



Was Occupational Licensing Good for Minorities? A Critique of Marc Law and Mindy Marks

Daniel B. Klein¹, Benjamin Powell², and Evgeny S. Vorotnikov³

[LINK TO ABSTRACT](#)

In 2009, the *Journal of Law and Economics* published an article by Marc T. Law and Mindy S. Marks entitled, “Effects of Occupational Licensing Laws on Minorities: Evidence from the Progressive Era.” The authors use “Progressive Era” broadly—their data ranges mainly from 1880 to 1940. In their abstract, Law and Marks say: “This paper investigates the effect of occupational licensing regulation on the representation of minority workers in a range of skilled and semi-skilled occupations,” and, “We find that licensing laws seldom harmed minority workers. In fact, licensing often helped minorities, particularly in occupations for which information about worker quality was difficult to ascertain” (351). They conclude their article by addressing current policy: “Given that minorities are still underrepresented in many skilled occupations, this suggests that licensing may have an important role to play in helping talented minority workers signal quality” (364).

At the beginning of the paper, Law and Marks quote Walter E. Williams, an outspoken critic of occupational licensing. The quotation represents the viewpoint questioned by Law and Marks; it reads: “Occupational licensing coupled with white-dominated craft unions has been a particularly effective tool for reducing employment for Negroes” (Williams 1982, 90-91; quoted by Law and Marks 2009, 351). As Law and Marks note, Williams belongs to a tradition that includes Reuben

1. George Mason University, Fairfax, VA 22030.

2. Suffolk University, Boston, MA 02108.

3. University of Minnesota, St. Paul, MN 55108.

Acknowledgments*: For valuable feedback we are grateful to Niclas Berggren, David Bernstein, Tyler Cowen, Mike Ford, Daniel Houser, Morris Kleiner, John Majewski, David Skarbek, Shirley Svorny, and Walter E. Williams.

Kessel (1958 and 1970), Armen Alchian and Kessel (1962), H. E. Frech (1975), and A. L. Sorkin (1977).⁴

Law and Marks use a state-based difference-in-differences approach to test the effect of licensing on the representation of blacks and women in 11 occupations: accountants, barbers, beauticians, engineers, midwives, pharmacists, plumbers, practical nurses, registered nurses, physicians, and teachers. In their conclusion, Law and Marks write: “Contrary to received wisdom, our empirical analysis suggests that the introduction of licensing did not generally harm black and female workers” (2009, 364).

Such efforts can certainly inform and improve understanding of the consequences of occupational licensing. After scrutinizing the article, however, we find many problems, and some of the problems seem to be quite important. Also, we apply falsification tests to their findings and the results are damaging. All told, the problems suggest that Law and Marks have little basis for upsetting the scholarly tradition indicating that occupational licensing has been detrimental to minorities.

The present critique makes many points. Although the single most important point comes first, thereafter we present our points in an order that facilitates explanation of the details of the Law and Marks article. Some highly important points do not come until later.

The reader may be interested to know that we submitted this paper to the *Journal of Law and Economics* in a form essentially identical to the present one, but it was rejected.

Problems with their data

A Census-reported practitioner in a licensing state is not necessarily licensed

Licensing is instituted principally at the state level.⁵ States imposed licensing on, say, plumbers at different dates. The difference-in-differences approach aims to detect the effects of the imposition relative to what is happening in the states without the law. In principle, this method helps to control for trends occurring apart from licensing, such as overall movements of blacks or women into non-

4. Kleiner (2006) and Stephenson and Wendt (2009, 184-189) summarize the economic literature on licensing.

5. Freeman (1980, 167) offers the following useful clarification: “state laws differ in applicability, some requiring licensing in cities above a certain size and others permitting cities to license occupations.”

OCCUPATIONAL LICENSING: GOOD FOR MINORITIES?

agricultural work. For data on when a state imposed licensing on an occupation, Law and Marks draw from the report entitled *Occupational Licensing Legislation in the States*, produced and published by the Council of State Governments (1952).

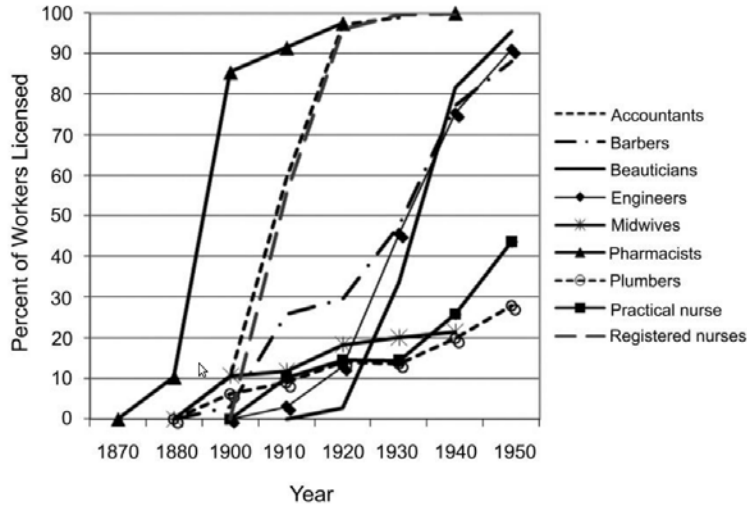
For data on the number of practitioners in an occupation, such as plumbing, Law and Marks do *not* draw from records of plumbers licensed. Instead, their data on occupational employment comes from the Integrated Public Use Microdata Samples (IPUMS-USA 2010) of the Census of the Population. As they note in their paper (2009, 356), the data on occupation is self-reported.

People sometimes practice without a license. The Census was not and is not used to enforce against unlicensed practice, so there would be seem to be little reason for an unlicensed plumber or nurse not to report his or her true occupation. Law and Marks propose that, when representation of blacks and women increased, it was *because* licensing introduced a way for blacks and women to assure quality. Yet we do not know that those blacks and women had a license.

That a Census-reported practitioner in a licensing state is not necessarily licensed is a fact that should greatly affect the researcher's treatment of the data and results. Remarkably, however, Law and Marks make no mention of this fact, and thus give no discussion of how it affects an understanding of the data and results. It is curious that, in a *Journal of Economic History* article by Law and Sukkoo Kim (2005), an article that also uses the Census data, Law and Kim suggested that one possible reason that licensing did not appear to reduce entry was "because enforcement of early licensing laws was weak" (740; see also 731 n. 23). Yet the importance of unlicensed practice is never acknowledged in the 2009 article by Law and Marks.

