Barber Licensure and the Supply of Barber Shops: Evidence from US States

Joshua C. Hall

Shree B. Pokharel

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Joshua C. Hall
Department of Economics
West Virginia University
joshua.hall@mail.wvu.edu

Shree B. Pokharel
Department of Economics
West Virginia University
shreebaba.pokharel@mail.wvu.edu

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Abstract
Occupational licensure is on the rise. According to Kleiner (2014), over 29 percent of the U.S. workforce required some form of license. While a number of studies estimate the wage effects of occupational licensure, few studies look at the impact of licensure on entry into new business formation. In this paper we focus on the impact on barber shops, since many barber shops are sole proprietorships. Using state-level data on the occupational licensure of barbers from the Institute for Justice, we find that the number of exams required to become a barber is negatively related to the number of barber shops. We find no evidence that other state-level regulations of barbering such as average fees or the minimum age necessary to practice are associated with fewer barber shops.

Keywords: barbering, governmental occupational regulation, total barber shops per capita

JEL Codes: L26
1 Introduction

The Institute of Justice, a public interest law firm in Washington D.C., focuses part of its litigation on issues of the ability of citizens to enter and compete in markets unburdened by unnecessary regulations. In a report titled *License to Work: A National Study of Burdens from Occupational Licensing* by Carpenter et al. (2012), the Institute reports that “In the early 1950s, only one in 20 US workers needed the government’s permission to pursue their chosen occupation.” In 2008, this number was estimated to be 1 in 3 (Kleiner and Krueger, 2013).

Given its pervasiveness, occupational licensing has long been a subject of debate as to whether it serves to protect the public interest or the interests of special interest groups by acting as a barrier to entry. Proponents of occupational licensing argue that occupational licensing enables better quality services to consumers which would otherwise have not been provided in its absence (Arrow, 1971). It has also been argued that occupational licensure encourages prospective entrepreneurs to accumulate human capital in their occupation of choice (Akerlof, 1970; Shapiro, 1986). Opponents, on the other hand, argue that occupational licensing gives rise to regulatory capture (Stigler, 1971) and results in barriers to entry that disproportionately affect the poor and disadvantaged (Dorsey, 1983; Bernstein, 1994). Supporting the claim of regulatory capture is Kleiner (2000), who reports that more often than not members of licensing boards are chosen from the occupations being licensed.

The literature on occupational licensure has typically focused on the effects of licensure on wages or safety. A few papers focus on licensure as a barrier to entry, but these papers largely focus on high-skilled labor markets. For example, Carpenter and Stephenson (2006) find that 150 hours of college course work necessary to sit for the CPA exam reduces the number of candidates sitting for the CPA exam by 60 percent. In this paper, we instead focus on occupational licensure as a barrier to entry for one relatively low-skilled occupation - barbering. The barbering profession was one among many professions to be licensed early in the US, with Minnesota passing the first barber licensing law in 1897 (Thorton and Weintraub, 1979). With Alabama being the final state to license barbers in 2013 (Burkhalter, 2014), all US states and the District of Columbia currently regulate the occupation of barbering.

Barbering was heavily regulated with average education and experience requirements in 1976 of 1460 hours and a mean apprenticeship period of approximately 18 months (Thornton and Weintraub, 1979). In 2012, average education and experience requirements were 890 days and average fee requirements were $330 (Carpenter et al., 2012). While many studies have focused on occupational regulation and economic outcome variables such as earnings
and employment changes (Kleiner, 2000) or migration (Mulholland and Young, 2016), few studies have focused on occupational regulatory burdens on specific low-income professions such as barbering. Some previous studies have estimated the relationship between regulatory burdens and the supply of barbers (Fuchs et al., 1967; Maurizi, 1974; Thornton and Weintraub, 1979). Thornton and Weintraub (1979) find that average minimum grade level affects the supply of barbers. Timmons and Thornton (2010) find that state barber licensure has increased barber earnings by between 11 and 22 percent.

In this study, we estimate the relationship between state-level regulatory burden on the practice of barbering and the number of barber shops in a state. Since many barber shops are one- or two-chair shops, restrictions on the profession of barbering are restrictions on the number of barber shops. We hypothesize that states with higher regulatory burdens on becoming a barber should have fewer barber shops per capita. Utilizing the one year of regulatory data on barbering from Carpenter et al. (2012), we find that the number of exams required to become a barber in a state is negatively related to the number of barber shops per capita in that year. Conversely, we find that fees, minimum grade levels, and minimum age requirements to not explain state variation in the number of barber shops per capita.

