

Untangling Hair Braider Deregulation in Virginia

A Case Study Approach

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Abstract

In this paper, we estimate the effects of removing the license requirement for hair braiding in Virginia in 2012. Using County Business Patterns and Nonemployer Statistics data from 2004 through 2014, we examine Virginia border county pairs to compare beauty salon establishments before and after deregulation. In seven of the eight groups examined, the number of employer establishments in the Virginia counties grew either more quickly or at the same pace as did the number of employer establishments in the border county. Similarly, seven of the eight groups saw increases in the number of proprietor establishments. A simple statistical test confirms that Virginia counties experienced beauty shop growth at a rate approximately 7 percent higher than that in contiguous counties in bordering states. We also found some evidence at the state level that deregulation has created more opportunities for smaller owner-operated beauty salons (an increase in proprietor density of more than 8 percent) in Virginia. Taken together, our findings support the notion that deregulation of hair braiding has enhanced economic opportunity for hair braiders in Virginia.

JEL codes: J44, K23

Keywords: occupational licensing, hairbraiding, cosmetology, deregulation, economic opportunity

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Untangling Hair Braider Deregulation in Virginia: A Case Study Approach

Edward J. Timmons and Catherine Konieczny

Although the US unemployment rate has declined to an acceptable level, labor participation has declined by 3 percentage points.¹ Large numbers of American workers are forced to work part-time jobs despite having a preference for working full time. Occupational licensing laws may be a contributing factor in these continuing labor market challenges.

According to data from the Bureau of Labor Statistics (BLS), an estimated 22.4 percent of employed workers in the United States have an occupational license.² Occupational licensing laws make it illegal for an individual to work in an occupation before meeting minimum standards for entry. The occupations subject to licensing range from physicians and dentists to cosmetologists and barbers. Individual states' stances on how the hair braiding profession should be regulated vary significantly.

Thirteen US states continue to require hair braiders to obtain a cosmetology license. However, the particular skills required for traditional, natural hair styles are generally not covered in the entry requirements for cosmetology licensure. Sanitation practices for hair braiding and cosmetology are also different; although sanitary hair braiding requires the regular cleaning of hair combs and clips, the possibility of contamination from hair braiding is lower than it is from traditional cosmetic services that involve chemical treatments. Further, the unique risks to consumers from poor hair braiding practices (such as hair loss from braids that are too

¹ "Labor Force Statistics from the Current Population Survey," US Bureau of Labor Statistics, <https://data.bls.gov/timeseries/LNS11300000>.

² "Certification and Licensing Status of the Civilian Noninstitutional Population 16 Years and Over by Employment Status," US Bureau of Labor Statistics, <https://www.bls.gov/cps/certifications-and-licenses-table-1-2015.htm>.

tight) are not addressed in cosmetology training. The result is that hair braiding licensure fails to improve consumer safety, although it does lead to significant labor market costs.

In this paper, we analyze Virginia's deregulation of the hair braiding occupation in 2012. Using the states of Kentucky, North Carolina, and West Virginia as well as border-county pairs, we examine whether removing license requirements had a significant effect on the number of salons, the number of salon employees, or the amount of salon employee wages. We hypothesize that removing this barrier to entry will ultimately increase the total number of beauty shops and will potentially create more opportunities for small beauty shops. Before turning to our analysis, we discuss the rationale for occupational licensing and provide some background on regulation of hair braiding.

Rationale for Occupational Licensing

The common defense for occupational licensing is that it improves the quality of services delivered to consumers. Mention the possibility of removing licensing requirements for certain occupations, and some imagine a dystopian society where consumers are swindled on every corner. Some economists have proposed theories that occupational licensing improves the human capital of practitioners and serves as a signal of high quality (Shapiro 1986). If such theories are accurate, then although occupational licensing will increase the price of services, consumers will benefit by receiving higher-quality services. But valid arguments can be made against such theories. For example, in many instances, consumers demand proof of qualification on their own when they believe there is reasonable risk of harm. It is thus a mistake to assume that without government-sanctioned licenses, consumers would have no indicators of service quality or would choose to ignore such indicators (Thierer et al. 2015). Indeed, advances in technology (e.g.,

Internet rating services) have enhanced consumers' ability to compare the quality and reputation of professional service providers.

In several professions, arguments for occupational licensing are particularly weak. In the case of florists, for example, the risks associated with unlicensed florists amount to far less than the costs of licensing for consumers and aspiring florists, and hair braiding appears to belong to this category (Carpenter 2011). By their nature, licenses do not differentiate practicing professionals within a given field, but rather only differentiate those who can practice from those who cannot practice. All license holders meet the same minimum entry standards, but whether those entry standards correlate with enhanced quality remains unclear. Licensing may instead serve as a barrier to entry for the profession and may even discourage hopeful professionals from aspiring to more than the minimum entry standards. The theory that licensing creates monopoly power for professionals by restricting entry to certain professions has emerged as the leading rationale for occupational licensing (Friedman 1962).

Empirical evidence supports the view that licensing exists because creating a barrier to entry benefits individuals already working in a given field—not because it enhances consumer welfare. Studies generally find that although licensing is correlated with higher wages for professionals, it has ambiguous effects on the quality of services provided (White House 2015). Other studies on occupational licensing focus on employment effects in the field overall and on individual workers. Using national data from the Survey of Income and Program Participation and controlling for observable characteristics (including occupation), researchers find that licensed workers are more likely to be employed than are similar workers without licenses or certification (Gittleman, Klee, and Kleiner 2015, 33). The same study also finds that those with federally issued credentials may earn 8.9 percent more than those without,

while those with state-issued credentials may earn 6.1 percent more and those with privately issued credentials may earn 7.3 percent more (Gittleman, Klee, and Kleiner 2015, 23). An earlier study comparing licensing and certification finds that licensed workers earn about 18 percent higher wages than do unlicensed workers (Kleiner and Krueger 2013, 175).

Occupational licensing becomes particularly burdensome in the case of hair braiding because the service falls under the umbrella of cosmetology. The intent of policymakers is to ensure proper sanitation training in an effort to protect consumers, but an examination of the skills tested in the process of obtaining a license tells a different story. We now turn to a discussion of regulation of the hair braiding occupation.

Regulation of Hair Braiding Nationally

Table 1 and figure 1 provide a snapshot of regulation of hair braiding across the United States as of October 2017. Thirteen states and Puerto Rico require aspiring hair braiders to obtain a cosmetology license. Fourteen states have specific hair braiding licensing requirements that are generally less burdensome than are the requirements for cosmetology licensing. The remaining twenty-three states and Washington, DC, currently do not require hair braiders to obtain a license to work. Florida stands out as an interesting case—although a 2011 statute created a distinct hair braider license, the law prohibits hair braiders from providing hair extensions—an essential service for many braided hairstyles.³ As a result, hair braiders in Florida are generally still required to obtain a cosmetology license.

³ “Hair Braider Registration (COSMO 5),” Florida Department of Business and Professional Regulation, accessed September 17, 2017.

Table 1. Summary of Hair Braider Regulation, October 2017

Require a cosmetology license	Require a braiding license	Don't require a license for braiding
Alaska	Alabama: 200 hours	Arizona
Hawaii	Florida: 16 hours*	Arkansas
Idaho	Illinois: 300 hours	California
Massachusetts	Louisiana: 1,000 hours	Colorado
Missouri	Minnesota: 30 safety and sanitation hours	Connecticut
Montana	Nevada: 250 hours	Delaware
New Jersey	New York: 300 hours	Georgia
New Mexico	North Carolina: 300 hours	Indiana
North Dakota	Ohio: 450 hours	Iowa
Puerto Rico	Oklahoma: 600 hours	Kansas
Rhode Island	Oregon: online module and written exam	Kentucky
Vermont	Pennsylvania: 300 hours	Maine
Wisconsin	South Carolina: 6 safety and sanitation hours	Maryland
Wyoming	Tennessee: 300 hours	Michigan
		Mississippi: requires registration
		Nebraska
		New Hampshire
		South Dakota
		Texas
		Utah
		Virginia
		Washington
		Washington, DC
		West Virginia

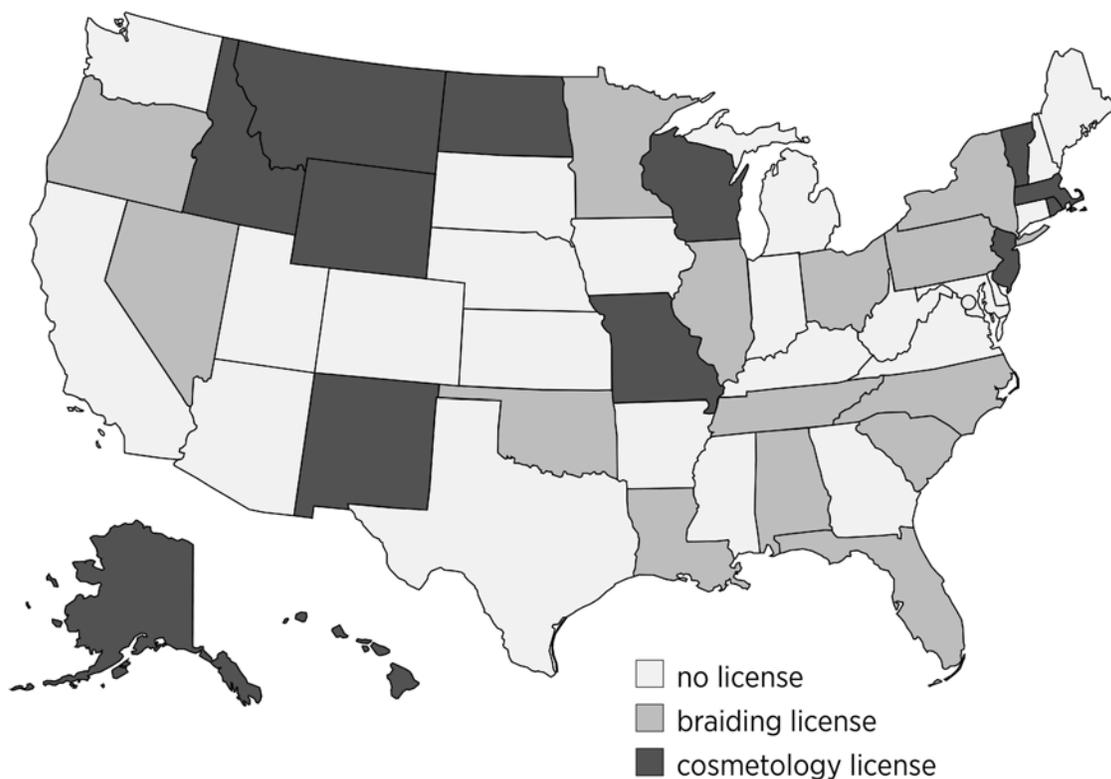
* = Florida's hair braiding license forbids licensees from providing hair extensions.