In their article, Law and Marks make almost no statement to the effect that they are treating Census-reported practice in a licensing state as licensed practice. There is one explicit statement that would be true only if all Census-reported practice in a licensing state were licensed practice. Here we reproduce their Figure 1 (Law and Marks 2009, 355), which charts occupations over time. The vertical axis is labeled "Percent of Workers Licensed." The line for plumbers, for example, leads the reader to think that, by 1950, 28 percent of all plumbers in the country were licensed. What their data actually tell us is that 28 percent of plumbers in 1950 *worked in licensing states*. In light of the fact that not all Census-reported practice in a licensing state is licensed practice, we see that the axis label "Percent of Workers Licensed" is incorrectly labeled. The correct label would be "Percent Working in Licensing States."

Figure 1. A direct reproduction of Law and Marks’s Figure 1 (2009, 355): The label on the vertical axis would be sound only if all Census-reported practice in a licensing state were licensed practice.



With that one exception, Law and Marks avoid ever saying explicitly that all Census-reported practice in a licensing state is licensed practice. Their statements throughout the paper, about the impact of licensing laws on minority representation in the occupation, let the reader fall into thinking that all Census-reported practice in a licensing state is licensed practice. In never pointing out the falsehood of such a thought, Law and Marks suggest *implicitly* that all Census-reported practice is licensed practice.

Law and Marks might defend themselves by saying that they were careless in labeling the vertical axis of Figure 1, and, further they might claim that we can *suppose* that, in a licensing state, the ratio of licensed practice to Census-reported practice is generally the same for the majority (white/men) as it is for the minority (blacks/women). That is, they might assert that the fact that not all Census-reported practice in licensing state is licensed practice merely introduces classical measurement error. One cannot find a defense of such a supposition in Law and Marks (2009), for they do not even acknowledge the issue.

But there are reasons to suspect, rather, that in a licensing state the ratio of licensed practice to Census-reported practice would be higher for whites/men than it would be for blacks/women. Let’s examine plumbers as a concrete example.

In his book *The Negro and Organized Labor* (1965), Ray Marshall explains that in 1953 the Maryland Senate conducted an investigation of the Maryland’s State Board of Plumbing Commissioners to “explain evidence of discrimination against plumbers in the state” (Marshall 1965, 115).⁶ It disclosed that there were 3,200

OCCUPATIONAL LICENSING: GOOD FOR MINORITIES?

licensed plumbers in Maryland in 1953, and only two were black (115-116). Meanwhile, the Census for Maryland for 1950 showed 6,265 plumbers, of which 6,169 were white and 96 were black.

TABLE 1. Plumbers in Maryland, ca. 1950: whites and blacks

	A	B	C	D
Maryland plumbers	1953 Maryland Senate investigation: LICENSED	1950 Census-reported plumbers	A as % of B	B as % of A
White	3198	6169	51.8%	192.9%
Black	2	96	2.1%	4800.0%
ALL	3200	6265	51.1%	195.8%
<i>Sources:</i> Column A: Marshall (1965, 115-116); column B: U.S. Census (IPUMS-USA 2010).				

In Table 1, the numbers in column A are the numbers from the 1953 Maryland Senate investigation, and the numbers in column B are as we find them from the 1950 Census. Column C shows that 51.8 percent of white plumbers were licensed while only 2.1 percent of black plumbers were licensed. Table 1 constitutes simple, straightforward evidence that the licensed percentage among whites was much greater than the licensed percentage among blacks. If one were to suppose—as does Law and Marks’s label on their Figure 1—that Census-reported practice were taken as licensed practice, then, as shown in column D, for Maryland in 1950 the number of licensed black plumbers would be overstated by 4,700 percent!

To our knowledge, the information from the 1953 Maryland Senate investigation on licensing and plumbing is the only such information available on actual numbers of licensed practitioners; no one seems to have a data series of licensed practitioners for the period. The Maryland case might be an extreme one. First, the motivation for the 1953 investigation was a concern about the discriminatory effect of licensing in plumbing in Maryland.⁷ We can also imagine why unlicensed practice may be much more widespread in plumbing than in several other occupations treated by Law and Marks.

Although the Maryland plumbing data might be an extreme case, it nonetheless illustrates the broad truth that, typically, unlicensed practice was (and may

6. In our research for the present critique, we consulted with David Bernstein, who has published research on how licensing affected blacks in the time period covered by Law and Marks (Bernstein 1994; 2001, ch. 2). Bernstein put us on to this information that bears directly on the issue at hand.

7. Northrup (1944, 24) remarked: “At present [1944] six Negroes are studying nights in the hope of being Maryland’s first licensed plumbers of their race.” Marshall (1965, 115) reported that these black plumbers had been trying to comply with the state licensing regulations and secure their licenses since 1941, passing a journeyman test only after legislative investigation and adverse publicity in 1949. Marshall further noted that: “[N]o black plumbers passed the examination to become a master plumber.”

well remain) much more common among black practitioners than among white practitioners, and probably also for women than for men. For example, Marshall writes: “*as with the electricians*, licensing laws have been used to bar Negroes from the plumbing trade,” (1965, 115; italics added), and he relates that in 1962 there were just two licensed black electricians in Atlanta (112).

David Bernstein (2001, 35-36) explicitly warns researchers against using the Census data in just the way that Law and Marks do. He illustrates the hazard with the example from Maryland in 1953, but also he provides ample other illustration, including the following:

The first African American passed a plumbers’ licensing exam in Colorado in 1950 only after pressure from civil rights authorities. There was only one licensed African American plumber in Charlotte in 1968. As late as 1972, Montgomery County, Alabama, had only one licensed African American plumber, and he was able to get his license only after a ferocious struggle with the local plumbers’ union. By the early 1970s there were still very few licensed African American plumbers in the United States. (Bernstein 2001, 36)

Bernstein (2001, 38-39) quotes the black barber Ben Taylor protesting to the Virginia state legislature that his colleagues would “dye old Virginia with their blood” before complying with a proposed licensing law on barbers. Stuart Dorsey (1983) discussed reasons why a significant number of black barbers operated without licenses in St. Louis and Chicago. Unlicensed minorities often practice in segmented markets, as has often been observed in taxi markets (Suzuki 1985 and 1995). Segmented markets were especially likely in the pre-Civil Rights South, when state regulation consciously sought to limit public interaction of blacks and whites.

