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**Article**

## The influence of occupational licensing and regulation

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## The influence of occupational licensing and regulation

### Occupational licensing may raise wages and benefits for those licensed but also reduce access to work without clear benefits to consumers

Keywords: occupational licensing, labor markets with regulation, wage determination with regulation

#### ELEVATOR PITCH

Since the end of World War II, occupational licensing has been one of the fastest growing labor market institutions in the developed world. The economics literature suggests that licensing can influence wage determination, the speed at which workers find employment, pension and health benefits, and prices. Moreover, there is little evidence to show that licensing improves service quality, health, or safety in developed nations. So, why is occupational licensing growing when there are such well-established costs to the public?

#### KEY FINDINGS

##### Pros

- + Wage premiums resulting from occupational licensing attainment are positively associated with the stringency of licensing requirements.
- + Gaining employment in a universally licensed occupation has been shown to increase hourly earnings compared to unlicensed individuals with similar education and skills.
- + Licensing raises long-term earnings and employment opportunities for low-income occupations.
- + Certification by government can provide information about the quality of the practitioner while reducing the monopoly effects of licensing.

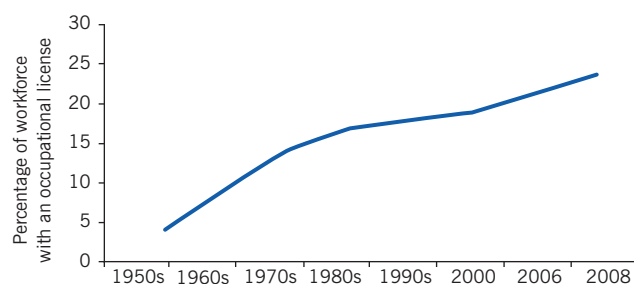
##### Cons

- By making it more difficult to enter an occupation and move across political jurisdictions, employment opportunities may be reduced in licensed occupations.
- Licensing raises the prices of services with no clear demonstrated benefit in overall quality.
- The additional requirements needed to earn licensure may steer low-skilled or low-income workers into even lower-paying but more accessible jobs that do not require a license, such as janitors or waiters.
- Wage premiums resulting from licensing are primarily due to reductions in competition as well as perceived higher quality of service, which may be associated with increased income inequality.

#### AUTHOR'S MAIN MESSAGE

The wage benefits of occupational licensing are concentrated primarily among individuals who are already well paid. Evidence indicates that occupational licensing can hamper mobility, making it harder for workers to take advantage of job opportunities in other regions. Moreover, there is little evidence to show that occupational licensing has actually improved the quality of delivered services in many fields, although it has been shown to increase prices and limit economic output. Hence, governments should require cost-benefit analyses prior to new licensing rules, allow practitioners to cross borders without economic penalties, and reduce regulations on certain occupations.

#### Occupational licensing has grown substantially in the US



Source: Department of the Treasury Office of Economic Policy, CEA, and DOL. *Occupational Licensing: A Framework for Policymakers*. White House Report, July 2015. Online at: [https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing\\_report\\_final\\_nonembargo.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf)

## MOTIVATION

Occupational licensure is the process by which governments establish qualifications required to practice a trade or profession, so that only licensed practitioners are allowed by law to receive pay for doing work in the occupation. This labor market institution has grown substantially in many developed countries; the illustration on page 1 shows the growth of occupational licensing in the US over time. Following the end of World War II, occupational licensing in the US covered about 4.5% of the workforce, but by 2015 it had climbed to 25% according to the US Bureau of Labor Statistics. In addition to this significant overall growth, there is much geographic variation in the percentage of the workforce that is licensed in both the US and the EU. Figure 1 shows the variation in occupational licensing in the US using a 2013 survey conducted by the Harris Polling firm, which based its polling on the demographic profiles of each state. The survey found that Iowa and Nevada have the highest percentage of licensed workers (33.3% and 30.7%, respectively), with South Carolina having the smallest percentage (12.4%).