Source: "Braiding Freedom: A Project of the Institute for Justice," accessed October 17, 2017, <http://braidingfree.wpengine.com/>.

Significant changes in regulation of hair braiding have come about as a result of both legislation and litigation. The Institute for Justice (IJ), a nonprofit, public-interest law firm, has championed many of the legal challenges to licensure. In these cases taken on by IJ, individual hair stylists sue states for the right to practice without a license. IJ lawsuits have led to Arizona, California, Mississippi, Utah, and Washington fully deregulating hair braiding (Avelar and Sibilla 2014). Maryland, however, is an example of the opposite case: in 2015, a stylist actually

petitioned the state to try to impose licensing requirements on new hair braiders.⁴ The bill failed but was supported by natural hair stylists who were licensed cosmetologists and who were facing reduced business because of competition from new hair braiding businesses. One practitioner advocating for the license requirement said, “At least it will weed out those [stylists] who are really really bad” (DePhillis 2015, para. 3).

Figure 1. Summary of Regulation of Hair Braiding, October 2017



Source: “Braiding Freedom: A Project of the Institute for Justice,” accessed October 17, 2017, <http://braidingfree.wpengine.com/>.

A number of states have recently deregulated hair braiding. Arkansas, Colorado, and Washington removed licensing requirements for hair braiders in 2015, and Iowa and Kentucky

⁴ Maryland House Bill 1124 of 2015, <https://legiscan.com/MD/bill/HB1124/2015>.

followed soon after in 2016. Both South Dakota and Indiana exempted hair braiders from cosmetology licensing requirements in early 2017. Texas had a particularly interesting case that focused on the requirements for teaching hair braiding. That case, brought by IJ (Institute for Justice 2015), challenged a rule that required a hair braiding instructor to provide barber chairs and sinks, even though hair braiding courses addressed neither hair washing nor hair treatment.

Understanding Regulation of Hair Braiding in Virginia

Before 2012, individuals offering hair braiding services in Virginia were required to obtain a full cosmetology license. Obtaining a license required an individual to attend training for 170 hours, pass an exam, and pay annual dues to Virginia's Board for Barbers and Cosmetology. To be eligible to sit for the cosmetology licensing exam, an applicant would be required to attend training at a state-approved cosmetology or hair braiding school.⁵ Previous experience could not be substituted for the training requirement for an initial cosmetology license. Table 2 contains a complete list of the fees required to obtain a cosmetology license in Virginia before 2012, including those associated with training.

Following a statement by the Virginia Board of Barbers and Cosmetology, a law introduced in 2012 completely removed the cosmetology license requirement for hair braiders. The statement cited the low number of interventions the board had had to make in instances of improperly practiced hair braiding during a five-year period from 2007 to 2011; these included two fines for hair braiders, one license revocation, and one fine for a hair braiding salon with unspecified infractions.⁶

⁵ No distinction was found between the two types of schools. There may be additional regulations when institutions are regulated as cosmetology schools, including what training schools must offer and what certifications teachers must have, which would have indicated additional barriers to entering either profession.

⁶ Virginia Governor's Executive Reorganization Plan Section 19, House Joint Resolution No. 49 (March 10, 2012).

Table 2. Licensing Fees for Virginia

Fee type	Amount due	When due
Individuals:		
Application	\$55	With application
License by endorsement	\$55	With application
Renewal	\$55	With renewal card before expiration date
Reinstatement	\$55	With reinstatement application
Salons:		
Application	\$90	With application
Renewal	\$90	With renewal card before expiration date
Reinstatement	\$90	With reinstatement application
Schools:		
Application	\$120	With application
Renewal	\$120	With renewal card before expiration date
Reinstatement	\$120	With reinstatement application

Source: Fee information is from 18 VAC 41-30-110.

In contrast, few changes have been made in the states surrounding Virginia. In 2011, North Carolina introduced a specialized hair braiding license that requires 300 hours of training (Burrows 2010). West Virginia requires a full cosmetology license for hair braiders, although H. B. 2131, a piece of legislation introduced in 2015 that would that would have removed the license requirement, failed to get passed into law.⁷ Kentucky eliminated its license requirement in 2016 (Powers 2016). For this paper’s period of study (2004 to 2014), both Kentucky and West Virginia required hair braiders to have a full cosmetology license. We therefore use Kentucky, North Carolina, and West Virginia, as well as bordering counties, as a control group to examine the employment effects of Virginia’s removal of hair braiding regulation.⁸

Few studies have been conducted on licensing for hair braiders. An early study looks at the cultural history of hair braiding. Training in the types of hair braiding valued by consumers has traditionally been passed on informally. Once conducted primarily among family and friends,

⁷ West Virginia House Committee on Government Organization, West Virginia Legislature. 83rd, 1st sess. H.B. 2131 (January 20, 2015).

⁸ It is also possible to measure the effect of changes in states that have not completely removed licenses. Some may remove the fee for a license, decrease the number of exams, or decrease the hours of training required. We chose to focus instead on the complete removal of regulation.

training in hair braiding has become more formalized but has nonetheless bypassed cosmetology schools. Practitioners have developed a community network of workshops and a collection of trade literature to provide training in hair braiding that signifies expertise and competence to consumers without requiring hair braiders to have a regulated license (Bell 2007, 135). Although fair debates about the unique risks of hair braiding for consumers exist (Bell 2007, 141–43), cosmetology training that does not address the unique skills required of hair braiders cannot address those risks.

A recent study performed by IJ explores whether hair braiding presents risks to consumers (Erickson 2016). A review of data for nine states and Washington, DC, from 2006 to 2012 indicated that just 95 complaints were filed against hair braiders (approximately 1 percent of the population of licensed hair braiders). In addition, virtually all of those complaints (94 of the 95) were filed by competing cosmetologists as opposed to consumers. The study also notes significant differences between Mississippi and Louisiana with respect to the number of professional hair braiders. Mississippi (no licensing requirements for hair braiders) had 1,200 hair braiders in 2012, whereas Louisiana (licensing requirements for hair braiders) had only 32 hair braiders.

As demonstrated by Maryland's 2015 attempt to protect currently licensed hair stylists, there is some substitution among braiders and other cosmetology establishments. Cosmetology and barbering establishments cater to a broader clientele, and there are more kinds of establishments (Timmons and Thornton 2010). The market has also adapted to satisfy varying consumer preferences. Consumers can now frequent barbers dedicated to beard styling, blow-dry bars, unisex salons, traditional salons that offer complimentary alcoholic beverages with the purchase of a service, or hair braiding salons. Some customers prefer traditional salon services

bundled with hair braiding. Other consumers prefer (and should be able to visit) salons that specialize solely in hair braiding—and that offer their services at a reduced cost because they have to neither outfit their facility for hair washing nor pay for cosmetology licenses for their stylists. Virginia’s deregulation of hair braiding allows for this very type of salon, and we seek to expand the existing literature by estimating the economic effects of the 2012 regulatory change on hair braiding in Virginia. Before discussing the results of our investigation, we turn to a discussion of the data.

The Data

In this paper, we consider recent changes to Virginia law to empirically review the effects of deregulation of the hair braiding occupation. The investigation is divided into three parts: the first part is a state-level comparison of Virginia with contiguous states with different levels of hair braiding regulation, the second part offers case studies of specific border-county pairings, and the third part discusses a simple statistical test to confirm the significance of our comparisons in the previous sections.⁹ Within these parts, we differentiate between trends in proprietor establishments that are run by the owner and trends in employer establishments with multiple employees.

Our analysis is based on data retrieved from the County Business Patterns (CBP) report and the Nonemployer Statistics (NES) reports published by the US Census Bureau. Both are broken down by NAICS code: we focus on code 812112—beauty salons. Beauty salons (also referred to as “beauty shops” in this paper) include all establishments engaged in “(1) cutting, trimming, shampooing, coloring, waving, or styling hair; (2) providing facials; and (3) applying

⁹ Tennessee also borders Virginia, but we were unable to find any data at the county level on bordering counties in Tennessee. We therefore omitted Tennessee from this part of the analysis.

makeup (except permanent makeup).”¹⁰ Excluded from this category are establishments catering to men specifically, which are classified under NAICS 812111—barber shops. Although it would be ideal to focus solely on hair braiding, we are not aware of any data that focus solely on that specialization. Instead, we rely on the broader beauty salon category while acknowledging the limitations of this approach—most notably, that we may be identifying changes in the cosmetology market that are unrelated to hair braiding. We use four outcomes from the CBP report at the state level: number of establishments, number of employees, number of employees per establishment, and annual earnings per employee. Measures were adjusted for inflation and converted into 2009 US dollars. At the county level, because of limited data, we are able to observe only the number of establishments. The NES reports fewer variables, and we can track only the number of sole proprietors of beauty salons.