During the decades treated by Law and Marks, fraternal and mutual-aid societies were pervasive (Beito 2000, 2). Membership rates were high among blacks, immigrants, and poorer people. The organizations often provided services that the Census taker would record as nursing, midwifing, doctoring, or teaching. David Beito studied a few black hospitals in Mississippi and writes: “By 1960... [t]he commission gradually shifted from its previous policy of regulatory *laissez-faire* and started to issue citations” (2000, 195). In other words, enforcement was lax prior to 1960. What was being enforced? The citations were “finding the hospitals guilty of infractions such as inadequate storage and bed space, failure to install doors that could swing in either direction, and *excessive reliance on uncertified personnel*” (195, italics added). The example of the mutual aid societies helps us to realize that many occupations were ripe for unlicensed practice by blacks and by women.

Law and Marks might agree that rates of unlicensed practice were significantly higher among whites/men than among blacks/women, but say that what they are measuring is practice *per se*, regardless of whether the practice was conformant to or in violation of licensing laws. The problem with such a response would be, however, that it goes against the overarching interpretation they give to their findings. That interpretation is that licensing laws provided minorities with a means of signaling their quality, and that *for that reason* their representation in the occupation only rarely was found to decline and in some cases even go up.

Although no one has extensive data about the relative rates at which whites vs. blacks (as well as, men vs. women) were licensed when practicing in a licensing state, we regard a supposition that those rates were roughly equal to be so at odds with scholarly knowledge that it must bear the burden of proof. Law and Marks have done nothing to overcome the burden of proof in justifying the supposition.

It would be reasonable to judge the points of this section as fatal to Law and Marks's article. But their article suffers also from many additional problems.

Is their data on regulation reliable?

The monograph entitled *Occupational Licensing Legislation in the States* (1952) (hereafter *OLLS*) warns researchers to be extremely careful using its data: “[Survey] procedure often results in differing interpretations in responding to particular questions. As far as possible these have been reconciled, but some conflicts doubtless remain, *particularly with respect to dates of initial licensing acts*” (*OLLS*, 9, italics added).

In an attempt to verify the data provided by *OLLS*, we examined the case of the legal profession because in that case the necessary regulatory data was available in two alternative sources. When the regulatory data in the legal profession provided by *OLLS* was compared with regulatory data provided by H. L. Wilgus (1908) and Richard Abel (1989), we found significant discrepancies in when regulations were introduced. *OLLS* reported data on when regulations were introduced in the legal industry for 29 states. For 16 states, *OLLS* reported that the profession did not have licensing regulations, yet Wilgus (1908, 682) reported that those 16 states already did have licensing regulations, and for 12 out of 16 states the discrepancy between the reported years exceeded a decade. Abel's (1989) discussion of the development of licensing regulation in the legal profession supports Wilgus rather than *OLLS*. If Wilgus and Abel are correct, then the data in 55 percent of the states reported in *OLLS* for the legal profession was incorrect. Such a major discrepancy raises doubts regarding the accuracy of the regulatory data on other occupations used by Law and Marks.

Problems with their analysis

Law and Marks examine 11 occupations. For nine—accountants, barbers, beauticians, engineers, midwives, pharmacists, plumbers, practical nurses, and registered nurses—they simply observe when a state licensed the occupation without any regard for the details of the licensing requirements. For two occupations, physicians and teachers, they looked at the effect of two particular educational requirements. Tables 1 and 2 summarize their findings for women and blacks in the eleven occupations. Blank cells indicate that data limitations prevented them from analyzing the occupation while “No Finding” indicates that data was analyzed but that there was not a statistically significant result.

Consider the simpler analysis of nine occupations. For blacks, we see “Positive” for practical nurses and “Negative” for barbers. For women, we see “Positive” for engineers, pharmacists, plumbers, and registered nurses, and no “Negative.”

As for the investigation of physicians, they find that the requirement of some pre-med college education helped blacks; the three other effects were statistically insignificant. In the investigation of teaching license requirements, they find that both educational requirements helped blacks, and that both hurt women.

Our Tables 2 and 3 represent the essence of the empirical evidence offered by Law and Marks. Taking the results shown in Tables 2 and 3 at the face value, it would not be surprising if a reader figured, as Law and Marks say, that the evidence indicates that licensing did *not* tend to harm blacks or women; in fact, on balance it seems to have helped in a few instances.

TABLE 2. Summary of the difference-in-differences results of Law and Marks (2009) for nine occupations

	Black	Female
Accountant		No Finding
Barber	Negative	
Beautician	No Finding	
Engineer		Positive
Midwife	No Finding	
Pharmacist		Positive
Plumber	No Finding	Positive
Practical Nurse	Positive	No Finding
Registered Nurse	No Finding	Positive

OCCUPATIONAL LICENSING: GOOD FOR MINORITIES?

TABLE 3. Summary of the difference-in-differences results of Law and Marks (2009) for specific licensing requirements in two occupations

	Black	Female
Physician		
4-Year Medical Degree	No Finding	No Finding
Some Pre-Med College Ed	Positive	No Finding
Teacher		
High School Degree	Positive	Negative
Some College Ed	Positive	Negative

In Tables 2 and 3 the word “Positive” appears eight times and the word “Negative” three times. We proceed to point out further problems with Law and Marks’s analysis. These problems indicate that there should likely be more Negatives and fewer Positives.

Criteria for including occupations: Sample selection bias

On what basis were the 11 occupations selected? Law and Marks state the criteria as follows:

For an occupation to be included in our sample, it had to meet three criteria. First, the adoption of licensing regulation had to span at least 2 decades. Second, the occupation had to have a sufficiently large sample in the Integrated Public Use Microdata Samples (IPUMS) of the Census of Population. Finally, at least 1 percent of the people in the occupation had to be either black or female. (Law and Marks 2009, 355)

The final criterion, that at least one percent be black or female—by which they mean one percent in each case (not combined)—could well have selected certain occupations out of the study *because* licensing was so strongly discriminatory. If, for example, attorneys were selected out of the study by the one-percent criterion, it could be that it was because licensing helped to make the field so devoid of blacks and women. The occupation selection method would be biased if it eliminated from the investigation occupations for which licensing kept representation of blacks and women below the cutoff level of one percent.

