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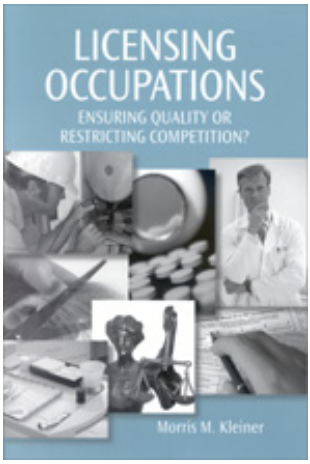
Introduction and Overview



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Licensing Occupations: Ensuring Quality or Restricting Competition?
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Introduction and Overview

Dentists, doctors, lawyers, fortune tellers, and frog farmers are now licensed occupations in either all or some U.S. states.[1] During the early 1950s, only about 4.5 percent of the labor force was covered by licensing laws at the state level. That number had grown to almost 18 percent of the U.S. workforce in the late 1980s, with an even larger number if city and county licenses for occupations are included (Kleiner 1990). The number and percent of licensed occupations has continued to grow. Data from the Labor Market Information Survey and the 2000 census showed that the number of workers in occupations licensed by states in 2000 grew by 11 percent during the past 15 years to approximately 20 percent of the workforce.[2]

The reasons given for the growth and benefits of this form of regulation usually include the idea that existence of licenses may minimize consumer uncertainty over the quality of the licensed service and increase the overall demand for the service (Arrow 1971). However, in some cases, poor quality has larger social implications. A doctor who makes a bad diagnosis may cause a widespread epidemic. A boilermaker who installs a furnace incorrectly may cause a building to catch fire, which could result in the death of many people. In this sense, regulations that require a practitioner to be trained at a minimum level may produce positive social payoffs. Consumers often value the reduction in downside risk more than they value the benefits of a positive outcome. This consumer preference for the reduction of the risk of a highly negative outcome has been called "loss aversion" by Kahneman and Tversky (1979).

The general issue of licensing is often thought of in the context of most people's general experience with getting a driver's license (Camerer et al. 2003). In the case of driver's licenses, there are generally no supply limits that may drive up the benefits to a group of citizens, and the tests and requirements for the license are generally low. Most people would argue that driver's licenses are a good idea because a person cannot control who is driving on the road next to them and would like

some assurance that the other individuals on the road are at least minimally competent. In contrast with licensing drivers, the entry costs of occupational licensing are generally high. Many years of schooling are often required, as are classes focused on professional training and tests that are often difficult to pass and given infrequently. Moreover, in the case of regulated occupations (e.g., doctors, dentists, and cosmetologists), the consumer has the ability to choose a service based on the perceived quality and service price but no ability to choose an unregulated practitioner. Whereas motor vehicle licensing has few costs and many benefits, the licensing of occupations is often perceived as providing few benefits to consumers and possibly imposing large costs.

A recurring issue for the public, policymakers, and economists has been deciding how government regulation of occupations impacts who works and how the work should be conducted. Usually such regulations require some demonstration of a minimum degree of competency to serve the public, and they specify a means to address negligence by service providers. Overall, these requirements are intended to have beneficial effects for consumers by increasing the quality of service. Individuals in these regulated occupations gain standardized work requirements and an increased demand for their services. This book examines the impact of occupational licensing on who gets to work in the licensed occupations. It focuses on the question of whether this labor market institution results in consumers receiving higher-quality services, as well as if there are enhanced earnings for practitioners and higher prices for consumers. The book presents new analysis and evidence on the productivity effects of licensing while detailing its price and labor market impacts. The evaluation of licensing focuses on the labor market impacts on the earnings and employment of regulated practitioners relative to similar unregulated practitioners. The data examined use information on licensing in the United States and give some comparisons for several of the larger nations in the European Union (EU), namely France, Germany, and the United Kingdom (UK). Policy options for regulating occupations in light of the findings are presented in the final chapter.

