

MERCATUS ON POLICY

The State of Occupational Licensure in Michigan

Patrick A. McLaughlin, Matthew D. Mitchell, Anne Philpot, and Tamara Winter

February 2018



MERCATUS CENTER
George Mason University

3434 Washington Blvd., 4th Floor
Arlington, Virginia 22201
www.mercatus.org

WHEN A STATE IMPOSES LICENSING RULES ON

an occupation, workers cannot legally practice that trade without fulfilling a set of requirements. When a state imposes certification rules on an occupation, noncertified workers can still legally practice their trade, but certification acts as proof of those workers having met certain state-defined professional benchmarks. About a quarter of Michigan's workforce is licensed or certified. Occupational licensing is ostensibly intended to protect the public from unsafe and low-quality service, but there is little evidence that this intention is realized. Rather, there is a growing consensus among economists that these rules serve to protect incumbent providers from competition by creating barriers for new entrants, ultimately leading to higher prices for consumers.

Occupational licensing has expanded dramatically over the past 50 years. In 1950, 5 percent of the US workforce was licensed through state laws,¹ and in 2000 that number approached 20 percent. When federal licenses are also accounted for, one estimate for 2006 is that 29 percent of the workforce was licensed.² This growth in licensure arises primarily from the growth in the number of occupations for which the state requires a license, not from people switching from jobs that do not require occupational licenses to jobs that do.³ While there is a great deal of variation across states in the number of occupations for which a license is required as well as in the requirements to obtain a license, every state has seen an increase in both. Michigan is no exception.

A SNAPSHOT OF MICHIGAN'S OCCUPATIONAL LICENSURE REGIME

The government of Michigan has developed extensive licensing requirements. In 2013, the latest year for which data are available, the state licensed 20.6

percent of the workforce and certified another 3.3 percent.⁴ Michigan licenses 164 occupations, including such rarely licensed professions as animal control officer, painting contractor, and gaming supervisor.⁵

A 2017 study by the Institute for Justice (IJ) examined occupational licensure laws for 102 lower-income occupations and found that Michigan requires a license for 49 of them.⁶ Obtaining a license poses many substantial hurdles. In assessing the burdens the state imposes—including fees, exams, age requirements, grade requirements, and training and experience requirements—the report ranked Michigan’s licensing regime as more broad and onerous than those of 21 other states.⁷ On average, the Great Lakes State requires 255 days of experience and training, \$242 in fees, and approximately two exams for each of those 49 occupations.⁸ Gaming supervisors, makeup artists, painting contractors, and many others face steep fines for operating in Michigan without a license.

Patterns in occupational licensing requirements contradict the idea that licensure is primarily used to protect public safety. Occupations that are less likely to involve risk to the public are often more highly controlled than riskier occupations. For example, Michigan’s emergency medical technicians (EMTs) must complete 45 days of training and pass two exams before being licensed to work on an ambulance team.⁹ By contrast, Michigan’s sheet metal HVAC contractors must complete 1,095 days of education and experience—24 times the amount of training required of EMTs.¹⁰ Barbers, too, are subject to a full year more of training than EMTs—420 days in total.¹¹ There are other inconsistencies in Michigan’s licensing regime. As a 2017 report from the Mackinac Center notes, tile and marble installation requires a license, but carpeting does not. Similarly, carpentry requires a license, but drywall installation does not.¹² Additional regulatory mismatches are shown in table 1.

The evidence suggests that licensing requirements do not improve the quality of the goods and services provided by licensed occupations (see the next section), and that they exclude potential

OCCUPATION	EDUCATION/ EXPERIENCE (DAYS)	EXAMS
Emergency medical technician	45	2
Cosmetologist	350	2
Barber	420	2
Veterinary technician	730	1
Sheet metal contractor, HVAC	1,095	1
Athletic trainer	1,460	1
Preschool teacher	2,555	2

Source: Dick M. Carpenter II et al., License to Work: A National Study of Burdens from Occupational Licensing (Arlington, VA: Institute for Justice, November 14, 2017).

