percentile and above group, $D_i = d_{10}$ is considered as a control group. δ_i and δ_t denote high school and year fixed effects, respectively. ε_{it} is an idiosyncratic error term. To account for enrollment size variation, the regression is weighted by the total enrollment at a given high school in the base year.

The parameters of interest are β_js, which measure the effect of the financial aid application requirement on FAFSA completion rates or college enrollment rates for the pre-treatment FAFSA decile group d_j, compared to the top decile group d_{10}. I estimate the average treatment effect on the treated parameters $(ATT\left(d\right))$, β_js and the averaged summary parameter $(ATT^0 = E\left[\Delta Y | D \neq d_{10}\right] - E\left[\Delta Y | D = d_{10}\right])$ under the parallel trends assumption (Callaway et al., 2024).

3.3 Identification

Parallel trends. The parallel trends assumption for the difference-in-differences design can be written as:

$$E\left[Y^0_{post} - Y^0_{pre}|D = d\right] = E\left[Y^0_{post} - Y^0_{pre}|D = 0\right]$$

where Y^0_t is the potential outcome without treatment in year t. This assumes that the average changes in potential outcomes of the treatment group d (binary treatment: $d = 1$ (public); discrete treatment: $d \in \{1, \ldots, 9\}$) without treatment is the same as the changes in realized outcomes of the control group.

For the public and private school sample with a binary treatment variable $Public_i$, I estimate the following event-study model to assess the plausibility of the parallel trends assumption between public and private schools:

$$\%FAFSA_{it} = \beta_0 + \sum_{\substack{y=-3 \\ y \neq -1}}^{0} \alpha_y \left(\mathbf{1}\left\{t - t^* = y\right\} \times Public_i\right) + \delta_i + \delta_t + \varepsilon_{it} \tag{3}$$

for $t \in \{2019, \ldots, 2022\}$ and $t^* = 2022$. Year t refers to the school year that ends in the spring of year t. I check the estimates α_ys for pre-treatment trends.

For the public school sample with multi-valued discrete treatment D_i, I estimate the following event-study model to check the plausibility of the parallel trends assumption between schools with positive treatment doses and the top decile schools:

$$Y_{it} = \beta_0 + \sum_{\substack{y=-3 \\ y \neq -1}}^{1} \bar{\alpha}_y \left(\mathbf{1}\left\{t - t^* = y\right\} \times \mathbf{1}\left\{D_i \neq d_{10}\right\}\right) + \delta_i + \delta_t + \varepsilon_{it} \tag{4}$$

for $t \in \{2019, \ldots, 2023\}$ and $t^* = 2022$. I estimate the aggregated event study parameters $\bar{\alpha}_y$s. I focus on the average treatment effect of each treatment group compared to the top decile group.

In particular, the 2020−21 school year may raise concerns due to the potential impact of the COVID-19 pandemic. For college enrollment, COVID-19 may have affected students on the margin of attending college more than those in the top FAFSA decile group. Since the pandemic occurs during the pre-treatment period, I check for any differential impacts on treatment groups to assess the parallel trends assumption.

No anticipation and no spillover. The estimates will be biased if the policy is anticipated, and students change their decisions before the policy implementation. For the comparison between public and private schools, seniors in public schools would not have had incentives to act differently than seniors in private schools in the years before the policy implementation. Similarly, seniors in the top FAFSA decile schools would not have had incentives to change their FAFSA completions in anticipation of the FAFSA policy implementation. For potential spillover effects, as the FAFSA requirement was universally implemented across Texas public schools with an easy opt-out option, students in the top decile schools are unlikely to have influence on other decile schools.

Targeted FAFSA-related policies. While I am unable to identify policies specifically aimed at increasing FAFSA completion rates for low-FAFSA schools, the simultaneous implementation of such policies alongside the statewide financial aid application requirement could pose challenges to the identification of the effects of statewide FAFSA policy.

4 Results

4.1 Early effect on FAFSA completion rates

Column (1) of Table 2 shows that the FAFSA completion requirement increases FAFSA completion rates in public schools by 6.3 percentage points relative to private schools, representing a 10.3 percent increase compared to the mean pre-treatment FAFSA completion rate of 61 percent. This early evidence from the first year following the policy implementation suggests the effectiveness of the FAFSA requirement in increasing FAFSA completion rates.

