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ORIGINAL RESEARCH PAPER

The Impact of Different Types of Regulations on Entrepreneurial Activity and Owner Composition



Dincer Kaya Halil¹

Northeastern State University, Broken Arrow, Oklahoma, United States

ABSTRACT

Our objective in this study is to determine how different regulations affect the entrepreneurial activity in U.S. states. We also examine whether firm/owner characteristics are different in the states with more favorable regulations versus the other states. We use the “United States Small Business Friendliness Survey” done by Kauffman Foundation and Thumtack.com in 2013. This survey asks small business owners their opinions on six different types of regulations including “employment, labor and hiring regulations”, “tax code and tax-related regulations”, “licensing forms, requirements and fees regulations”, “zoning regulations”, “health and safety regulations”, and “environmental regulations”. We ran several nonparametric tests to see if there has been more entrepreneurial activity in states with a high score in each regulation category compared to the states with a low score. Our results show that “employment, labor and hiring regulations” has a significant impact on the entrepreneurial activity in a state. “Tax code and tax-related regulations” is also marginally significant. These findings indicate that states and cities that want to improve their environment for small businesses should specifically focus on improving their “employment, labor and hiring regulations” and “tax code and tax-related regulations”.

¹ Northeastern State University, Broken Arrow, OK 74014, United States, e-mail: kaya@nsuok.edu

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Introduction

In this study, we have two objectives: First, we aim to find the determinants of the entrepreneurial activity in U.S. states. By doing so, we aim to provide each state's officials with guidance regarding how to improve the environment for small businesses in their state. Our results will guide the states in terms of where to focus. Our second objective is to see how each policy variable affects the composition of entrepreneurs in each state.

We focus on small business owners' perceptions on several regulations including "employment, labor and hiring regulations", "tax code and tax-related regulations", "licensing forms, requirements and fees regulations", "zoning regulations", "health and safety regulations", and "environmental regulations". For this purpose, we use the "United States Small Business Friendliness Survey" done by Kauffman Foundation and Thumtack.com in 2013. The survey asks small business owners their opinions on their state's regulations. It also asks respondents questions on the type of business (i.e. the age of the firm, the number of employees, etc.) as well as on the owner characteristics (i.e. gender, race, previous entrepreneurial experience, etc.).

First, we test for the impact of each type of regulation on the entrepreneurial activity in each state. Since resources are limited, knowing which regulations matter is crucial. If we know that certain regulations matter and others do not, we can spend our time and money more efficiently. Here, we are asking the following question: Is there any significant difference between states that receive high marks from the small business owners operating in that state in, for example, "employment, labor and hiring regulations", and states that receive low marks from the small business owners? Which regulations matter? If "employment, labor and hiring regulations" have a significant impact on the entrepreneurial activity in a state, we will argue that states need to focus on improving these regulations. If, for example, "health and safety regulations" do not matter, our suggestion for the states will be to not focus on improving these type of regulations.

After measuring the relation between each type of regulation and the entrepreneurial activity in a state, we do additional tests to see if certain

regulations discourage certain types of businesses or business owners to operate in a state. For this second objective, we are asking the following question: Do certain regulations deter prospective female small business owners? Or do certain regulations deter black entrepreneurs to do business in a state? In other words, how does each type of regulation affect the composition of small business owners in a state?

The paper proceeds as follows: Section 2 discusses the previous literature. Section 3 explains the data and the methodology used in this study. Section 4 shows the empirical results. Section 5 concludes.

Literature Review

Several previous papers have examined the link between regulations and entrepreneurial activity, although in this study, we focus on the link between regulations and entrepreneurial activity at the state level in the U.S. Acs et al., (2009) develop the knowledge spillover theory of entrepreneurship. According to this theory, entrepreneurship contributes to economic growth by acting as a conduit through which knowledge created by incumbent firms spills over to agents who endogenously create new firms. Their model considers factors such as risk aversion, legal restrictions, bureaucratic constraints, labor market rigidities, taxes, lack of social acceptance, etc. One of the main predictions of their model is that entrepreneurial activities decrease under greater regulation, administrative burden and market intervention by government.

Acs & Szerb (2007) examine the relationships among entrepreneurship, economic growth, and public policy and variations of these relationships according to the stage of economic development in a country. They find that middle-income countries should focus on improving technology availability, increasing human capital, and promoting enterprise development. According to the authors, for developed economies, reducing entry regulations, in most cases, will not result in more high-potential startups. In these countries, to support growth of high-performance ventures, labor market reform and deregulation of financial markets may be needed.