Criteria for including occupations: In several cases, the participation rates are small

Again, one criterion for including an occupation in the study was that “at least 1 percent of the people in the occupation had to be either black or female” (355). When we look at the Positive findings, the minorities’ participation rates are often very low. Reading the descriptive table (Law and Marks 2009, 357), we see that women made up only 1.17 percent of engineers, 1.2 percent of plumbers, and 3.62 percent of pharmacists, while blacks made up only 1.4 percent of physicians. Thus three are within 0.4 percentage points from being excluded from the study.

Law and Marks note, “In those cases for which the number of minority workers is very small, we must be cautious because many state-year cells contain no minority workers in a given occupations” (358). They add: “However, because we have information on many occupations for which different states enacted licensing laws at different times, finding similar results across different occupations gives us more confidence in our analysis” (358). This last sentence seems to say that, because several of the small-participation cases come out Positive, the effect seems to be real. But it could be that these small-participation cases come out Positive because of the problems in their analysis. In that case, Law and Marks use spurious findings to justify one another.

Licensing misidentified: State certification is not licensing

One of the biggest problems with their paper is that Law and Marks lump certification in with licensure. In some of the occupations included by Law and Marks, the government offers the service of certifying practitioners, but does not threaten those who practice without a certificate; they are prevented merely from *using the title* conferred by the certificate. Thus a certification may help signal quality to overcome discrimination, but, unlike a license, it does not create a barrier capable of excluding minorities from a profession.

In Table 3 we see that Law and Marks report four statistically significant results for teachers. But they have misidentified teacher certification as teacher licensing: We believe that in no states were people required to have a license to teach in a private school. There is also the problem of cases where no significant results were found. Law and Marks found no statistically significant relationship between “licensing” and female participation in the accounting profession. Yet accountants had (and have) the option of being certified, becoming a CPA, but are not required to do so to practice. Hence the finding of no adverse impact should be related to certification, not to licensing. This point is also relevant for engineers and for registered and practical nurses. In these occupations Law and Marks claim

that women and blacks benefited from licensure, yet the initial regulation in most states consisted only of certification (*OLLS*, 24). With no barrier to practicing without a certificate, the laws could not hinder minorities from participating in these occupations. It is odd that Law and Marks would use these findings as evidence to support the official rationale for licensing.

OLLS explains the distinction between “optional certification” and “compulsory licensing” (24), but then proceeds to use “licensing” sometimes in the narrow sense that distinguishes it from certification and other times in a broad sense that includes certification. Table 1 in *OLLS* is entitled “Occupations Licensed by States and Dates of Licensing Statutes.” By comparing the information in the Table to verbal descriptions in the text (at 25 and 64-77), we see clearly that the Table gives the year *of the state’s strongest regulation, even if that is mere certification*. Yet Law and Marks proceed to treat the data as though it is all bona fide licensing.

It is particularly troubling that Law and Marks treat nursing certification as if it is licensure because the move from certification to licensure is the topic of the investigation undertaken by Law and Marks in a new working paper (2012). There, they explicitly state: “Regulation of the two nursing professions has evolved in stages, diffusing gradually across states and also becoming stricter over time. . . . By 1950 for registered nurses and 1960 for practical nurses, the diffusion of *certification (i.e. voluntary licensing)* was complete. During the subsequent decades, regulation of both nursing professions moved towards *mandatory licensure*” (Law and Marks 2012, 6, italics added). Yet in their 2009 paper they claim to find that “licensing” in the Progressive Era helped black practical nurses and female registered nurses despite the fact that their other research admits that they know nursing was not licensed during the Progressive Era.

No measure of restrictiveness

For the nine occupations listed in Table 2, even when they properly identify licensing, Law and Marks measure only whether an occupation is licensed or not. The degree of restrictiveness of the licenses for each of these occupations varies from state to state and over time in the same state.

For instance, Law and Marks treat a barbering license that requires a three-year apprenticeship plus hours of schooling in the same way that they treat a barbering license that requires only a one-year apprenticeship. In the case of beauticians, Law and Marks treat a license that requires no minimum education and only 1,000 hours of specialized training the same way as they treat the license that requires four years of high school and 2,500 hours of specialized training (*OLLS*, 66). Large differences in licensing fees and educational requirements certainly have

the potential to adversely affect poor minorities. Yet the data Law and Marks use has no ability to control for restrictiveness.

The Law and Marks analysis of physicians looks at whether requiring a four-year medical degree or some pre-med education impacted minorities—mostly arriving at no finding. But physician licenses vary on many margins, not just the two that Law and Marks analyze.⁸ It is possible that, on net, licensing had the opposite impact of that shown by Law and Marks, and they just happened to pick one margin of the license that had a different effect.

Most teachers were employed by government

Two of the eight positive findings in Tables 2 and 3 are for black teachers. One problem with these two positives is the misidentification of certification as licensing. But, moreover, according to the National Center for Education Statistics, of the 1919-1920 instructional staff working in either public or Catholic K-12 schools, 93 percent worked at the public schools.⁹

In his study of licensure's impact on blacks, Richard B. Freeman (1980) controlled for government employment. Questions about the direction of causality are especially relevant when relating two variables that are both forms of government policy. Also, differences between the market for school teachers and private markets for other types of practitioners are large. Furthermore, the notion that teaching quality has been improved by certification requirements has been challenged by many scholars (e.g., Lieberman 2007, ch. 4; Hanushek 2011; Goldhaber and Brewer 2000, 141).

We are not arguing that it is illegitimate to study teachers because government is the main employer. Our claim is that because government is the main employer it is illegitimate to use teachers to speak about the effect of licensing on minorities more generally, as Law and Marks do.

