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### The Effect of the Uniform Bar Examination on Admissions, Diversity, Affordability, and Employment across Law Schools in the United States

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# **The Effect of the Uniform Bar Examination on Admissions, Diversity, Affordability, and Employment across Law Schools in the United States**

Project Report prepared for AccessLex Institute

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## Abstract

The Uniform Bar Examination (UBE), first implemented in February 2011 in Missouri and North Dakota, is a multijurisdictional or cross-state test designed to assess a minimum shared core of legal knowledge and lawyering skills. Since its implementation, UBE has now reached 37 states and territories, including the District of Columbia. Despite this prevalence, no empirical evidence exists regarding its effects on law schools' admissions, diversity, affordability, and employment mobility of law students and graduates or of its effects on law schools' application volumes or average bar passage rates. This study addresses this gap by providing a comprehensive examination of the effects of UBE adoption. Specifically, we apply rigorous quasi-experimental and causal-inference methods to a law-school level dataset to test whether UBE adoption influenced admissions, enrollment, affordability, degree production, bar passage rates, and employment mobility for law schools in UBE states. Our findings indicate that institutions located in states participating in UBE (compared to institutions located in states where no UBE has been implemented) realized higher applications (nearly 9% increase) and higher enrollments (reaching increases over 6% in total JD enrollments). We also found that these increases were driven predominantly by White student enrollments and women enrollees. With respect to affordability, no changes were observed in neither tuition increases and net price changes. Despite increase in enrollment, we found no evidence of increases in neither degree production nor in Bar passing rates. Based on this findings, we can conclude that UBE has had an effect in applications and enrollment, but if UBE aims to affect the diversification of the law profession, this program alone may be falling short in expanding access for minoritized students.

## **Introduction**

The Uniform Bar Examination (UBE) is a multijurisdictional or cross-state test designed to assess a minimum shared core of legal knowledge and lawyering skills. The portability of the UBE scores, by being recognized in any of the participating jurisdictions, are purported to have positive effects on law students' job prospects and professional mobility. Furthermore, the passing of UBE may also have led to increased interest in pursuing a legal career or an increase in socioeconomic and racial diversification of the legal profession. UBE was first implemented in February 2011 in Missouri and North Dakota, now reaching a total of 37 states and territories, including the District of Columbia (National Council of Bar Examiners [NCBE], 2020). The exam has been supported by the American Bar Association and the Conference of Chief Justices. Despite this prevalence, there is no evidence regarding its effects on law schools' admissions, diversity, affordability, and employment mobility of law students and graduates or of its effects on law schools' application volumes or average bar passage rates.

This study addresses this gap by providing a comprehensive examination of the effects of UBE adoption. Specifically, we apply rigorous quasi-experimental and causal-inference methods to a law-school level dataset to test whether UBE adoption influenced admissions, enrollment, affordability, degree production, bar passage rates, and employment mobility for law schools in UBE states. We maintain a special focus on diversity in our examination, recognizing the importance of facilitating diversity in the legal profession, particularly across dimensions of race and gender. Increasing racial and ethnic diversity in the United States (particularly among Latinx populations) requires that the legal profession keeps pace with this growing diversification, yet the law profession remains about 50% less diverse than other professional occupations (e.g., among physicians and dentists; Cunningham & Steele, 2015).

To achieve this aim, we constructed a new and unique dataset from multiple sources that can additionally be utilized by future researchers to address policy relevant questions in the field of legal education. Our dataset draws from the Analytix database by AccessLex, the National Center for Education Statistics Integrated Postsecondary Education Data System (IPEDS), the National Council of Bar Examiners, and the United States Census Bureau. These sources allow us to compile various institutional, state, and local-level indicators, characteristics, and outcomes for law schools in the United States and their surrounding communities and labor markets. Despite the availability of these data sources, no such data repository or dataset exists today. Thus, our study not only extends existing gaps in literature on graduate legal education and UBE but also provides a technical foundation for future research in this area.

This report begins by briefly summarizing the landscape and literature around legal education, bar examinations, and UBE. We proceed by providing a detailed documentation of our data—as well as the process involved in building the data repository to guide future researchers’ use of this data sources—and our methodological approach. We then report findings and discuss implications for practice, policy, and future research.

### **Background and Literature Review**

Whether law students can ultimately utilize their education and practice law is contingent on successfully passing a bar examination. As such, the bar exam is an important crux of legal education for students and institutions. For students, failure to pass the bar can significantly thwart their future career prospects and leave them with a legal education and diminished labor-market prospects. This may be compounded by the likelihood that a student borrowed from federal or private sources to attend law school (González Canché et al., 2019; Lee et al., 2020). For law schools, ensuring that graduates successfully pass the bar serves as a measure of whether they have successfully trained future lawyers and influences a school’s reputation and rankings.

Despite its centrality, the validity, utility, and fairness of the bar examination has been debated in the legal field. Critics argue the bar shapes law school admissions in a way that is overly focused on LSAT scores, leads to a test-focused curriculum, and create barriers for underrepresented students given disparate bar passage rates by race and gender (Trujillo, 2007). Another concern with the bar examination has been a lack of portability across jurisdictions. Historically, students could only practice law at the state where they passed the bar examination, and this rigidity, combined with the already-high-stakes nature of the test, could have important implications for students' future career prospects (Honabach, 2014). Furthermore, the ability of graduates to recuperate high tuition costs for law school is often dependent on their earnings in the legal profession, which vary widely by locality and state (Baum, 2015). This highlights the need for consideration of mobility in examining students' career paths.