LICENSING: A HISTORICAL PERSPECTIVE

The study of the regulation of occupations has a long and distinguished tradition in the study of the labor market. Licensing was discussed by Adam Smith in the *Wealth of Nations*, where he focuses on the ability of the crafts to lengthen apprenticeship programs and limit the number of apprentices per master, thereby ensuring higher earnings for persons in these occupations (Smith 1937, Book I, Chapter 10, Part II). A part of Milton Friedman's dissertation focused on licensing, and he collaborated with fellow Nobel Laureate Simon Kuznets to coauthor *Income from Independent Professional Practice*, which examined the impact of licensing in the medical profession and compared it to licensing in the dental profession (Friedman and Kuznets 1945). During the 1960s the National Bureau of Economic Research's *Aspects of Labor Economics*, which presented the major works and important issues in labor economics, had a study of licensing as its lead article (Lewis 1962). In 1980 the American Enterprise Institute published *Occupational Licensure and Regulation*, which concluded with an assessment that occupational regulation had a positive effect on practitioners, but that it had a negative impact on consumers (Rottenberg 1980).

Recently there have been few studies detailing the effects of occupational licensing. Perhaps this lack of recent analysis is because the topic lies at the intersection of labor economics, law, and industrial organization and thus does not fit easily within one of the subfields of the social sciences as they have evolved. The reason for the lack of study is not because occupational licensing is on the decline. Using data from the census, Table 1.1 shows that, for the period 1990–2000, some of the largest licensed occupations (accountants, doctors, dentists, elementary school teachers, secondary school teachers, lawyers, and cosmetologists) showed considerable variation in employment growth. For example, the labor force grew by 13.2 percent over the decade, the number of doctors grew by 23.6 percent, and the number of lawyers grew by more than 24 percent. In contrast, the number of dentists and hairdressers and cosmetologists remained constant even though the U.S. population grew.

Consistent with general growth in wage inequality over the period, the greatest wage growth occurred in licensed occupations with the

Table 1.1 Employment and Wages (in nominal dollars) in Major Licensed Occupations, 1990–2000

	Employment			Hourly wage ($)			Hourly earnings ($)		
	1990	2000	% change	1990	2000	% change	1990	2000	% change
Accountants	1,488,481	1,762,729	18.4	14.64	22.06	50.7	17.65	25.00	41.7
Doctors	571,320	705,960	23.6	34.10	58.23	70.8	47.91	70.96	48.1
Dentists	155,529	155,715	0.1	24.22	46.66	92.6	48.93	86.90	77.6
Elementary school teachers	3,105,603	3,125,320	0.6	16.28	22.07	35.6	16.50	22.47	36.2
Secondary school teachers	494,326	772,462	56.3	17.14	23.57	37.6	17.50	24.01	37.2
Lawyers	697,272	871,116	24.9	22.97	36.50	58.9	36.95	51.76	40.1
Hairdressers and cosmetologists	661,773	667,365	0.8	5.59	7.79	39.3	8.78	13.08	48.9
U.S. labor force	191,829,270	217,168,077	13.2	11.91	17.53	47.1	13.34	19.35	45.1

SOURCE: Employment and earnings are estimated from the 5% sample of the U.S. Census of Population. Employment estimates are from Scopp (2003, Table 9).

highest levels of income. Wage growth in the U.S. economy was 47.1 percent, and hourly earnings growth was 45.1 percent in nominal values from 1990 to 2000. Table 1.1 presents growth in both wages and earnings. There are substantial bonuses and profit sharing from being involved in private practices in some occupations (e.g., lawyers, physicians, and dentists), and tips and private business revenues are a substantial part of the economic returns for cosmetologists. Growth in hourly wages was 92.6 percent for dentists and more than 70 percent for physicians. It is interesting to observe that the supply of dentists remained constant over the decade, but that the number of doctors increased. Unlike the decline in the number of doctors and their wage growth relative to dentists during the 1930s (Friedman and Kuznets 1945), the hourly earnings of dentists, when profit sharing, dividends, and other income from their practice are taken into account, were higher than they were for physicians by 2000. The relatively lower-wage occupations shown in Table 1.1, like cosmetologists and teachers, saw the smallest wage growth (between 35.6 and 39.3 percent) during the 1990s. However, when hourly earnings are included, which include other business income, cosmetologists' earnings growth was slightly higher than those of accountants. Regulated occupations followed national patterns of growing inequality of earnings by having the highest-wage occupations in 1990 showing the largest wage growth, but lower-wage occupations had smaller wage growth than national averages.