Analysis of Removal of Hair Braiding Regulation

State Level

Figures 2 through 5 plot trends in the number of beauty shop establishments, the number of beauty shop employees, the number of beauty shop proprietors, the number of employees per beauty shop, and the average earnings per beauty shop employee from 2004 to 2014 in Virginia (which fully deregulated hair braiding in 2012) and in Kentucky, North Carolina, and West Virginia (which maintained some form of regulation of hair braiding throughout that time period). The numbers of beauty shop establishments, employees, and proprietors are weighted by the state population. In figure 2, we observe little change in the number of beauty shops with employees (per 10,000 residents) in Kentucky and North Carolina in 2012. Both Virginia and West Virginia

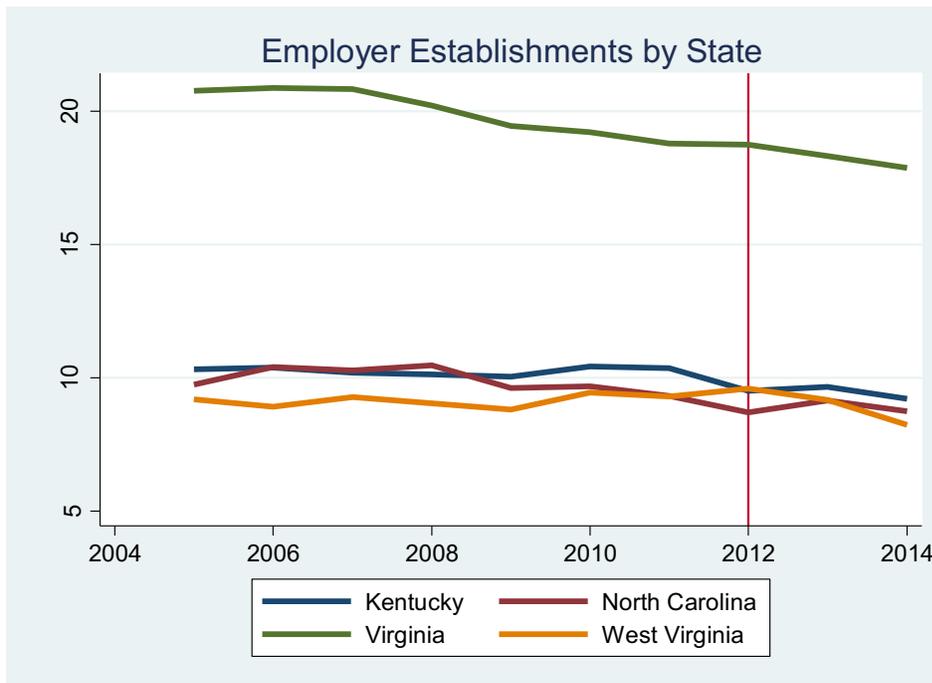
¹⁰ “2012 NAICS: 812112—Beauty Salons,” US Census Bureau.

experienced more notable decreases. Most hair braiding salons are smaller beauty shops; thus, we may not expect to observe much difference with respect to the number of beauty shops with employees following the deregulation of hair braiding. Turning to figure 3A, the number of beauty shop employees (per 1,000 residents) falls slightly in Virginia and West Virginia following deregulation and stays mostly consistent in North Carolina and Kentucky. In percentage terms, the decline in the number of beauty shop employees is 3.19 percent from 2012 to 2014, while the number of employee establishments increases by a modest 0.04 percent. Many hair braiding establishments are small and may not have employees, so perhaps it is not surprising to see little evidence of a positive trend in the number of employees following deregulation. In fact, the drop in the number of employees in Virginia may be a result of an overall decrease in the size of beauty shops following deregulation. In figure 3B, we plot trends in the number of sole proprietors/owners of beauty shops (per 1,000 residents) in each state. Once again, these data are obtained from the NES (as opposed to the CBP). Virginia, Kentucky, and North Carolina experience increases in the number of beauty shop sole proprietors, and in West Virginia the number remains relatively flat. In percentage terms, the number of beauty shop proprietors increases by 8.2 percent from 2012 to 2014.

Figure 4 displays raw trends in the number of employees per beauty shop in each state. Three of the four states (all but West Virginia) experience a decrease in the number of employees per shop before Virginia's deregulation in 2012. Following deregulation, the number of employees per shop falls sharply in West Virginia (by almost a full employee from 2012 to 2014) and increases modestly in both North Carolina and Kentucky. In Virginia, the primary state of interest, the number of employees per beauty shop declines modestly following deregulation in 2012 after several years of staying relatively constant. This trend seems to

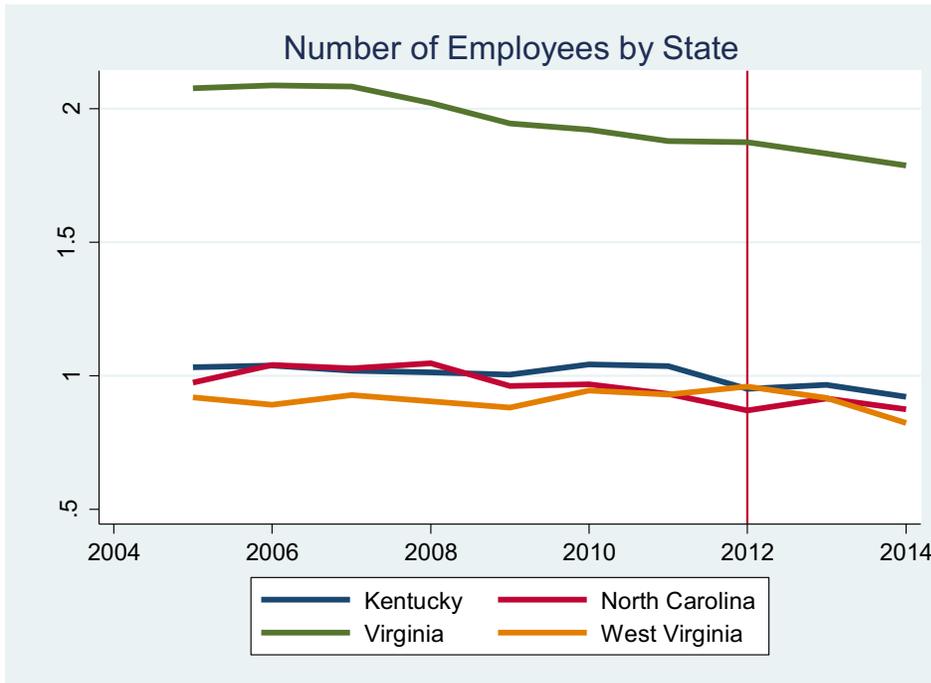
support increased economic opportunities for hair braiders, as new salon proprietors may have once been salon employees. Hair braiding establishments are generally smaller than are salons offering other cosmetic services; thus, the drop in the number of employees per shop in Virginia may reflect (a) an increase in the number of new small beauty shops with few employees or (b) an increase in the number of owner-operated salons (with no employees) opening in the state following deregulation.

Figure 2. Number of Beauty Shops with Employees per 10,000 Residents, 2004–2014



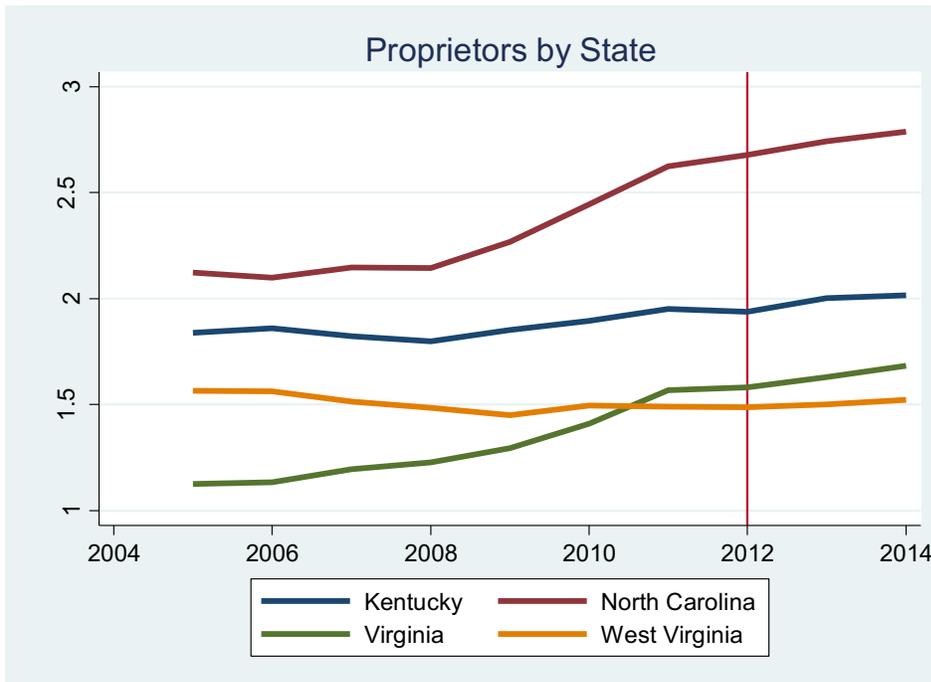
Source: County Business Patterns data, 2004–2014.