One possible solution to the rigidity of the bar examination has been UBE, a multijurisdictional test designed to assess a minimum shared core of legal knowledge and skills required to practice law. Unlike scores from the traditional bar examination, UBE scores are portable among participating jurisdictions, and states can set UBE score thresholds for admission to a respective bar. From a student's perspective, UBE not only enhances their mobility but also maximizes their opportunity for success. Because states have different criteria for a passing UBE score, students who have a failing UBE score in one jurisdiction could transfer their score to a district with a lower passing score criteria (NCBE, 2017). Furthermore, from the perspective of the legal field, UBE creates a coherent assessment system that recognizes the multi-jurisdiction or cross-border nature of how law is truly practiced (NCBE, 2017).

Despite the importance of the bar examination in legal education and the growing adoption of UBE, no empirical work to date has rigorously examined the effects and implications

of changes to the bar examination. Some prior work has investigated various factors that shape bar passage rates (including factors prior to and during law school enrollment), such as LSAT scores, undergraduate GPA, law school rankings, and academic performance during law school (Farley et al., 2019; Rush & Matsuo, 2007). However, these existing lines of research have examined factors at the institutional or student level, rather than testing the structural effects of state or systems level policy changes—like UBE adoption. Our research to addresses this gap.

Given the salience of the bar examination for students and law schools, we hypothesize that changes in bar examinations will have implications for students' decisions to apply and attend law school, as well as institutions' behaviors in the UBE era.

Drawing from rationale choice theory (Hechter & Kanazawa, 1997), greater flexibility allowed by UBE may factor into students' decisions about whether to pursue legal education, thus not only influencing applications and enrollment but also impacting the composition of students who apply and enroll. Indeed, prior works have observed that changes in the educational environment, including in structural policies and programs, influence students' application and enrollment behaviors, and rational choice has emerged as a framework for understanding students decisions to attend college at all or where to attend, and their progress while enrolled (Beekhoven et al., 2002; Iloh & Tierney, 2014; Perna, 2006). Furthermore, given that students of color have different experiences entering, engaging, and persisting, and departing law school, the effect of UBE could be heterogenous across different student demographics (Cunningham & Steele, 2015; Reynoso & Amron, 2002). This additionally motivates our focus on race and gender and our disaggregation of data along these dimensions as they allow. From an institutional perspective, changes in the bar examination may also influence law schools' curricular and admission decisions, and thus lead to changes in admissions, affordability, and the



number of degrees awarded (Trujillo, 2007). The adoption of UBE may itself also have a direct influence on bar passage rates by fundamentally altering the exam or replacing existing within-state bar exams.

Although the tenets upon which UBE is founded aim to increase job prospects and professional mobility, no study has analyzed whether UBE is associated with such positive consequences resulting from its adoption. This study makes important contributions to this prior body of literature and addresses these gaps by considering the effects of UBE adoption on admissions, enrollment, affordability, degree production, bar passage rates, and employment mobility. When possible, we also include a particular focus on dimensions of racial and gender diversity. This is the first study to our knowledge to explore these outcomes.

### **Data**

As noted, our study collects and compiles data from four main sources into a unique and new dataset. First, we rely upon the Analytix database made available by AccessLex to obtain relevant important points of information on law schools, including admissions, bar passage rates, degrees, employment, financial aid, and student expenses. Data on our primary outcomes of interest come from Analytix and include number of applications, the admissions rate, and the yield rate; tuition rates for resident and non-resident students; total enrollment in Juris Doctor (JD) programs, including enrollment by race and gender; total JD graduates, including by race; institutional bar pass rates; and graduates' employment in- and out-of-state. These allow us to observe a host of possible outcomes associated with UBE—from application through employment. We also collect many control variables from Analytix to help explain differences in students' outcomes, including indicators of cohorts' academic performance (LSAT scores, GPA), school diversity (percent minority faculty), and financial aid (number, percent, and level

of grant awards), all of which could impact students' application, enrollment, and completion outcomes. Second, we used the National Center for Education Statistics Integrated Postsecondary Data System (IPEDS) to collect additional institution-level variables. IPEDS collects annual data on postsecondary institutions on a variety of topics such as institutional characteristics, finance, and enrollment. Here, we collect information on campus location (locale) and total institutional size (full-time-equivalent enrollment) to provide further control over institutional contexts.

Our third source of data is the U.S. Census Bureau's American Community Survey (ACS), where we pull county-level characteristics relevant to educational attainment and employment. Specifically, we collected county-level racial demographics, educational attainment, economic indicators, and information on the legal job market (i.e., positions and earnings). Given that local economies may be primary destinations for graduates entering the workforce and may simultaneously drive interest and support for law schools or the legal profession, these controls allow us to garner more precise estimates of the effect of UBE by absorbing factors like differences in the number of legal jobs available across counties. Finally, we used information from the National Conference of Bar Examiners to document whether and when each state adopted the Uniform Bar Examination. Specifically, we documented whether the state ever adopted UBE, and the month and year of UBE adoption. Table 1 presents the adoption timing of UBE across all states and additionally notes the number of law schools in our sample located within each state.<sup>1</sup>

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<sup>1</sup> Wisconsin is not a UBE state but the state does offer diploma privilege, which allows graduates to forego the bar exam if they pass a set of course and grade requirements. Given this could impact admissions, enrollment, completion, and employment outcomes, we conducted a sensitivity analysis with Wisconsin removed from the control group, which eliminated 2 of the 64 control institutions. All results were robust to this exclusion.