The remainder of the paper proceeds as follows: Section 2 describes the variables used in the study in detail. The third section describes the empirical approach and results, while Section 4 concludes.

2 Data

In this study, we use the total number of barber shops per 100,000 inhabitants for all 50 US states and the District of Columbia in 2011 as our measure of entrepreneurial barber activity. Our data comes from the US Census Bureau’s Nonemployer Statistics database and we use the North American Industry Classification System (NAICS) code for barber shops (812111) to identify “establishments known as barber shops or men’s hair stylist shops engaged in cutting, trimming, and styling boys’ and men’s hair’; and/or shaving and trimming men’s beards.” State population in 2011 was obtained from the US Census Bureau. The dependent variable is the authors’ calculation with scores ranging from 14.0 (Utah) to 92.8 (Alabama) for each state. The score is calculated by dividing each state’s total barber shop establishments by the state population. For example, Alabama’s score means that, on average, there are approximately 93 total barber shops for every 100,000 residents of the state.

There are three categories of explanatory variables in this study which might affect the total number of barbershop establishments per capita: Measures of Occupational Regu-
tion, State Controls and Attributes of Entrepreneurs. Our major variables of interest fall in the Measure of Occupational Regulation category and consist of variables representing governmental burdens imposed by state governments on prospective barbers. The variables included in this category are average number of exams, average fees, average minimum grade level, and average minimum age imposed by states on barbers to acquire a license. These variables are reported from *License to Work: A National Study of Burdens from Occupational Licensing* by Carpenter et al. (2012). While Carpenter et al. (2012) provide regulatory information for 102 occupations in which the average income is below the national average, in this paper we employ only their measures of occupational licensure for barbering.\(^1\)

All variables in this category are reported in their original form. *Fees* are represented in dollars and represent the fees necessary to achieve an initial license to practice in an occupation. Continuing education fees or renewal fees are not included. Therefore, they should directly affect the costs of entering into an occupation. *Number of Exams* represent the number of written and practical exams required in a state to get a license. *Minimum Grade* is the minimum education level necessary to apply for a license. States without a minimum grade level receive a 0, states with eighth grade receive 8, high school diploma 12, and so on. For barber licensure, no state requires more than a twelfth grade education. *Minimum Age* is the minimum age an individual in the state must be to apply for barber licensure and varies across states from 0 to 18. Many states, such as Iowa, have both a minimum grade and minimum age requirement.

In addition to regulatory burdens, state-specific variables related to the economic or social environment might also influence the decision to become a barber and open a barber shop. We primarily draw on the entrepreneurship literature as the motivation for these controls, which are all measured for 2011. For example, the *Unemployment Rate* is found to negatively affect self-employment across OECD countries (Blanchflower, 2000). At the level of US states, however, the results are mixed. Unemployment is found to have an insignificant relationship with new business starts (Carree, 2002) and a negative relationship with latent entrepreneurship (Gohmann, 2012), but Gohmann and Fernandez (2014) find that unemployment Granger causes proprietorships. In addition, Coomes et al. (2013) finds that the unemployment rate is positively related to proprietorships at the MSA level. *Unemployment Rate* is obtained from the Bureau of Labor Statistics. The role of median income in influencing entrepreneurship is unclear (Yago et al., 2007) but is generally thought to positively affect the number of new businesses as individuals seek out greater diversity in consumption.

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\(^1\)Carpenter et al. (2012) also provide a measure of the days of education and experience necessary to achieve a license. Doing so requires a number of assumptions, however, and we prefer to focus on the directly comparable features of barber regulation listed such as fees and number of exams. Inclusion of the number of days of education and experience does not qualitatively affect our empirical results.
Median Household Income for each state and the District of Columbia was obtained from the US Census Bureau. Crime has been found to negatively affect entrepreneurship (Rosenthal and Ross, 2010) and we use Property Crimes from the FBI’s Uniform Crime Reports.

In addition to regulatory burden variables and state control variables that affect entrepreneurship, we also include demographic controls to capture the attributes of those most likely to start a business. The variables in this category include percentage of labor force that is Male, percentage of labor force that is White and Median Age of state residents. All demographic data is for the year 2011 and was obtained from the Bureau of Labor Statistics and the US Census Bureau. Kreft and Sobel (2005) and Hall and Sobel (2008) find that the percentage of labor force that is male and white, and median age within the state affects entrepreneurship. Similarly, Langowitz and Minniti (2007) find that the probability of men being entrepreneurs is higher than women. Table 1 presents summary statistics for all variables employed in our paper.