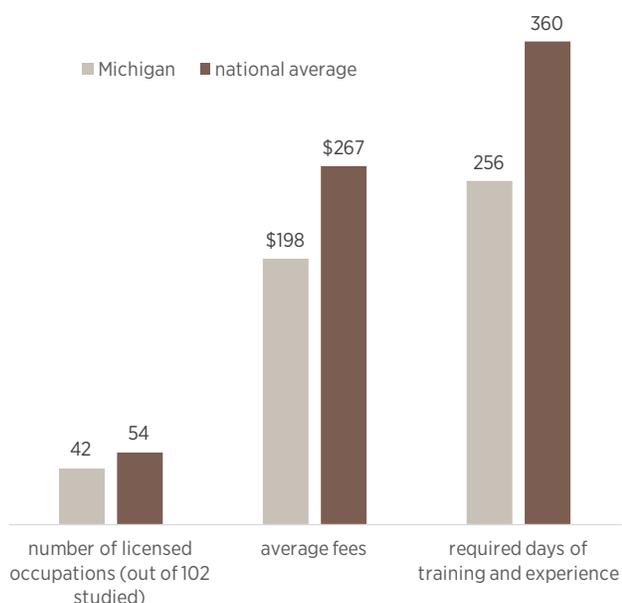
service providers who find the hurdles too costly to overcome. These hurdles limit competition for the incumbents in these protected trades, producing a doubly negative effect: First, occupational licensing requirements keep able people from entering trades they could otherwise learn quickly and perform sufficiently well, limiting employment opportunities for people without advanced skills or degrees. Second, protected industries can charge their customers higher prices than competitive industries, requiring everyone to pay higher bills for basic services. Low-income consumers lose in particular. In the absence of licensure, a barber, for example, might offer discounted haircuts with fewer frills to those who would otherwise not be able to afford luxurious shops.

There is significant variation in licensing requirements for the same jobs across states. Licensing boards can require a minimum level of education or experience, a steep processing fee, or a passing score on examinations. In Michigan, 27 of the 49 licenses highlighted by IJ require all three.¹³ All but two require the applicant to pay a fee, the highest of which is \$1,045 for a fire alarm installer license.

Figure 1 compares the state’s fee and experience requirements in these surveyed occupations to the

Patterns in occupational licensing requirements contradict the idea that licensure is primarily used to protect public safety.

Figure 1. Number of Licensed Occupations, Fees, and Required Training and Experience (Michigan vs. National Average)



Source: Dick M. Carpenter II et al., *License to Work: A National Study of Burdens from Occupational Licensing* (Arlington, VA: Institute for Justice, November 14, 2017).

national average. Michigan's licensing requirements are slightly below the national average in three areas: number of occupations licensed, fees, and days lost to education and experience requirements.

Though for many professions Michigan has less restrictive laws than the national average, in some instances the reverse is true. For instance, Michigan's licensing fees for fire alarm installers are among the highest in the country. Prospective fire alarm installers in Michigan must pay \$1,045 before becoming licensed, nearly twice the national average fee of \$557.¹⁴

In fact, Michigan's licensing requirements for several professions exceed the national average.

Across the United States shampooers must complete 248 days of education and training.¹⁵ But in Michigan, shampooers face even higher barriers to entry in their profession. Prospective shampooers in Detroit must undergo nearly three and a half *months* more training—for a total of 350 days—before beginning work. By comparison, their counterparts in Indianapolis can get to work much sooner, since Indiana does not require a license for shampooers at all.¹⁶

Industry domination of licensing boards is also a problem.¹⁷ Table 2 provides a snapshot of Michigan board composition in October of 2017. The Michigan Constitution is unique among all state constitutions in that it requires every occupational licensing board to have a majority of members who are license holders.¹⁸

When industry members create the standards for entry into their profession, they have an incentive to implement burdensome entry requirements and protect themselves from competition. In effect, members are incentivized to make entry into their profession more difficult without necessarily making the public safer.¹⁹ In its 2015 opinion in *North Carolina State Board of Dental Examiners v. FTC*, the US Supreme Court addressed precisely this issue.²⁰ It established a two-part test to determine whether a board controlled by market participants is immune from antitrust claims. In order to claim immunity from antitrust, (1) the state's board composition requirement must serve a state policy goal, and (2) a given board's activities must be subject to active supervision by the state.²¹ Even if Michigan can satisfy both requirements, its policymakers would be wise to consider alternatives to the current structure that might minimize the perverse incentives of board members. One option would be to eliminate the state constitution's unusual requirement that a majority of all boards be license holders.

Table 2. Statutory Composition of Select Michigan Boards

BOARD	INDUSTRY MEMBERS	TOTAL	PERCENT INDUSTRY
Michigan Board of Veterinary Medicine ^a	6	9	67%
Michigan Board of Cosmetology ^b	6	9	67%
Michigan Board of Barber Examiners ^c	6	9	67%
Michigan Board of Social Work ^d	6	9	67%
Michigan Board of Massage Therapy ^e	7	11	64%
Michigan Board of Athletic Trainers ^f	6	11	54%

Note: The Board of Cosmetology currently has only two public members, meaning 75 percent of its positions are filled by industry members. The Board of Barber Examiners currently has one vacant professional member position, meaning that 56 percent of the board is filled by industry members.

