The Efficiency of Occupational Licensing during the Gilded and Progressive Eras: Evidence from Judicial Review

Mark Tooru Kanazawa

This paper proposes a novel approach to assessing the efficiency and distributional consequences of occupational licensing statutes during the Gilded and Progressive eras, based on the practice of judicial review. At the time, state judges ruling on the constitutionality of police powers regulation operated under powerful legal norms that militated against redistribution and class legislation. Evidence presented in the paper strongly suggests that judges were significantly more likely to uphold, on constitutional grounds, occupational licensing legislation for occupations with important information asymmetries, suggesting that constitutional review promoted efficiency in occupational markets. These findings have implications for current policies regarding occupational licensing.

Scholars of U.S. history have long studied government policy creation in the late nineteenth and early twentieth centuries because this was the formative period in the development of policies that regulate so many areas of the modern U.S. economy. This period witnessed the emergence of many policies that regulated labor markets, including minimum wages, maximum hours, child labor laws, workplace safety regulation, worker's compensation, and occupational licensing. Prior to the emergence of these policies, labor markets were largely unregulated, or "unfettered," as Price Fishback (1998) has put it. Many economists have tried to understand how and why these policies emerged when they did, why they took the form they did, and their practical effect on labor market outcomes.[1]

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Mark Tooru Kanazawa is Professor, Carleton College – Economics, 1 North College Street, Northfield, Minnesota 55057. E-mail: mkanazaw@carleton.edu.

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[1] *Minimum wages*: Prasch (1999), Fishback and Seltzer (2021); *Child labor laws*: Brown, Christiansen, and Phillips (1992); *Workplace health and safety regulation*: Butler and Worrall (2008); *Worker's compensation*: Fishback and Kantor (1998); *Occupational licensing*: Law and Kim (2005), Law and Marks (2009).

This paper proposes a novel approach to assessing the efficiency and distributional consequences of one important type of early labor policy—occupational licensing—based upon the practice of judicial review. Beginning in the late nineteenth century, many states enacted statutes calling for licensing practitioners in a wide range of occupations (Friedman 1965; Law and Kim 2005). These statutes raised issues of constitutionality concerning the nature, extent, and scope of police power. Many were challenged on constitutional grounds, especially the due process and equal protection clauses of the 14th Amendment. Well into the twentieth century, state courts were still deciding various issues on the proper police power role embodied in these licensing statutes.

Traditional police power jurisprudence permitted state legislatures to enact policies to protect public health, safety, and morals, which were extended over time to encompass economic activities (McCurdy 1975). Labor legislation was subject to various common-law legal constraints. Legislation could not unnecessarily or arbitrarily interfere with private rights, under the doctrine of *vested rights* (Nourse 2009). States were forbidden from enacting *class legislation*: treating one class of individuals differently from other classes (Gillman 1993; Saunders 1997; Nourse and Maguire 2009). And legislation had to be *rational*: policies needed to be appropriately targeted to legitimate police power objectives (Nachbar 2016).

Applying these criteria militated against laws exercising police power that engaged in redistribution across individuals or classes unless the public's welfare was being served (Gillman 1993; Sunstein 1987). Redistribution could take many forms, and judges were keenly aware of this. For example, in the famous 1905 case of *Lochner v. New York*, the Supreme Court overturned a maximum hour statute that ostensibly protected the health of bakers. The majority expressed concern that legislators harbored "other motives," likely viewing the statute as anti-competitive and favoring certain bakeries over others (Gillman 1993; Bernstein 2011; Barnett 2016). Other forms of labor legislation received scrutiny for whether they favored workers over employers, union workers over non-union workers, workers in one ethnic group, male workers over female workers, and certain practitioners of an occupation over other practitioners.[2]

[2] The cases reviewing labor legislation during this period are numerous. For some of the more important cases prior to 1910, see *Ex parte Westerfield* (1880); *Barbier v. Connolly* (1884); *In re Jacobs* (1885); *Yick Wo v. Hopkins* (1886); *Millett v. People* (1886); *State v. Goodwill* (1889); *Ritchie v. People* (1895); *Holden v. Hardy* (1898); *Lochner v. New York* (1905); and *Muller v. Oregon* (1908).

If judges overturn redistributive laws, we may use judicial review to assess the distributional impacts of occupational licensing. This strategy requires a set of comparable court rulings that vary in the way courts rule on their exercise of police power. It also requires comparable statutes subjected to judicial review that vary in their distributional impacts. Court cases that review occupational licensing statutes satisfy both requirements. Focusing on occupational licensing statutes controls for factors that would have muddied the interpretation of the rulings (Friedman 2001; Nourse 2009). A sufficient number of court challenges to licensing statutes would permit an econometric analysis of the determinants of court rulings.

The other reason to focus on occupational licensing statutes is to exploit a vast scholarly literature that distills occupational licensing down to two competing interpretations. Either it solves an information problem regarding practitioner competence, or it erects entry barriers into an occupation, benefiting incumbent practitioners. This study will exploit differences across occupations in the likely degree of information asymmetry, to permit us to examine the connection between judicial review and the likely redistributional effects of licensing statutes.

OCCUPATIONAL LICENSING IN HISTORICAL CONTEXT

Occupational licensing has existed since colonial times, when states licensed innkeepers and the medical and legal professions (Friedman 1965; Law and Kim 2005). Toward the end of the nineteenth century and well into the twentieth century, there was a dramatic increase in state laws licensing a wider variety of occupations. By the mid-twentieth century, there were over 1,200 state occupational licensing statutes governing more than 75 different occupations (Law and Kim 2005). Figure 1 shows the annual number of licensing statutes in five-year intervals from 1886 through 1950. Since then, the expansion of occupational licensing has continued (Kleiner 2000; Edlin and Haw 2014).

The initial increase in licensing statutes in the 1880s was associated with the emergence of new professional occupations and the increasing professionalization of many existing occupations. Economic studies have concluded that the rise of occupational licensing addressed the pervasive issue of asymmetric information in occupational markets, as consumers found it costly to assess practitioner quality in the rapidly changing environment (Law and Kim 2005; Law and Marks 2009). Under this view, licensing played an important efficiency-enhancing role by signaling practitioner quality, allowing consumers to make informed decisions,

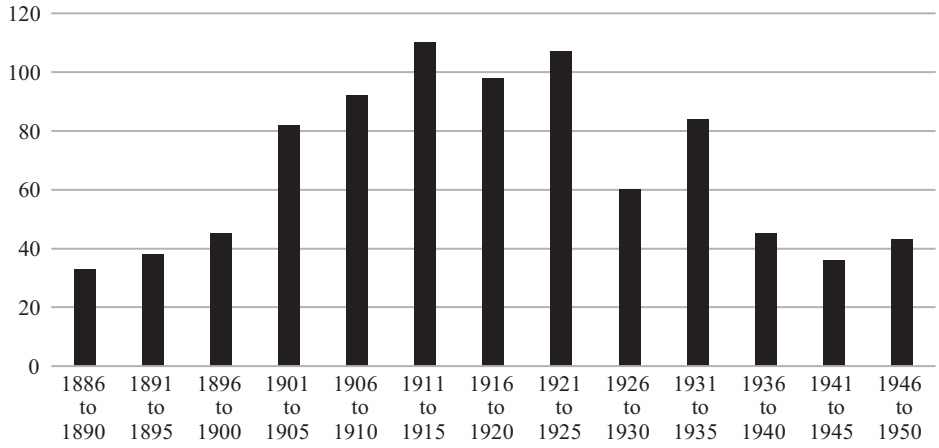

FIGURE 1
NUMBER OF OCCUPATIONAL LICENSING STATUTES ENACTED ANNUALLY, FIVE-YEAR PERIODS: 1886 TO 1950

Source: Zhou (1993 p. 537).

and keeping competent practitioners from being driven from the market through adverse selection.