Aidis et al., (2008) use a comparative perspective to explore the ways in which institutions and networks have influenced entrepreneurial development in Russia. They use Global Entrepreneurship Monitor (GEM) data to study the effects of the weak institutional environment in Russia on entrepreneurship, comparing it first with all available GEM country samples

and second, in more detail, with Brazil and Poland. Their results suggest that Russia's institutional environment is important in explaining its relatively low levels of entrepreneurship development, where the latter is measured in terms of both number of start-ups and of existing business owners. In addition, Russia's business environment and its consequences for the role of business networks contribute to the relative advantage of entrepreneurial insiders (those already in business) to entrepreneurial outsiders (newcomers) in terms of new business start-ups.

Aidis et al., (2007) compare from an institutional perspective two countries at different stages in the process of transformation (i.e. Lithuania and Ukraine). Lithuania followed a rapid transitional path leading to European Union membership, while Ukraine is on a much slower development path. The authors argue that women entrepreneurs in Lithuania and Ukraine share many common features and problems; however, there are important differences in the experiences of women in these two countries. According to the authors, this indicates a need to recognize the diversity that exists among transition countries, reflecting different inheritances from the Soviet past as well as differences in the pace of change during the transition period. They suggest that interaction among various economic, institutional, and transitional influences affects female entrepreneurship. They conclude that although formal institutions such as rules and regulations allow for the possibility of female business development, informal institutions such as gendered norms and values that reflect the patriarchy observed during the Soviet era restrict women's activities and their access to resources.

Bergmann & Sternberg (2007) examine "The changing face of entrepreneurship in Germany". According to the authors, recently, Germany developed a range of initiatives and programmes to support entrepreneurial activities. Hopes in Germany are that the numerous promotional programmes at national, Bundesland (state) and municipal level will make a positive contribution to the development of the labour market. Start-ups became a hot topic in politics partly out of conviction (ambitions to create an "entrepreneurial society") and partly out of necessity (the realisation that large companies in the past have made job cuts, while start-ups really can only grow). There has been an absolute and relative increase in necessity entrepreneurship in Germany as a response to changes in the prevailing economic conditions and new policy measures affecting the labour market. Their results furthermore show that policies without any regional focus can have substantial regional implications. The individual start-up propensity in

regions with rising unemployment is different from that in regions with stable or decreasing unemployment. Recent policy changes aimed at start-ups from unemployment have the greatest impact in regions with rising unemployment.

Branstetter et al., (2014) examine the relation between entry regulations and entrepreneurship. They employ data from Portugal, a country, according to the authors, which implemented one of the most dramatic and thorough policies of entry deregulation in the industrialized world. Their results indicate that the reform resulted in increased firm formation and employment, but mostly among "marginal firms" that would have been most readily deterred by existing heavy entry regulations. These marginal firms were typically small, owned by relatively poorly-educated entrepreneurs, operating in the low-tech sector (agriculture, construction, and retail trade). The authors argue that these firms were also less likely to survive their first two years than comparable firms that entered prior to the reform. The authors conclude that the social impact of entry deregulation may be limited by the quality of the firms it creates.

Bitzenis & Nito (2005) examine the obstacles to entrepreneurship in Albania. They show that the most important obstacles faced by entrepreneurs in Albania include unfair competition, changes in taxation procedures, lack of financial resources and problems related to public order. Bureaucracy and corruption do not appear to represent significant barriers to entrepreneurship.

Bock (2004) examines Dutch farmwomen's entrepreneurial activities. She first examines how and why farmwomen started new economic activities on and off the farm. She shows that Dutch farmwomen share a specific approach to rural entrepreneurship and paid labour, which is characterised by fitting in and multi-tasking. Women add the new activities to their regular tasks and fit them into the already existing working scheme because they want to make sure that neither family nor farm is troubled by their initiatives. Then she focuses on the development of new on farm activities over the course of time and follows five female rural entrepreneurs from 1995 to 2001. She demonstrates that women may change their approach and expand their business when they experience that work and care may be successfully combined and that their new business is rewarding financially as well as emotionally. According to Bock (2004), understanding women's specific approach to entrepreneurship is important in order to more effectively support them. So far, rural development policies are of little help

to women as they usually promote a type of entrepreneur and an approach to entrepreneurship most common among men.