Table 2: Treatment effects on FAFSA completion rates

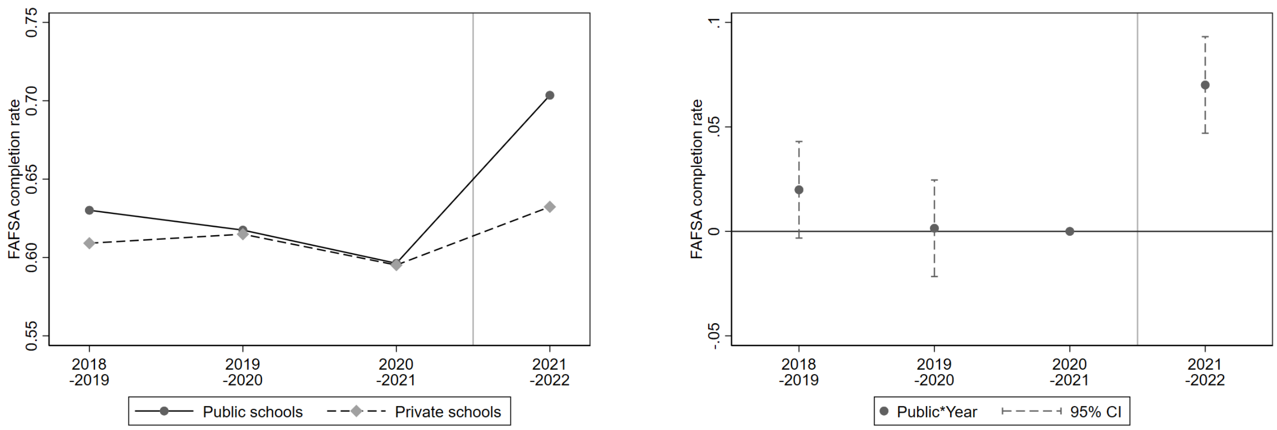
Dep. variable:	(1)	(2)	(3)	(4)
%FAFSA	TWFE	DRIMP	OUTREG	IPW
Public × Post	0.063***	0.066***	0.074***	0.079***
	(0.013)	(0.017)	(0.024)	(0.021)
Observations	4,788	2,394	2,394	2,394
Covariates	No	Yes	Yes	Yes
Sample period	[2019,2022]	[2021,2022]	[2021,2022]	[2021,2022]

Notes: The table reports the DiD estimates (Eq. (1)). DiD estimators in columns (2)−(4) use two periods (2020−21 and 2021−22) as doubly robust estimators estimate a 2x2 design. The covariates include the shares of white, Black, and Hispanic students. Column (1): two-way fixed effects estimator; Column (2): improved doubly robust DiD estimator (Sant'Anna and Zhao, 2020); Column (3): outcome regression DiD estimator; Column (4): inverse probability weighting DiD estimator (Abadie, 2005). The model includes institution and year fixed effects. The mean pre-2021 FAFSA rate is 0.61. $^{***}p < 0.01; ^{**}p < 0.05; ^{*}p < 0.1$

To assess the parallel trends assumption of the DiD model (Eq. (1)), I plot the FAFSA completion trends for public and private schools and the event-study estimates. Panel (a) of Figure 1 shows the mean FAFSA completion rates for public schools and the control group of private schools without financial aid application requirement. FAFSA completion rates decrease slightly from 2018−19 to 2020−21 for both public and private schools, likely due to COVID-19 related disruptions. After the policy implementation in 2021−22, public schools experience an increase in FAFSA completion rates, while private schools show a relatively small increase. Panel (b) displays the event-study model estimates and 95% confidence intervals for the coefficients on the years relative to 2021. The lack of statistically significant differences between public and private schools during the pre-treatment periods supports the parallel trends assumption. The result from the first year after the policy implementation shows a statistically significant difference between public and private schools.

Figure 1: FAFSA completion trend and event-study estimates

(a) FAFSA completion rates (b) Event-study estimates



Notes: Panel (a) displays FAFSA completion rates for public and private schools in Texas. Panel (b) illustrates the event-study model (Eq. (3)) estimates and 95% confidence intervals for the coefficients on the years relative to 2021. Year -1 (2020−21) is a reference category and is omitted.

While the parallel trends assumption does not require balance in covariates, I use doubly robust DiD estimators to control for the differences in student demographics between public and private schools. Column (2) of Table 2 shows that the FAFSA policy increases FAFSA completion rates in public schools by 6.6 percentage points using an improved doubly robust estimator. The outcome regression and inverse probability weighting DiD estimators show stronger effects of 7.4 and 7.9 percentage points, respectively (columns (3) and (4)).