Figure 3A. Number of Beauty Salon Employees per 1,000 Residents, 2004–2014



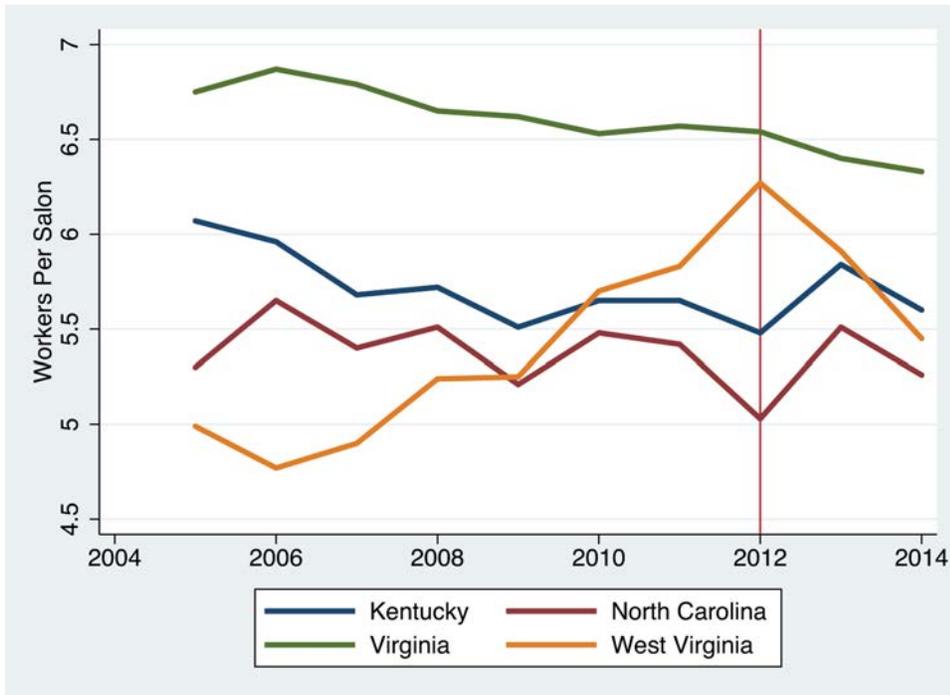
Source: County Business Patterns data, 2004–2014.

Figure 3B. Number of Beauty Salon Sole Proprietors/Owner Operators per 1,000 Residents, 2004–2014



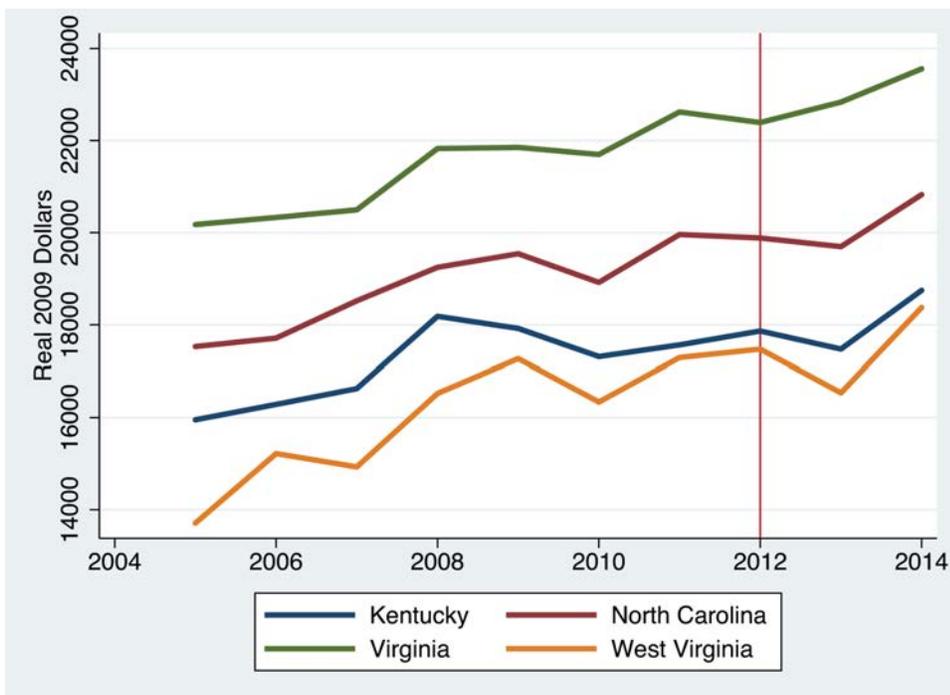
Source: Nonemployer Statistics data, 2004–2014.

Figure 4. Number of Employees per Beauty Salon, 2004–2014



Source: County Business Patterns data, 2004–2014.

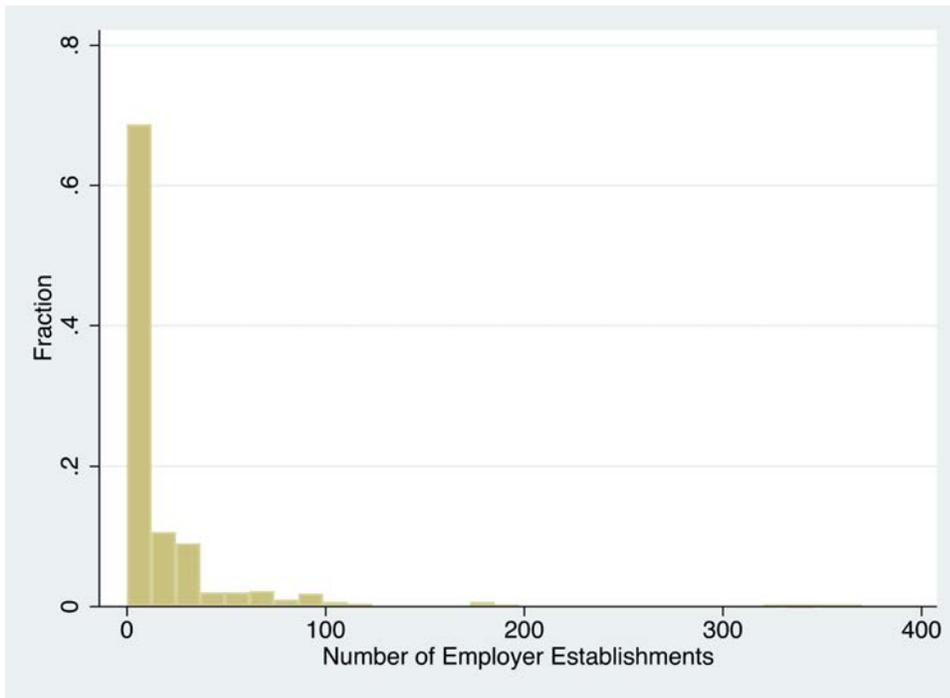
Figure 5. Average Annual Earnings of Beauty Salon Employees, 2004–2014



Source: County Business Patterns data, 2004–2014.

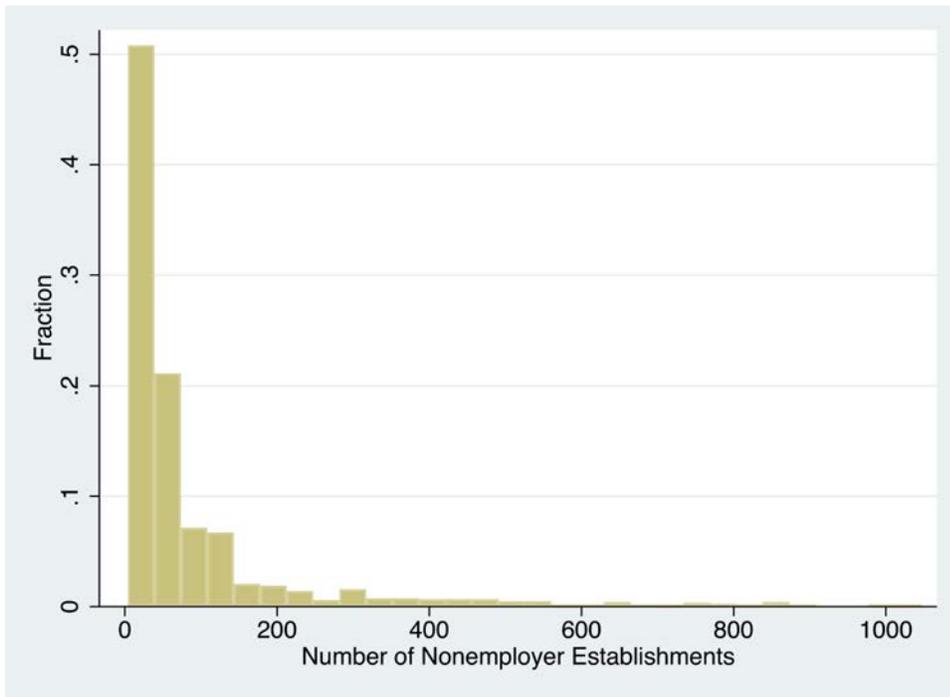
In figure 6A, we plot the distribution of beauty shops in the state of Virginia. More than 65 percent of counties in the state have fewer than 13 beauty shops with employees. And, as shown in figure 6B, most Virginia counties (a few more than half) have a relatively small number of beauty shops (fewer than 35) without employees (owner-operated shops). Although a state-level comparison is interesting, a comparison of border counties allows for an opportunity to better isolate the effects of deregulation by focusing on two geographic areas that may be economically similar despite being in different states—and that are thus subject to different regulation. Although this approach has clear advantages, we were also limited by the availability of data that were of less concern at the state level. We will examine border-county groups in the sections that follow.