Dreher & Gassebner (2013) investigate the question of whether corruption might ‘grease the wheels’ of an economy. They investigate whether and to what extent the impact of regulations on entrepreneurship is dependent on corruption. They first test whether regulations robustly deter firm entry into markets. Their results show that the existence of a larger number of procedures required to start a business, as well as larger minimum capital requirements are detrimental to entrepreneurship. Secondly, they test whether corruption reduces the negative impact of regulations on entrepreneurship in highly regulated economies. Their empirical analysis, covering a maximum of 43 countries over the 2003–2005 period, shows that corruption facilitates firm entry in highly regulated economies. For example, the ‘greasing’ effect of corruption kicks in at around 50 days required to start a new business. Their results thus provide support for the ‘grease the wheels’ hypothesis.

García-Posada & Mora-Sanguinetti (2015) examine entrepreneurship and enforcement institutions in Spain. They analyze the determinants of entry, focusing on the role of the design and efficacy of enforcement institutions (the judicial system), an aspect traditionally overlooked. They find that higher judicial efficacy increases the entry rate of firms, while it has no effect on the exit rate. That impact only occurs in the case of the entry rates for entrepreneurs, defined as self-employed, but not in the case of limited liability corporations. According to the authors, this finding may be due to the fact that judicial (in)efficacy can be regarded as a fixed cost to be paid by the agents that litigate. Hence, the economic activity of entrepreneurs – and specifically, their entry into the market – is expected to be more affected than that of larger firms.

Gartner & Shane (1995) argue that the factors that drive changes in the rate of entrepreneurship are not likely to be manifest over short time periods. Changes in values, attitudes, technology, government regulations, and world economic and social changes have a significant influence on changes in entrepreneurship over time. According to Gartner & Shane (1995), studies that have measured entrepreneurship over recent time periods are, therefore, likely to miss the influence of these variables. They introduce a measure of entrepreneurship (organizations per capita) based on a theory of entrepreneurship as ownership. This measure shows the stock of organizations in the U.S. economy over time (from 1857 to 1992). They

examine the problems and the advantages of using a measure based on organizations per capita as an indicator of entrepreneurship. They conclude with some suggestions for improving entrepreneurship research by recognizing the limitations of particular longitudinal entrepreneurship measures and by challenging the field to seek convergent validity among measures.

Ghani et al., (2014) examine the spatial determinants of entrepreneurship in India. They find that local education levels and physical infrastructure quality play the most important roles in promoting entry. They also find evidence that strict labor regulations discourage entrepreneurship, and better household banking environments are associated with higher entry in the unorganized sector. According to the authors, policy makers wishing to encourage entrepreneurship in their local areas have several policy levers that can be exploited: investment in both people and places is an easy call for policy makers, while reducing unnecessary regulations and restrictions is also warranted. They conclude that their findings raise the importance of correct policy design for local areas.

Klapper et al., (2006) examine the relation between entry regulation and entrepreneurship. Using a comprehensive database of European firms, they study the effect of market entry regulations on the creation of new limited-liability firms, the average size of entrants, and the growth of incumbent firms. They find that costly regulations hamper the creation of new firms, especially in industries that should naturally have high entry. These regulations also force new entrants to be larger and cause incumbent firms in naturally high-entry industries to grow more slowly. The authors argue that their results hold even when they correct for the availability of financing, the degree of protection of intellectual property, and labor regulations.

Kreft & Sobel (2005) show that entrepreneurial activity causes an inflow of venture funding, and not vice versa. According to the authors, because entrepreneurial activity tends to be the underlying factor that automatically and naturally attracts more venture capital to an area, economic development policies should focus on creating an environment attractive to individual entrepreneurs, rather than on attracting venture capital. They also show that an area's degree of economic freedom significantly impacts the underlying level of entrepreneurial activity. They conclude that an environment of low taxes, low regulations, and secure

private property rights is what is necessary to encourage the entrepreneurial activity that is vital to produce economic growth.

Lee (1991) shows that competition among entrepreneurs does not stimulate economic growth but promotes the freedom from economic regulation. The author also shows that competition among regulators for the administrative control of markets leads to faster economic growth and greater economic freedom. These favorable effects also attend deregulation and greater resistance to new regulations. Lee (1991) finally shows that the preferential financial treatment of innovations does not necessarily encourage innovations; it ultimately results in more regulation.