Table 1. *Analytic sample by group and state, including UBE implementation year.*

Treatment			Control	
State/Region	UBE Year	Institutions	State	Institutions
Alabama	2011	3	California	15
Arizona	2012	2	Florida	9
Arkansas	2020	2	Georgia	5
Colorado	2012	2	Hawaii	1
Connecticut	2017	3	Indiana	3
District of Columbia	2016	6	Kentucky	3
Idaho	2012	1	Louisiana	4
Illinois	2019	9	Michigan	4
Iowa	2016	2	Mississippi	2
Kansas	2016	2	Nevada	1
Maine	2017	1	Pennsylvania	6
Maryland	2019	2	South Dakota	1
Massachusetts	2018	7	Virginia	8
Minnesota	2014	4	Wisconsin	2
Missouri	2011	4		
Montana	2013	1		
Nebraska	2013	2		
New Hampshire	2014	1		

New Jersey	2017	2	
New Mexico	2016	1	
New York	2016	10	
North Carolina	2019	6	
North Dakota	2011	1	
Ohio	2020	7	
Oklahoma	2021	3	
Oregon	2017	3	
Rhode Island	2019	1	
South Carolina	2017	2	
Tennessee	2019	3	
Texas	2021	9	
Utah	2013	2	
Vermont	2016	1	
Washington	2013	3	
West Virginia	2017	1	
n		109	64

Source: Analytix, IPEDS, and NCBE.

Notes: A total of 35 states plus the District of Columbia have adopted UBE; UBE Year identifies the year of the first UBE examination; Institutions are unique counts of law schools within each state in the dataset.

We focus on the 2011- 2018 time period given the presence of consistent and available outcome data in Analytix and IPEDS. Data from Analytix uniquely identifies institutions by the

U.S. Department of Education’s Office of Postsecondary Education Identification number (OPEID) for the law school or its parent institution. We use the OPEID to connect institutions in the Analytix database to IPEDS.<sup>2</sup>

The Analytix datasets include a *calendar year* variable, corresponding to the *reporting year*. We merge each calendar year with each academic/fiscal year in IPEDS.<sup>3</sup> We additionally merged data from ACS and NCBE by county or state name and year, rendering Analytix 2011 matched to IPEDS FY 2011 matched to ACS 2011 matched to NCBE 2011, and so forth for the remaining years. In all, our data cover law school information (including admissions, bar pass rates, degrees, employment, financial aid, student expenses, and faculty counts), institutional information (characteristics, finance, and enrollment), county contexts (employment, family income, racial demographics, educational attainment, occupations, and earnings by occupation), and state-month-year indicators of UBE adoption.

All ABA-approved law schools in the U.S. and its territories are included in the Analytix dataset ( $n=205$ ). Prior to data analysis, we removed institutions in the territories ( $n=1$ , Puerto Rico) and 8 institutions that did not report to Analytix or IPEDS across the panel (i.e., new or closed institutions). For any missingness, we employed linear interpolation for numerical outcomes to preserve this sample size, but 23 institutions did not report at least two years of data along our outcomes or covariates of interest, excluding them from the analysis.

The final analytic dataset consists of 173 law schools and includes observations from 2011-2018; 109 schools are located within UBE states (or in D.C.) and 64 in non-UBE states.

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<sup>2</sup> Four cases merged by OPEID produced duplicate matches in IPEDS. This was driven by the presence of multiple records (e.g., one for the law school and one of the university at large or by the presence of an international site affiliated with a domestic institution). We manually matched these institutions in using other information in IPEDS (e.g., name). There were also 59 cases in which the OPEID reported in AccessLex and in IPEDS did not produce a match. In such cases, we used the OPEID of the main or parent institution (MAINOPEID) to match with IPEDS.

<sup>3</sup> IPEDS fiscal year 2011 (academic year 2010-11), for example, is merged with Analytix reporting year 2011, which captures data from academic year 2010-11.

Descriptive statistics on 7 outcomes and 15 covariates for the analytic sample are presented in Table 2. On balance, institutions in UBE states strongly resemble those in non-UBE states. While adoption of UBE may be endogenous to state contexts, we do not descriptively observe any meaningful or systemic differences between UBE and non-UBE institutions in the sample.

Table 2. *Descriptive statistics.*

	Treatment (n=109)		Control (n=64)	
	Mean	SD	Mean	SD
<b>Outcomes (selected)</b>				
Applications	2,619.60	2,011.20	2,974.80	1,715.00
Total JD Enrollment	695.42	351.48	764.17	437.00
% Enrollment Minority	0.29	0.14	0.34	0.15
% Enrollment Women	0.45	0.05	0.46	0.04
JD Graduates	218.38	110.36	230.39	128.77
School Bar Pass Rate	0.84	0.14	0.81	0.12
% Graduates Employed Out-of-State	0.11	0.09	0.10	0.09
<b>Covariates</b>				
Locale: Rural	0.04	0.19	0.08	0.27
Locale: Town	0.03	0.16	0.05	0.21
Locale: Suburb	0.10	0.30	0.22	0.42
Locale: City	0.83	0.37	0.66	0.48

Institution FTE	15,720.00	12,738.00	16,620.00	13,685.00
Cohort 75th UG GPA	3.64	0.15	3.61	0.19
Cohort 75th LSAT	160.69	5.74	159.97	6.09
FT Resident Tuition	35,107.00	13,168.00	36,181.00	12,458.00
Percent Receiving Grants	52.61	15.73	46.98	21.64
Admissions Rate	0.39	0.14	0.37	0.15
Percent Minority Faculty	0.13	0.12	0.15	0.11
County: Percent BA+	0.36	0.10	0.34	0.10
County: Median Legal Earnings	80,542.00	25,469.00	80,819.00	21,962.00
County: N Legal Professions	9,957.10	12,864.00	11,047.00	16,924.00
County: Unemployment Rate	0.08	0.02	0.09	0.02

Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE.

Notes: Data are for 2011, the first panel year.