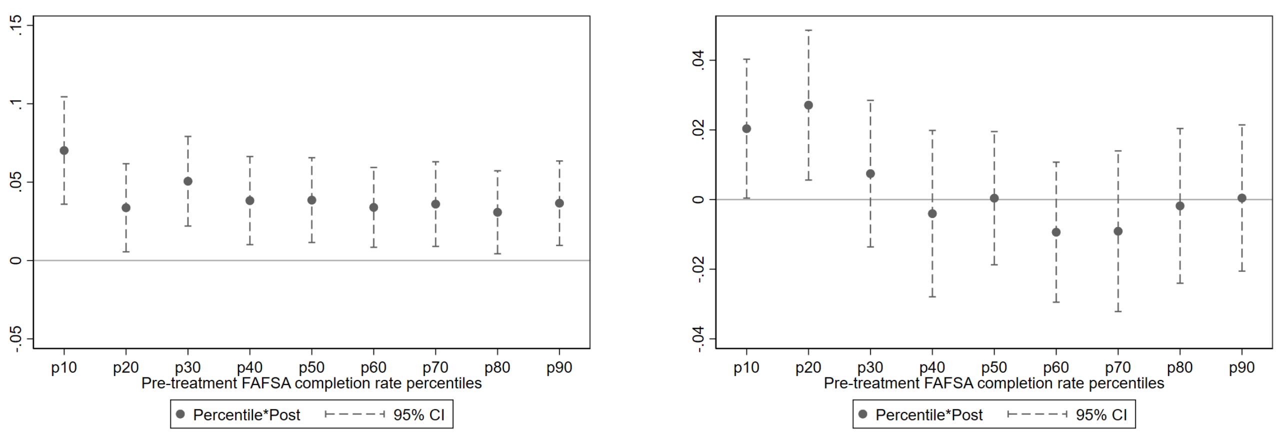
Additionally, as a robustness check, I use state-level data and compare Texas with other states that do not have financial aid application requirements by estimating a two-way fixed effects model and an event-study model, and the results remain consistent (Appendix B).

4.2 Discrete treatment effects on FAFSA completion

Figure 2 presents the DiD estimates of β_js (Eq. (2)) using the pre-treatment FAFSA variation. The estimate represents the average treatment effect among schools within the pre-treatment FAFSA decile group d_j compared to the top decile schools. For example, the estimate of 0.07 for the first decile group (p10) represents a 7 percentage points increase compared to the top decile schools. This effect is relatively large compared to the average FAFSA completion rate of 44.2 percent in pre-treatment periods among the first decile group (15.8 percent). The average treatment effects are positive across all decile groups, ranging from 3.1 to 7 percentage points. The estimates are presented in column (1) of Table A.1.

Figure 2: Discrete treatment effects

(a) FAFSA completion rates (b) Any college enrollment



Notes: The figure displays the DiD model (Eq. (2)) estimates of β_js on FAFSA completion rates and college enrollment and 95% confidence intervals. The estimates are presented in columns (1) and (4) of Table A.1.

To summarize the treatment effects, I estimate the average treatment effects on treated groups ($ATT^0 = E\left[\Delta Y|D \neq d_{10}\right] - E\left[\Delta Y|D = d_{10}\right]$) and find that the FAFSA completion requirement increases FAFSA completion rates in treated schools by 4 percentage points compared to the top decile group. This effect is smaller than the average treatment effect on public schools relative to private schools (6.3 percentage points). The difference may be partly due to the potential impact of the FAFSA requirement on the top decile schools, as discussed earlier.

To assess the parallel trends assumption, I plot FAFSA completion rates by baseline percentiles in panel (a) of Figure A.2 and display the event-study model estimates (Eq. (4)) in panel (b). The pre-treatment difference between the treatment groups and the top decile schools (control group) is not different from zero, suggesting that the parallel trends assumption is plausible. In particular, I find no evidence that the COVID-19 pandemic affected treatment groups differently before the policy implementation.

Given the educational outcome disparities described earlier, I examine the heterogeneous impacts of the FAFSA requirement based on economic and demographic characteristics. I compute the baseline median shares of free or reduced-price lunch (FRPL) eligible students and Hispanic students, which are 55.8 percent and 40.1 percent, respectively. I then separately estimate the treatment effects for groups below and above these median values. Figure A.3 shows that there are no statistically significant differences across student demographics.

4.3 Limited impacts on college enrollment

Panel (b) of Figure 2 illustrates the effects of the FAFSA requirement on college enrollment by pre-treatment FAFSA completion rates, and columns (2)−(4) of Table A.1 show the estimates by degree levels. I find positive effects on college enrollment for the first and second decile groups (column (4)), with increases of 2 and 2.7 percentage points, respectively, compared to the top decile schools. Relative to each decile group's pre-treatment mean, these estimates correspond to increases of 5.7 percent and 7.1 percent, respectively. However, other decile groups do not show statistically significant effects, indicating that the increase in FAFSA completion does not necessarily translate to higher college enrollment, at least within the first year of policy implementation.