Manolova et al., (2008) examine Latvia, Hungary, and Bulgaria's institutional environments for entrepreneurship. They find that despite the absence of any differences in aggregate institutional profiles, there were significant differences in the underlying dimensions comprising the institutional environment among the emerging economies studied. They find that Latvia topped the list in the normative dimension, while Hungary scored the highest on the regulatory dimension and the lowest on the cognitive dimension, and Bulgaria scored the highest on the cognitive dimension and the lowest on the regulatory dimension. The authors contend that even though respondents perceived the overall institutional environment for the development of entrepreneurship as less than favorable in all three countries, the underlying reasons were different. While respondents in Hungary and Latvia were worried about the availability of requisite knowledge and skills to engage in entrepreneurship, in Hungary they were also skeptical about societal attitudes toward entrepreneurship, whereas in Bulgaria the respondents were dissatisfied with the laws, regulations, and government policies promoting entrepreneurship. They conclude that aggregate measures of institutional environment for entrepreneurship may mask subtle and persistent differences, especially in the role of deeply embedded and less readily observable influences such as legal and cultural traditions, or social norms and values. Comparisons of the overall institutional framework across countries should, therefore, be used as a first approximation only and interpreted with great care.

Nawaser et al., (2011) use a survey given to researchers related to Iran's entrepreneurial environment. According to the survey participants, laws, the present regulations and motivational factors are the obstacles for achieving appropriate entrepreneurship development in the country. In addition, the survey participants believe that the motivational factors are

more important than legal factors in the failure of entrepreneurship development in Iran. The authors recommend state organizations and institutions to develop appropriate rules for maximum efficiency of the entrepreneurial activities.

Nyström (2008) investigates the relation between the institutional setting, in terms of economic freedom, and entrepreneurship, measured by self-employment in 23 OECD countries. She shows that a smaller government sector, better legal structure and security of property rights, as well as less regulation of credit, labor and business tend to increase entrepreneurial activity.

Ovaska & Sobel (2005) focus on entrepreneurship in post-socialist economies. They show credit availability, contract enforcement, low government corruption, sound monetary policy, high foreign direct investment, and policies (such as low regulations and taxes) that are consistent with giving citizens a high degree of economic freedom are important factors for entrepreneurial activity. They show, however, that credit availability and government corruption tend to be more important factors affecting the creation rate of new smaller firms than for the creation rate of new larger firms. They also show that having policies that simply help the rate of new firm creation do not automatically also promote the high rates of technological innovation necessary for economic growth. Of the two measures, patent and trademark activity is more highly correlated with economic growth in these countries than is new firm creation. To be successful, these countries not only need to institute policies consistent with fostering the creation of new businesses but also have in place policies conducive with fostering new high-tech innovation. According to the authors, one of the most important of these factors is the presence of economic freedom – low taxes, low regulations, and secure private property rights.

Parker (2007) shows how the law interacts with entrepreneurship in two principal ways. First, legal structures shape organizational forms in entrepreneurship. Second, legal rules and institutions carry public policy implications for entrepreneurship in at least three areas: regulation; bankruptcy legislation; and the broad area of property rights, corruption, and the efficiency of courts. He reviews the literature on each of these issues.

Smallbone et al., (2010) contend that governments play a particularly important role for entrepreneurship development in a transition context, particularly with respect to their role in creating the institutional framework

that enables and/or constrains entrepreneurship. They explore how institutional change in Ukraine, resulting in institutional deficiencies, triggered new opportunities for small firms in the emerging business services sector.

Sobel et al., (2007) argue that while entrepreneurs benefit from unrestricted free entry into markets, they have a time-inconsistent incentive to lobby for government entry restrictions once they become successful. Bad political institutions yield to these demands, and growing barriers are placed on domestic and international competition. Good institutions do not, and this effort is instead channeled toward further wealth creation. They find that productive entrepreneurship depends on both the freedom to succeed and discipline of failure that free markets provide. Trade barriers result in fewer combinations of goods and inputs attempted, and less productive entrepreneurial resource use. They also provide evidence on the value of business failure.

