

## REGULATIONS AND THE CHARACTERISTICS OF ENTREPRENEURS

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**Abstract:** *In this study, we examine whether different types of regulations affect the composition of small business owners in U.S. states. We employ a national survey titled the “United States Small Business Friendliness Survey”. This survey asks small business owners their opinions on different types of regulations (i.e. “health and safety regulations”, “employment regulations”, “tax code”, “licensing regulations”, “environmental regulations”, and “zoning regulations”). The survey also asks business owners questions on their own characteristics like “position in the firm”, “previous entrepreneurial experience”, “gender”, “age”, “political view”, “education level”, and “race”. Our results show that each regulation category affects almost all categories of owner characteristics. The exceptions are the following: “Health and safety regulations” do not affect position in the firm, “employment regulations” do not affect gender and age, “tax code” does not affect position in the firm and age, “licensing regulations” and “environmental regulations” do not affect position in the firm and gender, and “zoning regulations” do not affect position in the firm, previous experience, and gender. “Health and safety regulations” affect gender, age, political view, education level, and race. “Employment regulations” affect previous entrepreneurial experience, political view, education level, and race. “Tax code” affects previous entrepreneurial experience, gender, political view, education level, and race. “Licensing regulations” affect previous entrepreneurial experience, age, political view, education level, and race. “Environmental regulations” affect previous entrepreneurial experience, age, political view, education level, and race. “Zoning regulations” affect age, political view, education level, and race. Overall, our findings indicate that regulations affect the geographical choice of entrepreneurs. The states with a more favorable score in a certain area of regulation attract a certain group of entrepreneurs. Policymakers should consider these findings when devising their strategies to attract certain types of entrepreneurs to their states.*

**Keywords:** regulations, small firm, small business, entrepreneurship, entrepreneur

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### 1. Introduction

In this study, our main objective is to examine whether different types of regulations affect the composition of small business owners in U.S. states. In order to achieve that objective, we use a national survey titled “United States Small Business Friendliness Survey”. This survey asks small business owners their opinions on their state’s “health and safety regulations”, “employment regulations”, “tax code”, “licensing regulations”, “environmental regulations”, and “zoning regulations”. It also asks questions on owners’ own characteristics including “position in the firm”, “previous entrepreneurial experience”, “gender”, “age”, “political view”, “education level”, and “race”. Using the answers in the

survey, we run tests to see if owner characteristics are significantly different in the states with a high score in each “regulation” category when compared to the states with a low score in that category.

We contribute to the literature by linking the different types of regulations in each state to the composition of small business owners in that state. We examine six types of regulations; therefore, we have a wider scope than most of the previous studies. We also go deeper than most of the previous papers because we look into several different owner characteristics including “position in the firm”, “previous entrepreneurial experience”, “gender”, “age”, “political view”, “education level”, and “race”.

The paper proceeds as follows: The previous literature is summarized in Section 2. The data and the methodology are explained in Section 3. The empirical results are presented in Section 4, while Section 5 concludes.

## 2. Literature Review

The negative relationship between regulations and entrepreneurial activity is shown in several previous papers. While Wennekers and Thurik (1999) show that institutional framework, culture, and demographic, technological, and economic forces are important for the entrepreneurial environment, Ovaska and Sobel (2005) explain that sound monetary policy, contract enforcement, corruption levels, availability of credit, foreign direct investment, and policies supporting economic freedom are important. Kreft and Sobel (2005) conclude that secure private property rights, regulations, and taxes are important for entrepreneurial activity. Klapper, Laeven, and Rajan (2006) explain that regulations may create additional costs for startups which may be detrimental to the creation of new firms.

In a country-specific study, Bock (2004) explains that rural development policies mostly support farmmen, not farmwomen in Netherlands. Welter (2004) explains that, in Germany, business chambers, business support agencies and associations currently do not adequately accommodate women entrepreneurs. According to Bitzenis and Nito (2005), in Albania, while changes in taxation procedures, unfair competition, lack of financial resources, and problems related to public order are detrimental to entrepreneurship, bureaucracy and corruption are not. Bergmann and Sternberg (2007) examine Germany and find that the change in the unemployment level in a region affects startup propensity. Aidis et al. (2007) explain that, for Lithuania and Ukraine, the informal institutions like gendered norms and values are also critical because they restrict women’s startup activities and their access to resources.

Acs and Szerb (2007) conclude that developed countries should deregulate their financial markets and reform their labor markets, while middle-income countries should provide better technology support to entrepreneurs, promote enterprise development, and increase their human capital. Van Stel, Storey, and Thurik (2007) find that labor market regulations and minimum capital requirement are important for startups. Parker (2007) shows that rules and regulations affect the organizational form of the new startups.

Manolova, Eunni, and Gyoshev (2008) show that, in Bulgaria, the entrepreneurs were unhappy with the laws, government policies, and regulations promoting entrepreneurship, while in Hungary, entrepreneurs were more pessimistic regarding the societal attitudes toward entrepreneurship. Aidis, Estrin, and Mickiewicz (2008) explain that Russia's business environment favors entrepreneurial insiders rather than entrepreneurial outsiders. Nyström (2008) argues that, for entrepreneurship, the size of the government, the legal structure, the security of property rights, and credit, labor and business regulations are important factors. Acs et al. (2009) find that more regulation, more government intervention, and more administrative burden all have negative effects on entrepreneurial activity. Stephan and Uhlaner (2010) argue that the existence of opportunities and the quality of formal institutions are important. Nawaser et al. (2011) conclude that motivational factors, laws, and regulations are detrimental to entrepreneurship in Iran.