As noted, the analytic dataset is available upon request from the authors and can be accompanied by documentation, a codebook, and R scripts for merging and analysis.

### **Empirical Strategy**

To estimate the causal effect of UBE adoption on our outcomes of interest, we leverage an extension of a difference-in-differences (DD) approach. Here, the adoption of UBE by states is treated as a natural experiment where we can exploit variation in this timing (by observing institutions in states with UBE before and after adoption, i.e., institutions before and after their state adopted UBE) and exploit variation between institutions (i.e., in UBE and non-UBE states).

DD strategies are preferred estimation tools for natural experiments when units can be observed before and after they are treated with or exposed to some intervention (Cellini, 2008).

Traditional DD approaches apply to a fixed-point adoption (e.g., if UBE had been adopted by each state in the *same* year), but generalized difference-in-differences (GDD) allows for variation in this treatment timing between units and is commonly applied in higher education settings under differential policy adoption windows across states (Belasco et al., 2015; Kramer et al., 2018). This strategy makes explicit the location of institutions within states—an important acknowledgement given that institutions’ and states’ outcomes are likely to be affected by their own location and context (González Canché, 2014, 2017, 2018a, 2018b).

Difference-in-differences allows us to compare institutions in UBE states (“treatment”) to institutions in non-UBE states (“controls”) before and after UBE adoption. Any *new* differences between treatment and control institutions *after* UBE adoption can plausibly be attributed to the effect of UBE.<sup>4</sup> Consider institutions located in UBE states as  $UBE = 1$  and institutions located in non-UBE states as  $UBE = 0$ . Also consider our observations of these institutions before the state adoption of UBE (i.e., in time) as being  $t = 0$  and observations of them after adoption of UBE as being  $t = 1$ . Thus, with our data, we can observe UBE and non-UBE institutions, before and after UBE was adopted (in treatment states). The DD approach consists of taking four conditional means of an outcome of interest ( $Y$ ) given the intersection of time and location. The conditional means are given by

$A = E(Y_i | UBE = 1, t = 1)$ , the outcome  $Y$  for institution  $i$  in a UBE state after UBE was adopted ,

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<sup>4</sup> Under a DD design, it is assumed that no other policy changes took place that could differentially impact units or also influence the outcome(s) of interest. We are aware of no other state- or region-specific policy changes within our study window.



$B = E(Y_i | UBE = 1, t = 0)$ , the outcome  $Y$  for institution  $i$  in a UBE state before UBE was adopted ,

$C = E(Y_i | UBE = 0, t = 1)$ , the outcome  $Y$  for institution  $i$  in a non-UBE state after UBE was adopted , and

$D = E(Y_i | UBE = 0, t = 0)$ , the outcome  $Y$  for institution  $i$  in a non-UBE state before UBE was adopted.

Taken together, the DD estimate ( $\Delta$ ) can be expressed as

$$\Delta = (A - B) - (C - D)$$

$$\Delta = [ E(Y_i | UBE = 1, t = 1) - E(Y_i | UBE = 1, t = 0) ] - [ E(Y_i | UBE = 0, t = 1) - E(Y_i | UBE = 0, t = 0) ] .$$

In the regression framework, this is represented by

$$Y_{it} = \alpha_0 + \beta_1 UBE_{it} + \beta_2 T_i + \beta_3 (UBE \times T)_{it} + \varepsilon_i ,$$

where  $\beta_3$  will yield the same estimate as  $\Delta$ . This equation can be expanded to include a vector of important covariates ( $X'_{it}$ ) thought to be associated with outcomes, like tuition and fee rates, institutional selectivity, or labor-market indicators. In this study, we incorporate a host of important time-variant controls noted above from ACS, Analytix, IPEDS, and ACS described in the Data section above. We also implement this equation in the GDD framework by estimating

$$Y_{it} = \alpha_0 + \beta UBE_{it} + X'_{it} \delta + \rho_i + \lambda_t + \varepsilon_i ,$$

which models the same outcome  $Y$  for law school  $i$  in year  $t$ . Here,  $UBE_{it}$  takes the value of 1 for law schools in states with UBE *after* UBE was adopted (i.e., the conditional mean  $A$  above).

This allows the UBE treatment indicator to turn on for states at different times. The equation also includes important law school, parent institution, and county covariates captured by  $X'_{it}$  described in the Data section and is additionally conditioned on school ( $\rho_i$ ) and year ( $\lambda_t$ ) fixed effects. These help control for any common trends or factors within law schools over time not captured by the model and for any year-specific influences across law schools. Here,  $\beta$  is the GDD estimate of the effect of UBE adoption on the outcome of interest.

We estimate models with heteroscedastic-robust standard errors and cluster errors at the state (treatment) level to control serial correlation in outcomes and account for institutions clustered within states (Cameron & Miller, 2015; Drukker, 2003). This GDD specification allows us to estimate the causal impacts of UBE adoption on institutions within UBE states while allowing for the timing of UBE adoption to vary across states.

### **Findings**

Results from the GDD models on each outcome group are presented in the following tables: admissions (Table 3), enrollment (Table 4), affordability (Table 5), degrees (Table 6), bar pass rates (Table 7), and job mobility (Table 8). For each table, outcomes of interest are represented in each column (e.g., “Applications” refers to estimates of the impact of UBE adoption on institutional application numbers). Each row represents a predictor variable. The predictor of interest is the top row (“UBE”), which reports the estimated impact of UBE adoption on the outcome, with a corresponding standard error and significance level. The rows that follow report coefficients for the control variables, which should not be interpreted as causal impacts on the outcome. These variables simply help improve the precision of the UBE-impact estimate. The  $R^2$  value reports how much of the outcome is explained by the model. For example, the Applications model (the UBE indicator plus all control variables) accounts for 96.4% of the

variation in application levels across institutions. That is, each model accounts for a majority of each outcome of interest, allowing us to be confident in our UBE-impact estimates.