Stephan & Uhlaner (2010) do a cross-national study testing a framework relating cultural descriptive norms to entrepreneurship in a sample of 40 nations. They find that opportunity existence and the quality of formal institutions support entrepreneurship.

Stephen et al., (2009) examine the responsiveness of entrepreneurs to working time regulations. They find that higher enforcement formalism mitigates the negative impact exerted by rigid working time regulations on the number of entrepreneurs. They show that entrepreneurs are less sensitive to labor regulations the higher the level of enforcement formalism in which they operate. The authors argue that encouraging labor flexibility might not improve conditions for entrepreneurial activity in procedurally formalist countries.

Valdez & Richardson (2013) examine the institutional determinants of macro-level entrepreneurship. This multi-country study empirically explores the institutional determinants of macro-level entrepreneurship. Their findings suggest that a society's normative, cultural-cognitive, and regulative institutions are related to entrepreneurial activity. Normative and cultural-cognitive institutions' descriptive power in explaining entrepreneurial activity is higher than regulative institutions' or per capita gross domestic product. According to the authors, this suggests that differences in values, beliefs, and abilities may play a greater role than purely economic considerations of opportunity and transaction costs.

Stel et al., (2007) examine the relationship, across 39 countries, between regulation and entrepreneurship. They find the minimum capital requirement required to start a business lowers entrepreneurship rates across countries, as do labour market regulations. However the administrative considerations of starting a business – such as the time, the cost, or the number of procedures required – are unrelated to the formation rate of either nascent or young businesses.

Welter (2004) examines the environment for female entrepreneurship in Germany. In Germany, most relevant support policies concentrate on extending and stabilizing the financial base of new female-owned ventures. Relevant consultancy appears to play a less important role, although there has been a shift towards integrated packages in recent years. However, access to mainstream support is implicitly gender biased. The author argues that an integrated strategy for fostering female entrepreneurship also needs to consider that there are shortcomings in the institutional (political and societal) environment, possibly restricting women's interest in entrepreneurship and thus determining the extent of female entrepreneurship. The author concludes that there is a need for business organizations such as chambers, business support agencies and associations, to adapt their approach towards women entrepreneurs, ensuring that they address their needs without an implicit gender bias.

Wennekers & Thurik (1999) focus on the link between entrepreneurship and economic growth. They argue that both culture and the institutional framework are important conditions codetermining the amount of entrepreneurship in an economy and the way in which entrepreneurs operate in practice. According to the authors, technological, demographic and economic forces are also important.

Wilhelm (2002) examines the impact of corruption. According to the author, corruption is increasingly seen as a barrier to development and economic growth. He argues that sustainable economic development is very dependent on a constant, virtuous cycle that includes corruption fighting, and the maintenance of trust and innovation, all reinforcing each other.

Zahra & Garvis (2000) examine the relation between international corporate entrepreneurship and firm performance by taking into account the moderating effect of international environmental hostility. They argue that U.S. companies' opportunities abroad, are tempered by the constraints imposed by the competitive forces that exist in international environments. Aggressive government intervention, technological changes, and fierce local

rivalries all contribute to hostile international environments for U.S. firms' global expansion. The authors show that there are upper limits to the potential gains a firm achieves from its aggressive pursuit of international corporate entrepreneurship when the international environment in which it competes is hostile.

Data and Methodology

In this study, I use the “United States Small Business Friendliness Survey” done by Kauffman Foundation and Thumtack.com in 2013. The survey asks small business owners their opinions on their state’s regulations like “employment, labor and hiring regulations”, “tax code and tax-related regulations”, “licensing forms, requirements and fees regulations”, “zoning regulations”, “health and safety regulations”, and “environmental regulations”. It also asks respondents questions on the type of business (i.e. the age of the firm, the number of employees, etc.) as well as on the owner characteristics (i.e. gender, race, previous entrepreneurial experience, etc.).

My main objective in this study is to see how a state’s different types of regulations affect the total entrepreneurial activity in that state. I also test to see if a state’s regulations affect the business and owner characteristics. For business characteristics, I look at firm size (i.e. single-employee small business or not) and firm age (i.e. established less than 1 year ago or not). For owner characteristics, I look at owner’s gender, owner’s race (i.e. whether the owner is black or not), and owner’s previous entrepreneurial experience (i.e. previous experience or not).