The more recent papers confirm the findings in the previous papers. Valdez and Richardson (2013) conclude that the differences in beliefs, values, and abilities are important for entrepreneurship, while opportunity and transaction costs are not important. According to Dreher and Gassebner (2013), entrepreneurial activity is negatively affected the minimum capital requirement is larger, or if the startup process is more complex. Ghani, Kerr, and O'Connell (2014) find that, in India, the education level of local people, the quality of the physical infrastructure, and the strictness of labor regulations are important. Branstetter et al. (2014) show that the reforms in Portugal resulted in more activity only among “marginal firms” (i.e. small firms owned by relatively poorly-

educated entrepreneurs and that are operating in the low-tech sector). García-Posada and Mora-Sanguinetti (2015) find that, in Spain, higher judicial efficacy increases the entry rate of firms, while it has no effect on the exit rate.

### 3. Data and Methodology

Our objective is to see how regulations in a state affects owner characteristics (i.e. for example, what type of entrepreneurs are attracted to states that have more favorable employment regulations? What type of entrepreneurs are attracted to states that have a more favorable tax code?) are more business friendly than others?). More specifically, we look into the impacts of health and safety regulations, employment regulations, tax code, licensing regulations, environmental regulations, and zoning regulations on owner characteristics.

We employ the “United States Small Business Friendliness Survey” which was completed by Kauffman Foundation and Thumtack.com in 2013. This survey asks small business owners questions on their state’s regulations. The survey also asks questions about their own characteristics which include their position in the company, their previous entrepreneurial experience, their gender, age, political view, education level, and race.

The variables in this study are explained below:

Regulation variables:

“Employment regulations”: each state’s score on employment, labor and hiring regulations as computed by the survey.

“Health and safety regulations”: each state’s score on health and safety regulations as computed by the survey.

“Taxcode”: each state’s score on tax code and tax-related regulations as computed by the survey.

“Environmental regulations”: each state’s score on environmental regulations as computed by the survey.

“Licensing regulations”: each state’s score on licensing forms, requirements and fees regulations as computed by the survey

“Zoning regulations”: each state’s score on zoning regulations as computed by the survey.

Each state’s scores on each type of regulation are available in the survey. However, the survey uses letter grades like A+, A, A-, B+, and so on. In this study, since I will run nonparametric tests, I convert these letter grades into numbers: A+ becomes 12; A becomes 11, and so on. The lowest letter grade is F. After the conversion, F becomes 1.

The owner characteristic variables are explained below:

Previous entrepreneurial experience:

“Previousentre”: The percentage of owners who has previous entrepreneurship experience.

“Previousstartups1”: The percentage of owners who started one previous business.

“Previousstartups2”: The percentage of owners who started two previous businesses.

“Previousstartups3”: The percentage of owners who started three previous businesses.

“Previousstartups4”: The percentage of owners who started four previous businesses.

“Previousstartups>4”: The percentage of owners who started more than four previous businesses.

Position in the firm:

“Managerbutnotowner”: the percentage of respondents who are the manager but not the owner.

“Nonmanageremployee”: the percentage of respondents who are an employee but not the manager.

“Ownerandmanager”: the percentage of respondents who are the owner and the manager.

“Ownerbutnotmanager”: the percentage of respondents who are the owner but not the manager.

The other owner characteristic variables are self-explanatory:

Gender variable:

“Female”

Age variables:

“Age<25”

“Age25-34”

“Age35-44”

“Age45-54”

“Age55-64”

“Age>64”

Political view variables:

“Independent”

“Otherpolitical”

“Leanconservative”

“Leanliberal”

“Strongconservative”

“Strongliberal”

Education level variables:

“Nohighschool”

“Highschool”

“Community College”

“Technical College”

“Undergrad”

“Masters”

“Doctoral”

Race variables:

“Asian”

“Otherrace”

“Black”

“Hispanic”

“White”

For each of the above owner characteristic variables, we compute the percentage value for each state. For example, in Arizona, what percentage of owners are “Asian”? If five percent of the owners in Arizona are “Asian”, Arizona’s “Asian” score is 5 (percent). Therefore, each state in the survey has a percentage value for each of these variables.

We first differentiate between high- and low-health and safety regulations score states (using the mean score for these states). Then we run nonparametric tests to compare “high” and “low” score states in terms of owner characteristic variables (i.e., position in the firm, previous entrepreneurial experience, gender, age, political view, education level, and race).

Then, we do the same for “employment regulations” score. We first differentiate between high- and low-employment regulations score states (using the mean score for these states). Then we run nonparametric tests that compare “high” and “low” employment regulations score states in terms of owner characteristic variables (i.e. position in the firm, previous entrepreneurial experience, gender, age, political view, education level, and race). We also do similar tests for the other types of regulations.

Table 1 shows the summary statistics for our variables.

Table 1. Summary Statistics (All Variables in %)

Variable	Mean	Median	Stdev	Min	Max
<b>Panel A. Regulations</b>					
Healthreg	6.95	7.00	3.49	1.00	12.00
Employreg	7.02	7.00	3.52	1.00	12.00
Taxcode	6.95	7.00	3.51	1.00	12.00
Licenreg	7.02	7.00	3.55	1.00	12.00
Environreg	6.93	7.00	3.53	1.00	12.00
Zoningreg	7.00	7.00	3.46	1.00	12.00

Table 1 (cont.). Summary Statistics (All Variables in %)