To assess the plausibility of the parallel trends assumption, I examine the pre-treatment trend in college enrollment across FAFSA decile groups. In particular, I check whether the COVID-19 pandemic, prior to policy implementation, affected treatment groups differently. Panel (a) of Figure A.4 shows that while college enrollment declined in the 2020−21 school year, the trend is not significantly different across pre-treatment FAFSA decile groups. This is partly because high schools with low FAFSA completion rates do not necessarily correspond to low-income schools (i.e., those with high shares of FRPL-eligible students).

What factors could be contributing to this limited effect on college enrollment in Texas? Schooling disruptions and economic challenges caused by the COVID-19 pandemic during the 2021−22 school year likely influenced students' college enrollment decisions. Deneault (2023) finds approximately a 1 percentage point increase in college enrollment in Louisiana for every 10 percentage point difference in pre-treatment FAFSA completion rates. As Louisiana implemented the mandatory FAFSA policy in the 2017−18 school year, this timing of policy implementation could partly explain the difference between Texas and Louisiana. To avoid potential lingering effects from the pandemic, it may need additional time before fully assessing the impact of FAFSA completion rates on college enrollment.

Additionally, different learning modes during the pandemic may have affected treatment groups differently. Using data from the COVID-19 School Data Hub (2023), I examine the learning modes during the pandemic in Texas high schools. In January 2021, schools in the lowest FAFSA quartile and second FAFSA quartile had lower shares of virtual learning, at 8 percent and 6 percent, respectively. On the other hand, the third FAFSA quartile and top FAFSA quartile had higher shares, at 14 percent and 26 percent, respectively. The positive effect on schools with lower FAFSA completion rate may be due to the negative effect of virtual learning on college enrollment.

From a policy perspective, this limited effect on college enrollment could be attributed to similar factors as in large-scale randomized controlled trials. For instance, Bird et al. (2021) suggest that the limited effectiveness of national and state-level FAFSA experiments might be due to the lack of connection and relationship with the information sender, as well as the generic contents. Incorporating personalized and targeted interventions could further enhance the effectiveness of the policy, particularly in increasing college enrollment rates. For instance, Louisiana requires local education agencies (LEA) to use information from the Louisiana Department of Education and the Office of Student Financial Assistance and to provide "information regarding state and federal need-based and merit-based financial aid programs to support postsecondary education and training"[7] in addition to assisting with FAFSA submission. In contrast, Texas requires schools to provide information specifically about completing FAFSA or TASFA forms,[8] but there is no requirement for LEAs to offer information about state and federal financial aid programs. This provision of specific financial aid information may partly explain the differences in college enrollment outcomes between Louisiana and Texas.

This early effect on college enrollment suggests that while the FAFSA requirement increases application completion rates, additional factors influence college enrollment decisions. Policymakers should consider complementary measures to support college attendance. At the same time, college enrollment is a long-term decision, and it is unlikely to change within a single year. Over time, as students become more aware that FAFSA completion is a graduation requirement, students may start considering the college option earlier in their high school years. A comprehensive evaluation of the impact of FAFSA completion rates on college enrollment may require additional time.

[7] 28 La. Admin. Code §CXV.901.B.5.

[8] 19 Tex. Admin. Code §2.74.1023.

5 Conclusion

In an effort to increase FAFSA completion rates and improve college accessibility, Texas implemented a policy in the 2021−22 school year requiring all public high school seniors to complete a financial aid application. This paper examines the impacts of this financial aid application requirement on FAFSA completion rates and college enrollment. First, using a difference-in-differences design with private schools as a control group, I find that the FAFSA completion requirement increases FAFSA completion rates in public schools by 6.3 percentage points relative to private schools. Second, using a discrete treatment by pre-treatment FAFSA completion rates among public schools, I find that the financial aid application requirement increases FAFSA completion rates, ranging from 3.1 to 7 percentage points across Texas public high schools.

Moreover, early results suggest that the FAFSA policy in Texas has positive effects on college enrollment rates for schools with lower pre-treatment FAFSA completion rates. This finding highlights the need for further research to identify the barriers that prevent FAFSA completion from leading to higher college enrollment, particularly among low-income and minority students. Drawing from large-scale informational interventions, incorporating additional targeted and personalized measures alongside the statewide policy could be beneficial. Additionally, further analysis on outcomes such as financial aid receipt is also necessary in future research to better understand the policy's impact on college enrollment. Considering that this is only two years after the policy was implemented, investigating long-term outcomes such as college persistence is left for future research. The initial impacts of the FAFSA requirement policy in Texas offer insights for other states considering similar initiatives.