Sources: ^a Michigan Department of Licensing and Regulatory Affairs, "LARA—Michigan Board of Veterinary Medicine," accessed October 6, 2017, http://www.michigan.gov/lara/0,4601,7-154-72600_72603_27529_27555-59195--,00.html.

^b Michigan.gov, "Board of Cosmetology," accessed October 6, 2017, http://www.michigan.gov/snyder/0,4668,7-277-57738_57679_57726-250079--,00.html.

^c Michigan.gov, "Board of Barber Examiners," accessed October 6, 2017, http://www.michigan.gov/snyder/0,4668,7-277-57738_57679_57726-249981--,00.html.

^d Michigan Department of Licensing and Regulatory Affairs, "LARA—Michigan Board of Social Work," accessed October 6, 2017, http://www.michigan.gov/lara/0,4601,7-154-72600_72603_27529_27554-70397--,00.html.

^e Michigan.gov, "Michigan Board of Massage Therapy," accessed October 6, 2017, http://www.michigan.gov/snyder/0,4668,7-277-57738_57679_57726-250624--,00.html.

^f Michigan Department of Licensing and Regulatory Affairs, "LARA—Michigan Board of Athletic Trainers," accessed October 6, 2017, http://www.michigan.gov/lara/0,4601,7-154-72600_72603_27529_45355-170067--,00.html.

Instead of allowing monopolized boards, Michigan should structure its boards to include a broad array of experience, knowledge, and concern for the interests of the public. For example, they should include consumer representatives and representatives of organizations dedicated to support job placement. Boards should also include experts familiar with the economic literature on licensure.

Fortunately, policymakers in Michigan are trying to lower barriers in a variety of occupations. Governor Rick Snyder has signed eight different licensure reform bills since 2012, more than any other governor.²² Today, auctioneers, community planners, immigration clerical assistants, dieticians, nutritionists, ocularists, and school solicitors are no longer subject to burdensome licensing requirements in the Great Lakes State. Legislators have also eliminated the carnival ride board and reduced the educational requirements for barbers from 2,000 hours to 1,800 hours.²³

Michigan’s licensing reform efforts so far have been a good first step, but there is more to be done to make low- and middle-income occupations accessible to people who are most likely to be stymied by barriers to entry. Substantive economic evidence clearly points to the need for further reform. In the following section,

we discuss the economics of occupational licensure. After that, we outline a path for reform in Michigan.

THE ECONOMICS OF OCCUPATIONAL LICENSURE

Licensure and Quality

Licensure is justified by legislators and advocates as necessary to protect the public from low-quality services or potential health risks.²⁴ It is theoretically possible that a well-designed quality screening system will ensure that only high-quality professionals join an occupation. However, limiting the supply of professionals undermines competition. Less competition means lower quality and higher prices. As Morris M. Kleiner put it, licensure ensures that “prices and wages will rise as a result of restricting the number of practitioners, which should tend to reduce quality received by consumers.”²⁵ High prices may even push consumers out of the market entirely, inducing them to resort to far more risky do-it-yourself behavior. For example, one study found that more restrictive electrician licensing regimes are associated with fewer electricians per capita and that this, in turn, is associated with more accidental electrocutions.²⁶

The true effect of licensure on quality is an empirical question, since economic theory suggests

that licensure can have opposing effects on quality. Licensing requirements can increase quality by restricting entry only to highly qualified professionals, or it can decrease quality by causing less competition, higher prices, and more do-it-yourself activities. A number of studies have assessed the effect of licensure on quality, and the weight of evidence suggests that the two effects roughly cancel each other out. As Kleiner summarized in his review of the literature,

There is little to show that occupational licensure has a major effect on the quality of services received by consumers or on the demand for the services other than through potential price effects.²⁷

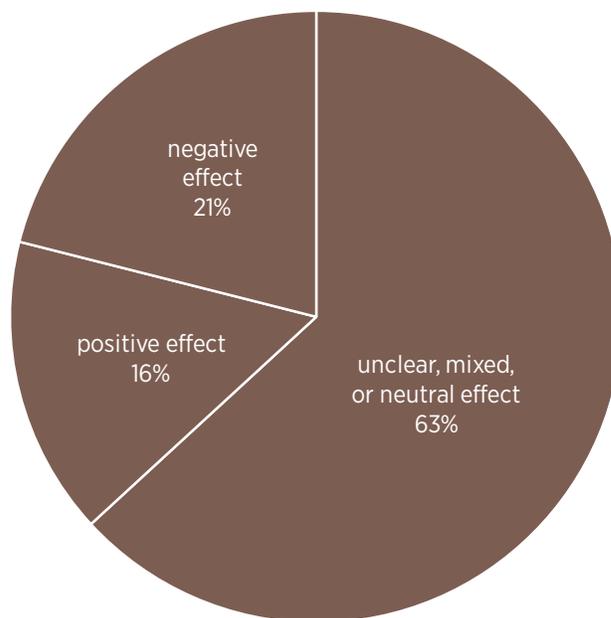
During the Obama administration, the Department of the Treasury, together with the Council of Economic Advisers and the Department of Labor, issued a report (henceforth referred to as the Treasury Department Report) including a review of the literature that concluded,