Variable	Mean	Median	Stdev	Min	Max
<b>Panel B. Position and Experience</b>					
Managerbutnotowner	3.39	3.25	1.87	0.00	8.33
Nonmanageremployee	0.53	0.41	0.72	0.00	3.23
Ownerandmanager	94.02	94.59	2.80	86.11	100.00
Ownerbutnotmanager	2.05	2.01	1.80	0.00	8.33
Previousentre	43.84	43.33	6.78	29.49	57.14
Previousstartups1	44.74	44.64	12.08	16.67	100.00
Previousstartups2	30.53	31.51	8.03	0.00	41.67
Previousstartups3	15.10	14.68	7.42	0.00	33.33
Previousstartups4	4.18	4.42	3.63	0.00	14.29
Previousstartups>4	5.45	4.76	4.54	0.00	21.43
<b>Panel C. Owner Characteristics</b>					
Female	37.00	36.96	5.96	21.05	52.94
Age<25	2.09	2.18	1.67	0.00	8.70
Age25-34	18.72	19.21	5.14	5.26	35.48
Age35-44	24.27	25.32	3.98	14.29	31.82
Age45-54	28.18	28.46	5.88	10.00	46.67
Age55-64	21.38	20.45	6.32	8.70	42.11
Age>64	5.36	5.71	2.61	0.00	11.43
Independent	30.52	28.85	6.62	21.05	52.63
Otherpolitical	17.43	16.67	4.80	8.33	34.78
Leanconservative	14.51	14.17	4.54	0.00	26.32
Leanliberal	12.84	11.79	5.14	5.06	26.47
Strongconservative	14.86	14.71	6.70	0.00	26.09
Strongliberal	9.84	9.89	3.92	0.00	19.05
No Highschool	0.66	0.00	1.06	0.00	4.35
Highschool	17.18	17.09	4.73	4.76	34.09
Community College	17.99	17.28	6.67	5.26	35.00
Technical College	16.00	14.67	5.09	4.35	26.32
Undergrad	31.51	31.58	8.11	10.00	61.70
Masters	12.88	13.27	4.35	4.26	24.05
Doctoral	3.79	3.64	2.59	0.00	15.79
Asian	1.67	1.12	2.73	0.00	16.67
Otherrace	5.38	4.21	5.34	0.00	26.67
Black	7.36	4.84	7.72	0.00	34.71
Hispanic	4.95	3.85	4.26	0.00	16.16
White	80.63	81.82	11.33	53.33	100.00

Source: Author's own work.

#### 4. Empirical Results

Table 2 compares the owner characteristics across the high- and low-“health and safety regulations score” states. The results of the Mann-Whitney-Wilcoxon tests are shown in the last column.

Table 2. The Impact of “Health and Safety Regulations”

Variable	High-Score		Low-Score		Mann-W. p-value
	Mean	Med.	Mean	Med.	
<b>Panel A. Position and Experience</b>					
Managerbutnotowner	2.96	2.71	3.95	3.84	**0.0310
Nonmanageremployee	0.63	0.41	0.41	0.23	0.3339
Ownerandmanager	94.40	94.78	93.54	93.97	*0.0880
Ownerbutnotmanager	2.00	1.63	2.11	2.27	0.1072
Previousentre	44.78	45.24	42.65	41.80	0.1109
Previousstartups1	43.68	43.84	46.09	45.73	0.2905

Table 2. The Impact of “Health and Safety Regulations”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel A. Position and Experience</b>					
Previousstartups2	30.98	31.82	29.95	31.43	0.3913
Previousstartups3	16.13	14.68	13.80	14.80	0.2684
Previousstartups4	3.79	3.80	4.67	5.57	0.2202
Previousstartups>4	5.42	5.56	5.50	3.33	0.1718
<b>Panel B. Owner Characteristics</b>					
Female	38.09	38.64	35.62	36.42	*0.0901
Age<25	2.07	2.27	2.13	2.10	0.2941
Age25-34	18.11	18.48	19.50	19.44	0.1789
Age35-44	25.19	25.81	23.08	23.65	**0.0339
Age45-54	27.81	27.16	28.66	28.71	0.3228
Age55-64	21.50	20.45	21.22	20.03	0.4948
Age>64	5.32	4.99	5.40	5.94	0.2641
Independent	31.29	29.32	29.54	28.30	0.1655
Otherpolitical	16.23	15.79	18.96	18.30	*0.0671
Leanconservative	15.88	15.00	12.75	12.63	**0.0202
Leanliberal	11.38	10.53	14.71	15.57	***0.0094
Strongconservative	16.52	16.10	12.75	11.49	*0.0503
Strongliberal	8.70	8.56	11.29	11.42	**0.0111
No Highschool	0.51	0.00	0.87	0.13	0.3621
Highschool	18.49	17.74	15.51	15.83	*0.0559
Community College	18.57	19.40	17.24	16.44	0.2432
Technical College	17.11	16.90	14.58	13.24	**0.0349
Undergrad	28.31	30.19	35.59	33.91	***0.0016
Masters	13.16	13.57	12.51	12.71	0.3913
Doctoral	3.85	3.64	3.71	3.52	0.4738
Asian	1.11	1.10	2.39	1.40	0.1706
Otherrace	4.22	3.85	6.87	4.79	**0.0461
Black	9.21	5.92	5.01	3.94	*0.0572
Hispanic	4.91	3.23	5.01	4.17	0.1822
White	80.55	79.01	80.73	82.63	0.5000

Source: Author's own work.

First, we look at the position and experience of the survey respondent (Panel A). We are seeing that there are significantly fewer “Managerbutnotowner” respondents in the high-score states when compared to the low-score states. In the high-score states, 2.96% of the respondents are the manager but not the owner of the firm, while the corresponding percentage is 3.95% in the low-score states ( $p=0.0310$ ). We are also seeing that there are significantly more “Ownerandmanager” respondents in the high-score states when compared to the low-score states. In the high-score states, 94.40% of the respondents are both the owner and the manager of the firm, while the corresponding percentage is 93.54% in the low-score states ( $p=0.0880$ ). We do not see any significant difference between the two groups in terms of the “Nonmanageremployee” or “Ownerbutnotmanager” percentages.

Panel A also shows that there is no significant difference between the two groups in terms of the owner’s previous entrepreneurship experience. None of the “previous experience” variables is significant.



Panel B shows that there are significantly more female owners in the high-score states when compared to the low-score states. 38.09% of the owners are female in the high-score states while only 35.62% of the owners are female in the low-score states ( $p=0.0901$ ).