*Admissions*

For admissions outcomes, we estimate possible effects on application counts, the admissions rate (or selectivity), and the yield (i.e., the percent of admitted students who enroll).

Results presented in Table 3 suggest state adoption of UBE increased the average number of applications received by a law school by nearly 9% ( $e^{0.086} - 1, p < .01$ ). This suggests UBE adoption may increase prospective students' interest in law school and motivate application (or application to more schools). We do not, however, observe any impacts on selectivity or yield.

Table 3. *Generalized DID estimates of the effect of state Uniform Bar Exam adoption on admissions.*

	Applications <sup>1</sup>	Admissions Rate	Yield Rate
UBE	0.086** (0.027)	0.011 (0.008)	0.001 (0.008)
Locale: Rural	-0.109+ (0.054)	-0.017 (0.022)	-0.013 (0.015)
Locale: Suburb	-0.053 (0.045)	0.0003 (0.023)	-0.034* (0.015)
Locale: Town	-0.018 (0.107)	0.003 (0.022)	-0.009 (0.030)
Institution FTE <sup>1</sup>	0.353*** (0.060)	0.057* (0.024)	-0.022+ (0.011)

Cohort 75th UG GPA <sup>1</sup>	-0.064	-0.847***	0.004
	(0.451)	(0.203)	(0.134)
Cohort 75th LSAT <sup>1</sup>	2.690*	-3.036***	-1.185***
	(1.097)	(0.417)	(0.227)
FT Resident Tuition <sup>1</sup>	0.125	0.177*	-0.126***
	(0.235)	(0.067)	(0.034)
% Receiving Grants	-0.002*	-0.0002	0.001***
	(0.001)	(0.0003)	(0.0002)
Admissions Rate	-0.858***	-	-0.164***
	(0.122)	-	(0.032)
% Minority Faculty	1.040**	0.180 <sup>+</sup>	-0.158*
	(0.327)	(0.099)	(0.067)
County: Percent BA+	0.575	-0.142	-0.324
	(0.540)	(0.194)	(0.215)
County: Med. Legal Earnings	0.00000	0.00000*	0.00000
	(0.00000)	(0.00000)	(0.00000)
County: N Legal Jobs	0.00001	0.00000	-0.00000
	(0.00001)	(0.00000)	(0.00000)
County: Unemployment Rate	0.827	-0.358	-0.522*
	(1.147)	(0.378)	(0.237)
Observations	1,384	1,384	1,384

Adjusted R <sup>2</sup>	0.964	0.887	0.855
College FE	Y	Y	Y
Year FE	Y	Y	Y

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Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE: 2011-2018.

Notes: <sup>1</sup> Logged; + p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; Table reports coefficients and robust SEs clustered at the state (treatment) level; Applications are count of applications received; Admissions rate is percent of applicants accepted; Yield is percent of those offered admission who enrolled.

Table 4. *Generalized difference-in-differences estimates of the effect of state Uniform Bar Exam adoption on enrollment.*

	Total JD Enrollment <sup>1</sup>	White JD Enroll <sup>1</sup>	Non-White JD Enroll <sup>1</sup>	Hispanic JD Enroll <sup>1</sup>	Black JD Enroll <sup>1</sup>	Asian JD Enroll <sup>1</sup>	Women JD Enroll <sup>1</sup>
UBE	0.059* (0.024)	0.072* (0.031)	0.049 (0.032)	0.069 (0.057)	0.086 (0.061)	0.057 (0.045)	0.064** (0.022)
Locale: Rural	-0.085+ (0.048)	-0.155*** (0.038)	0.072 (0.132)	0.067 (0.093)	0.003 (0.291)	-0.071 (0.126)	-0.061 (0.040)
Locale: Suburb	-0.057+ (0.031)	-0.007 (0.030)	-0.126* (0.055)	-0.082 (0.057)	-0.035 (0.115)	-0.078 (0.088)	-0.051+ (0.027)
Locale: Town	0.006 (0.048)	-0.040 (0.047)	0.264+ (0.147)	0.133 (0.159)	0.334 (0.324)	-0.040 (0.129)	-0.001 (0.036)
Institution FTE <sup>1</sup>	0.340*** (0.063)	0.449*** (0.094)	0.266*** (0.068)	0.528*** (0.142)	0.092 (0.137)	0.211 (0.128)	0.320*** (0.059)
Cohort 75th UG GPA <sup>1</sup>	0.595 (0.486)	1.306+ (0.722)	-0.192 (0.628)	-0.148 (0.946)	-1.639+ (0.866)	-0.015 (1.109)	1.200* (0.481)

Cohort 75th LSAT <sup>1</sup>	-0.139	0.106	-2.755*	-4.005*	-8.203**	-1.377	-1.207
	(0.955)	(1.876)	(1.353)	(1.555)	(2.364)	(2.196)	(1.063)
FT Resident Tuition <sup>1</sup>	-0.021	-0.029	-0.040	-0.540 <sup>+</sup>	-0.127	-0.214	-0.066
	(0.147)	(0.176)	(0.193)	(0.318)	(0.334)	(0.266)	(0.143)
% Receiving Grants	-0.001	-0.001	0.001	0.002 <sup>+</sup>	0.002	-0.003*	-0.00003
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Admissions Rate	0.273***	0.323**	0.226	0.186	-0.240	0.528**	0.264*
	(0.077)	(0.093)	(0.149)	(0.205)	(0.202)	(0.186)	(0.105)
% Minority Faculty	0.733*	0.404	0.716	0.593	0.120	0.825	0.716*
	(0.274)	(0.307)	(0.505)	(0.660)	(0.517)	(0.654)	(0.280)
County: Percent BA+	-0.308	0.302	-0.769	-2.051 <sup>+</sup>	-1.799	-0.201	-0.428
	(0.397)	(0.607)	(1.060)	(1.037)	(1.644)	(1.386)	(0.443)
County: Med. Legal Earnings	0.00000	0.00000	0.00000	-0.00000	0.00000	0.00000	0.00000