With the caveats that the literature focuses on specific examples and that quality is difficult to measure, most research does not find that licensing improves quality or public health and safety.²⁸

Patrick McLaughlin, Jerry Ellig, and Dima Yazji Shamoun recently surveyed 19 studies assessing the effect of occupational licensure on quality.²⁹ Figure 2 presents the results of their survey. As in the surveys by Kleiner and the Treasury Department Report, McLaughlin, Ellig, and Shamoun found that the most common finding was neutral, mixed, or unclear. Three studies found that occupational licensure positively affects quality while four found that it negatively affects quality.

If occupational licensing were governed solely by the logic of promoting public safety, the same types of activities would be regulated in similar ways across states. In reality, there is wide variation across states in terms of the occupations regulated and the stringency of those regulations. For example, four states heavily regulate interior designers, requiring them to have on average nearly 2,200 days of education and experience

Figure 2. Studies Assessing the Effect of Occupational Licensure on Quality



Sources: **Positive:** Arlene Holen, *The Economics of Dental Licensing* (Washington, DC: Public Research Institute, Center for Naval Analysis, 1978); Samuel Claude Martin, "An Examination of the Economic Side Effects of the State Licensing of Pharmacists" (PhD diss., University of Tennessee, 1982); Roger Feldman and James W. Begun, "The Effects of Advertising: Lessons from Optometry," *Journal of Human Resources* 13 supplement (1978): 247-62. **Unclear, Mixed, or Neutral:** Kathryn Healey, "The Effect of Licensure on Clinical Laboratory Effectiveness" (PhD diss., University of California, Los Angeles, 1973); John J. Phelan, *Regulation of the Television Repair Industry in Louisiana and California: A Case Study*, *Federal Trade Commission*, 1974; John F. Cady, *Restricted Advertising and Competition: The Case of Retail Drugs* (Washington, DC: American Enterprise Institute, 1976); Robert J. Thornton and Andrew R. Weintraub, "Licensing in the Barbering Profession," *Industrial and Labor Relations Review* 32, no. 2 (1979): 242-49; Ronald Bond et al., *Effects of Restrictions of Advertising and Commercial Practice in the Professions: The Case of Optometry*, *Federal Trade Commission*, 1980; Chris Paul, "Physician Licensure Legislation and the Quality of Medical Care," *Atlantic Economic Journal* 12, no. 4 (1984): 18-30; David S. Young, *The Rule of Experts: Occupational Licensing in America* (Washington, DC: Cato Institute, 1987); Morris M. Kleiner and Daniel L. Petree, "Unionizing and Licensing of Public School Teachers: Impact on Wages and Educational Output," in *When Public Sector Workers Unionize*, ed. R. B. Freeman and C. Ichniowski (Chicago: University of Chicago Press, 1988), 305-19; D. D. Goldhaber and D. J. Brewer, "Does Teacher Certification Matter? High School Teacher Certification Status and Student Achievement," *Educational Evaluation and Policy Analysis* 22, no. 2 (2000): 129-45; Morris M. Kleiner and Robert T. Kudrle, "Does Regulation Affect Economic Outcomes? The Case of Dentistry," *Journal of Law and Economics* 43, no. 2 (2000): 547-82; David Blau, "Unintended Consequences of Child Care Regulations," *Labour Economics* 14, no. 3 (2007): 513-38; Joshua Angrist and Jonathan Guryan, "Does Teacher Testing Raise Teacher Quality? Evidence from State Certification Requirements," *Economics of Education Review* 27, no. 5 (2008): 483-503. **Negative:** Timothy Muris and Fred McChesney, "Advertising, Consumer Welfare, and the Quality of Legal Services: The Case of Legal Clinics" (Working Paper 78-5, Law and Economics Center, University of Miami, Miami, FL, 1978); Sidney Carroll and Robert Gaston, "Occupational Restrictions and the Quality of Service Received: Some Evidence," *Southern Economic Journal* 47, no. 4 (1981): 959-76; John E. Kwoka, "Advertising and the Price and Quality of Optometric Services," *American Economic Review* 74, no. 1 (1984): 211-16; Mark C. Berger and Eugenia F. Toma, "Variation in State Education Policies and Effects on Student Performance," *Journal of Policy Analysis and Management* 13, no. 3 (1994): 477.