When we look at the age variables, we are seeing that the two groups are significantly different in terms of only the “Age 35-44” variable. In the high-score states, 25.19% of the owners are between 35 and 44 years of age, while the corresponding percentage is only 23.08% in the low-score states ( $p=0.0339$ ). None of the other age variables are significant.

When we look at the political views of the owners, we are seeing big differences between the two groups. In the high-score states, we are seeing significantly more owners that are in the “Leanconservative” or “Strongconservative” groups when compared to the low-score states. 15.88% and 16.52% of the owners are in the “Leanconservative” and “Strongconservative” groups, respectively, in the high-score states. The corresponding percentages are 12.75% and 12.75%, respectively, for the low-score states. Therefore, we can conclude that there are significantly more owners who are in the “Leanconservative” group in the high-score states when compared to the low-score states ( $p=0.0202$ ). Similarly, there are significantly more owners who are in the “Strongconservative” group in the high-score states when compared to the low-score states ( $p=0.0503$ ).

On the other hand, in the high-score states, we are seeing significantly fewer owners that are in the “Leanliberal”, “Strongliberal”, or “Otherpolitical” groups when compared to the low-score states. While only 11.38% of the owners in the high-score states are in the “Leanliberal” group, the corresponding percentage is 14.71% in the low-score states ( $p=0.0094$ ). Similarly, while only 8.70% of the owners in the high-score states are in the “Strongliberal” group, the corresponding percentage is 11.29% in the low-score states ( $p=0.0111$ ). Finally, while only 16.23% of the owners in the high-score states are in the “Otherpolitical” group, the corresponding percentage is 18.96% in the low-score states ( $p=0.0671$ ). We do not find any significant difference in terms of the percentage of owners that are independent.

When we look at the education level of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that have a “Highschool”, “Technicalcollege”, or “Undergraduate” degree. While 18.49% of the owners in the high-score states have a “Highschool” degree, the corresponding percentage is only 15.51% in the low-score states ( $p=0.0559$ ). Similarly, while 17.11% of the owners in the high-score states have a “Technicalcollege” degree, the corresponding percentage is 14.58% in the low-score states ( $p=0.0349$ ). On the other hand, while only 28.31% of the owners in the high-score states have an “Undergraduate” degree, the corresponding percentage is 35.59% in the low-score states ( $p=0.0016$ ). We do not find any significant difference in terms of the percentage of owners that have other degrees.

When we look at the race of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that are in the “Otherrace” and “Black” groups. While only 4.22% of the owners in the high-score states are in the “Otherrace” category, the corresponding percentage is 6.87% in the low-score states ( $p=0.0461$ ). On the other hand, while 9.21% of the owners in the high-score states are in the “Black” group, the corresponding percentage is only 5.01% in the low-score states ( $p=0.0572$ ). We do not find any significant difference in terms of the percentage of owners that are from other race groups.

Table 3 compares the owner characteristics across the high- and low-“employment regulations score” states. First, we look at the position and experience of the survey respondent (Panel A). We are seeing that there are significantly fewer “Nonmanageremployee” respondents in the high-score states when compared to the low-score states. In the high-score states, 0.40% of the respondents are nonmanager employees of the firm, while the corresponding percentage is 0.66% in the low-score states ( $p=0.0255$ ). We do not see any significant difference between the two groups in terms of the “Managerbutnotowner”, “Ownerandmanager”, or “Ownerbutnotmanager” percentages.

Panel A also shows that there is a significant difference between the two groups in terms of the owner’s previous entrepreneurship experience. We are seeing that there are significantly more respondents with previous entrepreneurship experience in the high-score states when compared to the low-score states. In the high-score states, 46.45% of the respondents have previous entrepreneurship experience, while the corresponding percentage

is 41.36% in the low-score states ( $p=0.0069$ ). On the other hand, none of the “previous startup experience” variables are significant.

Table 3. The Impact of “Employment Regulations”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel A. Position and Experience</b>					
Managerbutnotowner	3.80	3.38	3.01	3.14	0.1337
Nonmanageremployee	0.40	0.00	0.66	0.53	**0.0255
Ownerandmanager	93.62	94.62	94.41	94.59	0.2366
Ownerbutnotmanager	2.19	1.63	1.92	2.24	0.3045
Previousentre	46.45	45.49	41.36	41.38	***0.0069
Previousstartups1	43.78	43.75	45.66	45.74	0.3429
Previousstartups2	29.39	30.05	31.61	31.82	0.1052
Previousstartups3	15.63	15.48	14.60	14.68	0.4122
Previousstartups4	5.05	4.86	3.35	3.05	0.1226
Previousstartups>4	6.15	5.49	4.79	3.49	0.1669
<b>Panel B. Owner Characteristics</b>					
Female	37.03	37.30	36.97	36.94	0.4174
Age<25	1.88	2.17	2.30	2.23	0.4118
Age25-34	19.01	19.66	18.46	18.13	0.1672
Age35-44	24.65	25.62	23.90	24.68	0.2286
Age45-54	27.26	26.74	29.06	29.03	0.1283
Age55-64	21.46	19.83	21.30	20.55	0.2700
Age>64	5.74	5.22	4.99	5.93	0.4533
Independent	30.45	28.46	30.59	29.41	0.2699
Otherpolitical	16.32	16.19	18.49	16.85	0.1310
Leanconservative	16.32	14.86	12.78	12.90	**0.0105
Leanliberal	10.56	9.68	15.01	15.48	***0.0003
Strongconservative	18.07	20.53	11.81	10.71	***0.0019
Strongliberal	8.28	8.21	11.32	10.83	***0.0085
No Highschool	0.62	0.00	0.71	0.31	0.2734
Highschool	18.37	18.14	16.05	16.57	*0.0668
Community College	16.70	16.77	19.21	20.10	0.1029
Technical College	18.20	18.64	13.89	13.18	***0.0014
Undergrad	30.28	30.42	32.67	32.57	**0.0462
Masters	12.02	11.03	13.69	13.67	0.1454
Doctoral	3.81	3.58	3.77	3.76	0.3101
Asian	0.82	0.20	2.49	1.69	***0.0080
Otherrace	4.89	3.70	5.85	4.35	0.2016
Black	9.26	6.20	5.56	4.24	0.1148
Hispanic	3.92	2.88	5.94	5.24	**0.0222
White	81.11	80.20	80.17	83.05	0.4533

Source: Author's own work.