Figure 6A. Distribution of Virginia Counties by Number of Beauty Salons with Employees



Source: County Business Patterns data, 2004–2014.

Figure 6B. Distribution of Virginia Counties by Number of Beauty Salons without Employees (Owner Operated)



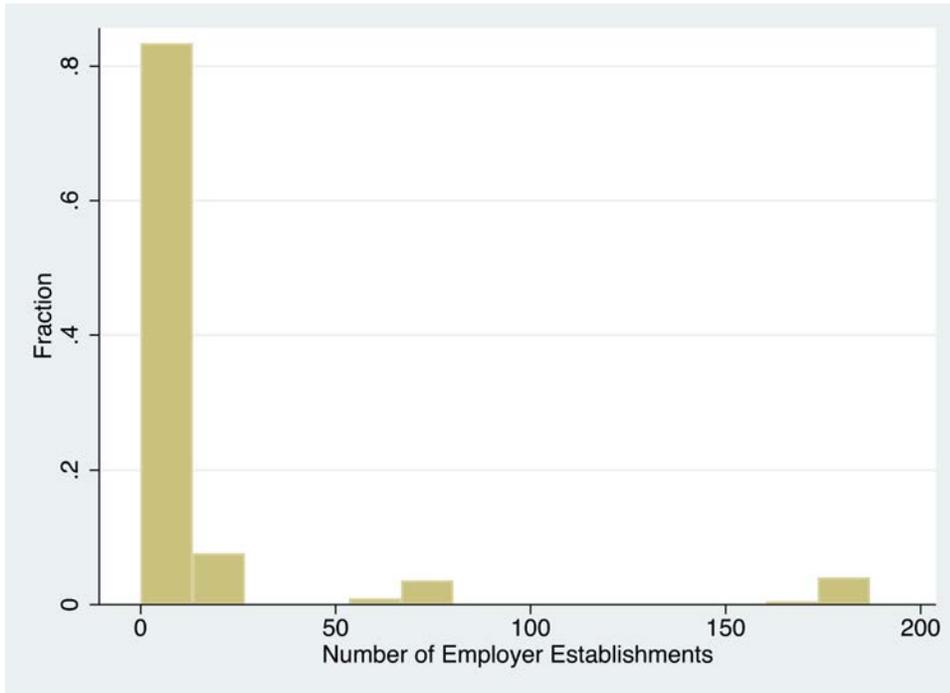
Source: Nonemployer Statistics data, 2004–2014.

Border-County Analysis

This analysis proceeds in two parts. We first present case studies of border counties to show specific differences in establishment trends. We then present the results of a simple statistical test to compare border and inner Virginia counties to contiguous non-Virginia counties.

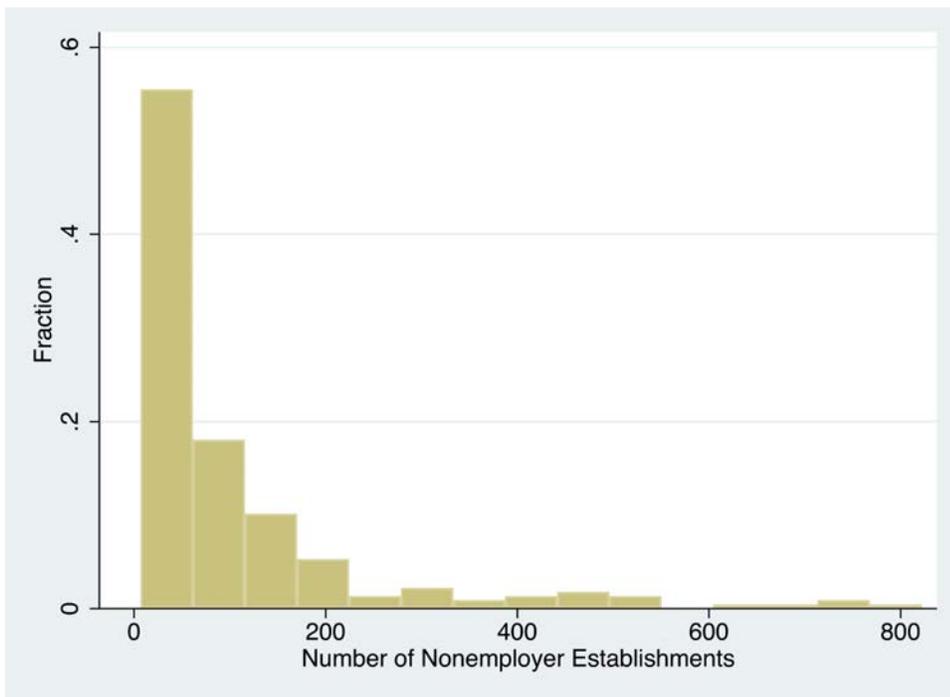
After performing a state-level comparison in the preceding section, we move on to compare border-country pairs and groups. Pairs and groups were excluded from the analysis in instances where differences in per capita income between the counties were larger than \$5,000. This condition excludes border counties such as Virginia Beach, whose per capita income is nearly \$10,000 higher than its bordering county in North Carolina. Figures 7A and 7B depict the distributions of the number of employee and nonemployee beauty salons, respectively, in Virginia border counties. The distribution is similar to the statewide distributions depicted in figures 6A and 6B.

Figure 7A. Distribution of Virginia Border Counties by Number of Beauty Salons with Employees



Source: County Business Patterns data, 2004–2014.

Figure 7B. Distribution of Virginia Border Counties by Number of Beauty Salons without Employees



Source: Nonemployer Statistics data, 2004–2014.

Table 3 presents the entire pool of 31 counties, with 21 unique groupings because several counties overlap with a single Virginia counterpart. These 21 are consolidated down to 15 based on similarities of counties, 8 of which have complete data. Using the exclusion criteria identified (gap in personal income per capita of more than \$5,000) and because a small number of shops resulted in redacted data, we focus on five border-county pairs and three sets of three-county groupings. The groups used for the analysis are set in bold in the table. In the sections that follow, we provide data on population, per capita personal income, and unemployment averaged from 2004 to 2014, and we also produce plots of the number of beauty shop establishments from County Business Patterns data for the period.¹¹

Table 3. Pool of Potential Border-County Groupings

	VA county	Border matches
1.	Alleghany	Greenbrier, WV, and Monroe, WV^a
2.	Bland^b and Tazewell	Mercer, WV
3.	Brunswick ^c	Warren, NC ^c
4.	Buchanan ^d and Dickenson ^e	Pike, KY ^e
5.	Carroll	Surry, NC
6.	Clarke ^e	Jefferson, WV ^e
7.	Frederick ^e	Berkeley, WV; ^e Morgan, WV; ^e Hampshire, WV; ^e and Hardy, WV ^e
8.	Giles ^e	Monroe, WV, ^e and Mercer, WV ^e
9.	Halifax	Person, NC, and Granville, NC
10.	Henry and Pittsylvania	Rockingham, NC
11.	Lee	Harlan, KY, and Bell, KY
12.	Mecklenburg	Granville, NC; Vance, NC; and Warren, NC
13.	Shenandoah ^e	Hardy, WV ^e
14.	Virginia Beach ^e	Currituck, NC ^e
15.	Wise	Harlan, KY

^a Monroe, WV, had only one establishment during the entire time period, and all data on that establishment were redacted for privacy.

^b Bland, VA, had only one establishment open from 2006 to 2011, with all other data redacted for privacy.

^c Both Brunswick, VA, and Warren, NC, had only one establishment with no change over the time period.

^d Because Buchanan, VA, had only one establishment, Dickenson, VA, was favored for comparison with Pike, KY.

^e This note indicates that the difference in the counties' personal income per capita is greater than \$5,000.

Note: The groupings used in this study are boldfaced.

¹¹ In many cases, data on earnings and employment are redacted at the county level for confidentiality purposes. Unfortunately, we are unable to examine those county-level trends.

