

OCCUPATIONAL LICENSING AND INTERSTATE MIGRATION

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In an overview of his book with Lowell Gallaway, *Out of Work: Unemployment and Government in Twentieth-Century America*, Richard Vedder (1993: 1) states: “Not only has the government contributed to the instability and volatility of unemployment in several important episodes in American history, but the overall long-term level of unemployment has been raised by government policies”; furthermore, “the victims of these well-intentioned government policies have been largely the poor, the unskilled, and minorities, not the more affluent educated middle classes.” A substantial part of Vedder’s writing and research—much of it with Lowell Gallaway—has directly or indirectly stressed this fundamental reality of government policies (e.g., Vedder, Gallaway, and Sollars 1988; Vedder and Gallaway 1992a, 1992b).

Much of *Out of Work* concerns itself with *federal* government policy. However, state and local governments also pursue policies that erect barriers between individuals and employment opportunities, and those opportunities are often ones that require relatively low levels of skill and experience. At the level of state governments in particular, occupational licensing laws represent a substantial complex of such barriers, and occupational licensing has become increasingly prevalent across the U.S. economy. In the 1950s, about 1 out of 20 American

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workers required a license for their occupation. By 2006, this ratio had climbed to nearly 1 out of 3 (Kleiner and Krueger 2010, 2013). Today more than 800 occupations are licensed in at least one state.¹

There are some plausible justifications for occupational licensing laws. For example, if it is difficult for consumers to distinguish between higher-quality versus lower-quality labor services in a given occupation, then licensing can provide incentives for individuals to make investments in occupation-specific human capital (Akerlof 1970, Shapiro 1986). Occupational licensing can then essentially solve a lemons problem. Consider electricians. If consumers cannot distinguish higher-quality from lower-quality electrical work, or if it takes a substantial period of time before consumers are able to make the distinction (e.g., when one's house burns down years later), then competition may crowd higher-quality electricians out of the market, leaving only the lower-quality ones (i.e., the lemons).² Occupational licensing may decrease consumer uncertainty regarding the quality of the licensed labor service while also increasing consumers' demand for that service (Arrow 1971).³

However, many of the occupations for which state governments require licenses do not seem to fit the bill for being associated with serious lemons problems. The information asymmetries that consumers face in procuring these labor services seem relatively slight. For example, according to the *License to Work* study published by the Institute for Justice (Carpenter et al. 2012), occupations that require licenses in at least half of the states include auctioneer, makeup artist, athletic trainer, cosmetologist, barber, taxidermist, and massage therapist. For those occupations, one needs a creative imagination to spin a tale where lemons crowd out all of the higher-skilled competitors. Looked at from a different perspective—but again one that calls the lemons problems justification into serious question—Carpenter et al. (2012: 29) note that “EMTs [Emergency Medical Technicians] hold lives in their hands, yet 66 other occupations have greater average licensure burdens than EMTs.” Even a

¹This number comes from a Council of State Governments (1994) report. It is certainly a lower bound on the number of occupations licensed today.

²Certification is a way to solve this problem without licensing.

³Kleiner (2000) provides an overview of the economic justifications that have been put forth for occupational licensing.

casual look across licensed occupations in the United States suggests that licensure burdens do not have a clear, positive relationship to information asymmetries and the need for quality control.

A more persuasive explanation for the pervasiveness of occupational licensing is regulatory capture (Stigler 1971). Existing members of a given occupation represent a special interest. That special interest stands to gain from erecting barriers to entry. Existing members of the occupation stand to gain by insulating themselves from competition. Occupational licensing imposes burdens on potential entrants to a specific occupation, including fees, mandatory training periods, apprenticeships, and examinations. These burdens act as barriers to entry that secure rents for the existing members of the occupation. In the case of regulatory capture, then, the demand for occupational licensing is rooted in the existing members of the occupation being licensed. Consistent with the idea of regulatory capture, the majority of membership on licensing boards is almost always drawn from members of the occupation being licensed (Kleiner 2000: 191).

Licensing of Low- and Moderate-Income Occupations

Licensing is often required for various types of high-skill, high-education, typically high-income professions. For example, over 44 percent of U.S. workers with college education beyond a bachelor's degree are licensed by government (Kleiner and Krueger 2013: S183). These licensed professionals include medical doctors, engineers, and lawyers. In contrast, only about 14 percent of workers with less than a high school degree and 20 percent of those with only a high school degree are licensed. However, in this article we are more interested in the burden imposed by occupational licensing on the latter type of workers. Low-skilled workers with relatively little experience are often just trying to get footholds in the job market—perhaps to obtain their first jobs that will, in addition to providing wages, allow them to accumulate the additional skills and experience that will later on translate into upward income mobility. For these workers, the burdens of occupational licensing can be particularly onerous.