Panel B shows that there is no significant difference between the two groups in terms of the percentage of owners that are female or the percentage of owners that are in each age group. Gender or age does not seem to be affected by “employment regulations”.



When we look at the political views of the owners, we are seeing big differences between the two groups. In the high-score states, we are seeing significantly more owners that are in the “Leanconservative” or “Strongconservative” groups when compared to the low-score states. On the other hand, in the high-score states, we are seeing significantly fewer owners that are in the “Leanliberal” or “Strongliberal” groups.

When we look at the education level of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that have a “Highschool”, “Technicalcollege”, or “Undergraduate” degree. There are significantly more owners that have a Highschool” or “Technicalcollege” degree in the high-score states when compared to the low-score states. On the other hand, there are significantly fewer owners that have an “Undergraduate” degree in the high-score states when compared to the low-score states.

When we look at the race of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that are “Asian” or “Hispanic”. While only 0.82% of the owners in the high-score states are “Asian”, the corresponding percentage is 2.49% in the low-score states (p=0.0080). Also, while only 3.92% of the owners in the high-score states are “Hispanic”, the corresponding percentage is 5.94% in the low-score states (p=0.0222). We do not find any significant difference in terms of the percentage of owners that are from other race groups.

Table 4 compares the owner characteristics across the high- and low-“tax code score” states. First, we look at the position and experience of the survey respondent (Panel A). We are seeing that there is no significant difference between the two groups in terms of the “owner’s position” variables. We do not see any significant difference between the two groups with respect to “Managerbutnotowner”, “Nonmanageremployee”, “Ownerandmanager”, or “Ownerbutnotmanager” percentages.

Panel A shows that there is a significant difference between the two groups in terms of the owner’s previous entrepreneurship experience. We are seeing that there are significantly more respondents with previous entrepreneurship experience in the high-score states when compared to the low-score states. In the high-score states, 45.58% of the respondents have previous entrepreneurship experience, while the corresponding percentage is 41.38% in the low-score states (p=0.0189). On the other hand, none of the “previous startup experience” variables is significant.

Panel B shows that there are significantly more female owners in the high-score states when compared to the low-score states. 37.99% of the owners are female in the high-score states while only 35.61% of the owners are female in the low-score states (p=0.0886).

Table 4. The Impact of “Tax Code”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel A. Position and Experience</b>					
Managerbutnotowner	3.31	2.83	3.52	3.66	0.1984
Nonmanageremployee	0.57	0.20	0.48	0.46	0.3533
Ownerandmanager	93.92	94.62	94.17	94.59	0.4684
Ownerbutnotmanager	2.21	1.76	1.83	2.24	0.4209
Previousentre	45.58	45.49	41.38	41.38	**0.0189
Previousstartups1	43.33	43.30	46.74	45.83	0.1572
Previousstartups2	30.61	31.23	30.41	31.82	0.4058
Previousstartups3	16.44	15.95	13.22	14.47	0.1142
Previousstartups4	4.22	4.59	4.11	3.37	0.4099
Previousstartups>4	5.40	5.49	5.53	3.37	0.2094

Table 4 (cont.). The Impact of “Tax Code”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel B. Owner Characteristics</b>					
Female	37.99	38.14	35.61	35.90	*0.0886
Age<25	1.97	2.17	2.27	2.23	0.4788
Age25-34	18.46	19.22	19.10	18.72	0.3956
Age35-44	24.99	25.62	23.25	23.90	0.1194
Age45-54	27.87	27.43	28.63	28.57	0.3704
Age55-64	21.29	20.13	21.50	21.46	0.2937
Age>64	5.42	5.22	5.26	5.88	0.4842
Independent	30.50	28.46	30.55	29.41	0.4213
Otherpolitical	16.16	15.87	19.23	18.83	*0.0504
Leanconservative	15.96	14.86	12.46	12.35	**0.0107
Leanliberal	10.93	10.14	15.55	15.53	***0.0008
Strongconservative	17.80	18.46	10.72	10.05	***0.0005
Strongliberal	8.66	8.61	11.50	12.11	***0.0099
No Highschool	0.62	0.19	0.73	0.00	0.4491
Highschool	18.20	18.14	15.74	16.57	*0.0640
Community College	18.36	19.38	17.46	16.73	0.3122
Technical College	17.35	16.95	14.08	12.90	***0.0072
Undergrad	29.45	29.46	34.41	33.94	***0.0017
Masters	12.24	12.32	13.77	13.67	0.1877
Doctoral	3.78	3.58	3.80	3.76	0.3506
Asian	1.05	1.10	2.55	1.69	*0.0863
Otherrace	4.80	4.06	6.21	4.35	0.1982
Black	9.34	5.59	4.57	3.85	**0.0475
Hispanic	4.74	3.06	5.25	4.07	0.1115
White	80.06	78.79	81.42	83.33	0.3216

Source: Author's own work.

Panel B shows that there is no significant difference between the two groups in terms of the age groups. Age does not seem to be affected by “employment regulations”.

When we look at the political views of the owners, we are seeing big differences between the two groups. In the high-score states, we are seeing significantly more owners that are in the “Leanconservative” or “Strongconservative” groups when compared to the low-score states. On the other hand, in the high-score states, we are seeing significantly fewer owners that are in the “Leanliberal”, “Strongliberal”, or “Otherpolitical” groups.

When we look at the education level of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that have a “Highschool”, “Technicalcollege”, or “Undergraduate” degree. There are significantly more owners that have a Highschool” or “Technicalcollege” degree in the high-score states when compared to the low-score states. On the other hand, there are significantly fewer owners that have an “Undergraduate” degree in the high-score states when compared to the low-score states.