to practice their trade. Interior designers are able to offer their services in other states free from regulation with no apparent risk to the public.³⁰

Licensure is not the only or the most effective way to ensure quality.³¹ Tort law and civil and criminal laws against deceptive trade practices protect consumers from fraud and negligence. Firms already scrupulously guard their reputations and brands and seek the approval of third-party evaluators such as the Better Business Bureau and Angie's List. The internet and smartphone applications have made shopping comparisons easy for consumers and have balanced, to some extent, information asymmetries typical of specialized services.³² If policymakers think private measures are insufficient to protect consumers, a number of public regulatory options are more effective and less likely to be counterproductive than licensing. For example, the government can require that firms post bonds or simply register their businesses with the state so that consumers can be assured service providers are not fly-by-night operations.³³

Licensure and Prices

Economic theory predicts that a restriction in supply will result in higher prices. And, indeed, the empirical research consistently finds this to be the case. According to the Treasury Department Report,

The evidence on licensing's effects on prices is unequivocal: many studies find that more restrictive licensing laws lead to higher prices for consumers. In 9 of the 11 studies we reviewed . . . significantly higher prices accompanied stricter licensing.³⁴

Similarly, McLaughlin, Ellig, and Shamoun found that licensure increased prices in all 19 of the studies they surveyed, in occupations ranging from optometry and law to dentistry and cosmetology.³⁵

The effects of these increased prices are not trivial. For example, state nurse practitioner licensing is estimated to increase the price of a well-child checkup by 3 to 16 percent,³⁶ dental hygienist and

dental assistant licensing is estimated to increase the price of a dental visit by 7 to 11 percent,³⁷ and optometry licensing is estimated to increase the price of eye care by 5 to 13 percent.³⁸ What's more, none of these studies found that licensing increased quality.

Licensure and Regulatory Privilege

Writing in the *Harvard Journal of Law & Public Policy*, Paul Larkin Jr. notes a "curious and stubborn fact: Private individuals rarely urge governments to adopt licensing regimes, but private firms often do."³⁹ This fact conforms with the economic theory of regulation, which suggests that incumbent providers may use licensure to limit competition.⁴⁰ By limiting supply and raising prices, these rules allow incumbent providers to earn artificially high profits. Indeed, the latest research suggests that licensure raises the wages of licensees by about 14 percent.⁴¹ Occupational licensing is a privilege granted by a regulatory agency to incumbent providers.⁴²

The social costs of this privilege are shouldered, in part, by consumers who have to pay higher prices than they would pay in more competitive markets. But the social costs also include the wages not earned by potential providers who are effectively excluded from the market by these regulations. With both the high prices for consumers and the forgone wages of would-be competitors, society is likely to experience a net loss from occupational licensing—what economists call *deadweight loss*. What's more, incumbent professionals are willing to expend scarce resources convincing policymakers to contrive and maintain these privileges, a socially wasteful endeavor known as *rent-seeking*. Being few in number and established in their fields, these license holders generally find it easier to get politically organized than the large number of consumers and would-be competitors who are harmed by licensure.

The Disparate Impact of Licensure

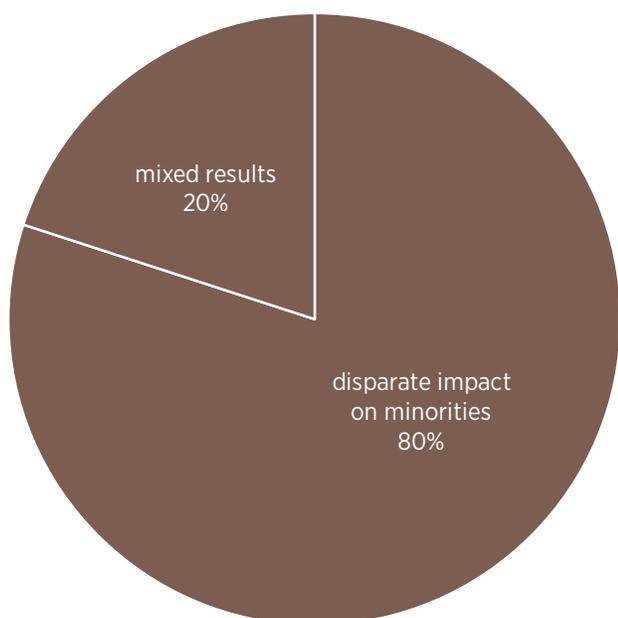
Those who fail to obtain licenses pay a price in the form of lost income. Research suggests that these

burdens often fall on particular communities. For example, military spouses are more likely to be in licensed professions and more likely to relocate from one licensing regime to another.⁴³

Licensure also presents a higher barrier to immigrants since many states require domestic work experience. For ex-offenders, occupational licensing is particularly burdensome because most states make it impossible for those with a past conviction to obtain an occupational license.