This interpretation stands in stark contrast to the findings of most economists who have examined occupational licensing in mostly contemporary settings and concluded that its main effect is to erect barriers to entry into occupations, allowing incumbent practitioners to monopolize the occupation. The evidence has mainly focused on effects on prices of practitioner services, output and quality of those services, and practitioner wages and mobility.[3] In addition, a public choice literature has connected licensing statutes to various political variables, including measures of the political power of occupational groups. Its conclusions are generally consistent with the special interest hypothesis (Smith 1982; Graddy 1991; McMichael 2017).

The conclusion that early occupational licensing was largely efficiency-enhancing probably obscures important differences across occupations, which varied dramatically in the potential efficiency gains from licensing. Some occupations are subject to greater information asymmetries, both because of greater inherent challenges in ascertaining practitioner competence and because having an incompetent practitioner is more consequential. To put it concretely, you worry much more about

[3] *Prices*: Kleiner and Kudrle (2000); *Output*: Adams, Ekelund, and Jackson (2003); *Quality*: Carroll and Gaston (1981); Kugler and Sauer (2005); *Wages*: Thornton and Timmons (2013); *Mobility*: Peterson, Pandya, and Leblang (2014).

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the competence of a neurosurgeon than the competence of a barber, both because the competence of a neurosurgeon is harder to gauge, and the consequences could be devastating if you guess wrong. This means that, in principle, there is more room for licensing to play an efficiency role in occupations like neurosurgery than in occupations like barbering.

The other important thing to note about occupational licensing is that it entails a wealth transfer in at least two ways. First, it transfers wealth among sets of practitioners; namely, between incumbent practitioners and those whose entry has been blocked. This wealth transfer may generate political support for licensing among incumbent practitioners. Second, it transfers wealth between practitioners and consumers of those services. Both consequences are implicit in all studies of occupational licensing but, in general, are not directly addressed and certainly not quantified by those studies, likely for lack of data. This redistributional feature will be central to our later analysis of judicial review of licensing.

LATE-NINETEENTH-CENTURY JUDICIAL REVIEW

In the late nineteenth century, state regulation of labor markets was based on police power, which originated in the federalist design of the new American republic, and especially the residual sovereignty enjoyed by states to regulate activities within their borders (*Federalist* 1961, no. 39, p. 285; Barnett 2016). The exercise of police power by the states was circumscribed by provisions of the federal Constitution. Most importantly, the Constitution enumerated certain protected individual liberties in the first ten amendments (later known as the Bill of Rights) and in other amendments added over time, especially the 13th and 14th Amendments that were passed in the years shortly after the Civil War. Section one of the 14th Amendment forbade states from enacting laws that abridged the "privileges and immunities" of citizens, that deprived any person of life, liberty, or property without "due process of law," or that denied any person "equal protection" under the law. These provisions came to impose potentially binding constraints on the exercise of police power by the states.

The resulting system of judicial review weighed the protection of individual liberties against the use of police power regulation to promote clear public purposes. Under nineteenth-century jurisprudence, legislative acts were accorded strong deference by the courts. However, state courts consistently imposed two important limitations on police powers legislation: that it could not arbitrarily interfere with certain fundamental rights of liberty and property (so-called *vested rights*) and that it could

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not constitute *special* (or *partial*) legislation. The doctrine of vested rights derived from Lockean views of natural rights and the so-called *law of the land*, both precepts of English common law (Corwin 1914; Howe 1930; Saunders 1997). In the Lockean view, depriving individuals of their natural rights—rights that pre-existed government—violated the social compact (Howe 1930; Saunders 1997). Under the law of the land, rights could not be seized without a legal process, a precursor to the now more familiar phrase "due process of law."

The limitation on special legislation meant that police powers could not single out any person or group of persons for special benefits or special burdens: what was known at the time as *class legislation*. Aversion to class legislation also had roots in English common law, in two related traditions: opposition to royal grants of monopolies and other special trade privileges, and Lockean notions of equality under the law (Benedict 1985; Saunders 1997; Nourse and Maguire 2009). English common law considered a man's labor—specifically, freedom to practice a trade—to be a property right, which the royal granting of special privileges interfered with (Benedict 1985). By the Civil War, prohibitions on class legislation had become part of the constitutional laws of virtually every state in the Union (Gillman 1993; Saunders 1997). Both vested rights and prohibitions on class legislation ultimately became fundamental elements of nineteenth-century constitutional jurisprudence (Yudof 1990; Gillman 1993). Both were enshrined in the federal constitution with the enactment of the 14th Amendment in 1868, with its provisions for "due process of law" and "equal protection of the laws" (Saunders 1997).

Scholars have noted a common basis for upholding statutes that interfered with vested rights and ones that constituted class legislation: whether they served some legitimate public purpose. By the end of the nineteenth century, judges had merged the two doctrines into one that prohibited legislation that promoted the interests of a particular class. The class legislation doctrine had two distinct meanings for state judges: it proscribed monopolies and it protected minorities (Nourse and Maguire 2009). These meanings were originally interpreted as the danger of tyranny by the majority over minorities, but came to refer to abuse of the state political process by interest groups seeking political favors (Sunstein 1987; Gillman 1993; Bernstein 2011).

In ruling on the constitutionality of statutes, nineteenth-century judges experienced certain political pressures and enjoyed some latitude to serve personal objectives. Personal objectives included being reelected or reappointed, desires to avoid having their rulings overturned, and professional recognition and status. Political pressures derived from the fact that

judges were either popularly elected or appointed by either the governor or legislature (Hanssen 2004). The selection system, which varied from state to state, may have provided incentives for judges to satisfy either voters or the governor or legislature, depending on the system in which they operated. Political pressures may have influenced their rulings on occupational licensing statutes, a factor that will be controlled for in the later econometric analysis.

Judicial Review of Occupational Licensing Statutes

Because the new occupational licensing statutes raised various constitutional issues, many became subject to legal challenge. Hundreds of challenges were brought in state courts during the period of this study. The court response was mixed: most statutes were upheld on police power grounds, but a significant fraction were overturned. This response likely reflects two factors. First, courts operated under a powerful norm of judicial deference to legislative decision-making, making them reluctant to overturn unless there was clear evidence of unconstitutionality (Friedman 2001; Barnett 2016). This principle was forcefully stated by Justice Harlan in the 1903 case of *Atkin v. Kansas*:

> "The public interests imperatively demand … that legislative enactments should be recognized and enforced by the courts as embodying the will of the people, unless they are plain and palpably, beyond all question, in violation of the fundamental law of the Constitution." [191 US 207(1903)][4]

Second, a dominant strain of nineteenth-century jurisprudence held that it was a legitimate exercise of police power in occupations that required "technical knowledge and professional skill," to prohibit practitioners from practicing without a license (Tiedeman 1886, p. 200). This principle was upheld by the Supreme Court in 1889 in *Dent v. West Virginia* [132 US 114]. And it was consistently acknowledged by the state courts as legitimizing occupational licensing statutes for various occupations, which insulated those statutes from 14th Amendment challenges.

Applying the principle in judicial review raised the important practical question of what constituted sufficient "technical knowledge and professional skill" that would justify a licensing law. While requisite technical knowledge and professional skill may have seemed obvious

[4] For some examples of this reasoning in occupational licensing cases, see, for example, *Eastman v. State*, 109 IN 278(1887); *In re: Aubrey*, 36 WA 308(1904), p. 315; *State v. Evans*, 130 WI 385; Cooley (1868, p. 201).

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for physicians and dentists, they were not at all obvious for other occupations such as barbers, peddlers, and horseshoers. In these cases, the courts may have been less willing to uphold licensing statutes, both because such trades did not require obvious technical knowledge and professional skill and because the connection to public health and safety was less obvious (*People ex rel. Nechamcus*, 144 NY 529 (1895); *Wyeth v. Board of Health*, 200 MA 474 (1909); *Bessette v. People*, 193 IL 334 (1901)). Furthermore, the courts often voiced suspicion that the true motivation for the licensing statute was not to promote public health and safety but rather to create an occupational monopoly.[5]

A close reading of court rulings and legal texts thus suggests two basic judicial views of occupational licensing statutes. First, they sometimes served an important welfare function by protecting public health and safety against incompetent and possibly unscrupulous practitioners. Second, they sometimes promoted the monopolization of an occupation, which ran counter to public welfare. In the next section, I present empirical evidence that statutes were less likely to be upheld for occupations where licensing did not serve an important informational function. Thus, the courts' concern with sniffing out laws engaging in monopolization and redistribution may have translated into improved efficiencies in occupational markets overall.