When we look at the race of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that are “Asian” or “Black”. While only 1.05% of the owners in the high-score states are “Asian”, the corresponding percentage is 2.55% in the low-score states (p=0.0863). On the other hand, while 9.34% of the owners in the high-score states are “Black”, the corresponding percentage is 4.57% in the low-score states (p=0.0475). We do not find any significant difference in terms of the percentage of owners that are from other race groups.

Table 5 compares the owner characteristics across the high- and low-“licensing regulations score” states. First, we look at the position and experience of the survey respondent (Panel A). We are seeing that there is no significant difference between the two groups in terms of the “owner’s position” variables. We do not see any significant difference between the two groups with respect to “Managerbutnotowner”, “Nonmanageremployee”, “Ownerandmanager”, or “Ownerbutnotmanager” percentages.

Panel A shows that there is a significant difference between the two groups in terms of the owner’s previous entrepreneurship experience. We are seeing that there are significantly more respondents with previous entrepreneurship experience in the high-score states when compared to the low-score states. In the high-score states, 46.09% of the respondents have previous entrepreneurship experience, while the corresponding percentage is 41.70% in the low-score states ( $p=0.0112$ ). On the other hand, none of the “previous startup experience” variables is significant.

Panel B shows that there is no significant difference between the two groups in terms of the percentage of owners that are female.

When we look at the age variables, we are seeing that the two groups are significantly different in terms of the “Age 35-44” and “Age55-64” variables. In the high-score states, 25.04% of the owners are between 35 and 44 years old, while the corresponding percentage is only 23.53% in the low-score states ( $p=0.0939$ ). On the other hand, while in the high-score states, 20.88% of the owners are between 55 and 64 years old, the corresponding percentage is 21.85% in the low-score states ( $p=0.0983$ ). None of the other age variables are significant.

Table 5. The Impact of “Licensing Regulations”

Variable	High-Score		Low-Score		Mann-W. p-value
	Mean	Med.	Mean	Med.	
<b>Panel A. Position and Experience</b>					
Managerbutnotowner	3.47	3.13	3.33	3.25	0.4896
Nonmanageremployee	0.58	0.20	0.49	0.46	0.3502
Ownerandmanager	93.91	94.76	94.13	94.30	0.3624
Ownerbutnotmanager	2.05	1.58	2.05	2.24	0.1270
Previousentre	46.09	45.49	41.70	41.18	**0.0112
Previousstartups1	44.79	45.75	44.69	43.84	0.3477
Previousstartups2	30.43	30.52	30.62	31.82	0.3871
Previousstartups3	15.64	14.29	14.59	15.12	0.4533
Previousstartups4	4.20	4.76	4.16	3.37	0.4947
Previousstartups>4	4.94	5.09	5.94	4.35	0.4275
<b>Panel B. Owner Characteristics</b>					
Female	37.97	37.80	36.09	36.94	0.1673
Age<25	2.05	2.23	2.13	2.07	0.3374
Age25-34	18.70	19.40	18.75	18.64	0.3871
Age35-44	25.04	25.82	23.53	24.63	*0.0939
Age45-54	27.76	27.43	28.58	28.57	0.3287
Age55-64	20.88	19.83	21.85	21.46	*0.0983
Age>64	5.56	4.87	5.16	5.93	0.3971
Independent	30.72	28.52	30.33	29.32	0.4378
Otherpolitical	15.78	15.79	19.00	18.23	**0.0237
Leanconservative	16.52	14.86	12.59	12.90	***0.0082
Leanliberal	10.61	9.88	14.97	15.53	***0.0003

Table 5. The Impact of “Licensing Regulations”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel B. Owner Characteristics</b>					
Strongconservative	17.70	18.98	12.16	10.71	***0.0051
Strongliberal	8.67	8.21	10.95	10.64	**0.0330
No Highschool	0.46	0.00	0.86	0.39	*0.0826
Highschool	18.21	18.14	16.21	16.57	*0.0917
Community College	18.21	17.44	17.78	16.97	0.4533
Technical College	17.56	17.30	14.51	13.18	**0.0120
Undergrad	29.43	30.42	33.48	33.33	***0.0091
Masters	12.16	11.34	13.56	13.67	0.2208
Doctoral	3.98	3.64	3.61	3.57	0.4224
Asian	0.89	0.20	2.43	1.61	**0.0215
Otherrace	4.84	3.70	5.89	4.35	0.1872
Black	8.43	5.13	6.35	4.44	0.3191
Hispanic	3.78	2.82	6.07	5.24	**0.0108
White	82.06	82.02	79.26	81.45	0.2132

Source: Author's own work.

When we look at the political views of the owners, we are seeing big differences between the two groups. In the high-score states, we are seeing significantly more owners that are in the “Leanconservative” or “Strongconservative” groups when compared to the low-score states. On the other hand, in the high-score states, we are seeing significantly fewer owners that are in the “Leanliberal”, “Strongliberal”, or “Otherpolitical” groups.

When we look at the education level of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that have a “Highschool”, “Technicalcollege”, “Nohighschool” or “Undergraduate” degree. There are significantly more owners that have a Highschool” or “Technicalcollege” degree in the high-score states when compared to the low-score states. On the other hand, there are significantly fewer owners that have an “Undergraduate” degree or that have no highschool degree (i.e. “Nohighschool”) in the high-score states when compared to the low-score states.

When we look at the race of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that are “Asian” or “Hispanic”. While only 0.89% of the owners in the high-score states are “Asian”, the corresponding percentage is 2.43% in the low-score states (p=0.0215). Also, while only 3.78% of the owners in the high-score states are “Hispanic”, the corresponding percentage is 6.07% in the low-score states (p=0.0108). We do not find any significant difference in terms of the percentage of owners that are from other race groups.