From a public policy perspective, all states have enacted licensing of some occupations. Tabulations by the Council of State Government's affiliated Council on Licensure Enforcement and Regulation (CLEAR) show that more than 800 occupations are licensed in at least one state, but about 50 occupations are licensed in all states (Berry 1986; CLEAR 2004). The path toward licensing usually includes initially becoming either certified or registered, but hardly ever does an occupation move from licensing to certification where others legally can do the work of certified practitioners. The occupation with the largest number of individuals in the profession is public school teachers; from 1984 to 1998, 26 states instituted state exams for entering teaching for the first time. Most state legislatures have hearings during each session dealing with questions of the licensing of occupations. Recently, the Federal Trade Commission (FTC) and the U.S. Justice Department had hearings on the effect of occupational licensing practices on reducing competition

on Internet transactions and on competition in health care (Kleiner 2002, 2003). An analysis of income inequality in the United States has shown that being in an occupation—not just educational attainment—is an important determinant of growing relative wage differences among workers (Eckstein and Nagypal 2004). Consequently, barriers to entry into these regulated and high-income occupations, regardless of whether they are licensed, may provide an additional explanation for the growth of income inequality in the United States.

Among universally licensed occupations there are institutional, administrative, and legal factors that are likely to influence entry into an occupation within a state. These are generally perceived to be statutory as well as administrative constraints such as examination requirements that impact labor supply and subsequently earnings (Kleiner 2000). Statutory factors at the state level generally include education for general training, which is defined as years of high school and college education, and occupation-specific years of schooling that include years of professional or trade school. Further measures include specific requirements for good moral character, citizenship, residency in the state for specific periods of time, recommendations from current practitioners, and tests for competency. States can vary in the stringency with which they each set the requirements for practicing in an occupation.

A further set of requirements is established for individuals who attempt to move to the state from elsewhere. These requirements generally include similar general and specific statutory requirements to those entering the occupation but with several notable exceptions, including retaking certain specific parts of the original licensing exam to enter the occupation. Often this also includes working with a licensed practitioner to ensure the out-of-state applicant follows current state procedures. States, however, can establish virtual "treaties" with other states to allow them to accept each other's licensed practitioners without additional education or tests. The statutes and agreements with other political entities vary from accepting any out-of-state applicant who has a valid license at one end of a continuum to acceptance of applicants if they meet the entry requirements in force at the time of initial licensure (Kleiner, Gay, and Greene 1982; Tenn 2001). State entry requirements vary a great deal both across and within occupations in how they allow licensed practitioners from other states or countries to enter and work within their political jurisdictions.

Beyond the statutory factors, each state can establish its own pass rate for entering the occupation even when they use a national standardized test. The pass rate on the same exam can be higher in California than in North Dakota. Individuals considering entering an occupation in a state may decide not to move to a state when the pass rate is low. This reflects the fact that, for most licensed individuals choosing a state in which to locate, initial failure on an exam would result in more study time, lower incomes, and retaking the test.

SOCIAL BENEFITS OF LICENSING

The previous sections have documented the growth and importance of licensing as an institution, but they do not discuss how licensing may impact society. The main benefit usually cited for occupational licensing is improving the quality of services received. Licensing creates greater incentives for individuals to invest in more occupation-specific human capital because they will be able to recoup the full returns on their investment if they do not need to face low-quality substitutes for their services (Akerlof 1970; Shapiro 1986). Under these conditions, some sectors of the market segmented by income or price for the services may benefit more than others, which is what Shapiro calls a "separating equilibrium."

Economists often look at next best solutions that may provide greater choice for both practitioners and consumers. In this case certification may provide many of the same benefits as licensing without the costs of restricting the supply of practitioners or limiting choice for consumers. Licensing is contrasted with certification because, with certification, any person can perform the relevant tasks, but the government or generally another nonprofit agency administers an examination and certifies those who have passed, as well as identifies the level of skill and knowledge for certification. For example, travel agents and car mechanics are among the more than 65 occupations that are generally certified but not licensed (Cox and Foster 1990; Rottenberg 1980). Skeptics of licensing point out that the empirical evidence on the increase in quality, greater training, or avoidance of catastrophes is usually thin or nonexistent. They argue that if a signal of quality is important, certification is a bet-

ter way of accomplishing the goal than occupational licensing. Moreover, many of the skeptics would suggest that any remaining beneficial effects of occupational licensing are more than offset by the monopoly effects of the restriction of supply of practitioners.