8. Vorotnikov (2011) does a panel study of licensing to practice law, examining impact on incomes and service quality. He controls for five different license requirements. Three requirements increased incomes and two had no statistically significant effects. One requirement increased quality and four decreased quality. It would have been misleading to just pick any single one of these requirements and claim it was the effect of licensing.

9. The National Center for Education Statistics shows that in 1919-20 instructional staff was 678,000 at the public schools and 49,516 at Catholic schools (Snyder and Dillow 2011).

Registered nursing: Licensing helped women overcome discrimination?

One of the eight positives is for women registered nurses. In one of Law and Marks's descriptive tables (2009, 357) we see that, covering the years 1900-1940, women accounted for 97.3 percent of all registered nurses. And yet Law and Marks interpret the finding on registered nurses as evidence in favor of their theory that licensing helped to advance the "minority." On their interpretation, licensing of registered nurses provided women a new and special assurance device, enabling them to overcome discrimination—that is, discrimination in favor of male nurses. Law and Marks do not pause to address the incongruity of their ideas with the findings they invoke.

When Law and Marks come to women in teaching, however, where women made up 78.7 percent (357) and where the finding is *negative*, they *do* pause to notice the gender proportions: "Taken at face value, the results for women are consistent with the standard hypothesis that argues that entry barriers facilitate discrimination. However, we are uncertain as to whether this is the correct interpretation, since in occupations that are disproportionately female, it is unclear which sex is the target of discrimination" (363). Now, for a finding that goes against their view, they bring up a reason to discount it. But that same reason went unmentioned for a finding that supports their view. They cannot have it both ways.

Failure to control for craft/trade unions

According to Leo Troy (1965, 2), in 1920-21 union membership as a percent of nonagricultural employment was about 19.5 percent. Craft unions were often like guilds serving customers in the marketplace, as opposed to workers seeking collective bargaining. As is well known from standard works such as Sterling Spero and Abram Harris (1931) and many by W. E. B. Du Bois, such unions often played a major role in limiting blacks' access to occupations (Higgs 1980, 85-86). Law and Marks note that "Unequal access to education, union control of entry in certain trades, and imperfect credit markets greatly restricted minority entry into certain high-skilled occupations" (2009, 353).¹⁰ In fact, their lead quote in the article notes "Occupational licensing *coupled with white-dominated craft unions* has been a particularly

10. The sentence preceding this quote reads, "Because licensing laws were introduced in the Progressive Era, it is important to interpret our findings in light of the historical facts about labor markets for minority workers" (Law and Marks 2009, 353). However, Law and Marks do not seem to let this historical interpretation prevent them from making general claims about licensure and giving policy advice today.

effective tool for reducing employment for Negroes” (Williams 1982, 90-91; italics added).

Many, if not most, craft unions had a legacy of discrimination. Law and Marks mention unions only in passing, as quoted above. In the statistical analysis they do not control for the influence of unions. Craft unions were not prevalent among accountants, midwives, physicians, and practical nurses. Yet union membership was prevalent in some occupations where Law and Marks find positive impacts, namely, engineers, pharmacists, plumbers, registered nurses, and teachers.¹¹ And they were prevalent for beauticians, for which Law and Marks arrived at no finding, and for barbers, for which they found a negative impact.

From the point of view of those seeking to exclude minorities, licensing may have served as a substitute for craft unions. We can imagine that a positive finding by Law and Marks comes not because licensing helps minorities to signal quality, but because licensing was often pursued by exclusionists because minorities had not been excluded by unions. In other words, where unions had been effective, licensing was less keenly pursued by exclusionists. On the conjecture, Law and Marks could find a positive effect of licensing only because they fail to control for the negative effect on minorities that unions were having in states that didn't adopt licensing.

No control for changes in the minority population

The decades treated by Law and Marks was a period of great interstate migration, particularly by blacks leaving the South. Suppose that states like Illinois that had high black in-migration tended to be states that imposed licensing. It is possible that, after licensing, in-migration increased minority practice in spite of licensure. When testing factors that may have influenced the adoption of licensing, Law and Marks include black/woman share of the labor force (356). But in the difference-in-differences investigation itself they do not have a variable that would control for interstate migration.

Falsification tests

We performed falsification tests of Law and Marks's findings, in addition to the robustness test performed by Law and Marks (Tables 4 and 5 in Law and Marks 2009, 361-362). The goal of our falsification tests is to explore the possibility that

11. Registered nurses only in California and Massachusetts were represented by unions in the beginning of the 20th century. The California Nurses Association and the Massachusetts Nurses Association were formed in 1903.

OCCUPATIONAL LICENSING: GOOD FOR MINORITIES?

Law and Marks's positive findings are simply spurious correlations. The approach we use is common in empirical analysis and includes several steps. First of all, we replicated their findings for engineers, registered nurses, practical nurses, pharmacists, and plumbers, for whom Law and Marks found positive and statistically significant effects. Our results differed from Law and Marks's findings for black practical nurses. The effect was negative and statistically insignificant instead of being positive and significant. Our other results were similar to those obtained by Law and Marks.

In the next step, we estimated a series of regressions where for every profession we used non-matching regulations. The idea was to determine whether we could find positive and statistically significant effects of licensing regulations if we used regulations that were unrelated to the profession of interest. Positive and significant findings would mean that the data was too noisy. First we estimated how licensing regulations that were introduced in engineering, nursing, and pharmaceutical professions affected minorities in the plumbing profession and vice versa giving us a total of 16 regressions. We found that non-matching regulations from other professions had positive and statistically significant effect on females in 38 percent of the cases (our Table 4, Panel A.). This number should be at most 10 percent.

TABLE 4. Results of the simulation analysis

Panel A.					
Profession	Examined under engineers' regulations	Examined under registered nurses' regulations	Examined under practical nurses' regulations	Examined under pharmacists' regulations	Examined under plumbers' regulations
Engineers	xx	x	x	x	0.12
Registered Nurses	0.40	xx	x	x	x
Pharmacists	0.15	0.25	x	xx	x
Plumbers	0.12	x	0.34	x	xx
Note: Correlation of the non-matching and the original regulations are provided for cases with positive and statistically significant findings. x - indicates cases with non-significant findings. xx - indicates cases where the regulations match the professions.					
Panel B.					
Profession	Number of simulations	Percentage of cases with positive and statistically significant findings	Correlation of randomly generated and real regulations for cases with positive and significant findings		
			Average	Min.	Max.
Engineers	50	40%	0.27	0.06	0.52
Registered Nurses	50	12%	0.21	0.17	0.29
Pharmacists	50	26%	0.20	0.05	0.33
Plumbers	50	36%	0.21	-0.05	0.43

Additionally, we estimated a series of fifty regressions for each profession with randomly generated regulations. These regulations had positive and statistically significant effects on females in more than 10 percent of the cases in each profession and varied from 12 to 40 percent (see Table 4, Panel B.). Based on these findings we conclude that, consistent with our other criticisms, the data used by Law and Marks in the analysis was of low quality, and the positive effects that they found were most likely spurious correlations.