Table 6 compares the owner characteristics across the high- and low-“environmental regulations score” states. From Panel A, we are seeing that there is no significant difference between the two groups in terms of the “owner’s position” variables. We do not see any significant difference between the two groups with respect to “Managerbutnotowner”, “Nonmanageremployee”, “Ownerandmanager”, or “Ownerbutnotmanager” percentages.

Panel A shows that there is a significant difference between the two groups in terms of the variable “Previousstartups2”. We are seeing that there are significantly fewer respondents with previous entrepreneurship experience in the high-score states when compared to the low-score states. In the high-score states, only 29.56% of the respondents have previous entrepreneurship experience, while the corresponding percentage is 31.76% in the low-score states (p=0.0671). On the other hand, none of the other “previous startup experience” variables is significant. Also, the “Previousentre” variable is insignificant.

Panel B shows that there is no significant difference between the two groups in terms of the percentage of owners that are female.

When we look at the age variables, we are seeing that the two groups are significantly different in terms of the “Age 35-44” and “Age45-54” variables. In the high-score states, 25.33% of the owners are between 35 and 44 years old, while the corresponding percentage is only 22.90% in the low-score states (p=0.0075). On the other hand, while in the high-score states, only 26.43% of the owners are between 45 and 54 years old, the corresponding percentage is 30.42% in the low-score states (p=0.0026). None of the other age variables are significant.

When we look at the political views of the owners, we are seeing big differences between the two groups. In the high-score states, we are seeing significantly more owners that are in the “Leanconservative” or “Strongconservative” groups when compared to the low-score states. On the other hand, in the high-score states, we are seeing significantly fewer owners that are in the “Leanliberal”, “Strongliberal”, or “Otherpolitical” groups.

Table 6. The Impact of “Environmental Regulations”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel A. Position and Experience</b>					
Managerbutnotowner	3.46	3.25	3.31	3.30	0.4634
Nonmanageremployee	0.55	0.00	0.51	0.48	0.2805
Ownerandmanager	93.75	94.67	94.38	94.45	0.3371
Ownerbutnotmanager	2.25	1.87	1.80	2.09	0.5000
Previousentre	44.83	44.90	42.58	42.57	0.1824
Previousstartups1	44.80	45.71	44.67	42.09	0.2728
Previousstartups2	29.56	30.09	31.76	33.01	*0.0671
Previousstartups3	15.79	14.68	14.23	14.80	0.2598
Previousstartups4	4.19	4.42	4.16	4.53	0.3597
Previousstartups>4	5.66	5.41	5.19	3.92	0.3563
<b>Panel B. Owner Characteristics</b>					
Female	37.68	38.64	36.14	36.00	0.1036
Age<25	1.99	2.27	2.22	2.07	0.3908
Age25-34	18.67	19.51	18.79	18.68	0.3468
Age35-44	25.33	26.32	22.90	24.14	***0.0075
Age45-54	26.43	25.71	30.42	29.79	***0.0026
Age55-64	21.92	20.45	20.69	20.40	0.4117
Age>64	5.65	5.71	4.98	5.35	0.2996
Independent	30.52	28.85	30.52	28.69	0.4581
Otherpolitical	16.24	15.79	18.94	17.31	*0.0575
Leanconservative	16.38	15.02	12.12	11.86	***0.0006
Leanliberal	11.33	9.92	14.78	15.51	***0.0038
Strongconservative	16.69	16.92	12.53	11.49	**0.0302
Strongliberal	8.84	8.73	11.11	11.40	**0.0463
No Highschool	0.60	0.00	0.75	0.29	0.3207
Highschool	18.37	17.65	15.67	15.07	**0.0349
Community College	17.75	19.35	18.29	17.14	0.4015
Technical College	17.10	15.09	14.58	13.32	**0.0451
Undergrad	30.26	30.65	33.09	32.98	**0.0360
Masters	12.12	11.36	13.84	13.62	0.1378
Doctoral	3.80	3.64	3.78	3.67	0.3713
Asian	1.05	0.76	2.47	1.61	*0.0922

Table 6. The Impact of “Environmental Regulations”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel A. Position and Experience</b>					
Otherrace	4.40	3.32	6.64	4.74	**0.0250
Black	9.43	5.26	4.72	4.34	0.1131
Hispanic	4.29	2.94	5.80	4.64	*0.0588
White	80.82	78.60	80.38	83.19	0.4738

Source: Author's own work.

When we look at the education level of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that have a “Highschool”, “Technicalcollege”, or “Undergraduate” degree. There are significantly more owners that have a Highschool” or “Technicalcollege” degree in the high-score states when compared to the low-score states. On the other hand, there are significantly fewer owners that have an “Undergraduate” degree in the high-score states when compared to the low-score states.

When we look at the race of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that are “Asian”, “Otherrace”, or “Hispanic”. While only 1.05% of the owners in the high-score states are “Asian”, the corresponding percentage is 2.47% in the low-score states (p=0.0922). Also, while only 4.40% of the owners in the high-score states are “Otherrace”, the corresponding percentage is 6.64% in the low-score states (p=0.0250). Finally, while only 4.29% of the owners in the high-score states are “Hispanic”, the corresponding percentage is 5.80% in the low-score states (p=0.0588). We do not find any significant difference in terms of the percentage of owners that are from other race groups.

Table 7 compares the owner characteristics across the high- and low-“zoning regulations score” states. From Panel A, we are seeing that there is no significant difference between the two groups in terms of the “owner’s position” variables. We do not see any significant difference between the two groups with respect to “Managerbutnotowner”, “Nonmanageremployee”, “Ownerandmanager”, or “Ownerbutnotmanager” percentages.

Panel A also shows that there is no significant difference between the two groups in terms of previous experience. None of the previous startup variables are significantly different. Also, the “Previousentre” variable is insignificant.

Panel B shows that there is no significant difference between the two groups in terms of the percentage of owners that are female.