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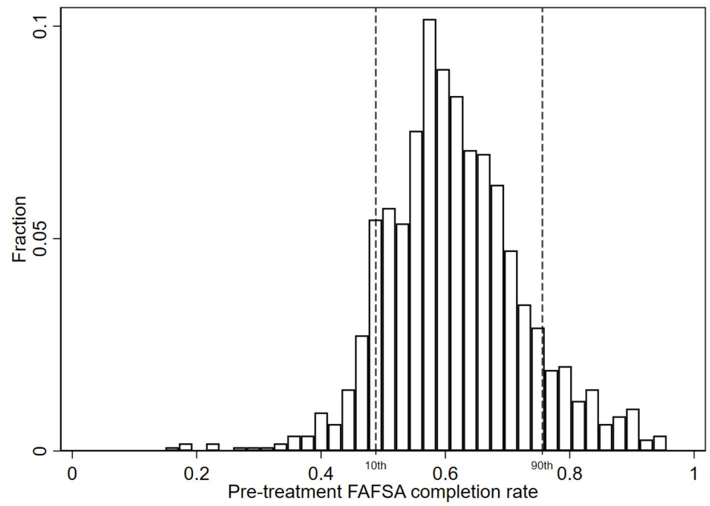
A Additional tables and figures

Table A.1: Effects on FAFSA completion rates and college enrollment

	(1)	(2)	(3)	(4)
	FAFSA	College enrollment		
	completion	Two-year	Four-year	Any
1st decile d_1	0.070***	0.015	0.005	0.020**
	(0.017)	(0.009)	(0.009)	(0.010)
2nd decile d_2	0.034**	0.018*	0.009	0.027**
	(0.014)	(0.011)	(0.009)	(0.011)
3rd decile d_3	0.051***	0.004	0.003	0.007
	(0.015)	(0.009)	(0.009)	(0.011)
4th decile d_4	0.038***	0.000	-0.004	-0.004
	(0.014)	(0.009)	(0.010)	(0.012)
5th decile d_5	0.039***	0.000	0.000	0.000
	(0.014)	(0.009)	(0.009)	(0.010)
6th decile d_6	0.034***	-0.008	-0.002	-0.009
	(0.013)	(0.009)	(0.010)	(0.010)
7th decile d_7	0.036***	0.001	-0.010	-0.009
	(0.014)	(0.010)	(0.010)	(0.012)
8th decile d_8	0.031**	-0.002	0.000	-0.002
	(0.013)	(0.010)	(0.010)	(0.011)
9th decile d_9	0.037***	0.000	0.000	0.000
	(0.014)	(0.010)	(0.010)	(0.011)
Observations	5,505	4,404	4,404	4,404
Sample period	[2019,2023]	[2019,2022]	[2019,2022]	[2019,2022]
R-squared	0.791	0.821	0.913	0.876
High school FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: The table reports the DiD estimates of β_js (Eq. (2)). The dependent variables are FAFSA completion rate (column (1)), two- and four-year college enrollment (columns (2) and (3)), and any college enrollment (column (4)). Note that column (1) uses the sample from 2019 to 2023, and columns (2)$-$(4) use the sample from 2019 to 2022 due to data availability. d_j represents a jth decile group of $\%FAFSA_{i,pre}$. For example, the 5th decile d_5 represents schools in the 40th to 50th percentile. Standard errors clustered at high school level in parentheses. $^{***}p < 0.01; ^{**}p < 0.05; ^{*}p < 0.1$

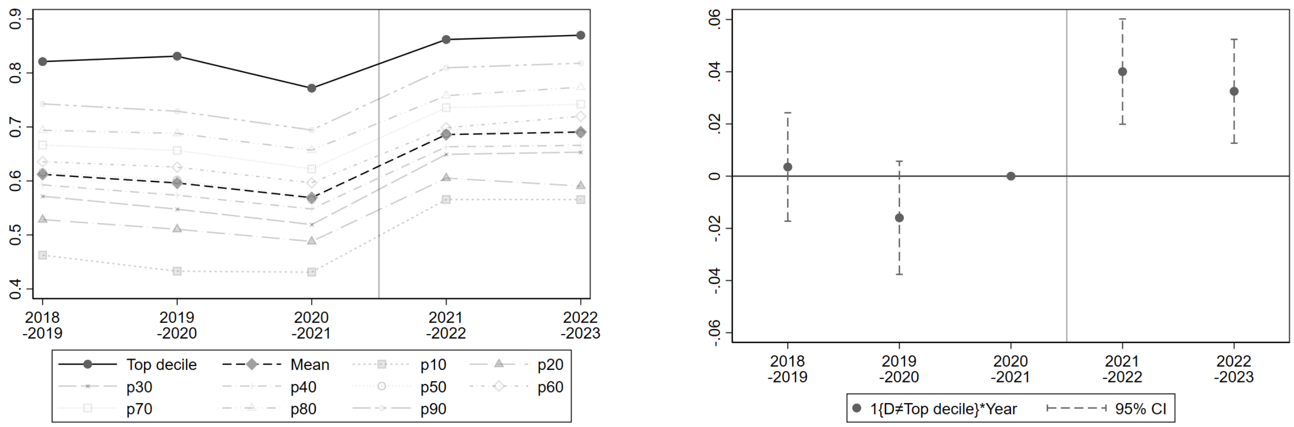
Figure A.1: Distribution of pre-treatment FAFSA completion rates



Notes: The dashed lines represent 10th percentile and 90th percentile. The pre-treatment periods include the 2018−19 to 2020−21 school years. The sample consists of 1,101 public high schools in Texas.