Occupational licensing in the UK has also been growing in a similar fashion to the US. By 2015, 19% of all UK jobs were subject to government licensing, a growth of over 2% in just a decade, though still well below the US estimates. Like the US, the wage premium in the UK is positively related to the stringency of occupational licensing requirements. In addition, for the UK, the premium increases with the length of time since occupational licensing was first implemented [1].

The UK approach to occupational licensing shares many features with other Commonwealth countries, such as Australia and Canada, but has some marked differences with the US approach. It can be statutory, meaning that the requirement for a license is established by law, or it can be voluntary. In the former case, professions are typically granted status by an act of parliament, indicating that regulation is at the national level. The approach can also vary according to the range of products or services: an individual with a specific licensed job title can provide all products and services covered by that occupation (known as “protection of title”); or a specific job title can enable the individual to undertake certain activities or provide only specific services (known as “protection of tasks”) [2]. These issues are commonly referred to as the “scope of practice” [3].

Licensing that covers protection of tasks does not restrict individuals from entering an occupation, but it does place limits on the activities that they are legally allowed to perform as part of that profession. For example, an unlicensed electrician can perform many electrical installations, but a licensed electrician must inspect these installations and certify their safety. Regulation can also vary depending on whether the license is issued by an occupational body or a government organization, as well as whether the license is issued on a local basis or attained at the state or national level. Regulatory bodies in the UK, for instance, are independent of any branch of government, but work closely with government departments when reviewing occupational regulation issues.

Considering the above, occupational licensing in the UK can be classified into two groups: certification or registration. Certification, or accreditation, is the process by which a relevant authority determines whether practitioners meet a minimum set of predetermined criteria that demonstrate competence and knowledge in a specific area. A private nonprofit industry body is usually responsible for overseeing the process and granting the certificate. As in the US, certification is not mandatory; therefore, a noncertified

Figure 1. Percentage of US states' workforce that is licensed vs certified

State	Share of workforce licensed (%)	Share of workforce certified (%)
Alabama	20.9	6.9
Alaska	25.5	7.3
Arizona	22.3	8.7
Arkansas	20.2	5.3
California	20.7	6.1
Colorado	17.2	7.4
Connecticut	24.7	8.8
Delaware	15.3	3.5
District of Columbia	19.7	6.9
Florida	28.7	4.2
Georgia	15.7	5.9
Hawaii	26.6	11.3
Idaho	22.8	8.4
Illinois	24.7	5.0
Indiana	14.9	10.8
Iowa	33.3	5.1
Kansas	14.9	5.6
Kentucky	27.8	10.7
Louisiana	22.3	9.9
Maine	20.7	7.8
Maryland	17.2	4.8
Massachusetts	21.3	3.9
Michigan	20.6	3.3
Minnesota	15.0	3.4
Mississippi	23.1	7.2
Missouri	21.3	5.4
Montana	21.3	8.3
Nebraska	24.6	8.3
Nevada	30.7	5.4
New Hampshire	14.7	4.1
New Jersey	20.7	11.3
New Mexico	25.9	7.3
New York	20.7	5.5
North Carolina	22.0	8.4
North Dakota	26.6	2.6
Ohio	18.1	7.5
Oklahoma	25.0	7.2
Oregon	26.1	3.8
Pennsylvania	20.2	7.6
Rhode Island	14.5	11.9
South Carolina	12.4	3.5
South Dakota	21.8	5.6
Tennessee	23.1	4.2
Texas	24.1	3.7
Utah	23.8	5.9
Vermont	16.8	6.5
Virginia	17.2	3.7
Washington	30.5	7.2
West Virginia	25.8	12.3
Wisconsin	18.4	1.9
Wyoming	21.2	10.1

Source: Author's own compilation based on an analysis of data from a Harris poll of 9,850 individuals conducted in the first half of 2013 and Kleiner, M. M., and E. Vorotnikov. "Analyzing occupational licensing among the states." *Journal of Regulatory Economics* (2017): 1–27.

practitioner may also provide similar services. This gives the certified individual a right to the title, but not an exclusive right to work in the occupation. However, given that certification indicates a certain level of skill, consumers may be prepared to pay a premium for using a certified practitioner as opposed to a noncertified one. In contrast, registration is when the government provides a list of practitioners who provide a service. Individuals who do not meet the criteria or have multiple complaints are taken off the list. This is consistent with definitions in the US.