The results of our falsification tests can be replicated by using the Stata code provided online [here](#).

Alternative evidence ignored by Law and Marks

There is much textual evidence that some of the leaders and interest groups behind licensing had discriminatory intent. Law and Marks (2009, 352, 353) acknowledge that some scholars have made this claim and briefly explain the reasoning behind it, but they do not actually acknowledge that this sort of textual evidence may be mounted. After summarizing their statistical results they say: “Hence, the conventional wisdom about how licensing affects minorities is not well supported, at least during the Progressive Era” (364). The implication is that, because the conventional wisdom is not supported by their statistical analysis, it is not well supported. No other evidence is considered.

Plumbing is one of the occupations included in their study. Law and Marks never consider the abundance of evidence like the following 1905 letter in *Plumbers’ Journal* about a state licensing law that would eliminate blacks from the occupation:

The Negro is a factor in this section, and I believe the enclosed Virginia state plumbing law will entirely eliminate him and the impostor from following our craft and I would suggest to the different locals that if they would devote a little time and money they would be able to secure just as good if not a better law in their own state. (quoted in Bernstein 1994, 96-97)

Many other samples of such discriminatory intent are easily found (see Bernstein 2001, ch. 2; Williams 2011, ch. 5; and Freeman 1980, 166-167). As for discrimination against women, in Arkansas and Georgia women were denied access to the bar until 1911 (Abel 1989, 69).

Law and Marks (353-354) cite several studies that indicate adverse effects on minorities (including Frech 1975; Sorkin 1977; Dorsey 1980 and 1983; and

Federman et al. 2006). But Law and Marks discount those studies, saying that their own study “allows us to speak more generally than previous studies about the impact of licensing on minority representation” (354). When Law and Marks come to their scholarly judgment, any such textual evidence of discriminatory intent, as well as the other evidence contained by the cited studies, seems to count for very little.

Another curious omission from the Law and Marks article is Freeman’s chapter in the book *Occupational Licensure and Regulation* (Rottenberg, ed., 1980), a landmark in scholarship on licensing. In that chapter, “The Effect of Occupational Licensure on Black Occupational Attainment,” Freeman conducts a statistical study of “the U.S. South in the period from the 1890s to 1960, during which white-dominated southern states often enacted or applied licensure laws discriminatorily” (165). Freeman says that his findings suggest “that, during the period of black disenfranchisement in the South, occupational licensure was a reasonably successful tool for reducing black employment in craft jobs, roughly as intended by many of its proponents” (170).

Law and Marks ignore the theoretical debate over licensing

Law and Marks discount the critical literature in another way. They write: “Finally, unlike the existing literature, our study has a clearly articulated alternative hypothesis. Theoretically, licensing regulation may increase the presence of minorities in occupations for which information about worker quality is an issue” (354).

Law and Marks act as though the quality-assurance rationale is something that the critical literature has neglected. In their introduction, after briefly treating the critical literature, they write:

However, this [rent-seeking, etc.] is not the only role that licensing may play. Since Arrow (1963), economists have recognized that licensing can help solve informational asymmetries about occupational quality (Akerlof 1970; Leland 1979; Law and Kim 2005). If uncertainty about worker quality gives rise to statistical discrimination over observable characteristics like sex or race, then licensing regulation that serves as an imprimatur of quality can increase the presence of minority workers in regulated occupations.... (Law and Marks 2009, 352)

Thus, Law and Marks invoke the official rationale for licensing. The right way to view the critical literature is as a revisionist interpretation of licensing. The critical

literature builds on and pivots off the theoretical perspective highlighted by Law and Marks.

The critical literature is powerful because, while it accepts that trust and assurance are real problems, it so often shows that occupational licensing is not necessary to ensure trustworthiness—there are many private, voluntary practices and institutions for doing so—and that licensing requirements are often ill-suited to ensuring ongoing trustworthiness. Milton Friedman (1962, ch. 9) prominently articulated the case that licensing, while reducing freedom and imposing significant costs, achieves little in the way of quality and safety assurance that cannot be achieved by voluntary state certification. In discussion of reform options, Friedman focuses on the step from licensing to voluntary state certification. Under the certification system people are free to practice without a state certificate. Licensure, in contrast, bans practice until government permission is conferred on the individual.

Although one would never know it reading Law and Marks, the idea that voluntary seals of approval can work well, while avoiding many of the bad consequences of abridging the freedom of contract, has been noted by authors they cite. Hayne Leland concedes: “Under certification buyers have a wider range of choices...they can buy low-quality goods or services if they wish” (Leland 1980, 283). In his famous “Lemons” paper, George Akerlof (1970) discusses examples of “Counteracting Institutions” that undo the model; one such institution mentioned is licensing but he also discusses voluntary methods including guarantees, brand names, and chain stores. Finally, Kenneth Arrow (1963), too, repeatedly acknowledges shortcomings of licensing, including shortcomings in relation to certification (five pertinent quotations are gathered in Svorny 2004, 291).

Law and Marks also give no space to the idea that the demand for assurance elicits a supply of assurance (Klein 2012, ch. 12), and they show little concern as to whether licensing requirements are actually effective in ensuring ongoing trustworthiness. They essentially ignore the theoretical debate over licensing, a debate that goes back at least to Adam Smith’s vehement opposition to such privileges (e.g., Smith 1776, 138). Instead, Law and Marks merely affirm the official rationale for licensing.