QUALITY AND DEMAND EFFECTS OF OCCUPATIONAL REGULATION

The major public policy justification for occupational licensing lies in its role in improving quality of service rendered and, consequently, in generating consumer demand for the service. Licensing is expected to improve quality by setting initial entry requirements in the occupation. These generally include residency requirements, letters from current practitioners regarding good moral character, citizenship, general education, occupation-specific training levels, and scores on specific tests. States and local governments can also change pass rates to mirror relative supply and demand conditions for the service. For example, when there is perceived to be an oversupply in the occupation, the regulatory board can raise the test scores required to pass the exam thus reducing the number of new entrants (Maurizi 1974; Kleiner 1990).

The consequence of these regulatory practices is a reduction in the flow of entrants into the occupation, which can have several effects on quality. The average quality of service provided increases as less-competent providers of the service are prevented from entering the occupation. Moreover, persons in regulated jobs may think that they can capture additional returns to their occupation-specific training, which may increase the overall competency of the persons in the occupation. However, prices and wages will rise as the result of restricting the number of practitioners, which is expected to reduce quality received by consumers. This would occur as certain low-income consumers would not receive any service due to rising prices. As with any production relationship, other factors such as capital or technology may also contribute to the overall quality of service outputs.

Because of these different factors of price and restricting supply of lower-skilled applicants, the effect of regulation on the level of service quality is uncertain. However, changes in technology for service deliv-

ery or increases in the amount of capital available may change the impacts of regulation on outcomes. It is impossible on theoretical grounds to determine whether more intense regulation will increase or decrease the quality of the service provided.

The countervailing forces of the effect of occupational licensing on quality carry over into the ambiguity about the effect of licensing on the quantity of the service demanded. The assumption is that the higher price should discourage consumption of the service. However, higher (or less-variable) quality may lead to an increased demand for the service by consumers. Moreover, one additional question is whether all consumers benefit from this increase in quality or if there are also distributional impacts as well.

Developing empirical evidence on these issues of quality and demand is difficult. Typically, direct observations or estimates of the quality of a service (e.g., the quality of a dental visit) are not available. For many licensed occupations, like barbers and cosmetologists, it is not clear how one would measure quality. Perhaps measures of outputs such as customer satisfaction, complaints to state licensing boards, or liability insurance rates may serve as adequate proxies.

An alternative approach is to examine the "productivity effects of licensing" by examining actual outputs (Carroll and Gaston 1981). For dentistry, Kleiner and Kudrle (2000) examined the records of U.S. Air Force recruits who were from different states and for whom there were individual records over their lifetimes. They found little statistical support for the role of tougher licensing measured either through characteristics of state licensing statutes or through pass rates on measures of dental health. Further examinations of the impact of occupational regulation on malpractice insurance rates or complaints to state licensing boards also found few effects of tougher regulations. However, they did find a positive impact of licensing on the prices of some dental services as well as on the hourly earnings of dentists.

LICENSING OCCUPATIONS AND LABOR SUPPLY

The dominant view among economists is that occupational licensing restricts the supply of labor to the occupation and thereby drives up

the price of labor and of services rendered (Rottenberg 1980). State-regulated occupations can use political institutions such as state legislatures or city councils to control initial entry and in-migration, thereby restricting supply and raising the wages of licensed practitioners. There is assumed to be a "once and for all" income gain that accrues to current members of the occupation who are "grandparented" in and do not have to meet the newly established standard (Perloff 1980). Individuals who attempt to enter the occupation in the future will need to balance the economic rents of the field's increased monopoly power against the greater difficulty of meeting the entrance requirements.

Once an occupation is regulated, members of that occupation in a geographic or political jurisdiction can implement tougher statutes or examination pass rates and may achieve an economic gain relative to those who have easier requirements by further restricting the supply of labor and obtaining economic rents for incumbents (Kleiner 1990). Restrictions could include lowering the pass rate on licensing exams, imposing higher general and specific requirements, and implementing tougher residency requirements that limit new arrivals in the area from qualifying for a license. Moreover, individuals who have finished schooling in the occupation may decide not to go to a particular political jurisdiction where the pass rate is low because both the economic and shame costs may be high (Kandel and Lazear 1992). Of course, an individual who takes a test in Mississippi may have different qualifications and abilities than someone in California. Consequently, any analysis of pass-rate effects needs to be tempered with some controls for the academic quality of the test takers both across states and over time. One additional effect of licensing is that individuals who are not allowed to practice in an occupation as a consequence of regulation may then enter an unlicensed occupation, shifting the supply curve outward and driving down wages in these unregulated occupations.