EMPIRICAL ANALYSIS OF JUDICIAL REVIEW OF OCCUPATIONAL LICENSING

My empirical analysis focuses on 569 state cases brought between 1885 and 1911 in which state or municipal licensing statutes were challenged on either constitutional or non-constitutional grounds.[6] The cases cover 17 occupations in 43 states and 1 territory (see Figure 2). The final pooled dataset includes virtually all cases found in a search of occupational licensing cases in Nexis-Uni. The cases are divided into constitutional and non-constitutional challenges. A challenge was considered constitutional if it was based on a provision in either the federal constitution or the jurisdiction's state constitution. Grounds for challenging on state constitutional grounds tended to mirror grounds for federal challenges because most state constitutions contained clauses that were

[5] *Territory v. Newman*, 13 NM 98 (1905); *State ex rel. Richey v. Smith*, 42 WA 237 (1906); *Wilby v. State*, 93 MS 767 (1908); See also *People v. Ringe*, 197 NY 143 (1910), p. 151; *People ex rel. Nechamcus* (Peckham dissent), 144 NY 529 (1895), p. 543.

[6] The vast majority of the cases in our dataset were decided either in the state supreme court or in the highest appellate court in the state. The dataset does not include any appellate cases that were later ruled on by a higher court.

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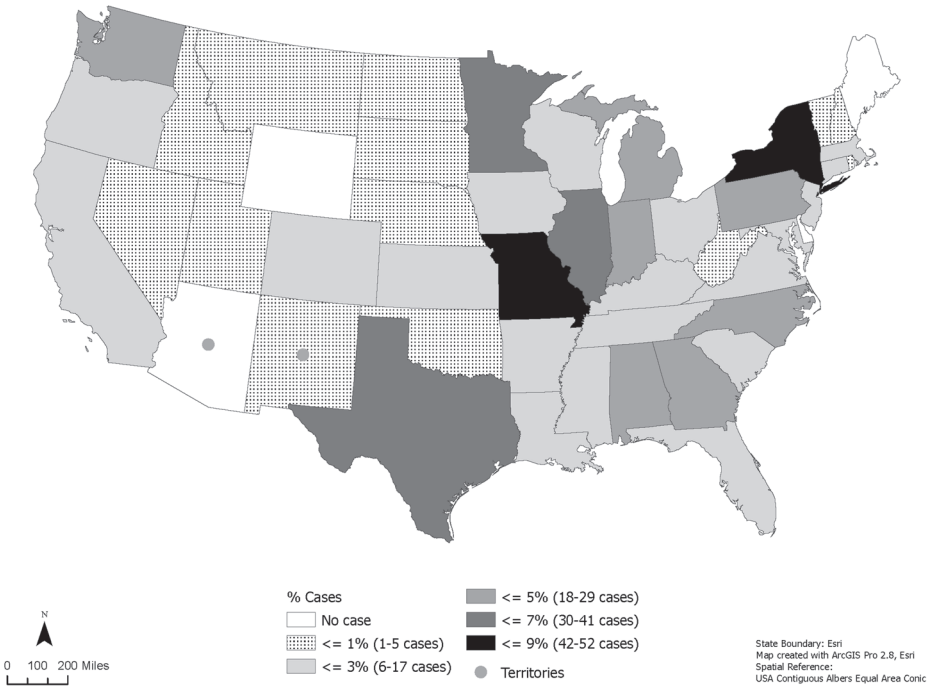

FIGURE 2
NUMBER OF RULINGS ON OCCUPATIONAL LICENSING STATUTES, BY STATE

Source: Map created with ArcGIS Pro 2.8, Esri.

similar to clauses in the federal constitution, such as due process or equal protection.

Statutes could also be challenged on technical, non-constitutional grounds. These included: improper awarding of costs; transferability of a license from one county to the next; alleged animosity of the licensing board; alleged favoritism of the licensing board; appropriate jurisdiction for the licensing fee; appropriate mode of payment; appropriate definition of an occupation; and corporate status of the practitioner. I distinguish between constitutional and non-constitutional cases because we might expect the effect of court rulings to differ in the data. If a court rules on constitutional grounds against a defendant for practicing without a license, I interpret this as deferring to the legislative body that enacted the statute. Such a ruling validates the motivations of the legislature, with important factors being that the statute addresses an information asymmetry, is not deemed redistributional, or is unlikely to give rise to a monopoly.

A ruling on non-constitutional grounds, however, cannot be interpreted the same way. The non-constitutional grounds for a challenge often bore

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TABLE 1
CATEGORIZATION OF OCCUPATIONS

Professional				Non-Professional			
	Number of Cases				Number of Cases		
Occupation	All	Const	Nonconst	Occupation	All	Const	Nonconst
Architects	6	1	5	Barbers	14	11	3
Dentists	52	24	28	Butchers	17	6	11
Engineers	10	5	5	Horseshoers	6	4	2
Lawyers	22	11	11	Liquor salesmen	85	0	85
Optometrists	3	0	3	Peddlers	92	37	55
Pharmacists	28	9	19	Plumbers	30	16	14
Physicians	161	51	110	RR ticket salesmen	10	8	2
Teachers	22	1	21	Undertakers	5	3	2
Veterinarians	6	1	5				
TOTAL	310	103	207		259	85	174

Source: Author's compilation.

little relation to the redistributional effects of a statute. For example, in one case, the legal question was the portability of a license from one county to the next. In another, the question was whether massage therapists should be treated as physicians. In both examples, the question was how to interpret the licensing statute, not whether the statute was constitutionally valid. The pattern of judicial review of these non-constitutional challenges will provide further evidence regarding the redistributional or monopolizing consequences of occupational licensing.

To implement my strategy, I must distinguish statutes that were largely informational from ones that were largely redistributional or monopolizing. For this, I divided the occupations into two categories: *professional* and *non-professional*. Table 1 lists all occupations, their assigned category, and the number of cases, both constitutional and non-constitutional, for each occupation. These categories reflect the degree of asymmetric information regarding practitioner quality, which was likely an important issue with the occupations listed as "professional" (Law and Kim 2005; Gabriel 2010). This categorization will be used in the base analysis, with various robustness checks.[7]

A closer look at the data reveals some suggestive patterns. Forty-nine statutes involving non-professional occupations were overturned on

[7] In the late nineteenth century, states operated under a *mandatory jurisdiction* system, which afforded state supreme courts little or no discretion whether to adjudicate appeals (Kagan et al. 1978, p. 967). This implies that these cases were not subject to selection bias due to courts selectively choosing which cases to hear.