	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)
County: N Legal Jobs	-0.00000	-0.00003 <sup>+</sup>	0.00001	0.00000	0.00002	-0.00003	-0.00000
	(0.00001)	(0.00002)	(0.00002)	(0.00003)	(0.00002)	(0.00002)	(0.00001)
County: Unemployment Rate	-0.482	0.070	-1.012	-1.524	-0.545	-1.601	-1.032
	(0.713)	(1.036)	(1.429)	(1.434)	(1.776)	(2.821)	(0.751)
Observations	1,384	1,384	1,384	1,384	1,384	1,384	1,384
Adjusted R <sup>2</sup>	0.949	0.886	0.949	0.916	0.916	0.916	0.950
College FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y

Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE: 2011-2018.

Notes: <sup>1</sup> Logged; <sup>+</sup> p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; Table reports coefficients and robust SEs clustered at the state (treatment) level; Enrollments are counts of JD students by category.



### *Enrollment*

As shown in Table 4, among law school enrollments, we find UBE adoption was associated with a more than 6% increase in total JD enrollments ( $p < .05$ ). When we consider these impacts across dimensions of race and gender, it appears this overall enrollment increase is driven predominantly by increases in White student enrollments (up 7.5% attributable to UBE,  $p < .05$ ). We also find that nearly all of the JD enrollment increases were driven by increased female JD enrollees (up 6.6% attributable to UBE,  $p < .01$ ). In all, this suggests UBE may lead to impacts on the composition of JD enrollments by incenting additional White and female students to enroll.

### *Affordability*

We measure affordability (see Table 5) in two primary ways. First, we estimate impacts of UBE on full-time tuition rates for resident and non-resident students (separately). Second, we compute a direct measure of affordability (i.e., net price) by subtracting average grant awards for resident students from the tuition and fees charged to them. Overall, we find no impacts on either measure of affordability. We interpret this to be a positive finding to suggest that institutions in UBE states did not artificially increase their tuition and fees beyond those in non-UBE states, preserving an existing level of cost or affordability.

Table 5. *Generalized DID estimates of the effect of state Uniform Bar Exam adoption on affordability.*

	Full-Time Resident Tuition <sup>1</sup>	Full-Time Non- Resident Tuition <sup>1</sup>	Affordability (Price-Grant Gap)
UBE	-0.003	0.001	0.002

	(0.007)	(0.009)	(0.083)
Locale: Rural	-0.042*	0.029	0.001
	(0.019)	(0.028)	(0.093)
Locale: Suburb	0.010	0.007	-0.086
	(0.011)	(0.012)	(0.082)
Locale: Town	-0.005	0.030	-0.048
	(0.024)	(0.027)	(0.073)
Institution FTE <sup>1</sup>	0.017	-0.019	-0.323*
	(0.019)	(0.016)	(0.131)
Cohort 75th UG GPA <sup>1</sup>	-0.296*	0.237	-1.332
	(0.134)	(0.145)	(1.854)
Cohort 75th LSAT <sup>1</sup>	-0.115	0.343	-7.495*
	(0.265)	(0.310)	(3.495)
FT Non-Resident Tuition <sup>1</sup>	0.513***	-	-0.207
	(0.088)	-	(0.296)
FT Resident Tuition <sup>1</sup>	-	0.948***	3.774***
	-	(0.049)	(0.864)
% Receiving Grants	-0.0002	-0.0002	-0.0003
	(0.0002)	(0.0001)	(0.003)
Admissions Rate	0.056 <sup>+</sup>	0.015	-0.418
	(0.033)	(0.042)	(0.426)

% Minority Faculty	-0.118 <sup>+</sup>	0.130	0.246
	(0.065)	(0.095)	(0.709)
County: Percent BA+	0.114	0.088	0.384
	(0.113)	(0.122)	(1.506)
County: Med. Legal Earnings	0.00000	-0.00000	-0.00000
	(0.00000)	(0.00000)	(0.00000)
County: N Legal Jobs	0.00000	0.00000	0.00002
	(0.00000)	(0.00000)	(0.00004)
County: Unemployment Rate	0.302	-0.149	-1.121
	(0.287)	(0.250)	(3.870)
Observations	1,384	1,384	1,384
Adjusted R <sup>2</sup>	0.994	0.956	0.571
College FE	Y	Y	Y
Year FE	Y	Y	Y

Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE: 2011-2018.

Notes: <sup>1</sup> Logged; <sup>+</sup> p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; Table reports coefficients and robust SEs clustered at the state (treatment) level; Tuition rates are prices charged by residency; Affordability is total remaining cost after subtracting average grant award from tuition price (i.e., net price).