Notwithstanding their lack of formal education and work experience, lower-skilled and inexperienced individuals may still be creative and innovative, alert to new ways of providing for consumers and may profit from doing so. For these individuals, the burdens associated

with licensing can effectively dampen or entirely snuff out the entrepreneurial spirit. These individuals cannot simply “hang out a shingle” and offer their labor services in ways that address consumer preferences. For example, as of 2012, there were 36 states that required licensing to be a makeup artist. This is an occupation that requires little formal training or capital to start. Indeed, much of the value that a makeup artist brings to the table is likely rooted in inherent creativity and talent—an eye for the elegant, exotic, or otherwise beautiful. Yet in states where a license is required, potential entrants to that occupation must pay an average of \$116 in fees and complete 138 days of education and/or on-the-job experience. In the case of the latter, the experience is often acquired as an apprentice, which is essentially low- or no-wage labor provided to existing members of the occupation. Relative to the opportunities available to a high school dropout, these costs may be quite large.

Occupational Licensing and Migration

In a recent article in the *Cato Journal*, Vedder (2010: 171) noted: “One important economic dimension of individual liberty is the right to sell one’s labor services without attenuation—that is, without limits on the terms of the agreement (e.g., wage rates and hours of work), or who will represent the worker in reaching those terms.” We concur with this claim and argue that the “terms of the agreement” include not only wages and hours—and certainly Vedder did not mean to limit it as such—but also the liberty to decide *where* to offer one’s labor services. An essential ingredient of the freedom of contract with one’s labor services is the freedom to seek out those markets in which there are individuals with whom one wishes to contract.

The barriers to entry that are erected in the form of occupational licensing laws deprive individuals—especially low-skilled and inexperienced individuals—of opportunities within their states of residence, but also of opportunities to better themselves by moving to greener economic pastures. Occupational licensing laws hinder the allocation of labor across states, depriving the economy of gains from trade in labor services that are based on comparative advantages and the variation in market opportunities across the country. Much of Vedder’s early research with Gallaway can be interpreted as highlighting how migrants, both across regions and countries, exploit these gains toward both their own betterment and the betterment of

those individuals to whom they eventually offer their labor services (see, e.g., Gallaway and Vedder 1971a, 1971b, 1980; Gallaway, Rydén, and Vedder 1973).

Pashigan (1979) reports that occupational licensing is an economically important barrier to interstate mobility of workers in high-skilled occupations. However, there are few empirical studies of the analogous implications for lower-skilled labor. One such study by Federman, Harrington, and Krynski (2006) finds that occupational licensing laws for manicurists are an important barrier to Vietnamese immigration into those states requiring licenses. They also argue that licensing hinders the assimilation of Vietnamese immigrants by preventing them from entering an occupation in which the costs of not learning English are relatively low. We make a contribution in this article by reporting the effects of interstate differences in occupational licensing burdens on the probability of migrating across state lines. Using a modified gravity equation, we focus on how occupational licensing burdens affect the intra-U.S. movements of individuals already in the labor force and, in particular, those individuals without a college-level education.

While we focus on occupational licensing specifically, our article contributes to a broader literature that examines the role of public policies in determining migration flows. For example, early studies by Cebula, Kohn, and Vedder (1973) and Kohn, Vedder, and Cebula (1973) examine whether cross-state variation in Aid to Families with Dependent Children created “welfare magnets” for economically disadvantaged populations.⁴ A later paper by Ashby (2007) reports a positive relationship between differences in a broad measure of economic freedom between destination and origin states and the associated migration flows. Alternatively, other authors estimate the effect of various policies on the migration decisions of specific demographic types. For example, Shan (2010) and Farnham and Sevak (2006) report that the elderly migrate to avoid property taxes that fund public schools; they also migrate to states that have lower estate taxes (Bakija and Slemrod 2004).

Migration in response to differences in occupational licensing requirements between two states may affect migration patterns in a neighboring state as well. For instance, with only 33 low-income

⁴Greenwood (1997) provides an overview of the earlier literature.

occupations requiring licenses, Georgia may attract a number of in-migrants from states with a larger number of licenses, such as Virginia with 46. Many of these in-migrants will choose to live in Georgia, but some may choose to work in Georgia but live in the neighboring states of South Carolina, North Carolina, Tennessee, or Alabama. Given that state net migration may depend on neighboring state policies, this spatial dependency violates the conventional Gauss-Markov regression assumption of independence between disturbance terms. Therefore, ordinary least squares regression models produce biased estimates, since they do not allow for spatial spillovers.