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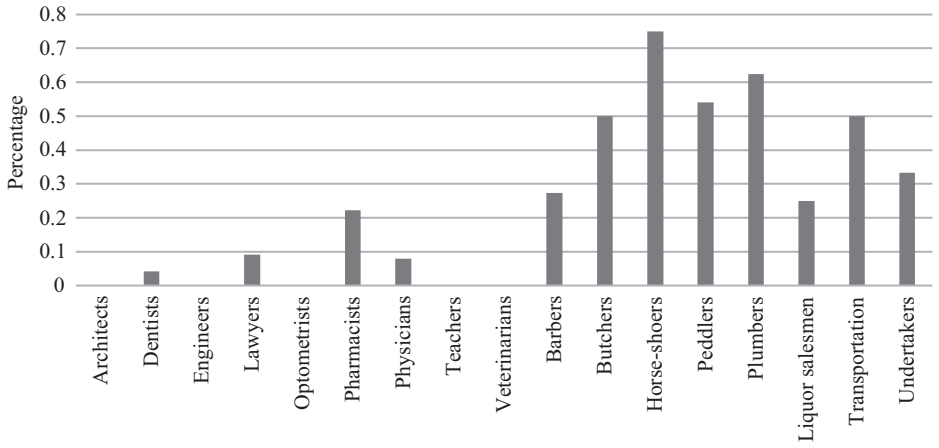

FIGURE 3
PERCENTAGE OF CASES OVERTURNED ON CONSTITUTIONAL GROUNDS, BY OCCUPATION

Source: Author's compilation.

constitutional grounds, whereas only eight involving professional occupations were similarly overturned. These numbers constitute 46 percent and 8 percent of the total challenges in each category. Figure 3 reports the percentage of statutes overturned on constitutional grounds by occupation, where the columns on the left are professional occupations. This evidence suggests that courts were significantly less likely to overturn licensing statutes involving professional occupations.

Furthermore, this difference persisted over time. Figure 4 shows, for both sets of occupations, the percentage of total cases with successful constitutional challenges at five-year intervals. Throughout the period, licensing statutes for professional occupations were never successfully challenged more than 15 percent of the time, reflecting at most two or three instances per five-year period. The comparable figure for non-professional occupations was much higher, especially after 1890, when it consistently exceeded 40 percent.

For further evidence regarding judicial review of these licensing statutes, we now turn to an econometric analysis of the court rulings. The dependent variable is *Overturned*, a categorical variable that equals 1 when a practitioner successfully challenges a statute, and 0 otherwise.[8] This variable captures the court's attitude toward the redistributional and

[8] The practitioner appeared in the cases either as plaintiff or defendant. In the former case, the practitioner filed suit as a direct challenge to the statute. In the latter case, a suit would be brought by the state for violating the statute, say, by practicing without a license. The statute would be considered upheld if the court ruled against the practitioner.

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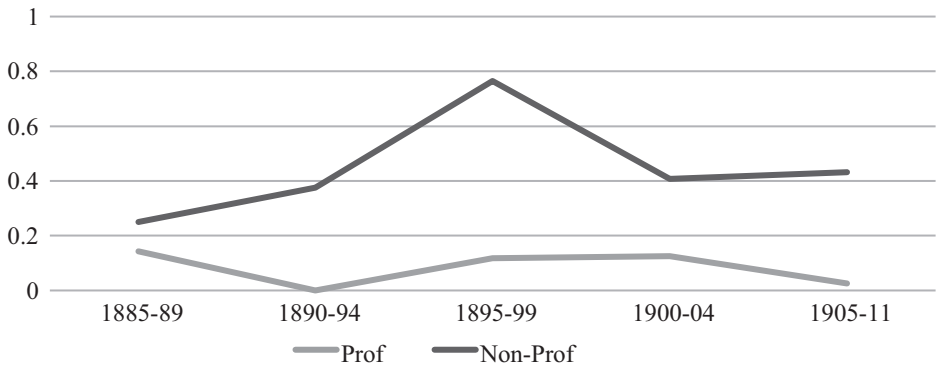

FIGURE 4
PERCENTAGE OF CASES OVERTURNED BY 5-YEAR INTERVAL, PROFESSIONAL VS. NON-PROFESSIONAL

Source: Author's calculations.

informational features of a statute.[9] The variable *Professional* is a categorical variable that equals 1 if the occupation is professional and 0 if the occupation is non-professional, using the categorization in Table 1.

The model controls for factors that may have affected the propensity of courts to overturn licensing statutes. One factor is urbanization. Information asymmetries for professional occupations may have been greater in cities because scientific advances were more likely to occur there. In addition, urban practitioners may have experienced greater competition, resulting in greater demand for regulation (Law and Kim 2005). I capture urbanization in two ways. $Urban^{2500}$ and $Urban^{20000}$ are defined as the percentage of total state population in cities with populations greater than 2,500 and 20,000, respectively (Williamson 1965; Law and Kim 2005).

A second set of factors captures ideological influences on judges. Late-nineteenth-century state judges were selected under one of three possible systems: popular election, appointment by governors, or appointment by legislatures. Over the entire period of our study, judges were elected in 32 states, appointed by the governor in 6 states, and appointed by the legislature in 5 states. Three states switched from an appointment system to elections during the period: Florida in 1887, Georgia in 1896, and Louisiana in 1904 (Hanssen 2004, p. 442). These various selection systems may have made judges susceptible to different types of political

[9] The variable *Overturned* is an imperfect proxy to the extent that statutes varied in the restrictiveness of their licensing regulations. However, using *Overturned* should not introduce bias unless the measurement error is correlated with other regressors in the model.

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pressures to engage in strategic behavior (see, e.g., Landes and Posner 1975; Langer 2003; Shepherd 2009).

To capture political influences, I construct measures of the political interests of the governor, legislators, and the electorate. These measures are applied conditionally based on the judge selection system of each state and are based on political party.[10] Voter interests are captured by I^V, defined as the percentage of the popular vote garnered by the Republican candidate for president. Governors' interests are captured by I^G, which equals 1 if the governor is a Republican and 0 if Democrat (Kaplan 2021). Legislator interests are captured by I^L, defined as the percentage of state legislative seats held by Republicans (Dubin 2007; Darcy 2005).

To apply these measures selectively to judges, I define three variables that capture a state's judge selection process. $D^{Elected} = 1$ if judges were elected, 0 if not; $D^{AppGov} = 1$ if judges were appointed by the governor, 0 if not; and $D^{AppLeg} = 1$ if judges were appointed by the legislature, 0 if not. These dummy variables interact with the measures of voter interests, governor interests, and legislator interests, respectively. The analysis will also include the political interest and selection process variables separately, to isolate the effect of voter interests through the selection process.

Finally, the model controls for another possible influence on judge decision-making: deference to legislative enactments. As we have seen, a strong norm of judicial deference existed in the late nineteenth century among U.S. judges. Thus, judges may have required stronger police power justification to overturn longer-standing statutes. To control for this possibility, I include a variable *Statage*, which is defined as the number of years since the statute was enacted.

The first set of models to be estimated have the following specification:

$$\begin{aligned} \text{Overturned}_{it} = \beta_0 + \beta_1 \text{Professional}_{it} + \sum \gamma_j Z_{jit} + \eta_1 (D_{it}^{\text{Elected}} \times I_{it}^{V}) \quad (1) \\ + \eta_2 (D_{it}^{\text{AppGov}} \times I_{it}^{G}) + \eta_3 (D_{it}^{\text{AppLeg}} \times I_{it}^{L}) + \sum \lambda_j D^j_{it} + \sum \kappa_j I^j_{it} \\ + \alpha_i + \delta_t + \varepsilon_{it} \end{aligned}$$

The vector Z of control variables includes *Constitutional*, a categorical variable that equals 1 when the statute was challenged on constitutional grounds, and 0 if not. The vector Z also includes *Statage* and $Urban^W$, where W is the threshold population level defining urbanization. α_i is a time-invariant state-level fixed effect, while δ_t is a time-fixed effect.

[10] Many studies stress the importance of political parties in state politics. See, for example, Fishback and Kantor (1996) and Beland (2015). Brady, Cooper, and Hurley (1979) argue that party voting was particularly pronounced during the period of this study.