## DISCUSSION OF PROS AND CONS

Although initially motivated by concerns over public health and safety, for many occupations regulation may limit worker opportunity more than it protects consumers. Economic studies have found minimal impact of licensing on service quality in occupations that are not widely licensed, such as interior designers and upholsters. Even in occupations that are widely licensed, studies have found few and typically small impacts on health measures or quality-related outcomes from tougher licensing requirements [4]. In contrast, many studies have found that occupational licensing affects wages, employment, and fringe benefits, such as health insurance and pensions [5], [6], [7]. Most of the literature shows that licensing is beneficial for those who manage to obtain a license, and that these benefits primarily come at the expense of consumers, who face reduced service availability and higher prices [8]. Policymakers need to determine whether the increases in economic status experienced by many licensed workers are due to increased service quality resulting from greater training, or if they are caused by restricting competition, or both.

Overall, few studies have shown significant benefits of occupational licensing on the quality of services received by consumers or on the demand for the service. Hence, although policymakers may view occupational licensing as a way to enhance quality, there is little evidence to support this assumption [9]. On the other hand, several studies have found significant effects on licensed practitioners' wages as well as on the prices faced by consumers, suggesting a negative influence of occupational licensing [9].

### Occupational licensing and wage determination

Recent research shows that working in a universally licensed occupation increases hourly earnings by between 8% and 15% compared to unlicensed individuals with similar education and skills; this magnitude is smaller than that of other labor market institutions such as unions [5], [6], [7]. For individuals working in an occupation that is licensed in some jurisdictions but not in others, the impact of being licensed is much smaller, at about 5–8% [7], [8]. Similar to studies on the economics of unions' impact on wage determination, the influence of occupational licensing depends on the time period as well as the occupation and industry.

The same studies also find that the wage benefits are concentrated primarily among those who already work in relatively high-paying occupations. For occupations associated with both higher education and higher income, and that are mainly in the private sector, such as physicians, dentists, accountants, and lawyers, licensing appears to have large wage effects. These wage effects are mostly related to reduced competition, as entry into the profession may be limited, or it may be harder for an individual to secure a job in another

state or licensing region. However, for other occupations, including teachers, nurses, and cosmetologists, the impact of licensing on earnings is murky, with some studies finding small effects and others finding none [6], [8].

One analysis from the Netherlands examines this issue in detail. The study draws on the Dutch government's quota on the inflow of students into medical schools, and restrictions that limit the number of medical doctors from other countries that are allowed into the Netherlands. Whether the supply restrictions result in higher than anticipated wages depends on the number of doctors that there would have been had the restrictions not been in place. The results show evidence of substantial economic returns to attending medical school. For each year after graduating, these returns are at least 20% higher compared to the second-best area of study, which is usually another, generally less regulated, health care or technology-based occupation. The premium on returns increases to almost 50% 22 years after first applying to medical school. Only a small part of this difference can be attributed to variations in working hours or more investment in human capital. In combination with the finding that returns are large for all medical categories, this suggests that monopoly rents due to occupational licensing likely explain some of the particularly large returns to medical school in the Netherlands [10].