1. Greenbrier, West Virginia, and Alleghany, Virginia

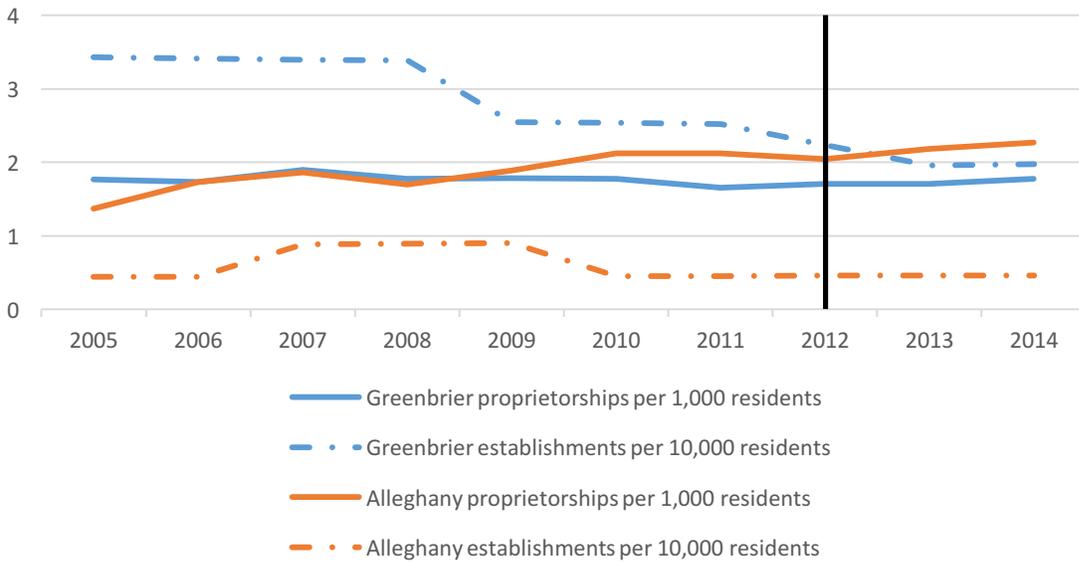
For our first comparison, we highlight differences in cosmetology establishments in Greenbrier, West Virginia, and Alleghany, Virginia. Table 4 depicts the similar economic situations in the bordering counties. Turning to figure 8, we observe a general downward trend in Greenbrier—decreasing from 3.5 beauty shops with employees (per 10,000 residents) in 2005 to 2.0 in 2014. The number of beauty shops without employees in Greenbrier remains relatively flat during the period. In contrast, the number of beauty shop establishments without employees in Alleghany increases (from approximately 2.0 to 2.3—a 15 percent increase) after deregulation in 2012. The number of employee establishments in Alleghany is flat after 2012. These findings are consistent with the hypothesis that the elimination of licensing requirements reduced barriers to entry into the hair braiding profession—and indeed we observe a noticeable difference in the number of owner-operated salons following the deregulation of hair braiding in Virginia in 2012.

Table 4. Comparison Group 1—Greenbrier, West Virginia, and Alleghany, Virginia

	Greenbrier, WV	Alleghany, VA
Average population	35,457	22,237
Average per capita income	\$30,209	\$31,255
Average unemployment (%)	7.25	6.50

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 8. Comparison Group 1—Greenbrier, West Virginia, and Alleghany, Virginia



Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

2. Tazewell, VA, and Mercer, WV

As was the case in the previous pairing, the WV county in the second comparison group has a higher population than does its VA counterpart (table 5). However, both counties' per capita incomes and unemployment rates are remarkably similar during the period of study. In this case, the counties display different trends pre-treatment (before the 2012 deregulation), with the gap between Tazewell and Mercer counties closing as Tazewell experiences an increase in the number of beauty shops with employees (figure 9). Interestingly, the number of nonemployee beauty shops increases in Mercer County pre-treatment. Post-treatment (after the 2012 deregulation), the two counties follow very similar trends. The significant divergent trends pre-treatment limit our ability to infer anything further from this comparison.

Table 5. Comparison Group 2—Tazewell, VA, and Mercer, WV

	Tazewell, VA	Mercer, WV
Average population	44,413	61,904
Average per capita income	\$30,252	\$30,133
Average unemployment (%)	6.67	6.55

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 9. Comparison Group 2—Tazewell, Virginia, and Mercer, West Virginia



Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

3. Carroll, Virginia, and Surry, North Carolina

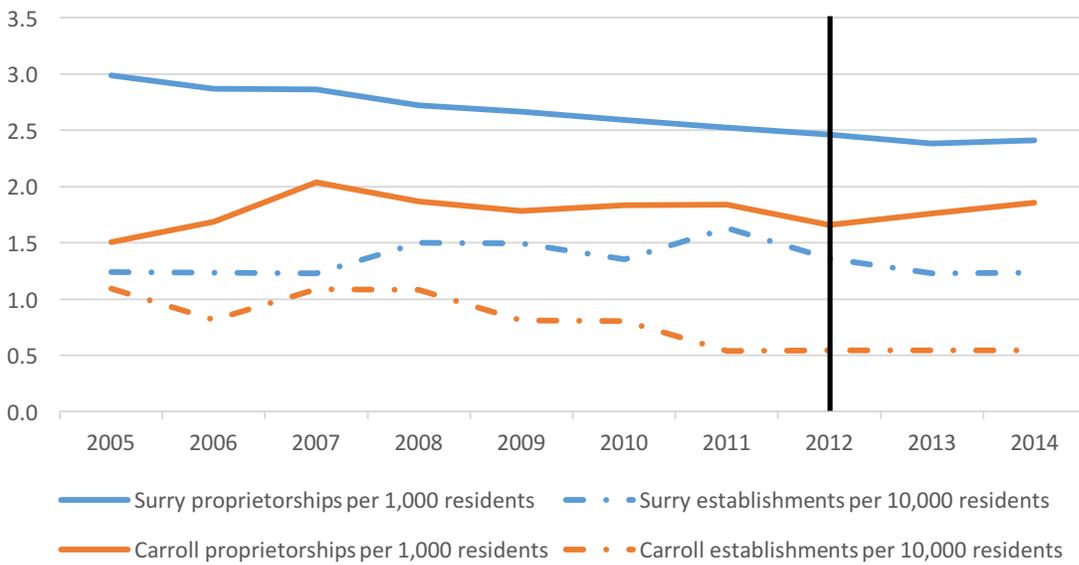
Surry County in North Carolina has nearly twice the population of Carroll County in Virginia, but the average per capita income and unemployment rate of each county are comparable (table 6). The number of Carroll's beauty shop establishments with employees was declining early in the pre-treatment period, but that number stabilized in 2011 and following deregulation of hair braiding in 2012 at 0.5 establishments per 10,000 residents. Surry County has the opposite trend—increasing before 2011 and then declining following deregulation in Virginia (figure 10). In this case, the number of beauty shops with employees is declining in the North Carolina county and stable in the Virginia county following deregulation of hair braiding. Turning to beauty shops without employees, Surry declines by 0.1 shops, and Carroll gains approximately 0.2 shops (per 1,000 residents)—a roughly 13 percent increase. This result is consistent with our hypothesis that deregulation increased opportunities for hair braiders in Virginia.

Table 6. Comparison Group 3—Carroll, Virginia, and Surry, North Carolina

	Carroll, VA	Surry, NC
Average population	36,829	73,226
Average per capita income	\$27,788	\$29,481
Average unemployment (%)	7.90	8.32

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 10. Comparison Group 3—Carroll, Virginia, and Surry, North Carolina



Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

4. Halifax, Virginia, Person, North Carolina, and Granville, North Carolina

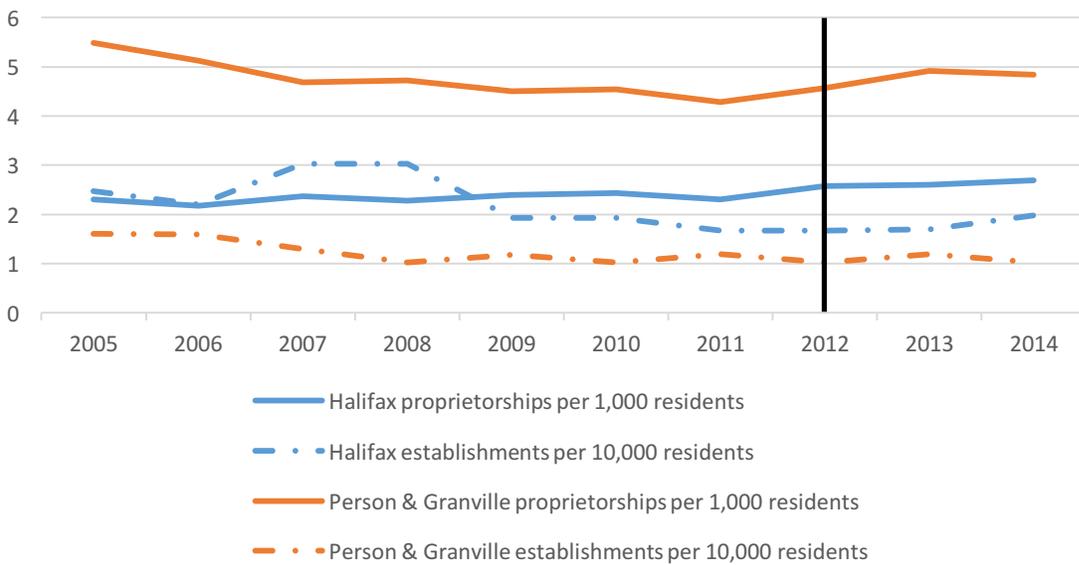
For this case study, we compare Halifax County in Virginia with two bordering North Carolina counties, Person and Granville. Although all three counties have similar per capita personal incomes from 2004 to 2014, the unemployment rate is notably lower (and the population much higher) in Granville County (table 7). The number of beauty shop establishments (both with and without employees) is mostly stable in both North Carolina counties throughout the sample period. In Halifax, the number of employee establishments is mostly declining in the pre-treatment period and stabilizes following deregulation. The number of proprietorships in Halifax experiences a very slight increase following deregulation (figure 11). Once again, this simple comparison appears to support the notion that deregulation of hair braiding is increasing opportunity for hair braiders in Virginia.