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TABLE 2
SUMMARY STATISTICS AND DEFINITIONS

	Mean	Standard Deviation	Minimum	Maximum
Overturned	0.40	0.49	0	1
Constitutional	0.274	0.447	0	1
Non-constitutional	0.472	0.500	0	1
Professional	0.544	0.499	0	1
Constitutional	0.365	0.482	0	1
$Urban^{2500}$	38.29	20.34	4.48	91.03
$Urban^{20000}$	25.24	18.42	0	69.47
I^{V}	0.481	0.138	0.059	0.801
D^{G}	0.543	0.499	0	1
I^{L}	0.483	0.312	0	1
D^{Both}	0.50	0.500	0	1
$D^{Elected}$	0.874	0.332	0	1
D^{AppGov}	0.063	0.243	0	1
D^{AppLeg}	0.063	0.243	0	1
Statage	5.67	6.43	0	69

Definitions

Overturned: = 1 if court upheld challenge to licensing statute, = 0 if not;
Professional: = 1 if occupation was professional, = 0 if non-professional;
Constitutional: = 1 if challenge was on constitutional grounds, = 0 if on non-constitutional grounds;
$Urban^{2500}$: percentage of state population that lived in cities larger than 2,500 inhabitants;
$Urban^{20000}$: percentage of state population that lived in cities larger than 20,000 inhabitants;
I^{V}: Percentage of voters who voted for the Republican candidate for president;
D^{G}: = 1 if state governor was Republican, = 0 if Democrat;
I^{L}: Percentage of legislative seats held by Republicans;
D^{Both}: = 1 if both legislative chambers were controlled by Republicans, = 0 if not;
$D^{Elected}$: = 1 if judges were popularly elected, = 0 if not;
D^{AppGov}: = 1 if judges were appointed by the governor, = 0 if not;
D^{AppLeg}: = 1 if judges were appointed by the legislature, = 0 if not;
Statage: Number of years since statute was enacted.

These fixed effects are included to capture unobservable differences across states and possible changes over time. ε_{it} is the residual, characterized by the usual distributional assumptions.

Table 2 reports definitions and various summary statistics for the model variables in our sample. See data in Kanazawa (2023). I perform standard parametric estimation for models with binary dependent variables and then test for the robustness of these results in various ways. Table 3 reports the results of logit estimations of model (1) on the entire sample.[11] Columns (2) through (5) employ various combinations of state-level and time-fixed effects. As a robustness check, I also report the estimates of a linear probability model (LPM) and two semi-parametric

[11] The pattern of results is extremely similar for probit estimations.

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TABLE 3
PROPENSITY TO OVERTURN, ENTIRE SAMPLE

	LPM	Logit				Klein-Spady	
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Professional	–0.206****	–1.073****	–1.12****	–1.018****	–1.155****	–9.434****	–2.580**
	(0.046)	(0.213)	(0.251)	(0.233)	(0.229)	(1.621)	(1.035)
Constitutional	–0.254****	–1.126****	–1.38****	–1.265****	–1.212****	–10.015****	–2.692**
	(0.035)	(0.209)	(0.275)	(0.249)	(0.236)	(1.734)	(1.074)
$Urban^{2500}$	–0.006	–0.003	–0.022	–0.047	0.001	—	—
	(0.013)	(0.007)	(0.093)	(0.030)	(0.007)	—	—
D^{E}	–0.500**	–1.723*	–2.371	–3.232	–1.625	—	—
	(0.236)	(1.017)	(2.202)	(1.995)	(1.206)	—	—
D^{AppLeg}	–0.340*	–2.161***	–1.708	–1.046	–2.622***	–8.619****	–0.990**
	(0.200)	(0.794)	(2.058)	(1.830)	(0.804)	(1.417)	(0.457)
I^{V}	–0.002	–0.020	–0.006	–0.057	–0.014	—	—
	(0.01)	(0.023)	(0.065)	(0.047)	(0.029)	—	—
I^{L}	–0.612**	–1.682**	–3.265**	–2.871**	–1.983**	–9.002****	1.337**
	(0.248)	(0.757)	(1.545)	(1.289)	(0.847)	(1.557)	(0.574)
I^{G}	0.081	0.672**	0.455	0.499	0.751**	—	—
	(0.054)	(0.288)	(0.392)	(0.352)	(0.338)	—	—
$(D^{E} X I^{V})$	0.009	0.023	0.042	0.089*	0.016	—	—
	(0.009)	(0.027)	(0.069)	(0.053)	(0.031)	—	—
$(D^{AppLeg} X I^{L})$	1.675	4.884***	9.589	6.619	5.304***	18.814****	—
	(1.082)	(1.63)	(10.274)	(8.428)	(1.659)	(3.163)	—
$(D^{AppGov} X D^{G})$	–0.105	0.570	–0.402	0.220	0.116	—	—
	(0.477)	(1.017)	(1.556)	(1.424)	(1.109)	—	—
Statute Age	–0.007**	–0.020	–0.042**	–0.036*	–0.027*	–0.104****	–0.037
	(0.003)	(0.015)	(0.020)	(0.018)	(0.016)	(0.020)	(0.024)
Constant	Yes	Yes	No	No	Yes	No[a]	No[a]
State FE	Yes	No	Yes	Yes	No	No[b]	No[b]
Time FE	Yes	No	Yes	No	Yes	No[b]	No[b]
(Pseudo) R^2	0.173(within)	0.115	0.172(within)	0.127(within)	0.167	—	—
N	489	489	489	489	489	495	495

* = Significant at the 10 percent level.
** = Significant at the 5 percent level.
*** = Significant at the 1 percent level.
**** = Significant at the 0.1 percent level.
Figures in parentheses are estimated robust standard errors.
[a] In semiparametric single-index estimation models like Klein-Spady, the constant is not identified.
[b] Convergence could not be achieved with the inclusion of fixed effects, which reflects the fact that estimation time for the Klein-Spady estimator is sensitive to the number of covariates. See De Luca (2008, p. 202). Convergence could only be achieved with a parsimonious model that omitted the variables that were consistently insignificant.
Source: Author's regression results.

estimations (Klein-Spady). The latter are reported because parametric estimations are sensitive to assumptions regarding the underlying distribution (Horowitz and Savin 2001; De Luca 2008). The Klein-Spady estimator possesses good efficiency and consistency properties under mild regularity conditions.[12]

[12] Klein and Spady (1993), Horowitz and Savin (2001), and De Luca (2008).

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Table 3 reveals that statutes licensing professional occupations were significantly less likely to be overturned than comparable statutes licensing non-professional occupations.[13] In addition, the courts were significantly less likely to overturn cases involving constitutional challenges. The negative and significant coefficient on I^L indicates that judges were less likely to overturn licensing laws when legislatures were more heavily Republican. The mixed parametric results on the coefficients on D^{AppLeg} alone and interacted with I^L do not plausibly support the conclusion that judges responded directly to non-partisan political pressures from legislatures, especially since these variables lose all significance in the specifications that include state-fixed effects. Rather, these results may reflect a general tendency for judges to defer to legislative enactments.[14] The negative and mostly significant coefficient on statute age supports this judicial deference interpretation. Finally, neither governor nor voter interest variables are significant at standard significance levels.[15]

The results in Table 3 indicate that courts treated licensing statutes for professional occupations differently from those for non-professional occupations, regardless of constitutionality. However, the key question is whether courts treat constitutional challenges differently for professional and non-professional occupations. I pursue two additional strategies to shed further light on this issue. First, I add an interaction term *(Constitutional X Professional)* to the models estimated in Table 3, which allows the effect of professional status to vary between constitutional and non-constitutional challenges. It also allows use of the entire sample to estimate the effect of professional status on the court's treatment of constitutional challenges.

The results of LPM and logit estimations of the model are reported in Table 4, where all estimations include both state- and time-fixed effects. The results of a parsimonious model are reported in Columns (2) and (4), which omit urbanization and the legislator appointment variables, which are consistently insignificant. The negative and significant coefficient on the interaction term reveals that courts were less likely to overturn licensing statutes for professional occupations on constitutional grounds.[16]

[13] The *Professional* variable is probably subject to measurement error in capturing the effects of asymmetric information and monopolization. This introduces attenuation bias into the estimates, suggesting that the significance level is biased downward.

[14] This assumes that Democratic legislatures would tend to oppose licensing laws, which is suggested by histories of the state political parties during the period that describe the Democratic Party as agrarian populists. See, for example, Brady and Althoff (1974).