Table 1: Summary Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barber Shops Per 100,000 Residents</td>
<td>38.80</td>
<td>20.87</td>
<td>14.0</td>
<td>92.8</td>
</tr>
<tr>
<td>Number of Exams</td>
<td>2.20</td>
<td>0.69</td>
<td>0.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Fees</td>
<td>127.63</td>
<td>70.25</td>
<td>0.0</td>
<td>330.0</td>
</tr>
<tr>
<td>Minimum Grade</td>
<td>6.78</td>
<td>5.21</td>
<td>0.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Minimum Age</td>
<td>13.31</td>
<td>7.08</td>
<td>0.0</td>
<td>18.0</td>
</tr>
<tr>
<td>White</td>
<td>79.73</td>
<td>13.33</td>
<td>26.03</td>
<td>95.48</td>
</tr>
<tr>
<td>Male</td>
<td>49.33</td>
<td>0.79</td>
<td>47.3</td>
<td>51.9</td>
</tr>
<tr>
<td>Income</td>
<td>50686.47</td>
<td>7475.12</td>
<td>39856.0</td>
<td>68876.0</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>8.17</td>
<td>1.93</td>
<td>3.5</td>
<td>13.1</td>
</tr>
<tr>
<td>Property Crimes</td>
<td>2863.06</td>
<td>670.07</td>
<td>1395.2</td>
<td>4795.5</td>
</tr>
<tr>
<td>Median Age</td>
<td>37.73</td>
<td>2.38</td>
<td>29.9</td>
<td>43.5</td>
</tr>
</tbody>
</table>

Note: N=51. For sources of data, see discussion in text.

The dependent variable, total barber shops per 100,000 residents, has a mean of 38.80. This means that, on average, there were approximately 39 barber shops per 100,000 residents per state throughout the United States in 2011. There is significant variation across states, however, in the number of barbershops. While Utah had only 14 barber shops per 100,000 residents, Alabama had approximately 93 barber shops per 100,000 of its residents.

There is a lot of variation in terms of Number of Exams. Alabama requires no exams while Minnesota and Nevada require four exams. Fees varied considerably as well from $0 in Washington to $330 in Kentucky. Minimum Grade requirements also varied across states with many requiring no educational attainment level while others specifically require at least
a high school or equivalent degree. In terms of Minimum Age, many states do not have a minimum age requirement to be a barber while in other states, one has to be at least 18 years.

Unemployment rates vary across states as well. North Dakota had the lowest unemployment rate of 3.5% while Nevada had the highest unemployment rate of 13.1%. Property crime rates across states also varies notably. Rhode Island had the lowest property crime rate with approximately 1395 crimes per 100,000 inhabitants, while Washington D.C. had the most property crimes per 100,000 inhabitants. There is almost a 1.5 times difference between the state with the lowest median income and the state with the highest median income; Kentucky has median income of $39,856 while Maryland has a median income of $68,876. Percent of male population in a state also varies with 47.3% in District of Columbia to 51.9% in Alaska. There is a significant difference within states in terms of racial composition as well. While approximately 26% of Hawai’i’s population is White, 95.48% of Vermont’s population is White.

3 Empirical Approach and Results

Since we are limited in terms of numbers of observations in our data set, we employ a simple linear OLS regression model for our empirical analysis. Our model is represented as follows:

\[ BARBSHOPS = \beta_0 + \beta_{REGULATION} + \gamma_{STATE} + \delta_{ENTREPRENEUR} + \epsilon \] (1)

where \( \beta, \gamma, \) and \( \delta \) are row vectors and REGULATION, STATE, and ENTREPRENEUR are column vectors. BARBSHOPS represents total barber shops per capita in US states. As mentioned in the previous section, REGULATION represents barber-specific regulatory variables; it consists of Number of Exams, Fees, Minimum Grade, and Minimum Age. STATE represents state controls and therefore includes Unemployment Rate, Property Crimes, and Income. Attributes of entrepreneurs are represented by ENTREPRENEUR and consists of Male, White, and Median Age.