Figure A.2: FAFSA completion trend by percentiles and event-study estimates

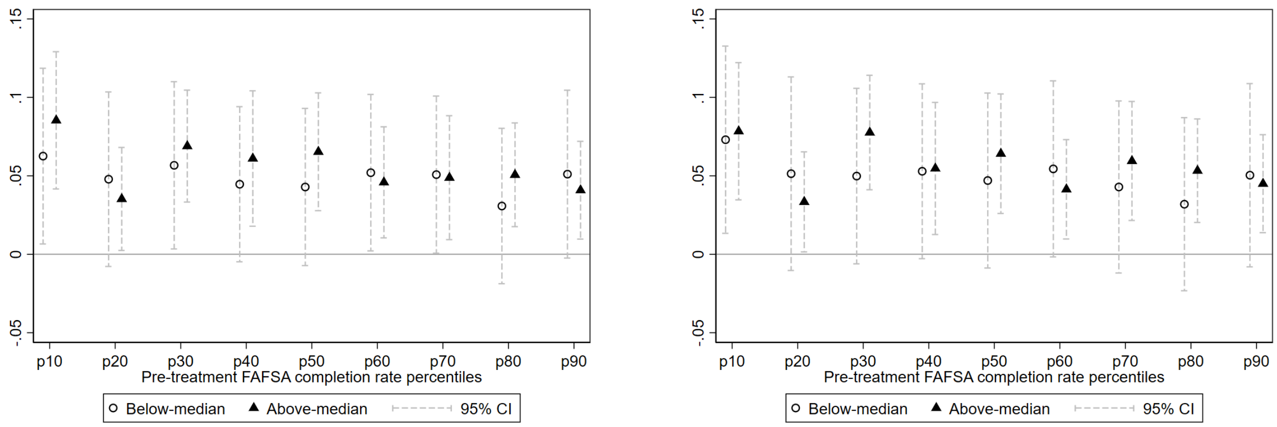
(a) Trends by pre-treatment FAFSA percentiles (b) Event-study estimates



Notes: Panel (a) illustrates FAFSA completion rates by the pre-treatment FAFSA completion rate percentiles. For example, p50 represents schools in the 40th to 50th percentile. The top decile group (above the 90th percentile) serves as a control group. The mean FAFSA completion rate excludes the top decile (control) group. Panel (b) displays the event-study model (Eq. (4)) estimates and 95% confidence intervals for the coefficients on the years relative to 2021. Year -1 (2020−21) is a reference category and is omitted.