As shown in figure 3, McLaughlin, Ellig, and Shamoun's survey of the literature shows that licensing was found to disparately affect ethnic minorities in four of five studies.⁴⁴

Figure 3. Studies Assessing the Effect of Occupational Licensure on Minorities



Sources: **Disparate Impact:** Stuart Dorsey, "The Occupational Licensing Queue," *Journal of Human Resources* 15, no. 3 (1980): 424–34; Maya Federman, David Harrington, and Kathy Krynski, "The Impact of State Licensing Regulations on Low-Skilled Immigrants: The Case of Vietnamese Manicurists," *American Economic Review* 96, no. 2 (2006): 237–41; Joshua Angrist and Jonathan Guryan, "Does Teacher Testing Raise Teacher Quality? Evidence from State Certification Requirements," *Economics of Education Review* 27, no. 5 (2008): 483–503; David E. Harrington and Jaret Treber, *Designed to Exclude* (Arlington, VA: Institute for Justice, February 2009). **Mixed Results:** Marc Law and Mindy Marks, "Effects of Occupational Licensing Laws on Minorities: Evidence from the Progressive Era," *Journal of Law and Economics* 52, no. 2 (2009): 351–66.

Licensure may also be associated with greater income inequality. In a recent study of 175 countries, McLaughlin and Stanley find that nations with more legal barriers to starting a business experience greater levels of income inequality.⁴⁵ Furthermore, a new report by Meehan, Timmons, and Meehan finds that there may be a negative relationship between growth in licensure and economic mobility. The authors looked at growth in low-to-moderate-income occupational licensure across states and found that it negatively correlates with absolute economic mobility.⁴⁶

REFORM

While occupational licensure is intended to protect consumers from harm, there are many other less burdensome mechanisms to promote public safety. For instance, liability law and civil and criminal laws against fraud protect consumers.⁴⁷ In addition, a host of private mechanisms ensure that market providers are accountable.⁴⁸ These include private certifications, insurance, bond-posting, brand reputation, customer review platforms like Yelp and Google reviews, and the third-party validation of organizations like Angie's List, Consumer Reports, and Underwriters Laboratories. Competition itself may be the best alternative to licensure. As the economist Alfred Kahn put it after decades of extensive work as a regulator and researcher, "Whenever competition is feasible, it is, for all its imperfections, superior to regulation as a means of serving the public interest."⁴⁹

Policymakers wishing to reduce the social costs of their state's occupational licensing could take the following steps:

1. Pass legislation that sets an ambitious goal for the elimination of licenses and the reduction in licensing burdens.
2. Establish an independent commission charged with examining the state's licensing laws. Its first task should be to identify each license the state requires as well as the

Table 3. Guiding Principles for Occupational Licensing Reform	
BEGIN WITH A BLANK SLATE	Tastes, technology, and prices change, so analysts should not be beholden to past practices and should approach their task as if they were starting anew.
DEFINE THE NATURE OF THE PROBLEM	Is there a systematic market failure that needs to be addressed? If not, occupational regulation is probably not the answer. Keep in mind that entrepreneurs have an incentive to come up with their own solutions to market failures.
IDENTIFY ALTERNATIVE SOLUTIONS TO OCCUPATIONAL REGULATION	This should include the alternative of deregulation. It should also include reliance on both private governance (competition, bond-posting, reputation feedback mechanisms, third-party evaluation, etc.) and public governance (deceptive trade practice law, registration, certification, etc.).
IDENTIFY THE POTENTIAL COSTS OF REGULATION	These include higher consumer prices; inconveniences such as diminished access to products and services; higher entrance fees, exam costs, education costs, etc.; rent-seeking waste; productive inefficiencies that arise when firms and providers are protected from competition; and dynamic losses that accrue over time as protected firms and providers are less likely to adapt and innovate.
IDENTIFY THE POTENTIAL BENEFITS OF REGULATION	What systematic market failure is the regulation intended to address? Remember that the profits of incumbent firms and their employees are not legitimate benefits of regulation since these gains come at the expense of consumers and would-be competitors.
MEASURE COSTS AND BENEFITS	Whenever possible, an objective measure of costs and benefits should be produced. When that is impossible, analysts should acknowledge that certain judgments are subjective.

burdens associated with each license (fees, exams, required training, education, experience, and other limitations). The commission should be charged with evaluating all licenses, should not be dominated by members of the licensed professions, should include consumer representatives and representatives from organizations devoted to assist job seekers, and should include third-party experts such as academics who have no financial stake in licensure. Furthermore, the commission should be guided by a set of criteria for evaluating regulations as listed in table 3.