Table 2 shows the effect of state-level barber regulations on the total number of barber shops per capita in 2011. Specification (1) represents a parsimonious specification containing only the primary variables of interest. While this specification does not explain the full effect of the explanatory variables on the dependent variable, it helps to outline the basic relationship between them. The signs of Minimum Grade, Fees, and Number of Exams are as expected, with Number of Exams statistically significant at the one percent level. The sign on Minimum Age is positive although not statistically significant.
Table 2: State-Level Barber Regulations and Number of Barber Shops Per Capita

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(3.97)</td>
<td>(3.14)</td>
<td>(2.76)</td>
<td>(2.74)</td>
</tr>
<tr>
<td>Fees</td>
<td>-0.025</td>
<td>-0.003</td>
<td>-0.010</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Minimum Grade</td>
<td>-0.431</td>
<td>0.308</td>
<td>0.308</td>
<td>0.408</td>
</tr>
<tr>
<td></td>
<td>(0.56)</td>
<td>(0.48)</td>
<td>(0.43)</td>
<td>(0.44)</td>
</tr>
<tr>
<td>Minimum Age</td>
<td>0.622</td>
<td>0.317</td>
<td>-0.093</td>
<td>-0.078</td>
</tr>
<tr>
<td></td>
<td>(0.41)</td>
<td>(0.32)</td>
<td>(0.30)</td>
<td>(0.30)</td>
</tr>
<tr>
<td>White</td>
<td>-0.414 **</td>
<td>-0.394 **</td>
<td>-0.387 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.19)</td>
<td>(0.17)</td>
<td>(0.18)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.82)</td>
<td>(2.58)</td>
<td>(2.90)</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>-0.001 ***</td>
<td>-0.001 ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(0.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>1.834</td>
<td>1.452</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.12)</td>
<td>(1.14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Crimes</td>
<td></td>
<td></td>
<td>-0.004</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.00)</td>
<td></td>
</tr>
<tr>
<td>Median Age</td>
<td></td>
<td></td>
<td>-1.713 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.96)</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.23</td>
<td>0.57</td>
<td>0.68</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Note: Dependent variable is the number of barber shops per 100,000 state residents. N=51 in all specifications. *, **, and *** denote statistical significant at the 10, 5, and 1% levels, respectively. Numbers in parentheses are absolute standard errors. Constant included but not reported.
In Specification (2), we add basic entrepreneur characteristics controls standard in the literature. We find that Number of Exams is still significant at the 1% level. Fees continue to be negatively associated with the dependent variable, but still is statistically insignificant. Male exhibits a strong negative relationship at the 1% level on the number of barbershops. White also is negatively related to the number of barbershops at the 5% level. However, the signs for male and white variables exhibit opposite signs than what was previously found for other measures of entrepreneurship (Kreft and Sobel, 2005; Hall and Sobel, 2008).

Specification(3) adds basic state controls standard in the literature – median household income and the unemployment rate. The key result is that Number of Exams continues to exhibit a significant negative effect on the level of barbershops in a state at the 1% level. Income leads to fewer barbershops per capita, although the economic magnitude is small. The sign on Unemployment Rate is positive but statistically insignificant (Blanchflower, 2000).

Finally, in Specification(4) we add Property Crimes and Median Age. Number of Exams continues to be negatively related to the number of barbershops per capita a the 1% level. White, Male, and Income are statistically significant as as well as Median Age. Property Crimes are not significant. This full specification explains 71% of the variation in total number of barbershops per capita in 2011 across US states.

4 Conclusion

Given the growth in occupational licensure and the importance of barriers to entry for low-income workers, we analyzed the effect of barber licensure on the number of barbershops across US states. We find that the number of required exams is robustly associated in a negative way with the number of barbershops per capita in a state. We consistently find, however, that other restrictions such as age requirements and fees have no consistent relationship with the number of barbershops. This might be the result of our limited data set. We feel that this exploratory look at the issue of barber licensure opens up future research in this area, especially research that can establish more of a causal link.

Further research could focus on the origins of these laws, especially since historically many of these laws have their roots in discrimination. Bernstein (1994), for example, details how licensing laws have historically been used to reduce the number of African-Americans in certain occupations such as barbersing. As Kuznicki (2009) points out, government power exercised through things like occupational licensure is never neutral when it comes to race. Our results also say nothing about the efficacy of the restrictions in terms of the quality of haircuts received in states with more stringent regulations. Carpenter (2012) is a good
example of the type of applied research that could be done in this area, as he finds no difference between licensed and unlicensed florists. Finally, the political economy of the vast differences across states in terms of the amount of regulation of certain industries such as barbering would be fruitful in terms of understanding the various special interests at play (Carpenter et al., 2015).
References