Figure A.3: Heterogeneous effects on FAFSA completion

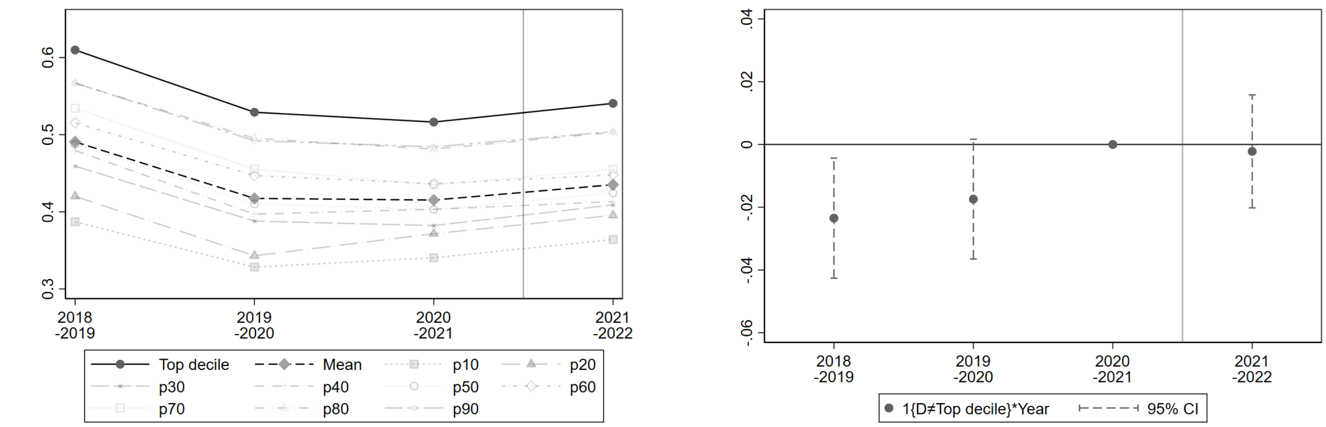
(a) %FRPL-eligible (b) %Hispanic



Notes: The figure displays the DiD model (Eq. (2)) estimates of β_js and 95% confidence intervals by the shares of free or reduced-price lunch (%FRPL) eligible students and the shares of Hispanic students. The dependent variable is FAFSA completion rates. The baseline median %FRPL and %Hispanic are 55.8% and 40.1%, respectively.

Figure A.4: College enrollment trend by percentiles and event-study estimates

(a) Trends by pre-treatment FAFSA percentiles (b) Event-study estimates



Notes: Panel (a) illustrates any college enrollment rates by the pre-treatment FAFSA completion rate percentiles. For example, p50 represents schools in the 40th to 50th percentile. The top decile group (above the 90th percentile) serves as a control group. The mean college enrollment rate excludes the top decile (control) group. Panel (b) displays the event-study model (Eq. (4)) estimates and 95% confidence intervals for the coefficients on the years relative to 2021. Year -1 (2020−21) is a reference category and is omitted.

B State-level analysis

As a robustness check, I use state-level data and compare Texas with other states without financial aid application requirements by estimating a two-way fixed effects estimator. I also estimate an event-study model.

B.1 Data and empirical strategy

For the state-level analysis, I construct a panel of 47 states from the 2018−19 to 2022−23 school years using the estimated FAFSA completion rates obtained from the National College Attainment Network. I merge this dataset with public high school senior enrollment data from the Digest of Education Statistics.[9] I use the senior enrollment as weights when I compute the mean FAFSA completion rates to account for the size of the states.

I use state-level data to estimate the effect of Texas FAFSA requirement compared with other states without similar policies. To focus on the effect of the FAFSA requirement policy in Texas, I exclude Louisiana (2017−18), Illinois (2020−21), and Alabama (2021−22), which adopted similar financial aid application requirements on or before 2022 and California and Maryland, which were expected to implement a similar FAFSA policy in 2022−23, from the control group. I estimate a DiD model as follows:

$$\%FAFSA_{st} = \beta_0 + \beta_1 \left(Texas_s \times Post_t\right) + \delta_s + \delta_t + \varepsilon_{st} \tag{B.1}$$

where $\%FAFSA_{st}$ is the FAFSA completion rate among seniors in state s in year t. Year t refers to the school year that ends in the spring of year t. The treatment variable, $Texas_s$ equals one for Texas and zero otherwise. $Post_t$ is a binary variable that equals one if the year of observation is after 2022. δ_s and δ_t denote state and year fixed effects, respectively. ε_{st} is an idiosyncratic error term. The parameter of interest is β_1, which represents the effect

[9]Table 203.40. Enrollment in public elementary and secondary schools (2019; 2020; 2021; 2022).

of the financial aid application requirement in Texas compared to other states.

Parallel trends. I estimate the following event-study model to check the plausibility of the parallel trends assumption between Texas and other states:

$$\%FAFSA_{st} = \beta_0 + \sum_{\substack{y=-3 \\ y\neq -1}}^{1} \alpha_y \left(\mathbf{1}\left\{t - t^* = y\right\} \times Texas_s\right) + \delta_s + \delta_t + \varepsilon_{st} \tag{B.2}$$

for $t \in \{2019, \ldots, 2023\}$ and $t^* = 2022$. I check the estimates α_ys for pre-treatment trends.

No anticipation and no spillover. For the state-level analysis, seniors in Texas would not have had incentives to respond differently in terms of their FAFSA completion and college enrollment decisions than seniors in other states years before the policy implementation. For potential spillover effects, I conduct a robustness check by excluding neighboring states from the sample as Texas may influence the behaviors of students from neighboring states.

B.2 Results

Table B.1 shows that the implementation of the FAFSA requirement in Texas leads to a 10.4 percentage points (17.3 percent) increase in FAFSA completion rates, relative to other states without FAFSA requirements. The magnitude of this average treatment effect on the treated is large compared to the pre-2021 mean FAFSA rate of 60 percent. This estimate is similar to the simple difference in means in 2021−22 between Texas and other states as the pre-treatment difference between Texas and other states is minimal as shown in panel (a) of Figure B.1.