Table 6. *Generalized difference-in-differences estimates of the effect of state Uniform Bar Exam adoption on JD degrees.*

	Total JD Degrees <sup>1</sup>	White JD Degrees <sup>1</sup>	Non-White JD Degrees <sup>1</sup>	Hispanic JD Degrees <sup>1</sup>	Black JD Degrees <sup>1</sup>	Asian JD Degrees <sup>1</sup>
UBE	0.016 (0.020)	0.024 (0.030)	-0.005 (0.033)	-0.035 (0.040)	0.029 (0.052)	-0.040 (0.067)
Locale: Rural	-0.038 (0.036)	-0.046 (0.055)	0.046 (0.108)	0.090 (0.200)	-0.053 (0.144)	0.138 (0.147)
Locale: Suburb	-0.008 (0.040)	0.064 (0.062)	-0.052 (0.089)	0.046 (0.092)	-0.040 (0.121)	-0.096 (0.091)
Locale: Town	0.019 (0.045)	-0.002 (0.070)	0.269* (0.104)	-0.024 (0.237)	0.452* (0.178)	0.363+ (0.192)
Institution FTE <sup>1</sup>	0.258** (0.080)	0.285** (0.106)	0.303* (0.124)	0.177 (0.179)	-0.086 (0.171)	0.019 (0.308)
Cohort 75th UG GPA <sup>1</sup>	0.118 (0.556)	0.291 (0.643)	0.442 (1.135)	2.381+ (1.200)	0.366 (1.160)	-1.852 (1.369)

Cohort 75th LSAT <sup>1</sup>	0.290	0.106	-1.167	-0.758	-6.091*	-1.484
	(1.073)	(2.056)	(1.380)	(2.362)	(2.704)	(2.500)
FT Resident Tuition <sup>1</sup>	0.314*	0.247 <sup>+</sup>	0.450*	0.012	0.114	0.605 <sup>+</sup>
	(0.120)	(0.144)	(0.217)	(0.348)	(0.323)	(0.322)
% Receiving Grants	-0.001 <sup>+</sup>	-0.002*	0.0003	0.001	0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Admissions Rate	0.063	0.237*	-0.279	-0.312	-1.080***	-0.204
	(0.074)	(0.092)	(0.199)	(0.271)	(0.286)	(0.304)
% Minority Faculty	0.736**	0.370	0.953	0.903	0.792	0.168
	(0.262)	(0.331)	(0.605)	(0.629)	(0.761)	(0.759)
County: Percent BA+	0.002	0.220	-0.331	-0.200	-1.444	1.851
	(0.440)	(0.654)	(0.852)	(1.054)	(1.297)	(1.543)
County: Med. Legal Earnings	-0.00000	0.00000	-0.00000	-0.00000	0.00000	-0.00000
	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)
County: N Legal Jobs	0.00001	-0.00000	0.00002	0.00000	0.00004 <sup>+</sup>	-0.00000

	(0.00001)	(0.00002)	(0.00001)	(0.00002)	(0.00002)	(0.00004)
County: Unemployment Rate	0.375	1.422	-0.431	-1.307	-3.043	-1.085
	(0.798)	(1.261)	(1.706)	(1.872)	(2.283)	(2.256)
Observations	1,384	1,384	1,384	1,384	1,384	1,384
Adjusted R <sup>2</sup>	0.927	0.855	0.897	0.820	0.817	0.819
College FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y

Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE: 2011-2018.

Notes: <sup>1</sup> Logged; <sup>+</sup> p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; Table reports coefficients and robust SEs clustered at the state (treatment) level; Degrees are counts of JD awards by category.

### *Degree Production*

Degree production outcomes, as shown in Table 6, are measured by total JD degrees awarded, as well as JD degrees awarded across students in each racial group. Overall, we find no increases in JD degrees (overall or by race). We find this to be rational assuming that the availability of law school seats may be relatively inelastic. Additionally, with longer panels, future models will consider the impact of lagged treatment indicators (e.g., did UBE adoption increase degree production *three* years after, allowing JD enrollees to complete). The current window captures outcomes from 2011 through 2018, 16 of the 34 states in our sample did not adopt UBE until 2017 or later, making this an early analysis of UBE effects.

### *Bar Pass Rates*

We estimate and present impacts of UBE adoption on both state and institutional average pass rates (Table 7), and we do not estimate that UBE positively or negatively affected either of these rates. We interpret this finding in a positive light to suggest that UBE is neither an easier exam (advantaging students in these states with higher pass rates) nor a harder exam (to disadvantage them compared to non-UBE peers). Thus, law schools in UBE and non-UBE states have similar bar passage rates for their cohorts, and states similarly enjoy equal pass rates.

Table 7. *Generalized difference-in-differences estimates of the effect of state Uniform Bar Exam adoption on bar pass rates.*

	State Pass Rate	Institution Pass Rate
UBE	0.010 (0.011)	0.008 (0.012)
Locale: Rural	-0.023	-0.007

	(0.039)	(0.036)
Locale: Suburb	-0.005	0.007
	(0.015)	(0.020)
Locale: Town	-0.008	0.047
	(0.040)	(0.037)
Institution FTE <sup>1</sup>	0.017	0.084***
	(0.013)	(0.023)
Cohort 75th UG GPA <sup>1</sup>	-0.052	0.004
	(0.155)	(0.219)
Cohort 75th LSAT <sup>1</sup>	-0.399	-0.013
	(0.436)	(0.546)
FT Resident Tuition <sup>1</sup>	0.051	0.017
	(0.033)	(0.043)
% Receiving Grants	-0.0001	-0.001*
	(0.0001)	(0.0002)
Admissions Rate	0.024	0.093**
	(0.019)	(0.032)
% Minority Faculty	-0.163	-0.220 <sup>+</sup>
	(0.100)	(0.124)
County: Percent BA+	-0.184	-0.012
	(0.195)	(0.302)



County: Med. Legal Earnings	0.00000	0.00000
	(0.00000)	(0.00000)
County: N Legal Jobs	0.00000	0.00000
	(0.00000)	(0.00000)
County: Unemployment Rate	0.151	0.554
	(0.263)	(0.527)
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Observations	1,384	1,384
Adjusted R <sup>2</sup>	0.623	0.727
College FE	Y	Y
Year FE	Y	Y

Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE: 2011-2018.