### **Occupational licensing and employment**

Although the influence of occupational licensing on employment growth occurs more gradually, research findings for the US suggest that occupations experience slower growth in states where practitioners require a license than in those that do not require one [8]. To understand how occupational licensing may lead to slower employment growth in the long term, consider the following: New regulatory policies often include "grandparent clauses," which protect existing workers from having to adhere to changes in the licensure process, while new entrants must meet these higher standards in order to gain entry into the occupation. It takes time for older, less-educated workers to exit the labor market, and for newer workers who have met the higher entry requirements to enter. This process may limit the supply of labor and allow those who are already licensed to work in the occupation to gain economic benefits by limiting employment growth (and thereby competition) in their field. In addition, some occupational organizations in the US, such as accountants, have ratcheted up the requirements to attain a license, in this case from four to five years of university training, which has served to limit the supply of licensed accountants.

### **Occupational licensing and mobility**

While licensing may be an effective means of boosting wages for some occupations, licensed workers are not always better off. Both theory and empirical evidence from the US indicate that licensing can hamper mobility, making it harder for workers to secure jobs in other states. Occupational licensing can thus act as a deterrent to geographical movements in several ways. For instance, because licensing is typically administered at the state or national level, workers may have to repeat many of the requirements and investments necessary to gain licensure when moving across state or country borders. These requirements can include qualification criteria such as demonstrating good moral character, passing exams, working with or for local practitioners, and engaging in

ongoing professional development activities (an investment that continues throughout the worker's career). In the absence of reciprocity agreements—in which one state or country accepts occupational licenses granted by another—relicensing requirements can be prohibitive, in terms of both time and money, thereby discouraging workers from moving to other licensing jurisdictions.

Multiple studies have corroborated the negative link between occupational licensing and worker mobility. Some of this literature comes from the 1960s and 1970s and focuses on occupations that were heavily licensed at the time, such as dentists, doctors, and lawyers [8]. However, more recent evidence confirms and extends the results of earlier findings to apply to lower-earning occupations. For example, cross-sectional and difference-in-differences estimates of licensing for lawyers show an effect on their migration rates and earnings over time. Other estimates using the same techniques show that occupational licensing influences interstate migration of many other occupations over time [11]. The licensing of manicurists, for example, can impede cross-state and even international migration—particularly from Vietnam (42% of all manicurists in the US in 2000 were Vietnamese). A well-regarded study finds that the requirement of an additional 100 hours of training reduces the likelihood of having a Vietnamese manicurist in the area by 4.5%, while states requiring some level of English proficiency were 5.7% less likely to have a Vietnamese manicurist [12]. In other words, policies that affect migration are not just limited to high-income individuals.

Beyond its detrimental effects on workers, this lack of mobility can also harm consumers, especially in rapidly growing areas. To the extent that licensing slows the influx of new workers and inhibits greater competition, consumers are unable to access services at the lowest cost. Taken together, these studies support the view that regulation may limit the number of practitioners in many fields, and that a policy of reducing barriers to state or national migration with respect to licensing requirements could benefit both workers and consumers.