Furthermore, in many cases of licensure, it is unclear that Law and Marks’s signaling theory fits actual practice. First, some economists argue that success in fulfilling all licensing requirements is unrelated to the skills needed for successful job performance (Dorsey 1983, 179; Gellhorn 1976, 12-18; Barton 2001 and 2003; Summers 2007). Second, the empirical evidence on licensure is mixed over whether licensure increases or decreases the quality received by consumers (Kleiner 2006; Pagliero 2008; Barker 2008; Powell and Vorotnikov 2011). Also, it is clear that for some requirements licensing is redundant as a quality signal. Law and Marks find

the introduction of the requirement of a high school diploma for teachers helped blacks. Presumably the diploma itself would serve as the signal of quality. The same applies to requiring a four-year medical degree for a physician's license.

Conclusion

The article by Law and Marks suggests that licensure did not tend to affect minorities adversely, even that it may have tended to benefit them. Their statistical investigation is rife with problems. First, the data upon which it is based includes both licensed and unlicensed practitioners, but we have strong evidence that in licensing states unlicensed practice was widespread. A fallback assumption that Law and Marks would perhaps invoke, that whites and blacks had similar rates of unlicensed practice (as well as men and women), is untenable because blacks surely had much higher rates of unlicensed practice. Hard numbers from a 1953 Maryland Senate investigation about plumbers show that only 2.1% of black Census-reported plumbers were licensed, whereas 51.8% of white plumbers were licensed. The example might be an extreme case, but it exemplifies the reality that rates of licensing among practitioners were usually higher, and probably much higher, for whites than for blacks, and probably likewise for men than women. This matter alone—which Law and Marks never acknowledge—could explain why their method would produce a spurious result that licensing did not typically harm minorities and sometimes even helped them.

We have made numerous additional criticisms: There is doubt about the accuracy of their data on when occupations were licensed. The criteria for including an occupation in the study suffer from a sample selection bias. We have catalogued at least eight problems with the analysis of their data, and several of the problems would create a bias in the direction of finding occupational licensing not detrimental to minorities. The problems could well have led Law and Marks to a result of “no finding” in cases in which the actual impact on blacks and women were negative.

As for the cases where Law and Marks found a positive impact, Table 5 provides a checklist as to whether the analytical problem gives reason for doubt. Law and Marks claim that we should have confidence in their findings, despite very low minority participation rates in some occupations, since the findings are similar across a range of occupations that adopted licensing at different times. In only three cases, however, did they have a positive finding that did not come from a small sample size. In two of these cases, those of black practical nurses and female registered nurses, we (and Law and Marks) know that their “licensing” data was mere certification, not licensure. The other case, that of black teachers,

also involves a conflation of certification and licensing as well as the concern that government was the main employer. We thus find it hard to argue that Law and Marks had a single meaningful positive finding, let alone a reliably consistent finding that would allow them to speak generally about the impact of occupational licensure on minorities.

We have also applied falsification tests to their findings, finding that randomly generated dates of regulation were able to achieve positive and significant findings for minorities in enough cases to indicate that Law and Marks’s positive results are likely the result of similar spurious correlations. Unless better evidence is offered, there is no reason to abandon the conventional view that licensure generally harms minorities.

TABLE 5. Problems for the “positives” in Law and Marks

Problem	Positive finding						
	Blacks			Women			
	Prac. Nurses	Physicians	Teachers	Engineers	Pharmacists	Plumbers	Reg. Nurses
Enforcement is not perfect	X	X	X	X	X	X	X
Small participation rate		X		X	X	X	
Certification is not licensing	X		X	X			X
Licensing requirements varied/light	X			X	X	X	X
This “minority” dominated							X
Government employed most			X				
Unions may be significant			X			X	X

References

Abel, Richard L. 1989. *American Lawyers*. New York: Oxford University Press.

Akerlof, George A. 1970. The Market for “Lemons”: Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics* 84: 488-500.

Alchian, Armen A., and Reuben A. Kessel. 1962. Competition, Monopoly, and the Pursuit of Pecuniary Gain. In *Aspects of Labor Economics*, ed. H. Gregg Lewis, 157-184. Princeton: Princeton University Press.

OCCUPATIONAL LICENSING: GOOD FOR MINORITIES?

- Arrow, Kenneth J.** 1963. Uncertainty and the Welfare Economics of Medical Care. *American Economic Review* 53: 941-973.
- Barker, David.** 2008. Ethics and Lobbying: The Case of Real Estate Brokerage. *Journal of Business Ethics* 80(1): 23-35.
- Barton, Benjamin H.** 2001. Why Do We Regulate Lawyers?: An Economic Analysis of the Justifications for Entry and Conduct Regulation. *Arizona State Law Journal* 33: 429-490.
- Barton, Benjamin H.** 2003. An Institutional Analysis of Lawyer Regulation: Who Should Control Lawyer Regulation—Courts, Legislatures, or the Market? *Georgia Law Review* 37: 1167-1250.
- Beito, David T.** 2000. *From Mutual Aid to the Welfare State: Fraternal Societies and Social Services, 1890-1967*. Chapel Hill: University of North Carolina Press.
- Bernstein, David E.** 1994. Licensing Laws: A Historical Example of the Use Of Government Regulatory Power Against African-Americans. *San Diego Law Review* 31(Feb.): 89-104.
- Bernstein, David E.** 2001. *Only One Place of Redress: African Americans, Labor Regulations, and the Courts*. Durham, N.C.: Duke University Press.
- Council of State Governments.** 1952. *Occupational Licensing Legislation in the States*. Chicago: Council of State Governments.
- Dorsey, Stuart.** 1980. The Occupational Licensing Queue. *Journal of Human Resources* 15: 424-434.
- Dorsey, Stuart.** 1983. Occupational Licensing and Minorities. *Law and Human Behavior* 7: 171-181.
- Federman, Maya N., David E. Harrington, and Kathy J. Krynski.** 2006. The Impact of State Licensing Regulations on Low-Skilled Immigrants: The Case of Vietnamese Manicurists. *AEA Papers and Proceedings* 96(2): 237-241.
- Frech, H. E.** 1975. Occupational Licensing and Health Care Productivity: The Issues and the Literature. In *Health Manpower and Productivity*, ed. John A. Rafferty, 119-142. Lexington, Mass.: D.C. Heath & Co.
- Freeman, Richard B.** 1980. The Effect of Occupational Licensure on Black Occupational Attainment. In *Occupational Licensure and Regulation*, ed. Simon Rottenberg, 165-179. Washington, D.C.: American Enterprise Institute.
- Friedman, Milton.** 1962. *Capitalism and Freedom*. Chicago: University of Chicago Press.
- Gellhorn, Walter.** 1976. The Abuse of Occupational Licensing. *University of Chicago Law Review* 44(6): 6-27.
- Goldhaber, Dan D., and Dominic J. Brewer.** 2000. Does Teacher Certification Matter? High School Teacher Certification Status and Student Achievement. *Educational Evaluation and Policy Analysis* 22(2): 129-145.