Table 7. Comparison Group 4—Halifax, Virginia, Person, North Carolina, and Granville, North Carolina

	Halifax, VA	Person, NC	Granville, NC
Average population	36,022	38,970	57,418
Average per capita income	\$28,293	\$29,815	\$29,069
Average unemployment (%)	8.62	9.08	7.23

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 11. Comparison Group 4—Halifax, Virginia, Person, North Carolina, and Granville, North Carolina



Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

5. Henry, Virginia, Pittsylvania, Virginia, and Rockingham, North Carolina

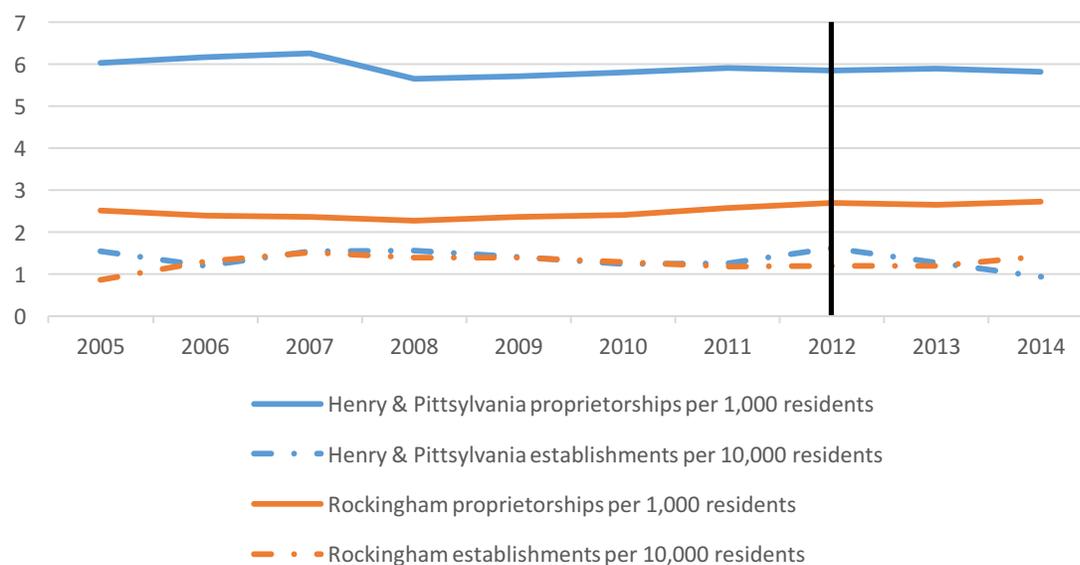
Like the preceding group of bordering counties, all counties in this group have very similar per capita personal incomes on average throughout the period (table 8). Rockingham County has a much higher population and generally experienced population growth throughout the sample period, while the populations of the two Virginia counties generally declined. In this example, all trend lines are effectively flat following deregulation (figure 12). This case does not provide supporting evidence for our hypothesis.

Table 8. Comparison Group 5—Henry, Virginia, Pittsylvania, Virginia, and Rockingham, North Carolina

	Henry, VA	Pittsylvania, VA	Rockingham, NC
Average population	54,241	62,032	92,857
Average per capita income	\$29,681	\$28,922	\$29,203
Average unemployment (%)	9.33	7.60	9.25

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 12. Comparison Group 5—Henry, Virginia, Pittsylvania, Virginia, and Rockingham, North Carolina



Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

6. Lee, Virginia, Harlan, Kentucky, and Bell, Kentucky

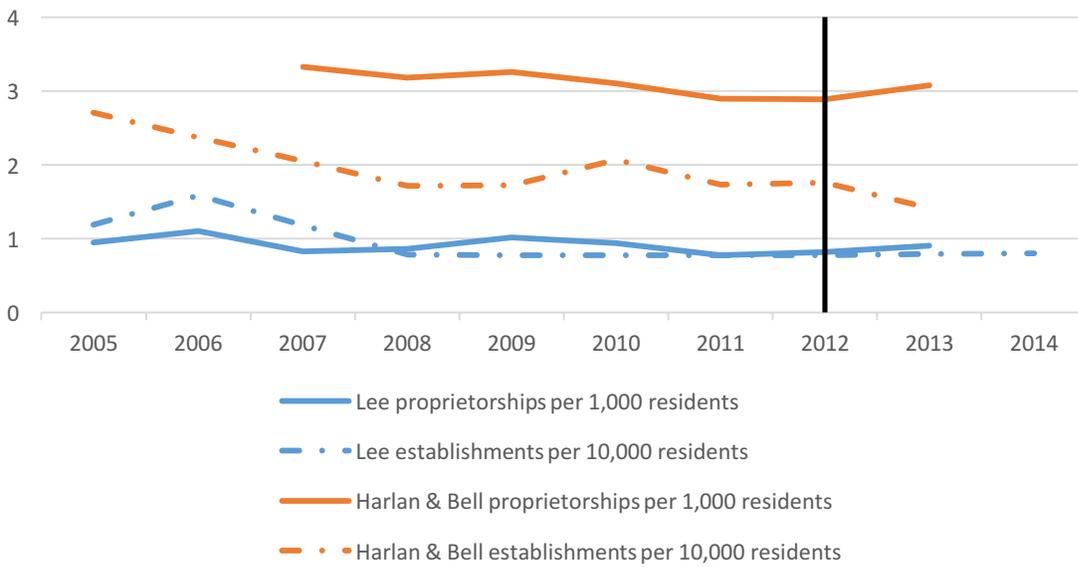
Although all counties in this grouping have similar per capita incomes and populations throughout the sample, both Kentucky counties have much larger unemployment rates than the Virginia county (table 9). All three counties are generally trending downward with respect to the number of beauty establishments in the pre-treatment period. Following deregulation, the number of beauty shops without employees in Lee County slightly increases while the number of shops with employees remains fairly constant. Harlan and Bell counties in Kentucky experience a slight increase in nonemployee beauty shops and a slightly larger decrease in shops with employees (figure 13). This comparison is also in line with our hypothesis, even despite the limitations resulting from the significant difference in unemployment across the border.

Table 9. Comparison Group 6—Lee, Virginia, Harlan, Kentucky, and Bell, Kentucky

	Lee, VA	Harlan, KY	Bell, KY
Average population	25,363	29,321	28,555
Average per capita income	\$25,225	\$24,739	\$24,060
Average unemployment (%)	6.68	11.40	10.35

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 13. Comparison Group 6—Lee, Virginia, Harlan, Kentucky, and Bell, Kentucky



Note: Values for Harlan, KY, in 2006 were redacted in the dataset. There were 48 proprietors in Harlan and 44 in Bell in 2005, equivalent to 3.096 per 1,000 people.

Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

7. Mecklenburg, Virginia, Vance, North Carolina, and Granville, North Carolina

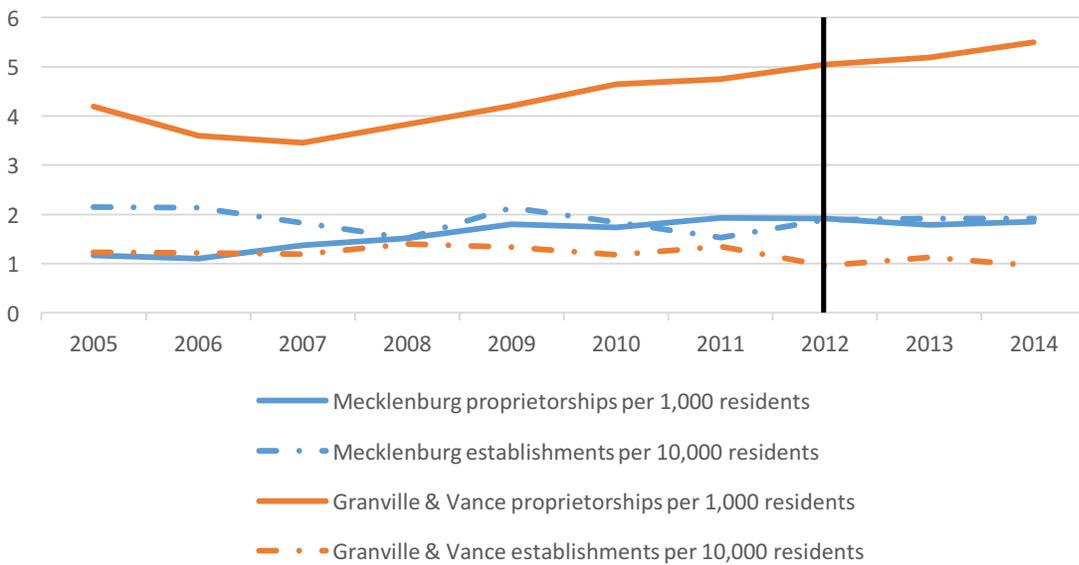
Like the previous grouping, all three counties have similar per capita personal incomes throughout the sample period. Vance County has notably higher unemployment, and both North Carolina counties have larger populations than Mecklenburg County in Virginia (table 10). In this case, the number of proprietor establishments in Granville and Vance grows much more significantly than in Mecklenburg, which is a result counter to our hypothesis. We should note, however, that before deregulation in Virginia, both North Carolina counties are also experiencing a general upward trend in the number of proprietor establishments. Because both North Carolina counties have such a high initial number of proprietors, this upward trend may reflect a continued increase in demand rather than an effect of deregulation. All other beauty shop counts remain fairly stable both immediately pre- and post-treatment (figure 14).

Table 10. Comparison Group 7—Mecklenburg, Virginia, Vance, North Carolina, and Granville, North Carolina

	Mecklenburg, VA	Vance, NC	Granville, NC
Average population	32,332	44,858	57,418
Average per capita income	\$28,489	\$27,871	\$29,069
Average unemployment (%)	8.21	10.84	7.23

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 14. Comparison Group 7—Mecklenburg, Virginia, Vance, North Carolina, and Granville, North Carolina



Source: County Business Patterns and Nonemployer Statistics data, 2004–2014.