In order to access the entrepreneurial activity index for each state, I use Kauffman’s website (<http://www.kauffman.org/multimedia/infographics/2013/kiea-interactive>). All other variables including states’ scores on “employment, labor and hiring regulations”, “tax code and tax-related regulations”, “licensing forms, requirements and fees regulations”, “zoning regulations”, “health and safety regulations”, and “environmental regulations”, and firm and owner characteristics are available in the survey itself.

All of the variables are explained below:

Entreactivity: the entrepreneurial activity index for each state (from Kauffman’s website)

Healthandsafetyreg: each state’s score on health and safety regulations as computed by the survey

Employreg: each state's score on employment, labor and hiring regulations as computed by the survey

Taxcode: each state's score on tax code and tax-related regulations as computed by the survey

Licenreg: each state's score on licensing forms, requirements and fees regulations as computed by the survey

Environreg: each state's score on environmental regulations as computed by the survey

Zoningreg: each state's score on zoning regulations as computed by the survey

Ageofbuslessthanone: the percentage of small businesses in a state that are less than 1 year old (computed from the individual responses in each state)

Employeesone: the percentage of small businesses in a state that are single-employee businesses (computed from the individual responses in each state)

Previousentre: the percentage of small business owners in a state that have previous entrepreneurial experience (computed from the individual responses in each state)

Female: the percentage of small business owners in a state that are female (computed from the individual responses in each state)

Black: the percentage of small business owners in a state that are black (computed from the individual responses in each state)

Each state's scores on "employment, labor and hiring regulations", "tax code and tax-related regulations", "licensing forms, requirements and fees regulations", "zoning regulations", "health and safety regulations", and "environmental regulations" are available in the survey. However, the survey uses letter grades like A+, A, A-, B+, and so on. 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.

For each firm/owner characteristic variable (i.e. Ageofbuslessthanone, Employeesone, Previousentre, Female, and Black), I compute the percentage values for each state. For example, in Maryland, what percentage is female? If twenty percent of the small business owners is female, Maryland's female score is 20. Therefore, each state in the survey (i.e. a total of 41 U.S. states) has a percentage value for each of these variables.

In order to do the analyses, I ran nonparametric tests that compare states with high- and low-scores in each category. To divide between high-

and low- score states in each category, I use the mean value. The states with scores higher than the mean are classified as high-score states, and the states with scores lower than the mean are classified as low-score states.

First, I divide the 41 states in the survey into high- and low-employment regulations score, using the mean employment regulations score among the 41 states as the dividing point. Then, I compare high- and low- employment regulations score groups' entrepreneurial activity. Are they significantly different? I also compare the two groups in terms of firm size (i.e. single-employee small business or not), firm age (i.e. established less than 1 year ago or not), owner's gender, owner's race (i.e. whether the owner is black or not), and owner's previous entrepreneurial experience (i.e. previous experience or not).

Then, I do the same for the tax code score. Do high- and low-tax code score states differ in terms of entrepreneurial activity? Do they differ in terms of firm and owner characteristics?

Then, I do the same analysis for licensing, zoning, health and safety, and environmental regulations scores. Is there any significant difference between the high- and low- score states in terms of entrepreneurial activity, firm and owner characteristics?

Table 1 shows the summary statistics for our variables. All of the variables are in percentage per state.

Table 1: Summary Statistics (All Variables in %)

Variable	Mean	Median	Stdev	Min	Max
Entreativity	0.25	0.25	0.07	0.11	0.40
Healthandsafetyreg	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
ageofbuslessthanone	6.16	6.02	2.84	0.00	11.90
Employeesone	53.03	52.17	6.98	36.11	68.18
Previousentre	43.84	43.33	6.78	29.49	57.14
Female	37.00	36.96	5.96	21.05	52.94
Black	7.36	4.84	7.72	0.00	34.71

Empirical Results

Table 2 compares the entrepreneurial activity and firm and entrepreneur characteristics across high- and low- score states. Panel A compares high- and low-employment regulations score states, and Panel B compares high- and low-tax code score states. In both panels, the last column shows the results of the Mann-Whitney Wilcoxon test.