- Hanushek, Eric.** 2011. The Economic Value of Higher Teacher Quality. *Economics of Education Review* 30(3): 466-479.
- Higgs, Robert.** 1980. *Competition and Coercion: Blacks in the American Economy, 1865-1914*. Chicago: University of Chicago Press.
- IPUMS-USA.** 2010. Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database]. Minneapolis: University of Minnesota.
- Kessel, Reuben A.** 1958. Price Discrimination in Medicine. *Journal of Law and Economics* 1: 20-53.
- Kessel, Reuben A.** 1970. The AMA and the Supply of Physicians. *Law and Contemporary Problems* 35: 267-283.
- Klein, Daniel B.** 2012. *Knowledge and Coordination: A Liberal Interpretation*. New York: Oxford University Press.
- Kleiner, Morris M.** 2006. *Licensing Occupations: Ensuring Quality or Restricting Competition?* Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research.
- Law, Marc T., and Sukkoo Kim.** 2005. Specialization and Regulation: The Rise of Professionals and the Emergence of Occupational Licensing Regulation. *Journal of Economic History* 65(3): 723-756.
- Law, Marc T., and Mindy S. Marks.** 2009. Effects of Occupational Licensing Laws on Minorities: Evidence from the Progressive Era. *Journal of Law and Economics* 52: 351-366.
- Law, Marc T., and Mindy S. Marks.** 2012. Certification vs. Licensure: Evidence from Registered and Practical Nurses in the United States, 1950-1970. Working paper. [Link](#)
- Leland, Hayne.** 1979. Quacks, Lemons and Licensing: A Theory of Minimum Quality Standards. *Journal of Political Economy* 87: 1328-1346.
- Leland, Hayne.** 1980. Minimum-Quality Standards and Licensing in Markets with Asymmetric Information. In *Occupational Licensure and Regulation*, ed. Simon Rottenberg, 264-284. Washington, D.C.: American Enterprise Institute.
- Lieberman, Myron.** 2007. *The Educational Morass*. Lanham, Md.: Rowman and Littlefield Education.
- Marshall, Ray.** 1965. *The Negro and Organized Labor*. New York, London, and Sydney: John Wiley & Sons, Inc.
- Northrup, Herbert R.** 1944. *Organized Labor and the Negro*. New York and London: Harper & Brothers Publishers.
- Pagliero, Mario.** 2005. *What Is the Objective of Professional Licensing? Evidence from the US Market for Lawyers*. Ph.D. thesis, Department of Economics, London Business School.

- Powell, Benjamin, and Evgeny Vorotnikov.** 2011. Real Estate Continuing Education in Massachusetts: Rent Seeking or Consumer Protection? *Eastern Economic Journal* 38: 57-73.
- Rottenberg, Simon,** ed. 1980. *Occupational Licensure and Regulation*. Washington, D.C.: American Enterprise Institute.
- Smith, Adam.** 1976 [1776]. *The Wealth of Nations*, 2 vols. New York: Oxford University Press.
- Snyder, Thomas D., and Sally A. Dillow.** 2011. *Digest of Education Statistics: 2010*. Washington, D.C.: National Center for Education Statistics.
- Sorkin, Alan L.** 1977. *Health Manpower: An Economic Perspective*. Lexington, Mass.: Lexington Books.
- Spero, Sterling D., and Abram L. Harris.** 1931. *The Black Worker: The Negro and the Labor Movement*. New York: Columbia University Press.
- Stephenson, E. Frank, and Erin E. Wendt.** 2009. Occupational Licensing: Scant Treatment in Labor Texts. *Econ Journal Watch* 6(2): 181-194. [Link](#)
- Summers, Adam B.** 2007. Occupational Licensing: Ranking the States and Exploring Alternatives. *Policy Study* 361. August. Reason Foundation (Los Angeles). [Link](#)
- Suzuki, Peter.** 1985. Vernacular Cabs: Jitneys and Gypsies in Five Cities. *Transportation Research A* 19: 337-347.
- Suzuki, Peter.** 1995. Unregulated Taxicabs. *Transportation Quarterly* 49(Winter): 12-38.
- Svorny, Shirley.** 2004. Licensing Doctors: Do Economists Agree? *Econ Journal Watch* 2(1): 279-305. [Link](#)
- Troy, Leo.** 1965. *Trade Union Membership, 1897-1962*. New York: National Bureau of Economic Research.
- Vorotnikov, Evgeny S.** 2011. The Adverse Consequences of Entry Regulation in the Legal Profession. Working paper.
- Wilgus, Horace L.** 1908. Legal Education in the United States. *Michigan Law Review* 6(8): 647-682.
- Williams, Walter E.** 1982. *The State Against Blacks*. New York: McGraw Hill.
- Williams, Walter E.** 2011. *Race and Economics: How Much Can Be Blamed on Discrimination?* Stanford, Calif.: Hoover Institution Press.

About the Authors



Daniel Klein is professor of economics at George Mason University and chief editor of *Econ Journal Watch*. His email address is dklein@gmu.edu.



Benjamin Powell is associate professor of economics at Suffolk University and a senior fellow at the Independent Institute. His email address is benjaminwpowell@gmail.com.



Evgeny Vorotnikov is a post-doctoral fellow at the University of Minnesota in the Department of Applied Economics and a visiting scholar at the Carlson School of Management and the Minnesota Population Center. His email address is evvmail@gmail.com.

Marc Law and Mindy Marks' reply to this article
Go to Archive of Comments section
Go to September 2012 issue



Discuss this article at Journaltalk:
<http://journaltalk.net/articles/5773>