Since interstate migration rates exhibit spatial dependence, we follow Mulholland and Hernández-Julián (2013) and report the results of estimating Bayesian spatial Durbin models (SDMs) of (log) odds migration ratios on (log) occupational licensing burden ratios. This methodology enables us to estimate: (1) the direct in-migration effect of the differential licensing burden between two states; and (2) the indirect in-migration effect of neighboring states' licensing burdens and their net migration. For this purpose, we define a given state's "neighbors" as those states sharing a border with it. In examining bilateral interstate migration flows, we also control for differentials in populations (levels and densities; also the percentages that are retired), incomes, unemployment rates, average precipitation rates, and temperatures; also the distance and distance squared between a given pair of states.⁵

Does Licensing of Low- to Moderate-Income Occupations Decrease Interstate Migration Flows?

Our migration data come from the American Community Survey (ACS) for the 2008–12 window. Our occupational licensing data come from the 2012 Institute for Justice *License to Work Study*. This study is based on observations made within the latter part of the

⁵We also include two additional binary variables: (1) *Stay_{ij}*, which equals 1 for observations where the origin and destination are the same state; (2) *Move_{ij}*, which equals 1 when the origin is different from the destination. These are included to separate out the effects of internal state migration. In addition to variables indicating economic costs and benefits, the inclusion of temperature and precipitation rates acknowledges the importance of noneconomic "quality of life" factors in migration decisions (Cebula and Vedder 1973).

ACS window. Since occupational licensing laws and requirements exhibit substantial persistence over time, relating the 2008–12 migration flows to the *License to Work* data is reasonable. We focus on occupational licensing for 102 occupations that are recognized by the U.S. Bureau of Labor Statistics (BLS) as being associated with wage rates lower than the national average. We are, therefore, focusing on licensing of low- to moderate-income professions. For each state, we have data on the number of occupations licensed, the average fees associated with obtaining a license, and the average days of education and/or experience necessary to obtain a license.

The SDM model is of the form:

$$(1) \quad y_{ij} = \alpha + \rho W y_{ij} + X_{ij} \beta + W X_{ij} \theta + \varepsilon,$$

where our dependent variable, y_{ij} , represents an $n \times 1$ vector of a (log) odds ratios of migrants from state i to state j :

$$(2) \quad y_{ij} = \log \left(\frac{\text{Migration}_{ij}}{1 - \text{Migration}_{ij}} \right).$$

This can be interpreted as the probability of migrating from state i to state j , and we relate this to the (log) ratio of licensing burdens in j (the destination) to i (the origin). The SDM model collapses into the standard linear regression model if $\rho = \theta = \lambda = 0$. However, when this is not the case, the model allows for two types of spatial dependence where “neighbor” relations are defined by shared borders and a first-order contiguity weight matrix, W .⁶ First, migration flows from i to j can be related spatially to flows from i to neighbors of j . Second, migration flows from i to j can be related not only to the difference between i 's licensing burden and j 's, but also that of j 's neighbors. Intuitively, a resident of i who is contemplating migration to j will take into account the relative burden of that move, the relative burdens of nearby alternatives, and the in-migration rates experienced by these alternative destinations.

Table 1 reports the results of this analysis. Following LeSage and Pace (2009) we calculate the direct, indirect (i.e., the *cumulative* effects of neighbors' policies and, in turn, their neighbors), and total

⁶The matrix has nonzero values in columns j for states that have borders touching each state in row i . The nonzero values take the value $1/k$, where k is the total number of bordering states for state i . See Mulholland and Hernández-Julián (2013: 68) for more detail on this weighting scheme.