The costs of failing an exam required by the state can be quite high. For example, the present value cost of failing the exam in dentistry is estimated to be about $54,000 in 1997 dollars when reduced earnings growth, lost experience, and nominal earnings growth differences are accounted for over time (Kleiner and Kudrle 2000). Long residency requirements or the necessity of retaking new state-specific parts of a licensing exam further impede geographic mobility across states or local jurisdictions (Kleiner, Gay, and Greene 1982). For example, states

like Florida, Arizona, Hawaii, and California have traditionally had longer continuous residency requirements for many regulated occupations, presumably to keep persons from states with more inclement weather during winter months from moving to the state and working in the occupation. Other states focus on unique parts of an occupation, such as the "gold foil" method of filling teeth, which was used in California and was only examined within that state's licensing exam. Out-of-state applicants were required to learn this unique procedure to pass the California exam.

ARE THERE LICENSING WAGE AND PRICE PREMIUMS?

The analysis provided in this book will examine wage premiums as a consequence of licensing by focusing on two questions. First, do licensed occupations have higher earnings as a consequence of government regulations in comparison to other similar unregulated occupations? Second, when changes occur among licensed occupations, do they have labor market consequences?

To examine the first question of whether there is a wage gap for licensed occupations, I estimate how much regulated workers would make if they were not regulated. This methodology entails holding constant human capital characteristics such as education and experience to determine whether individuals in licensed occupations are more likely to have higher earnings than persons in unlicensed occupations. This approach assumes that the earnings difference is attributable to licensing and that there is not much spillover from the licensed to the unlicensed occupations. Also, individuals with greater unobserved ability may choose to enter a licensed occupation where the economic returns are greater, rather than occupations that require similar aptitude but are unregulated. Given the large queue of persons wishing to enter these regulated occupations, part of the returns to licensed occupations may be the higher-quality labor market abilities of persons in regulated occupations, which consumers in turn see as raising the quality of service in these areas.

Economists generally accept that licensing is a way of limiting competition since they argue that licenses limit labor supply, often quite

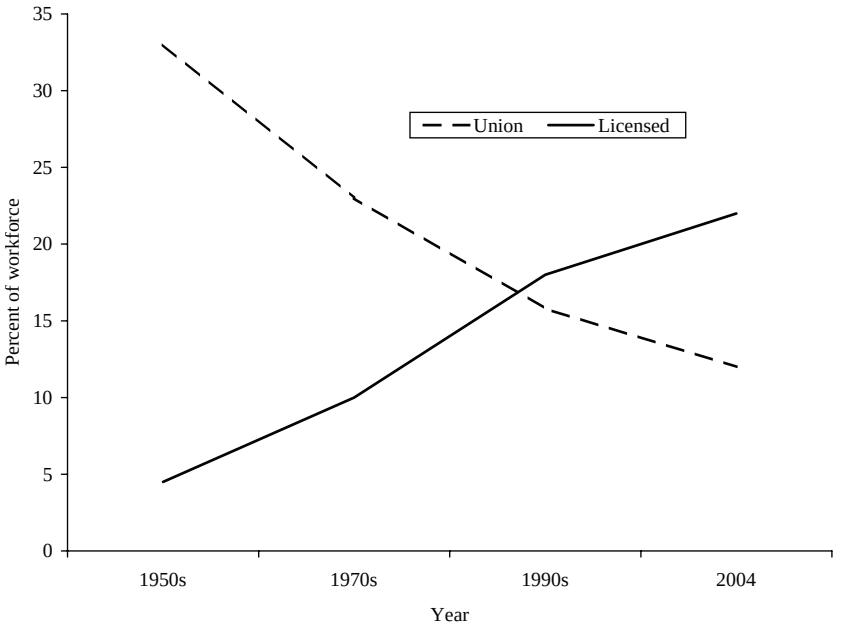
explicitly through varying the pass rates and statutory regulations on residency requirements. As a result of this restriction in labor supply, prices and wages rise. For example, the number of dentists has declined and their earnings relative to doctors has risen. Moreover, economists have often argued that certification, such as granting degrees in the area of expertise, could easily assure minimum quality with less impact on supply.