[15] There is little evidence that urbanization has a significant impact. The results are extremely similar when the variable $Urban^{20000}$ is used.

[16] The political variables are consistent with the legislative deference interpretation of Table 3, though the legislative interest variable I^L is less significant.

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TABLE 4
REGRESSION RESULTS, CONSTITUTIONAL CHALLENGES TO PROFESSIONAL STATUTES

Variable	LPM (1)	LPM (2)	Logit (3)	Logit (4)
Professional	–0.117**	–0.12**	–0.498*	–0.516*
	(0.056)	(0.056)	(0.294)	(0.293)
Constitutional	–0.129	–0.132*	–0.567	–0.599*
	(0.079)	(0.079)	(0.358)	(0.354)
(Constitutional X Professional)	–0.208**	–0.204**	–1.97****	–1.918***
	(0.102)	(0.102)	(0.600)	(0.593)
$Urban^{2500}$	–0.004	—	0.003	—
	(0.012)	—	(0.086)	—
I^{L}	–0.410*	–0.430*	–2.057	–2.171
	(0.240)	(0.232)	(1.482)	(1.459)
D^{AppLeg}	–0.106	—	–1.060	—
	(0.141)	—	(1.346)	—
$(D^{AppLeg} X I^{L})$	1.272	1.093	11.476	7.385
	(0.928)	(0.945)	(11.338)	(8.594)
Statute Age	–0.008***	–0.008**	–0.045**	–0.044**
	(0.003)	(0.003)	(0.020)	(0.020)
CONSTANT	0.841*	0.688****	—	—
	(0.509	(0.13)	—	—
R^2	0.175(within)	0.174(within)	0.189(pseudo)	0.186(pseudo)
N	495	495	466	466

* = Significant at the 10 percent level.
** = Significant at the 5 percent level.
*** = Significant at the 1 percent level.
**** = Significant at the 0.1 percent level.
Figures in parentheses are estimated robust standard errors. All estimations include both state-level and time-fixed effects.
Source: Author's regression results.

Furthermore, the predicted impact was large, which we can see by interpreting the coefficients in Column (4). Table 5 reports implied probabilities of statutes being overturned for both categories of occupations for both types of challenges. Non-professional statutes were a little over 50 percent more likely to be overturned on non-constitutional grounds. On the other hand, the predicted probability of non-professional statutes being overturned on constitutional grounds was over eight times that of professional statutes. We can conclude that differential treatment of professional vs. non-professional statutes was mostly on fundamental constitutional grounds, where issues of redistribution and appropriate use of police power by legislatures were at play.

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TABLE 5
PREDICTED PROBABILITIES OF BEING OVERTURNED ON CONSTITUTIONAL, NON-CONSTITUTIONAL GROUNDS

	Constitutional	Non-Constitutional
Professional	0.026	0.161
Non-professional	0.214	0.253

Probabilities are calculated at the mean values of the other included variables.
Source: Author's calculations.

The second strategy is to subdivide the entire sample into constitutional and non-constitutional challenges and to estimate separately on these sub-samples. This allows the effect of all regressors to vary across the sub-samples. Table 6 reports the results of LPM and logit estimations of the parsimonious model in Table 4, which include both state- and time-fixed effects. These results show that the propensity of the courts to overturn statutes governing professional occupations was driven mainly by constitutional challenges. As expected, the model of constitutional challenges has considerably more explanatory power, as reflected in the (pseudo) R^2s.

As we have seen, these findings are highly robust to the choice of estimation procedure, different combinations of state- and time-fixed effects, the selective omission of insignificant variables from the models, division into various sub-samples, and the definition of the urbanization variable. Additional robustness checks include selective omission of individual occupations and selective omission of cases from various individual states, including the states with the most cases, New York, Missouri, Texas, and Illinois. Finally, I re-estimated the model classifying plumbers as professional based on some disagreement among judges regarding whether plumbing served a valid public health function, as documented in the case study in the next section.[17] None of these additional estimations change the basic finding that the courts were significantly less likely to overturn licensing statutes for professional occupations on constitutional grounds.

Three Illustrative Case Studies: Horseshoers, Physicians, and Plumbers

The econometric analysis of the previous section strongly suggests that the state courts were significantly more likely to uphold, on constitutional grounds, the licensing of professional occupations than non-professional occupations. These findings must nevertheless be viewed with caution,

[17] Results are available from the author on request.

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TABLE 6
REGRESSION RESULTS, CONSTITUTIONAL VS. NON-CONSTITUTIONAL CHALLENGES

	Constitutional		Non-Constitutional	
	LPM	Logit	LPM	Logit
Variable	(1)	(2)	(3)	(4)
Professional	–0.386****	–3.121****	–0.116*	–0.565*
	(0.071)	(0.816)	(0.063)	(0.313)
I^L	–0.386	–5.358	–0.404	–2.124
	(0.401)	(5.206)	(0.292)	(1.793)
$(D^{AppLeg} XI^L)$	–2.118	(a)	2.112	13.968
	(2.571)		(1.317)	(11.844)
Statute Age	–0.004	–0.056	–0.007*	–0.036
	(0.006)	(0.069)	(0.004)	(0.024)
CONSTANT	0.559	—	0.661****	—
	(0.233)	—	(0.165)	—
(pseudo) R^2	0.326(within)	0.511	0.139(within)	0.222
N	190	163	305	289

* = Significant at the 10 percent level.
** = Significant at the 5 percent level.
*** = Significant at the 1 percent level.
**** = Significant at the 0.1 percent level.
Figures in parentheses are estimated robust standard errors. All estimations include both state-level and time-fixed effects.
(a): Omitted due to perfect multicollinearity in the smaller sample.
Source: Author's regression results.

given the restrictive assumptions we are making about the motivations of judges and the dearth of data that would permit us to rule out other factors, such as status and personal ideology. For further corroboration of our findings, I now turn to brief case studies of three occupations: horseshoers, physicians, and plumbers.

The experiences of these three occupations reveal much about the factors that influenced the state courts regarding licensing. For horseshoers, issues of asymmetric information were virtually non-existent. At the same time, horseshoeing met few of the traditional criteria—public health, safety, and welfare—that justified exercise of police power. In the practice of medicine, however, there were major issues of both asymmetric information and public health, safety, and welfare. Finally, the case of plumbers shows an intermediate case, where the courts showed ambivalence regarding whether the police power applied because of public health, safety, and welfare concerns. The plumber rulings also show perhaps the clearest articulation of the courts' concern that licensing would promote monopolization by incumbent practitioners.

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HORSESHOERS

Prior to widespread adoption of the automobile in the early twentieth century, horseshoeing was a thriving occupation characterized by intense competition (Horack 1902; Friedman 1965). Horseshoeing did not require long hours of professional training, and opening a horseshoe shop required little capital. Horseshoeing was labor-intensive, and most horseshoers were small businessmen, often individual entrepreneurs or sole proprietors. Proprietorships were typically owned by master horseshoers, who hired journeymen horseshoers to work for them. Master and journeymen horseshoers were often at odds over the division of profits, but they shared the problem of competition from fly-by-night shops that could undercut their prices (Horack 1902).

These conditions generated demand for licensing by horseshoers, who organized into unions and protective associations in the late nineteenth century. Beginning in the 1890s, licensing statutes were enacted in several states, including California, Colorado, Illinois, New York, and Washington. These statutes required horseshoers to have a license to practice and established boards of examiners to receive written applications and determine fitness to practice. Licensed horseshoers had to pay license fees, the revenues from which covered the administrative expenses of enforcing the statute [*In re Aubrey* (1904); *Bessette v. People* (1901)].

The court's response to challenges to these statutes speaks to the attitude of state judges regarding the proper application of police power. In 1901, the Illinois Supreme Court overturned a horseshoer licensing statute, arguing that it was unconstitutional because it "interfere[d] with the personal liberty of the citizen and his right to pursue such avocation or calling as he may choose," without protecting the health, comfort, safety, or welfare of the public [*Bessette v. People* (1901), p. 344]. Similar arguments were made by the state courts of New York and Washington in overturning similar statutes [*New York v. Beattie*, 96 A.D. 383 (1904); *In re Aubrey*, 36 WA 308 (1904)]. By contrast, no rulings in my sample maintained that horseshoeing was a legitimate target of police power because it promoted public health, safety, or welfare.