TABLE 1
 BAYESIAN SPATIAL AUTOREGRESSION OF (LOG)
 ODDS MIGRATION RATIO ON (LOG) OCCUPATIONAL
 LICENSING BURDEN RATIOS

Variable	Full Sample			No College		
	Direct	Indirect	Total	Direct	Indirect	Total
Licenses	-0.708 (0.114)	-0.179 (0.132)	-0.877 (0.115)	-0.653* (0.094)	-0.205 (0.103)	-0.854* (0.094)
Fees	-0.170 (0.197)	-0.043 (0.212)	-0.208 (0.197)	-0.273 (0.696)	-0.081 (0.699)	-0.353 (0.696)
Days of Exp. & Edu.	-0.270 (0.945)	-0.067 (0.947)	-0.329 (0.945)	-0.336 (0.410)	-0.106 (0.412)	-0.437 (0.411)
ρ	0.192*** (0.000)			0.242*** (0.000)		
Observations	2,304			2,304		
R ²	0.262			0.256		

NOTES: * and *** denote, respectively, statistical significance at the 10 percent and 1 percent levels; p-statistics are in parentheses.

effects of differences in occupational licensing burdens. We report results for two samples. The first three columns (direct, indirect, and total effects) use total migration flows; the next three columns are based only on migrants without college education. In both SDM estimations, the estimate of ρ is around 0.200 and statistically significant at the 1 percent level. The estimate suggests that there is indeed spatial dependence in the data and the SDM model (rather than a basic linear regression model) is appropriate.

For the full sample, the direct and indirect effects point estimates for the differential in the number of occupational licenses required in the origin versus the destination (“Licenses”) are both negative. They are not statistically significant at the conventional 10 percent level, but we note that the marginal significance levels are just shy of that cutoff, particularly for the direct effect (p-value = 0.114). In terms of the point estimates, the direct effect is dominant (-0.708 versus -0.179). The total effect (the sum of the direct and indirect

effects) is negative and, again, just shy of the 10 percent significance level (p -value = 0.115). All of the effects associated with differentials in required fees (“Fees”) and days of educations and/or experience required (“Days of Exp. & Edu.”) are negative but never statistically significant.

When we turn to migration flows based only on individuals without a college education, the results are qualitatively similar to those based on the full sample, but now the direct and total effects associated with “Licenses” are statistically significant at the conventional 10 percent level. Furthermore, the indirect effect estimate just misses the cutoff: p -value = 0.103. Based on the point estimates, the direct effect is again dominant (-0.653 versus -0.205). Since the dependent variable is a (log) odds ratio, we interpret this direct effect as indicating that if a destination state has 10 percent more occupational licenses than a potential origin state, the individuals without a college education residing in that origin will be 6.5 percent less likely to migrate to that destination. This is a large effect. The mean number of low- to moderate-income occupations for which licensing is required across states is about 43. The standard deviation across the different states is about 10.6. In other words, a standard deviation is about 24 percent of the mean.

As a more informal perspective on the size of the estimated direct effect, one of the two authors of this article works in West Virginia, where 49 low- to moderate-income occupations are licensed; the other author works in Massachusetts, where only 37 occupations require licensing. The difference between the two states is 12 occupations, or what would represent about a 24 percent decrease in West Virginia’s licensing if it were to match that of Massachusetts. Roughly, our estimate suggests that if West Virginia were to decrease the number of low- to moderate-income occupations that are licensed by 12, then, all else equal, the probability of noncollege-educated people migrating from Massachusetts to West Virginia would increase by more than 15 percent. This would, of course, be of direct benefit to the noncollege-educated migrants. It would also indirectly benefit West Virginia residents with college educations, as well as potential migrants to the state who have college educations. In addition to production complementarities between relatively low- and high-skilled labor types, lower occupational licensing burdens would attract migrants who would offer broadly desired amenities. In West Virginia specifically, a decrease in occupational licensing might

be associated with greater variety and affordability in preschools, child care, private security, and a wide variety of contractor services.

As in the case of the full sample, when we examine only noncollege-educated migrants, we find that only differentials in the number of occupations that require licensing matters; not the average fees or days of educations and/or experience required. We find this troubling. If occupational licensing laws were enforced by boards in a predictable, rule-based fashion—as would be consistent with the lemons problems justification for their existence—then we would expect that these latter variables capture the real burdens of licensing more accurately. But they apparently do not. This seems consistent with regulatory capture. In particular, it may suggest that licensing boards act discretionarily in ways that restrict entry (and protect the rents of existing members of an occupation) and are independent of the ostensible rules of the game.

In conclusion, we find that noncollege-educated residents appear to migrate toward states with fewer occupational licenses. States with a 10 percent lower relative number of occupational licensees experience a 6.5 percent higher in-migration rate for individuals without a college education. Although the effects are just short of statistical significance for total migration flows, noncollege-educated migration flows are where we would expect to see significant effects for licensing of low- to moderate-income occupations. We also note that the 2008–12 time frame of our study and the recent increases in the number of occupational licenses may contribute to a lack of precision of our estimates. First, migration rates tend to be pro-cyclical (Greenwood 1997, Milne 1993, Pissarides and Wadsworth 1989). Therefore, the economic downturn in 2007 likely depressed overall migration rates for a number of years. Second, the long-run trend in internal state migration in the United States has been declining since the 1980s. In the 1980s, between 2.5 to 3 percent of individuals migrated from one state to another on an annual basis; by 2010, only 1.7 percent of individuals experienced interstate migration. This decline in migration rates is present for all age groups, all education groups, all race/ethnicity groups, all nativity groups, all income groups, households with and without children, employment status, and home ownership status (Molloy, Smith, and Wozniak 2011).