COMPARING UNIONS AND LICENSING

Figure 1.1 shows the trends in both union and licensing coverage from 1950 through the early 2000s. Whereas union membership and coverage has declined from the mid-1950s from almost 35 percent to 12.5 percent, the opposite is true for the coverage of occupational licensing, which has gone from about 4.5 percent in the 1950s to more than 20 percent after 2000. Nevertheless, when an occupation becomes regulated, there are some similarities to union limitations on entry at the firm level (Freeman and Medoff 1984). Where management agrees to a union shop provision as part of a collective bargaining agreement, generally only members of the union can be employed at that workplace to do certain tasks. This presumably increases the economic leverage of the union and also may contribute to the more than 20 percent premium received by the average union member (Blanchflower and Bryson 2003). Unions in newly organized establishments introduce voice benefits such as grievance procedures to the organization and a standardization of work practices. However, recent evidence on the union effects shortly following an organizing drive shows that unions have a modest effect on wages in newly organized establishments, and the same lack of a large increase in earnings initially also may be true of persons in licensed occupations (Freeman and Kleiner 1990). Many of the estimates presented in this book examine whether changes in licensing statutes and administrative procedures impacted changes in labor market conditions (such as wages, employment, and quality) in the period from 1990 to 2000.

However, a major difference between occupational licensing and unions is that licensing may be a more secure job classification. It is rare

Figure 1.1 Comparisons in the Trends of Labor Market Institutions: Licensing and Unionization



NOTE: Tabulations for licensing coverage for the 1950s are from Council of State Governments (1952), which lists licensed occupations in the public use census sample for 1950. For the 1960s, the tabulations are from Greene (1969), which links the available listing of licensed occupations to census tabulations. The data for the 1980s are from Kleiner (1990) tabulations, and new estimates were developed for 2000. Estimates for union density are from the Bureau of Labor Statistics (1979) and Hirsch and Macpherson (2005).

for an occupation to become deregulated by a government agency, for the regulatory powers of a licensing board to be stripped by the legislature, or for the licensing board to ask to be terminated. There is one rare example: the occupational licensing of watchmakers was eliminated in Minnesota when the number of persons in the occupation in the state dropped to less than 100 individuals. In contrast, unions can be and are decertified as representatives of employees under National Labor Relations Board election procedures. Annually, hundreds of decertification elections are conducted in the private sector, and unions lose more than half of these elections (Fossum 2002).

FOCUS OF THE BOOK

During the 1990s there were many changes in the licensing provisions among U.S. states, and the pass rates for entry into the occupations changed substantially. Did these changes have any impact on the earnings and employment growth of these already regulated occupations? This book will examine changes in employment regulation in the occupations that increased regulation relative to ones that experienced little change.

The remainder of this book is organized as follows. Chapter 2 examines the development of licensing as a labor market institution. Chapter 3 focuses on the quality impacts of occupational licensing, with an emphasis on the influence of these benefits on the demand for licensing and its effects on price. Chapter 4 analyzes the effects of licensing on the earnings of regulated occupations relative to unregulated ones, with special attention to accountants, cosmetologists, dentists, lawyers, and teachers in the United States. Chapter 5 shows the trends in the statutes and administrative procedures by state and develops estimates of the economic costs of licensing to the economy. Chapter 6 expands the analysis for regulated occupations to the three largest nations in the EU, namely France, Germany, and the UK. The concluding chapter presents rationale for standardization of licensed services, analyzes the employment growth impacts of occupational licensing, summarizes the major empirical findings of the book, and develops policy alternatives and implications of occupational licensing as an emerging labor market institution.

Notes

1. Dentists, doctors, and lawyers are licensed in every state, fortune tellers are licensed in Maryland, and frog farmers are licensed in South Dakota (Hollings and Pike-Nase 1997; Studenmund 1997).
2. The methods used to calculate the percentage of the workforce in licensed occupations involved using the listing of licensed occupations from the Department of Labor's Labor Market Information Survey and matching it with occupations in the 2000 census. If no match was obtained, the occupation was dropped. The number working in the licensed occupation in each state was estimated from the census and used to calculate a weighted average of the percentage of the U.S.

workforce that works in a licensed occupation. Given the growth in employment in service industries, where the licensing of occupations is greatest, the vast majority of the employment growth in licensed occupations occurred in already-regulated employment during the late 1990s through the early part of the 2000s. Estimates from Minnesota show that three-fourths of the employment growth occurred in already-licensed occupations (Broat et al. 2004).