At the same time, horseshoer competence was largely a non-issue. The technology of horseshoeing was simple, and practicing horseshoeing required a modest amount of skill (*Scientific American* 1885; Horack 1902). And it was relatively straightforward for customers to assess whether the job was being done correctly. There was probably little justification for licensing to solve an asymmetric information problem. This

combination of factors probably explains why the courts in general took a dim view of horseshoeing licensing statutes.

PHYSICIANS

In sharp contrast to horseshoers, the practice of medicine was seen as intimately tied to issues of public health and safety. An obvious connection existed between medical practice and the health and safety of consumers, with physicians often making literally life-or-death decisions. Several factors exacerbated the information issue, making physician competence an issue of widespread public concern in the late nineteenth century.

The first was the general state of medical practice in the United States, where physicians varied dramatically in how they practiced medicine. Mainstream physicians competed against heterodox practitioners, especially homeopathy and eclectic medicine (Shryock 1967; Baker 1984). The germ theory of disease began to make significant inroads into the practice of medicine no earlier than the 1880s (Baker 1985). Primitive practices such as bloodletting and purging that were dominant in the early nineteenth century were slowly being phased out and replaced by more modern practices (Grace 2021). All of these factors contributed to important differences among physicians in the quality of their services. In his famous report on the state of U.S. medical education published in 1910, Abraham Flexner lamented this state of affairs:

> "We have indeed in America medical practitioners not inferior to the best elsewhere; but there is probably no other country in the world in which there is so great a distance and so fatal a difference between the best, the average, and the worst." (Flexner, quoted in Beck (2004), pp. 2139–40)

Furthermore, the competence of physicians was notoriously difficult for consumers to gauge (see Shryock 1967; Law and Kim 2005). And the still relatively primitive state of medical practice reduced the information value of medical outcomes, limiting the extent to which consumers could rely on experience or reputation. Referring to the practice of medicine, Justice Oliver Wendell Holmes spoke to this issue in the famous *post hoc ergo propter hoc* fallacy:

> "under which the person taking …a prescription and recovering quite naturally reasoned that he had been cured by the miraculous powers of the medicine, when the chances were that the concoction had had nothing to do with his recovery." (Moyers 1976, p. 4)

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Finally, the medical profession was almost entirely unregulated at the time of the Civil War (Hamowy 1979; Baker 1984). Meanwhile, medical schools of various curricular quality, many of which served the diverse schools of medicine, flourished. There was virtually uncontrolled entry into the practice of medicine (Baker 1984; Hamowy 1979). By the 1860 census, the United States had 55,000 practicing physicians, the highest number per capita in the world (Hamowy 1979). Incumbent practitioners experienced severe competitive pressures, both from mainstream practitioners fresh out of medical school and practitioners from heterodox schools.

These conditions provoked a couple of responses from the medical profession. Beginning in the late 1860s, individual medical schools began to upgrade the quality of their programs. However, success was generally confined to a handful of more progressive schools. This led to the second response: interest among physicians in occupational licensing, which began to be observed by the early 1870s (Shryock 1967; Moyers 1976). Early attempts at licensing were largely unsuccessful, however, mostly because of lax regulations and high enforcement costs (Baker 1984; Hamowy 1979). Heterodox practitioners opposed licensing statutes, resulting in weak or watered-down regulations and ineffective oversight (Rothstein 1972). It was not until the 1890s that many states managed to enact effective licensing statutes.

Physician licensing statutes were subjected to numerous legal challenges in many states, with the courts consistently upholding their constitutionality. The reasoning of the Indiana Supreme Court in the early 1887 case of *Eastman v. State* is worth quoting here:

> "The practice of medicine and surgery is a vocation that very nearly concerns the comfort, health and life of every person in the land. … it is an almost imperious necessity that *only persons possessing skill and knowledge should be permitted to practice medicine and surgery*." (p. 279. emphasis added)

Similar arguments can be found in many other state rulings on physician licensing statutes.[18]

Indeed, two years later, the constitutionality issue was probably laid to rest by the U.S. Supreme Court in *Dent v. West Virginia,* a case involving a challenge to a physician licensing statute on 14th Amendment grounds

[18] See, for example, *State ex rel. Powell v. State Medical Examining Board*, 32 MN 324 (1884), p. 327; *Territory v. Newman*, 13 NM 98 (1905), p. 102; and *State Medical Board v. McCrary*, 95 AR 511 (1910), pp. 514–15.

[129 US 1149 (1889)]. The Court upheld the constitutionality of the statute, with Chief Justice Field arguing in part:

> "Everyone may have occasion to consult him[the physician], but comparatively few can judge of the qualifications of learning and skill which he possesses. Reliance must be placed upon the assurance given by his license, issued by an authority competent to judge in that respect, that he possesses the requisite qualifications." (pp. 122–23)

Field was clearly cognizant of the asymmetric information issue and the difficulties it posed to consumers in assessing physician competence.

It is noteworthy that there is only mixed evidence that professional medical societies, which represented the interests of mainstream physicians, pushed for the enactment of the licensing statutes (Rothstein 1972; Baker 1985). Historians have argued that many mainstream physicians viewed licensing as conferring legitimacy on heterodox practitioners because, often, the only politically feasible licensing board structure included heterodox representation (Baker 1985). The fact that professional medical societies generally did not strongly support licensing casts doubt on the possibility that courts upheld those statutes due to political pressure from physicians interested in insulating themselves from competition.

PLUMBERS

The cases of horseshoers and physicians illustrate the courts' view of constitutionality when health, safety, and welfare considerations clearly justified the exercise of police powers (physicians) or clearly did not (horseshoers). Examination of a third occupation—plumbers—provides insight into the courts' thinking in cases where judges were unclear, or disagreed, on whether sufficient public welfare benefits warranted the exercise of police power. It also speaks to the interpretive question of the relative roles of asymmetric information and monopoly power.

Throughout the nineteenth century, plumbing was a labor-intensive practice involving mostly the use of hand tools. Local plumbing markets were dominated by individual plumbers or small firms owned by master plumbers. Most plumbers began as apprentices to master plumbers, becoming journeyman plumbers at some point. Once they acquired skills, it was easy for journeyman plumbers to start a firm or enter a new market. All of this added up to brisk competition among plumbers and plumbing firms (Mendel 1998). Plumbers began to agitate for licensing laws, leading to numerous statutes being enacted in various states beginning in the late 1880s (Listokin and Hattis 2005, p. 25).

Much more than horseshoeing, plumbing requires considerable skill. Plumbers needed to keep drinking water and wastewater disposal systems completely separate, make wastewater pipes watertight, ensure that water closets flushed completely, and install traps on drains to keep sewer gases out of the house, among other things (Tomes 1990). It was notorious that plumbers varied dramatically in competence. As one commentator observed at the time:

> "There are … in every community, ignorant but conceited charlatans, who, because they have learned the process of melting lead and wiping a joint, think they understand all the laws of gravitation and of the diffusion of gases." (Corbally 1883, p. 778; see also, *Scientific American* 1874)

Consumers were strongly advised by sanitary authorities to hire only competent plumbers. However, it was difficult for consumers to distinguish between competent and incompetent plumbers.