Third, over this time period, the number of occupation licenses for all types of occupations has increased. Given the increase in the

occupational barriers, our results may also suggest that occupational licenses and other barriers to employment may be at least partially responsible for the decline in mobility experienced by those living and attempting to work in the United States. Occupational licenses also provide a hurdle to exit. Given the investment required and the higher return provided for those with licenses, current holders are less likely to migrate at all. The increase in the number of occupations with licenses therefore lowers the probability that a license holder considers and finds it beneficial to migrate to another state. Further research on the effects of increases in licenses on migration rates over time may prove valuable.

Conclusion

We quoted Richard Vedder (2010: 171) as having stated: “One important economic dimension of individual liberty is the right to sell one’s labor services without attenuation—that is, without limits on the terms of the agreement (e.g., wage rates and hours of work), or who will represent the worker in reaching those terms.” We cannot help but believe that Vedder understates the importance he attaches to labor market freedom. As evidence, we can point to his statement that preceded the above passage:

The most essential ingredient embodied in the liberty championed by the classical liberal writers of the Enlightenment and beyond is individual choice and right of expression—the right of persons to say what they think, decide for themselves what groups they want to join, what religion they want to profess, what person they want to marry, what goods they want to buy or sell, and what persons they want to represent them where necessity requires collective decision-making [Vedder 2010: 171].

With this lead in, what is subtly labeled “one important dimension of individual liberty” becomes an essential component of individual liberty.

An important infringement on individuals’ labor market freedoms is occupational licensing, where certain types of employment are illegal without licensure by the government. Today, there are more than 800 occupations that require licensing in at least one state. Many of these are low- to moderate-income occupations; types of employment for which, in principle, individuals with little formal education

and experience could “hang out a shingle” and try to offer their services in mutually beneficial exchanges with customers. While proponents of such licensing will often point to externalities and lemons problems, the widespread licensing requirements on auctioneers, makeup artists, hair stylists, and massage therapists belies these justifications. That most licensing of low- to moderate-income occupations is symptomatic of regulatory capture seems more plausible, and unfortunately so. The labor market freedoms that Vedder has consistently emphasized are being denied to precisely those individuals who need them most: younger, less-educated, and inexperienced individuals who are looking to gain a foothold in the job market; individuals who may often have initially the least to offer, but are also the most eager to find something to offer to consumers so that they can start earning income, gaining skills, and becoming experienced, productive members of the workforce.

In this article, we have offered some evidence of how important these restrictions on labor freedoms can be. In particular, we have explored how differences in the licensing burdens for low- and moderate-income occupations across states affects the probability of interstate migration flows. This reflects two types of costs: (1) the costs to individuals who are unable to enter another state’s labor market to improve their own employment situation; and (2) the broader costs to the economy from preventing the reallocation of laborers toward their comparative advantages. We find that states with a 10 percent lower relative number of occupational licensees experience a 6.5 percent higher in-migration rate for individuals without a college education. To put this in some perspective, our estimate suggests that if West Virginia (a state with relatively burdensome licensing) were to decrease the number of low- to moderate-income occupations to the level of Massachusetts (a state with relatively light licensing) then, all else equal, the probability of noncollege-educated people migrating from Massachusetts to West Virginia would increase by more than 15 percent. (Notably, the median income of West Virginia is only about 60 percent of that of Massachusetts.)

These results suggest that the potential gains from removing the barriers to labor market entry and mobility are large. Furthermore, these gains include not only the direct benefits to noncollege-educated migrants but also indirect benefits to college-educated residents and potential migrants with college educations. If a state like West Virginia decreases its occupational licensing burden to along

the lines of Massachusetts, the resulting influx of labor would be complementary to the state's college-educated labor, and it would represent a ready pool of employees for entrepreneurs to utilize in the starting-up and growing of new businesses. Furthermore, residents of West Virginia would enjoy greater variety and affordability in broadly desired amenities such as preschools, child care, private security, and a wide variety of contractor services.

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