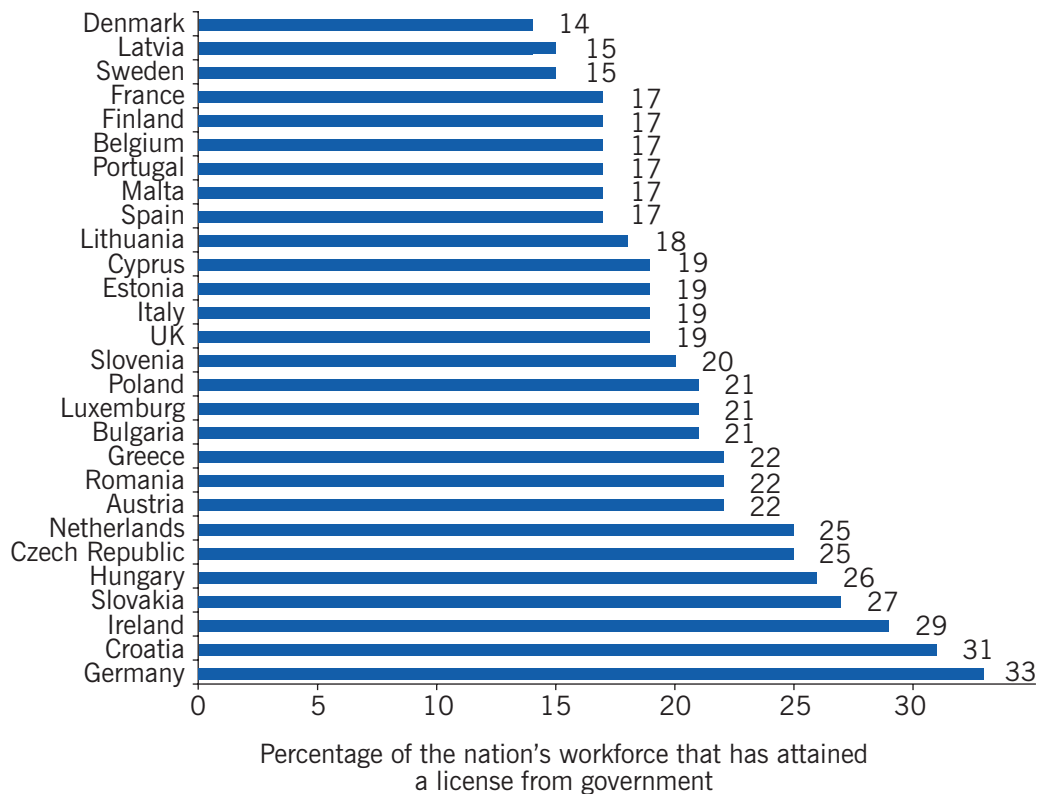
### **International evidence**

As mentioned above, occupational licensing is not unique to the US. Based on information gathered in 2015 from the 28 EU nations, between 14% and 33% of the 310 million workers in the EU are subject to occupational licensing, and the overall estimate is 22%. These estimates are generally lower than the estimated share in the US, which is under 30% [2]. The percentage of the EU workforce that is licensed by nation is shown in Figure 2. As with US states, the extent of occupational licensing varies widely across countries in the EU. On the one hand, Denmark, Latvia, and Sweden all have occupational licensing attainment rates at 15% [2]. On the other hand, regulation is much more prevalent in other countries, such as Germany and Croatia, where at least 30% of the workforce is licensed.

### **Occupational licensing and prices**

Occupational licensing can affect consumer prices via several channels, from restrictions on worker mobility to limitations on advertising and other commercial practices. The impact of licensing-related practices on prices ranges from 5–33%, depending on the type of occupational practice and location [8]. For example, estimates completed in the

Figure 2. Significant variation exists across EU nations in the percentage of the workforce that is licensed



Source: Author's own compilation based on data from Koumenta, M., and M. Pagliero. "Measuring prevalence and labour market impacts of occupational regulation in the EU." Paper presented at the Labor and Employment Relations Association Annual Meeting, Minneapolis, May 26–29, 2016.

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1970s show that the lack of reciprocity in dentistry licensing raised prices by 15% [8]. A restriction on the number of hygienists that a dentist may employ increases the average price of a dental visit by 7% [9]. More recent national estimates show that restrictions on the tasks a nurse practitioner can perform without the supervision of a physician raise prices of healthy-child exams by 10%, with no effect on child mortality or insurance rates for malpractice [3].

These higher prices could be caused by government regulations intended to reduce the likelihood of poor service in the market. The rationale is that higher prices cause consumers to perceive the service to be of higher quality (even if this is not actually the case) and thereby demand more from it, which drives up the price further. However, current practitioners could influence regulatory practices in order to raise their own wages by limiting entry into the profession or restricting information on service prices in the market (in the US, health care is a prime example of this type of use of regulations) [3]. Under this framework, occupational licensing creates a monopoly in the market, with the long-term impacts being lower-quality services, too few providers, and higher prices.