8. Wise, Virginia, and Harlan, Kentucky

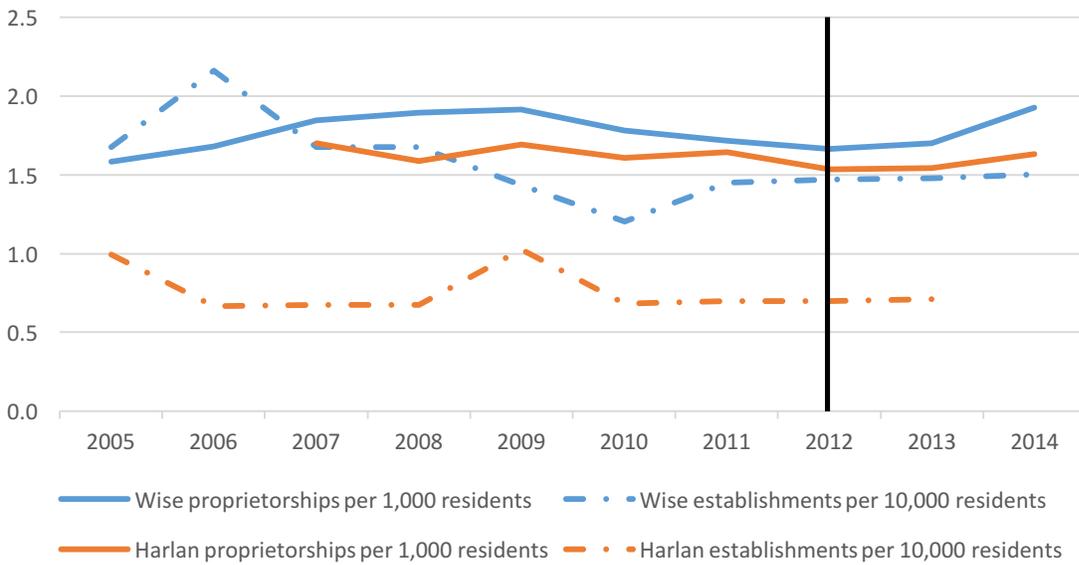
Our final pairing features two border counties that are markedly different using our three controls—Wise County has a higher population and per capita income and much lower unemployment than Harlan County throughout the sample period (table 11). In noting this limitation, we observe a slight increase in the number of beauty shops without employees following deregulation in Wise County. Otherwise, we observe little difference in the number of beauty shop establishments immediately before and after deregulation of hair braiding in Virginia (figure 15). This result is consistent with our hypothesis of deregulation increasing opportunity for hair braiders in the Old Dominion.

Table 11. Comparison Group 8—Wise, Virginia, and Harlan, Kentucky

	Wise, VA	Harlan, KY
Average population	41,284	29,321
Average per capita income	\$27,697	\$24,739
Average unemployment (%)	6.91	11.40

Source: Bureau of Labor Statistics Local Area Unemployment Statistics County Tables.

Figure 15. Comparison Group 8—Wise, Virginia, and Harlan, Kentucky



Source: County Business Patterns and Nonemployer Statistics Data, 2004–2014.

A Simple Statistical Test

To further investigate the effect of Virginia’s deregulation of hair braiders, we present six simple tests, three testing employee establishments and three testing nonemployee (proprietor) establishments. To facilitate interpretation, we examine the number of proprietorships per 1,000 people and employee establishments per 10,000 people. No Virginia counties with reporting beauty shops are excluded in the regressions—the total sample includes 147 counties from 2005 to 2014. Instead, we control for county unemployment rate and real personal income per capita. In addition, all regressions include county fixed effects and standard errors that are adjusted for clustering at the county level.

We take the natural log of each ratio (the number of proprietorships and employee establishments per capita) to facilitate interpretation of each coefficient as a rate of change. A summary of each test is presented below:

- Test 1: Proprietorships in Virginia border counties compared with Virginia inner counties
- Test 2: Proprietorships in Virginia border counties compared with out-of-state border counties
- Test 3: Proprietorships in Virginia counties compared with out-of-state border counties
- Test 4: Employee establishments in Virginia border counties compared with Virginia inner counties
- Test 5: Employee establishments in Virginia border counties compared with out-of-state border counties
- Test 6: Employee establishments in Virginia counties compared with out-of-state border counties.

Table 12. Simple Tests of Virginia Border and Contiguous Counties

	(1)	(2)	(3)	(4)	(5)	(6)
	LogPropPP	LogPropPP	LogPropPP	LogEstabPP	LogEstabPP	LogEstabPP
Dereg Border	-0.0838*** (0.0227)			-0.0229 (0.0353)		
Dereg VA		0.00296 (0.0247)	0.0704*** (0.0190)		0.0512 (0.0429)	0.0704** (0.0320)
Observations	1207	438	1425	1210	423	1421
R^2	0.924	0.888	0.925	0.934	0.917	0.939

* p < 0.10; ** p < 0.05; p < 0.01.

Note: Standard errors are in parentheses.

Our primary variable of interest in each regression is a simple interaction term of dummy variables. In tests (columns) 1 and 4, we interact a dummy variable for deregulation of hair braiding (equal to 1 after 2012) with a dummy variable denoting Virginia border counties. The resulting variable is labeled “Dereg|Border” in table 12.¹² In addition, the hair braiding deregulation and Virginia border county dummy variables are both included separately as additional independent variables—fully specifying the difference-in-differences coefficient. Both interaction term coefficients are negative (the coefficient on proprietors is statistically significant), suggesting that deregulation resulted in more growth in the number of proprietor beauty shops within the inner counties of Virginia than in the border counties. Most important, it does not appear that the number of beauty shop establishments grew more quickly in Virginia border counties relative to inner counties.

For the remainder of the tests (columns 2, 3, 5, and 6), we compare Virginia counties to contiguous counties in Kentucky, North Carolina, and West Virginia. Our main variable of interest is also a simple interaction of dummy variables—in this case, a dummy variable denoting a Virginia county interacted with the same dummy variable from tests 1 and 4 denoting

¹² The full results of the regressions are available upon request.

the period of hair braiding deregulation. This variable is labeled “Dereg|VA” in table 12. As in the previous tests, we also include each dummy variable from the interaction term separately. Tests 2 and 5 focus exclusively on Virginia border and contiguous out-of-state counties (resulting in the noticeably smaller sample size). Although we do estimate that Virginia border counties had a higher rate of growth in the number of beauty shops (particularly for the employee shops in test 5), neither of the coefficients are statistically significant. Considering our results from tests 1 and 4, we reran this test including all Virginia (border and inner) counties. The results from this final test are reported in columns 3 and 6. In this case, we consistently estimate that Virginia counties had more growth in the number of beauty shops (approximately 7 percent) than did contiguous counties in bordering states after deregulation. This result is very similar to the difference we noted in our state-level comparison earlier.

Summary and Limitations

In the preceding sections, we present eight groups of border counties. In seven of the eight cases, the number of beauty shop establishments in the Virginia county grows more quickly or at the same pace as it does in the bordering county. In only one case (comparison group 7) does the Virginia county experience slower growth, but this result may be attributable to noted differences in pre-trend growth in the bordering North Carolina counties. We also find evidence that the number of beauty shops grew approximately 7 percent faster in Virginia relative to contiguous counties in bordering states. In short, the evidence presented seems to support the hypothesis that deregulation of hair braiding has resulted in more opportunity for hair braiders in Virginia relative to bordering states. We should note that there are limitations to our analysis. First, there are several cases of missing data that make it difficult to present a more complete comparison. The CBP publication often does not report data because either (a) data are redacted to protect the

privacy of businesses or (b) the data have not met certain standards. Such reporting irregularities result in many gaps in the data, with some counties having to be excluded from the model because too many years of data were missing. This was the case with the pairing of Patrick County, Virginia, and Stokes County, North Carolina, which was disappointing because the establishment and employment numbers were relatively large. The NES is more robust with respect to the number of observations but includes only counts of establishments.

Another limitation of our analysis is that, despite their proximity to the Virginia counties, the bordering counties are not perfect matches. These discrepancies were unavoidable, and we did our best to limit significant differences by excluding pairs with large gaps in per capita income. However, we should note that the excluded comparisons (although not presented here) were very much in line with the comparisons presented.

In addition, the beauty shop category is broad. Ideally, we would have specific data on hair braiding salons. Unfortunately, to the best of our knowledge, such data are not available. Finally, having data that end in 2014 limits our ability to identify longer-term effects of deregulation. It is possible that there is a lag in seeing the effects of deregulation. Hair braiders who offer their services unofficially in the underground economy may continue to not report their activity, which may limit our ability to isolate the effects of deregulation.

Conclusion

In this paper, we have estimated the effects of Virginia's deregulation of the hair braiding profession in 2012. Using a case study approach that compares bordering counties before and after deregulation, we generally find evidence that the number of beauty shops grew either more quickly or at the same pace in the Virginia counties relative to the bordering counties. Our results also suggest that beauty shops in Virginia at the county level experienced approximately 7

percent higher growth rates than did contiguous counties in bordering states. State-level analysis confirms this result and is also supportive of the view that deregulation has expanded opportunity for smaller beauty salons (measured by as much as an 8 percent growth rate in owner-operated salons after deregulation).

As policymakers reconsider regulation of hair braiding, our results should provide very clear guidelines. Having no regulation of the profession seems a superior option to burdensome regulation (as in West Virginia, where hair braiders are required to obtain a cosmetology license) and even to less burdensome regulation (as in North Carolina, where hair braiders and cosmetologists obtain separate licenses). The past several years have proved to be fruitful, with many states choosing to deregulate the hair braiding profession. Nevertheless, 19 states continue to require hair braiders to obtain a cosmetology license—a process that seems unnecessarily onerous and that does not appear to benefit consumers or aspiring practitioners.

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