Notes: <sup>1</sup> Logged; + p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; Table reports coefficients and robust SEs clustered at the state (treatment) level.

### *Employment Mobility*

We develop two measures for employment mobility (see Table 8) of JD graduates. Analytix reports the top three states of employment of JD graduates, with associated counts of graduates employed in each state. Our first measure is therefore the number of JD graduates who work out of state. This likely represent a lower-bound estimate of employment mobility given that students may still be employed in a state that was not part of the top-three group. These outcomes are, however, unobservable to us. A second measures is the percent of the total cohort employed in one of these three out-of-state locations.

Table 8. *Generalized difference-in-differences estimates of the effect of state Uniform Bar Exam adoption on job mobility.*

	N Employed Out of State <sup>1</sup>	% Employed Out of State
UBE	-0.039 (0.040)	-0.010* (0.005)
Locale: Rural	-0.027 (0.082)	0.009 (0.012)
Locale: Suburb	0.027 (0.083)	0.022 (0.017)
Locale: Town	-0.172 (0.145)	-0.021 (0.017)
Institution FTE <sup>1</sup>	0.094 (0.103)	-0.005 (0.014)
Cohort 75th UG GPA <sup>1</sup>	-0.016 (0.906)	-0.021 (0.086)
Cohort 75th LSAT <sup>1</sup>	-0.330 (1.838)	-0.047 (0.165)
FT Resident Tuition <sup>1</sup>	0.401+ (0.212)	0.035 (0.027)
% Receiving Grants	-0.004*** (0.001)	-0.0003* (0.0001)

Admissions Rate	-0.043	-0.026 <sup>+</sup>
	(0.167)	(0.015)
% Minority Faculty	0.719 <sup>+</sup>	0.035
	(0.421)	(0.036)
County: Percent BA+	1.966 <sup>*</sup>	0.198 <sup>+</sup>
	(0.937)	(0.111)
County: Med. Legal Earnings	0.000	0.00000
	(0.00000)	(0.00000)
County: N Legal Jobs	-0.00002	-0.00000
	(0.00002)	(0.00000)
County: Unemployment Rate	3.509 <sup>+</sup>	0.280
	(1.789)	(0.178)
<hr/>		
Observations	1,384	1,384
Adjusted R <sup>2</sup>	0.918	0.930
College FE	Y	Y
Year FE	Y	Y

Source: Authors' calculations from ACS, Analytix, IPEDS, and NCBE: 2011-2018.

Notes: <sup>1</sup> Logged; <sup>+</sup> p<0.1; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001; Table reports coefficients and robust SEs clustered at the state (treatment) level; Analytics reports the top three states of JD graduates' employment, N is the sum of those employed in a different state than the institution, therefore representing a lower-bound estimate of mobility (and our preferred outcome) since

students may also be employed in a non-top-three state but unobservable to us; % is the sum of those employed in a top-three state over the total cohort, making this figure susceptible to the unobserved employment outcomes noted above.

Overall, we find no impacts on the number of students employed out of state (our preferred specification, i.e., the lower-bound estimate) but do detect small reductions in the percent employed out of state by approximately 1 percentage point ( $p < .05$ ). We interpret this estimate with caution given our inability to observe the full extent of graduates' labor-market outcomes (as noted). Overall, however, we again believe this is potentially an outcome better suited for future studies with longer panels where UBE will have existed for a longer period of time, allowing students under UBE policies to graduate and enter the workforce.

### **Discussion and Implications**

Framed by its increasing prevalence across the United States, this study sought to estimate causal effects of the Universal Bar Examination on admissions, enrollment, affordability, degree production, bar passage rates, and employment mobility for graduates of law schools in the United States. When possible, we also include a particular focus on dimensions of racial and gender diversity. This study filled existing gaps in the literature by providing the first comprehensive examination of the effects of UBE adoption on student, school, and state outcomes while additionally making an important contribution to the broader field through constructing a new and unique dataset available to future researchers.

Using a rigorous quasi-experimental design, we estimated many causal impacts of UBE adoption. First, we find early evidence to suggest that institutions in states with UBE realized higher applications and higher enrollments, including enrollments among women. Thus, under rational choice theory, greater (future) flexibility allowed by UBE may impact students'

decisions about whether to pursue legal education, including whether to apply and enroll (Hechter & Kanazawa, 1997).

For those same institutions, we do not find, however, that they raised tuition (or decreased affordability) following UBE adoption. This is particularly positive given that prior studies have observed how changes to bar examinations have affected law school operation. (Trujillo, 2007). Second, we also do not find that state or institutional bar pass rates were positively or negatively affected. This is a particularly positive finding given that law school graduates, including law graduates of color, often face disproportionate student loan burdens (González Canché et al., 2019; Lee et al., 2020). While this is an early analysis of UBE adoption that found no impacts on degree completion or job mobility, future studies will be better situated to understand UBE impacts on JD degree completion and graduates' labor-market mobility given longer panels and their ability to observe outcomes many years after UBE adoption.

Our findings shed positive light on the UBE exam as a mechanism to improve prospective students' interest in and access to a legal education complemented by zero negative impacts on affordability or degree completion. Similarly, institutions experienced zero negative impacts on selectivity or cohort bar passage rates. Across subgroups, while we found evidence that UBE may positively impact the enrollment of female students in JD programs, we did not find impacts (positive or negative) for students from non-White racial groups. Given that the law profession remains about 50% less diverse than other professional occupations, future research and policy aims should consider mechanism to diversify the profession (Cunningham & Steele, 2015).

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