It is difficult to tell from the empirical studies which of the above causes is more likely. However, regardless of the exact cause, it is possible for regulated high-income occupations, such as dentists and lawyers, to raise prices in ways that may further shift income from lower-income customers to higher-income practitioners, thus potentially contributing to



greater income inequality. Furthermore, if wealthier consumers place greater value on (or can afford) higher-quality licensed services, then lower-income individuals with less demand (or less ability to pay) might be adversely affected by tougher licensing standards, as they will have even less access to the increasingly higher-priced services [9].

Professional associations frequently offer an alternative explanation for these price increases. They claim that the method of delivering services in many professions has changed over time, and that charging a group of experts with the responsibility to supervise, govern, and recommend changes standardizes practices and reduces uncertainty in the minds of consumers. For example, by having better trained and therefore higher-quality dentists, the patient is likely to receive better care, though at a higher price. Moreover, capital expenditures in the form of more sophisticated and more expensive equipment have increased the required return on investment for both sole practitioners and large-scale providers of medical services.

Another possible cost of occupational licensing is that potential featherbedding, that is, getting paid for little or no productive work, is associated with legal procedures that are required as part of the task. For example, even if a refrigerator company's trained representative can install or repair their own equipment, regulations may still require a licensed plumber or electrician to supervise the related work. In this case, the occupational licensing rules reduce the productivity of the on-site workers and, by extension, society [13]. Hence, overly restrictive occupational licensing policy can reduce aggregate output by decreasing both demand for services and worker efficiency.

## LIMITATIONS AND GAPS

Because there is relatively little published research on the relationship between performance on an occupational licensing exam and a worker's ability to deliver a safe and high-quality service, there is no assurance that the quality of services received by consumers necessarily improves when governments place additional requirements on the providers of those services. Yet these regulations can be costly: even for occupations with relatively few formal education requirements, such as cosmetology, job-specific training can take longer than one year and may include an apprenticeship followed by a governmental licensing exam. This process may result in fewer practitioners, especially in lower-income occupations, and higher prices, and can therefore result in reduced access to services. The net effects can be regressive, as lower-income consumers—who must now pay higher prices and may have less access to services—pay more to regulated practitioners, some of whom are well compensated.

Areas of future research include examinations of firm- or occupation-specific restrictions. For example, what are the additional costs to firms resulting from featherbedding practices, such as requiring licensed practitioners to install or monitor equipment? Other additional research could include the influence of occupational licensing for high-tech firms, such as Uber or Lyft, where licensing is required in some locations for ride-sharing, but not in others.

## SUMMARY AND POLICY ADVICE

Occupational licensing and the lack of cross-border consistency with respect to the education and training of licensed practitioners carries broad implications for the economic well-being of individuals in both developed and less-developed nations. Evidence indicates that occupational licensing influences the allocation of labor in critical areas of the economy, such as health care, construction, and education, and that it has had an important influence on employment, wage determination, employee benefits, and prices. Some even suggest that occupational licensing dampens the rate of innovation and misallocates resources within an occupation by setting fixed, and in some cases arbitrary, rules.

In order to enhance the benefits and reduce the costs of this form of regulation, the following three policies are recommended. First, governments should require cost-benefit analyses prior to the approval of new occupational licensing standards. Second, licensed individuals should be allowed to move across political jurisdictions with minimal retraining or residency requirements. Third, where politically feasible, governments should reclassify certain licensed occupations to a system of certification or should remove regulation on some professions altogether. These proposals should lead to employment growth in affected occupations and a reduction in consumer prices. Replacing licensing with certification in certain occupations, thereby providing more competition, would, in most cases, result in substantial gains in economic growth and employment without measurable harm to consumers.

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### Competing interests

The IZA World of Labor project is committed to the *IZA Guiding Principles of Research Integrity*. The author declares to have observed these principles.

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