Another commentator speaks to the challenges faced by consumers:

> "Solid or leaky joints are not the worst, though perhaps they are the most annoying, effects of a bad job of plumbing. They are apparent at once, and the contractor is obliged to put them in order; but a job put up with light or inferior material runs very well for a while, until constant expansion by continued pressure produces a burst. This is not sooner repaired then another appears, and another, and the jobber who has been called in (and who may be an entirely different party from the one who did the original job) gets all the blame of not being able to 'fix a pipe so that it will stay fixed.'" (Dewstoe 1874)

Prior to the Civil War, the dominant medical view was that many infectious diseases were caused by foul air, or *miasma* (Ford 1994). Over time, etiological advances established the true scientific origins of diseases such as cholera, diphtheria, and typhoid fever. In mid-century, John Snow and William Budd demonstrated that cholera and typhoid fever could spread through water supplies contaminated with human waste. Diphtheria was shown to be caused by impure air leaking from faulty plumbing systems. These developments ultimately transformed public views of plumbing, which would come to be seen as crucial to public health and safety.

But in the late nineteenth century, the connection between infectious diseases and plumbing practices was more disputed. Despite the implication of contaminated water and faulty plumbing systems in the spread of infectious diseases, the miasma theory remained influential for some time (Rautanen et al. 2010). Public health initiatives based on the new scientific understanding conflicted with prevailing beliefs in individual rights

and opposition to public intervention in private lives and decision-making (Ford 1994). Consequently, late-nineteenth-century judges could differ on whether regulating plumbing in the name of public health, safety, and welfare was an appropriate exercise of police power.

Indeed, we observe a sharp bifurcation in judges' opinions on this very point. In the 1890 case of *Singer v. State*, one of the earliest state supreme court cases to rule on a plumber's licensing statute, the Maryland supreme court ruled that a plumber's licensing statute was constitutional. The court argued that no one would question the appropriateness of requiring the licensing of physicians, lawyers, or druggists to protect "against the evils resulting from incapacity and ignorance."[19] The 1898 Wisconsin case of *State ex rel. Winkler* provides perhaps the clearest articulation of the public health rationale for regulating plumbers:

> "Under modern systems of housebuilding and disposal of sewage, the dangers to the health of the entire public, arising from defective plumbing, are so great, and at the same time so insidious, that were the state unable to provide for the proper regulation and supervision of the plumber in his work, so as to minimize the danger to the public health from the escape of sewer gas, the state would certainly be unable to protect the public life and health in a most important particular."[20]

There was, however, a distinct minority current that did not accept that there were sufficient public health reasons to regulate plumbers. In the 1895 case of *People ex rel. Nechamcus*, the New York Supreme Court was divided on the constitutionality of a plumber licensing law. In dissent, future U.S. Supreme Court justice Rufus Peckham argued:

> "But the trade of the practical plumber is not one of the learned professions, nor does such a tradesman hold himself out in any manner as an expert in the science of 'sanitation,' nor is any such knowledge expected of him, and this act, when practically enforced, may or may not exact it of him." (p. 541)

Peckham went on to articulate what he thought was really going on: that the licensing statute was a brazen attempt by plumbers to monopolize the occupation.

> "Taking the act as a whole, it would seem quite apparent that its purpose is to enable the employing plumbers to create a sort of guild or body among themselves, into which none is to be permitted to enter excepting as he may pass an examination, the requisites of which are not stated, and where his success or failure is to be

[19] See also *State v. Gardner*, 58 OH 599 (1898); *Douglas v. People*, 225 IL 536 (1907).

[20] *State ex rel. Winkler v. Benzenberg*, 101 WI 172 (1898), p. 176. See also *Ex parte Smith* (1910), p. 122.

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> determined by a board of which some of their own number are members… I think the act is vicious in its purpose and that it tends directly to the creation and fostering of a monopoly." (pp. 543–44)

The Washington Supreme Court expressed similar sentiments in the 1906 case of *State ex rel. Richey v. Smith*:

> "We are not permitted to inquire into the motives of the legislature, and yet, why should a court blindly declare that the public health is involved, when all the rest of mankind know full well that the control of the plumbing business by the board and its licensees is the sole end in view." (p. 248)

The message of the plumber rulings seems clear. When courts believed plumbing promoted legitimate public health and safety goals, they tended to rule that licensing statutes were both constitutional and appropriate. They were constitutional because they were a legitimate exercise of police power. And they were appropriate because the business of plumbing was plagued by incompetence and asymmetric information, making it difficult for consumers to hire competent plumbers. However, when the courts did not believe that plumbing served public health and safety goals, they tended to oppose licensing statutes. This was not only because they believed it was an improper exercise of police power. They also harbored suspicions that the real intent of licensing statutes was to facilitate the creation of monopolies by incumbent practitioners.

DISCUSSION AND CONCLUSIONS

The central takeaway message is that in the late nineteenth and early twentieth centuries, licensing statutes governing professional occupations were significantly more likely to be deemed constitutional than comparable statutes governing non-professional occupations, and that the difference was quantitatively large. This suggests that state courts treated police power in one of two ways, or both. First, the courts discouraged redistribution across classes of practitioners, which was consistent with enforcing the due process and equal protection clauses of the 14th Amendment while adhering to a strong judicial norm that proscribed class legislation. Second, they apparently implemented the legitimate uses of the police power to promote public health, safety, and welfare.

All of this suggests a view of the courts as largely promoting efficient outcomes in occupational licensing markets. It is also consistent with existing scholarship on this period, which concludes that occupational licensing may have addressed information asymmetries associated

with new, emerging occupations (Law and Kim 2005; Law and Marks 2009). My findings go beyond that scholarship in distinguishing between the new professional occupations and the traditional, longstanding nonprofessional occupations. The results suggest that legislatures tried to help practitioners in the latter occupations through licensing laws, but they were commonly rebuffed by courts concerned about redistributive legislation.

How do we reconcile this generally happy story with the dim view that most economists have of occupational licensing in current occupational markets? For most economists, the monopolizing and redistributional vices of licensing seem to dominate any informational virtues overall, even for occupations clearly characterized by asymmetric information, such as physicians, dentists, lawyers, and midwives.[21] Some clues are seen in the subsequent history of occupational licensing. Legislatures continued to enact licensing statutes well after the end of the Progressive Era. However, constitutional challenges to licensing legislation subsequently diminished over time, to the point that they have become rare (Edlin and Haw 2014; Spinden 2015).

How do we explain this subsequent history? One possible explanation is that constitutional challenges became rarer as the constitutional issues were resolved over time. This would be consistent with standard law-and-economics models that predict reductions in litigation with reductions in legal uncertainty (Priest and Klein 1984). However, another very different possibility is that, over time, judges became increasingly opposed to overturning redistributive labor legislation. One line of legal thought holds that after this period, progressive judges increasingly deferred to legislatures, which may have opened the door wider to redistributive legislation (Bernstein 2011; Barnett 2016). This latter explanation has been embraced by scholars in the legal realism school. In principle, these two hypotheses are distinguishable in the data, as we should be able to observe the subsequent history of challenges and how they were treated by the courts. Future research will examine subsequent patterns of litigation and court rulings for insight into these two possible causes of the decline over time in rulings on licensing statutes.

Another implication is more prescriptive than positive: How *should* current courts be treating occupational licensing? This history suggests that selective overturning of licensing statutes can weed out redistributive statutes while sustaining ones that effectively address information issues. Could courts revive the application of class legislation review principles

[21] See the studies cited in footnote 3.

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to occupational licensing? In fact, a revival of class legislation-based review has been proposed by legal scholars for racial gerrymandering, abortion, and sex and race discrimination (Saunders 1997; Yudof 1990; Balkin 2007; Nourse and Maguire 2009). Resurrecting class legislation-based review need not place excessive power in the hands of unelected judges.[22] Instead of peremptorily overturning licensing statutes that are redistributive on the face, courts could return questionable statutes to the legislature, asking for further justification or clarification, with the possible threat of non-enforcement.[23] This could be a reasonable way to maintain legislative authority while providing meaningful, but not overly intrusive, judicial review. Future research will develop this idea within the context of current occupational licensing laws.

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[22] This is, of course, a longstanding concern among many legal scholars known as the *counter-majoritarian difficulty*. See, for example, Friedman (2001).

[23] See Nourse and Maguire (2009, pp. 1005–11) for more details on how this could work.

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