3. The commission should be charged with performing a comprehensive review of all occupations, with the goal of identifying licensure requirements that can be eliminated or reformed. The authorizing legislation should commit elected officials to accepting the commission’s recommendations in their entirety or not at all.

The last provision is designed to overcome the public choice problems that plague licensure reform.

In particular, whenever any individual license is evaluated, concentrated members of the industry are typically able to organize in defense of the license, while diffuse consumers and would-be competitors are unable to organize in opposition. The institutional structure that we recommend borrows elements from other reforms that have succeeded in eliminating favoritism.⁵⁰ In particular, it allows elected officials to cast conspicuous votes in the public interest while giving them some degree of “cover” from the special interests that will inevitably be harmed by the elimination of their regulatory privilege.

NOTES

1. Morris M. Kleiner and Alan B. Krueger, “The Prevalence and Effects of Occupational Licensing” (NBER Working Paper No. 14308, National Bureau of Economic Research, Cambridge, MA, September 2008), 2.
2. Kleiner and Krueger, “Prevalence and Effects,” 3.
3. Kleiner and Krueger.
4. Morris M. Kleiner, *Reforming Occupational Licensing Policies* (Washington, DC: Brookings Institution, March 2015), 9.
5. Dick M. Carpenter II et al., *License to Work: A National Study of Burdens from Occupational Licensing*, 2nd ed. (Arlington, VA: Institute for Justice, November 14, 2017), 88–89.
6. Carpenter et al., *License to Work*.

7. Carpenter et al. Competitiveness and Economic Efficiency," *Florida State University Business Review* 13, no. 1 (Spring 2014): 95–130.
8. Carpenter et al.
9. Carpenter et al.
10. Carpenter et al.
11. Carpenter et al.
12. Jarrett Skorup, "This Isn't Working: How Michigan's Licensing Laws Hurt Workers and Consumers" (Midland, MI: Mackinac Center, 2017)
13. Carpenter et al.
14. Dick M. Carpenter II et al., "License to Work: A National Study of Burdens from Occupational Licensing—Fire Alarm Installer," accessed January 3, 2017, <http://ij.org/report/license-work-2/ltw-occupation-profiles/ltw2-fire-alarm-installer/>.
15. Carpenter et al., *License to Work*, 186.
16. Dick M. Carpenter II et al., "License to Work: A National Study of Burdens from Occupational Licensing—Shampooer," accessed January 3, 2017, <http://ij.org/report/license-work-2/ltw-occupation-profiles/ltw2-shampooer/>.
17. Rebecca Haw Allensworth, "Foxes at the Henhouse: Occupational Licensing Boards Up Close," *California Law Review* 105, no. 6 (2017): 1567–1610.
18. Article V, Section 5 reads, "A majority of the members of an appointed examining or licensing board of a profession shall be members of that profession." No other state constitution specifies board composition. See Mich. Const. art. V, § 5.
19. Sidney L. Carroll and Robert J. Gaston, "Occupational Restrictions and the Quality of Service Received: Some Evidence," *Southern Economic Journal* 47 (1981): 959–76.
20. North Carolina State Board of Dental Examiners v. Federal Trade Commission, 135 S. Ct. 1101 (2015).
21. *Id.* at 1112.
22. Eric Boehm, "More States Embrace Licensing Reform," *Watchdog.org*, July 6, 2016.
23. H.R. 612, 97th Leg., Reg. Sess. (Mich. 2014); H.R. 4691, 97th Leg., Reg. Sess. (Mich. 2014).
24. Kleiner, *Reforming Occupational Licensing Policies*, 4.
25. Morris M. Kleiner, "Occupational Licensing," *Journal of Economic Perspectives* 14, no. 4 (2000): 189–202.
26. Carroll and Gaston, "Occupational Restrictions and the Quality of Service Received."
27. Morris M. Kleiner, *Licensing Occupations: Ensuring Quality or Restricting Competition?* (Kalamazoo, MI: W.E. Upjohn Institute, 2006), 56.
28. US Department of the Treasury, Council of Economic Advisers, and US Department of Labor, *Occupational Licensing: A Framework*, July 2015, 13.
29. Patrick A. McLaughlin, Jerry Ellig, and Dima Yazji Shamoun, "Regulatory Reform in Florida: An Opportunity for Greater Competitiveness and Economic Efficiency," *Florida State University Business Review* 13, no. 1 (Spring 2014): 95–130.
30. Carpenter et al., *License to Work*, 12.
31. For a hierarchy of alternatives to occupational licensure, see Thomas A. Hemphill and Dick M. Carpenter II, "Occupations: A Hierarchy of Regulatory Options," *Regulation* 39, no. 3 (Fall 2016): 20–24.
32. For more on reputation feedback mechanisms, see Adam Thierer et al., "How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve the 'Lemons Problem'" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, June 2015).
33. Hemphill and Carpenter, "Occupations."
34. Department of the Treasury et al., *Occupational Licensing: A Framework*, 14.
35. McLaughlin, Ellig, and Shamoun, "Regulatory Reform in Florida," 14–15.
36. Morris M. Kleiner et al., "Relaxing Occupational Licensing Requirements: Analyzing Wages and Prices for a Medical Service" (NBER Working Paper No. 19906, National Bureau of Economic Research, Cambridge, MA, February 2014).
37. Federal Trade Commission, *Restrictions on Dental Auxiliaries: An Economic Policy Analysis*, 1987.
38. Deborah Haas-Wilson, "The Effect of Commercial Practice Restrictions: The Case of Optometry," *Journal of Law & Economics* 29, no. 1 (1986): 165–68.
39. Paul J. Larkin Jr., "Public Choice Theory and Occupational Licensing," *Harvard Journal of Law & Public Policy* 39, no. 1 (n.d.): 209–331, 226.
40. George J. Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* 2, no. 1 (1971): 3–21; Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics* 19, no. 2 (1976): 211–40.
41. Kleiner and Krueger, "Prevalence and Effects."
42. Matthew Mitchell, *The Pathology of Privilege: The Economic Consequences of Government Favoritism* (Arlington, VA: Mercatus Center at George Mason University, 2012); Patrick A. McLaughlin, Matthew Mitchell, and Ethan Roberts, "Regulatory Subsidies: How Regulations Can Become Privileges for Firms and Burdens for Consumers" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, forthcoming).
43. Department of the Treasury et al., *Occupational Licensing: A Framework*, 4–5.
44. The fifth study, which found a disparate effect of licensure in only one profession—barbering—has been criticized. See Daniel Klein, Benjamin Powell, and Evgeny Vorotnikov, "Was Occupational Licensing Good for Minorities? A Critique of Marc Law and Mindy Marks," *Econ Journal Watch* 9, no. 3 (September 2012): 210–33.
45. Patrick A. McLaughlin and Laura Stanley, "Regulation and Income Inequality: The Regressive Effects of Entry Regulations" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 2016).
46. Brian Meehan, Edward Timmons, and Andrew Meehan, *Barriers to Mobility: Understanding the Relationship between Growth in*