When we look at the age variables, we are seeing that the two groups are significantly different in terms of the “Age 35-44” and “Age45-54” variables. In the high-score states, 25.31% of the owners are between 35 and 44 years old, while the corresponding percentage is only 23.27% in the low-score states (p=0.0157). On the other hand, while in the high-score states, only 26.94% of the owners are between 45 and 54 years old, the corresponding percentage is 29.37% in the low-score states (p=0.0488). None of the other age variables are significant.

When we look at the political views of the owners, we are seeing big differences between the two groups. In the high-score states, we are seeing significantly more owners that are in the “Leanconservative” or “Strongconservative” groups when compared to the low-score states. On the other hand, in the high-score states, we are seeing significantly fewer owners that are in the “Leanliberal”, “Strongliberal”, or “Otherpolitical” groups.

When we look at the education level of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that have a “Technicalcollege” or “Undergraduate” degree. There are significantly more owners that have a “Technicalcollege” degree in the high-score states when compared to the low-score states. On the other hand, there are significantly fewer owners that have an “Undergraduate” degree in the high-score states when compared to the low-score states.



Table 7. The Impact of “Zoning Regulations”

Variable	High-Score		Low-Score		Mann-W.
	Mean	Med.	Mean	Med.	p-value
<b>Panel A. Position and Experience</b>					
Managerbutnotowner	3.18	2.83	3.60	3.66	0.1394
Nonmanageremployee	0.60	0.20	0.47	0.46	0.3604
Ownerandmanager	94.05	94.76	94.00	94.29	0.2366
Ownerbutnotmanager	2.18	1.64	1.93	2.24	0.3138
Previousentre	44.97	45.20	42.76	41.46	0.1029
Previousstartups1	44.42	43.75	45.05	45.71	0.4584
Previousstartups2	29.74	30.05	31.28	31.82	0.1576
Previousstartups3	14.99	14.29	15.21	15.12	0.3382
Previousstartups4	4.68	4.76	3.70	3.37	0.3125
Previousstartups>4	6.18	5.72	4.76	3.37	0.1173
<b>Panel B. Owner Characteristics</b>					
Female	37.72	38.90	36.32	36.73	0.1367
Age<25	1.86	2.15	2.32	2.27	0.2732
Age25-34	18.28	18.89	19.15	19.21	0.3478
Age35-44	25.31	26.31	23.27	23.90	**0.0157
Age45-54	26.94	26.02	29.37	29.03	**0.0488
Age55-64	22.16	20.61	20.63	19.70	0.2447
Age>64	5.46	5.22	5.26	5.93	0.3722
Independent	30.81	29.09	30.24	28.72	0.5000
Otherpolitical	15.38	15.25	19.38	18.83	***0.0031
Leanconservative	16.53	15.58	12.59	12.90	***0.0038
Leanliberal	11.15	10.14	14.46	15.48	***0.0069
Strongconservative	18.32	20.53	11.57	10.71	***0.0009
Strongliberal	7.82	7.77	11.75	11.97	***0.0006
No Highschool	0.54	0.00	0.79	0.26	0.3526
Highschool	17.60	18.14	16.78	16.57	0.1125
Community College	18.41	19.38	17.58	16.97	0.3055
Technical College	17.47	17.30	14.59	13.18	**0.0147
Undergrad	29.97	29.32	32.97	33.33	**0.0105
Masters	12.13	11.34	13.59	13.67	0.1705
Doctoral	3.88	3.64	3.70	3.57	0.4896
Asian	0.94	0.58	2.37	1.61	**0.0430
Otherrace	4.69	3.93	6.04	4.52	0.1049
Black	8.04	4.92	6.72	4.44	0.4377
Hispanic	4.29	2.92	5.59	5.24	*0.0542
White	82.04	81.60	79.28	81.82	0.2057

Source: Author's own work.

When we look at the race of the owners, we are seeing that there is a significant difference between the two groups in terms of the percentage of owners that are “Asian” or “Hispanic”. While only 0.94% of the owners in the high-score states are “Asian”, the corresponding percentage is 2.37% in the low-score states (p=0.0430). Also, while only 4.29% of the owners in the high-score states are “Hispanic”, the corresponding percentage is 5.59% in the low-score states (p=0.0542). We do not find any significant difference in terms of the percentage of owners that are from other race groups.

## 5. Conclusion

In this study, we examine the relationship between small business owner characteristics and different types of regulations in U.S. states. In order to compare the states with a more favorable score on each type of regulation to the states with a less favorable score, we use nonparametric tests.

Our results show that there are significant differences between the high-score states and the low-score states. When we compare the states with a high score in “health and safety regulations” to the states with a low score in “health and safety regulations”, we find significant differences in several owner characteristics including position in the firm, gender, age, political view, education level, and race.

When we compare the states with a high score in “employment regulations” to the states with a low score in “employment regulations”, we find significant differences in position in the firm, previous entrepreneurial experience, political view, education level, and race.

When we compare the states with a high score in “tax code” to the states with a low score in “tax code”, we find significant differences in previous entrepreneurial experience, gender, political view, education level, and race.

When we compare the states with a high score in “licensing regulations” to the states with a low score in “licensing regulations”, we find significant differences in previous entrepreneurial experience, age, political view, education level, and race. Similarly, when we compare the states with a high score in “environmental regulations” to the states with a low score in “environmental regulations”, we find significant differences in previous entrepreneurial experience, age, political view, education level, and race.

Finally, when we compare the states with a high score in “zoning regulations” to the states with a low score in “zoning regulations”, we find significant differences in age, political view, education level, and race.

To conclude, our findings indicate that regulations affect the geographical choice of entrepreneurs. The states with a more favorable score in a certain area (i.e. regulation) attract a certain group of entrepreneurs. Policymakers should consider the findings in this study when devising their strategies to attract certain types of entrepreneurs to their states.

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