Table B.1: State-level effects on FAFSA completion rates

Dep. variable: %FAFSA	(1) Baseline	(2) Excl. neighboring states
Texas × Post	0.104***	0.104***
	(0.003)	(0.004)
Observations	225	210
Number of states	45	42
Excluded states	AL, CA, IL LA, MD	AL, AR, CA, IL LA, MD, NM, OK
R-squared	0.978	0.979
Mean pre-2021 FAFSA rate	0.60	0.60

Notes: The table reports the DiD estimates (Eq. (B.1)). The model includes state and year fixed effects. The pre-2021 FAFSA completion rate is weighted by the number of grade 12 enrollment at each state. In the baseline, I exclude three states which have implemented a similar FAFSA requirement policy (Louisiana, Illinois, and Alabama) and two states expected to implement a similar FAFSA policy in 2022−23 (California and Maryland). Column (2) excludes three additional neighboring states of Texas: Oklahoma, Arkansas, and New Mexico. $^{***}p < 0.01; ^{**}p < 0.05; ^{*}p < 0.1$

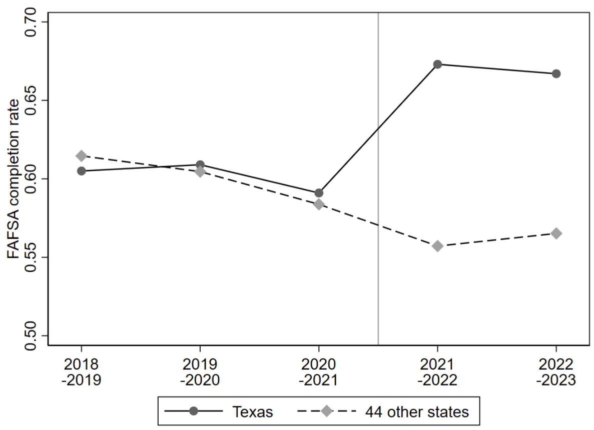
To mitigate potential anticipation effects from states expecting similar FAFSA policies to be implemented in 2022−23, column (1) excludes California (2022−23) and Maryland (2022−23).[10] The result remains consistent when excluding these states indicating that students are unlikely to respond before the policy is implemented. Additionally, the FAFSA requirement in Texas may affect students' FAFSA completion decisions in the neighboring states. To check for potential spillover effects, I exclude three neighboring states of Texas−Oklahoma, Arkansas, and New Mexico−in column (2). Excluding these neighbor-

[10] Colorado established a grant program for local educational providers to improve educator training and to increase the number of students completing federal and state financial aid applications (HB22-1366). However, this is not a statewide FAFSA requirement rule, and excluding Colorado does not change the results.

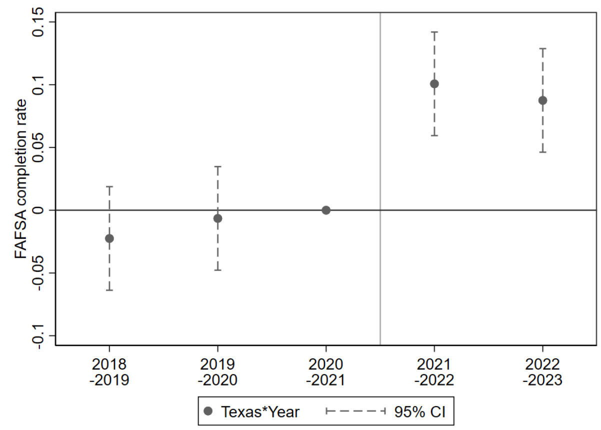
ing states does not change the average treatment effect on Texas implying minimal spillover effects.

Figure B.1: FAFSA completion trend and event-study estimates

(a) FAFSA completion rates by states



(b) Event-study estimates



Notes: Panel (a) displays FAFSA completion rates of Texas and other states. I compute the weighted mean by the number of grade 12 enrollment at each state in given year. Panel (b) illustrates the event-study model (Eq. (B.2)) estimates and 95% confidence intervals for the coefficients on the years relative to 2021. Year -1 (2020−21) is a reference category and is omitted.

To check the parallel trends assumption of the two-way fixed effects model (Eq. (B.1)), I plot the FAFSA completion trends of Texas and other states and the event-study estimates. Panel (a) of Figure B.1 shows the weighted average FAFSA completion rates for Texas and the control group of 44 other states without financial aid application requirement. While FAFSA completion rates decline slightly from 2018−19 to 2020−21, the rates increase in Texas following the policy implementation in 2021−22, unlike in the control states. Panel (b) displays the event-study model estimates and 95% confidence intervals for the coefficients on the years relative to 2021. The lack of statistically significant differences between Texas and other states during the pre-treatment periods supports the parallel trends assumption. The post-treatment estimate shows a statistically significant differential effect after 2021.