Occupational Licensing and Economic Mobility (Washington, DC: Archbridge Institute, 2017).

47. For the benefits of ex post sanctions as opposed to ex ante sanctions, see Adam Thierer, *Permissionless Innovation: The Continuing Case for Comprehensive Technological Freedom*, 2nd ed. (Arlington, VA: Mercatus Center at George Mason University, 2016).
48. Thierer et al., “How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve the ‘Lemons Problem.’”
49. Quoted in Richard Adams, “Alfred Kahn Obituary,” *Guardian*, January 12, 2011. See also Alfred Kahn, *The Economics of Regulation: Principles and Institutions* (Cambridge, MA: Massachusetts Institute of Technology, 1988).
50. Jerry Brito, “Running for Cover: The BRAC Commission as a Model for Federal Spending Reform,” *Georgetown Journal of Law & Public Policy* 9 (2010): 131–56.

About the Authors

Patrick A. McLaughlin is a senior research fellow and the director of the Program for Economic Research on Regulation at the Mercatus Center at George Mason University. He holds a PhD in economics from Clemson University.

Matthew D. Mitchell is a senior research fellow and director of the Project for the Study of American Capitalism at the Mercatus Center. He received his PhD in economics from George Mason University.

Anne Philpot is a research assistant for the Project for the Study of American Capitalism at the Mercatus Center.

Tamara Winter is a program associate for the Project for the Study of American Capitalism at the Mercatus Center.

About the Mercatus Center

The Mercatus Center at George Mason University is the world’s premier university source for market-oriented ideas—bridging the gap between academic ideas and real-world problems.

A university-based research center, Mercatus advances knowledge about how markets work to improve people’s lives by training graduate students, conducting research, and applying economics to offer solutions to society’s most pressing problems.

Our mission is to generate knowledge and understanding of the institutions that affect the freedom to prosper and to find sustainable solutions that overcome the barriers preventing individuals from living free, prosperous, and peaceful lives.

Founded in 1980, the Mercatus Center is located on George Mason University’s Arlington and Fairfax campuses.

Views and positions expressed in the Mercatus on Policy series are the authors’ and do not represent official views or positions of the Mercatus Center or George Mason University.