Table 2: The Impact of Employment Regulations and Tax code

Panel A. Employment Regulations					
Variable	High		Low		Mann-W. p-value
	Mean	Med.	Mean	Med.	
Entreactivity	0.2768	0.2975	0.2340	0.2180	0.0216
Ageofbuslessthanone	5.86	5.56	6.45	6.08	0.2830
Employeesone	49.78	50.68	56.12	55.00	0.0010
Previousentre	46.45	45.49	41.36	41.38	0.0069
Female	37.03	37.30	36.97	36.94	0.4174
Black	9.26	6.20	5.56	4.24	0.1148

Panel B. Tax code					
Variable	High		Low		Mann-W. p-value
	Mean	Med.	Mean	Med.	
Entreactivity	0.2638	0.2620	0.2422	0.2050	0.1143
Ageofbuslessthanone	6.28	5.89	5.99	6.02	0.3457
Employeesone	50.73	51.12	56.26	55.00	0.0021
Previousentre	45.58	45.49	41.38	41.38	0.0189
Female	37.99	38.14	35.61	35.90	0.0886
Black	9.34	5.59	4.57	3.85	0.0475

As we can see from Panel A, the employment regulations score has a statistically significant impact on the entrepreneurial activity in a state. The median entrepreneurial activity index is 0.2975% in high-score states versus 0.2180% in low-score states (the p-value of the difference is 0.0216).

We are seeing that the employment regulations score also has a statistically significant impact on some firm and entrepreneur characteristics. When we look at the medians, we are seeing that in high-score states, a lower percentage of firms tend to be a single-employee firm (50.68% of the firms versus 55.00% of the firms; p-value=0.0010), a higher

percentage of entrepreneurs tend to have previous entrepreneurial experience (45.49% versus 41.38%; p-value=0.0069), and a marginally higher percentage of entrepreneurs tend to be black (6.20% versus 4.24%; p-value=0.1148). Therefore, we can conclude that the employment regulations score of a state significantly affects both the total entrepreneurial activity in a state and the composition of the small firms and the entrepreneurs operating in a state.

Panel B shows that the tax code score has a marginally significant impact on the entrepreneurial activity in a state. The median entrepreneurial activity index is 0.2620% in high-score states versus 0.2050% in low-score states (the p-value of the difference is 0.1143).

We are seeing that the tax code score also has a statistically significant impact on some firm and entrepreneur characteristics. When we look at the medians, we are seeing that in high-score states, a lower percentage of firms tend to be a single-employee firm (51.12% of the firms versus 55.00% of the firms; p-value=0.0021), a higher percentage of entrepreneurs tend to have previous entrepreneurial experience (45.49% versus 41.38%; p-value=0.0189), a higher percentage of entrepreneurs tend to be female (38.14% versus 35.90%; p-value=0.0886), and a higher percentage of entrepreneurs tend to be black (5.59% versus 3.85%; p-value=0.0475).

Table 3 also compares the entrepreneurial activity and firm and entrepreneur characteristics across high- and low- score states. However, this table looks at licensing regulations in Panel A, and at zoning regulations in Panel A.

Table 3: The Impact of Licensing Regulations

Panel A. Licensing Regulation

Variable	High		Low		Mann-W.
	Mean	Med.	p-value	Med.	p-value
Entreativity	0.2592	0.2700	0.2507	0.2471	0.2964
Ageofbuslessthanone	6.09	5.98	6.23	6.02	0.4792
Employeesone	50.95	51.12	55.01	54.31	0.0184
Previousentre	46.09	45.49	41.70	41.18	0.0112
Female	37.97	37.80	36.09	36.94	0.1673
Black	8.43	5.13	6.35	4.44	0.3191

Panel B. Zoning Regulations

Variable	High		Low		Mann-W. p-value
	Mean	Med.	Mean	Med.	
Entreativity	0.2571	0.2436	0.2527	0.2584	0.3240
Ageofbuslessthanone	5.49	5.56	6.81	6.67	0.0875
Employeesone	51.91	51.69	54.09	53.65	0.1423
Previousentre	44.97	45.20	42.76	41.46	0.1029
Female	37.72	38.90	36.32	36.73	0.1367
Black	8.04	4.92	6.72	4.44	0.4377

As we can see from Panel A, the licensing regulations score does not have a statistically significant impact on the entrepreneurial activity in a state. The median entrepreneurial activity index is 0.2700% in high-score states versus 0.2471% in low-score states (the p-value of the difference is 0.2964).

On the other hand, we are seeing that the licensing regulations score has a statistically significant impact on some firm and entrepreneur characteristics. When we look at the medians, we are seeing that in high-score states, a lower percentage of firms tend to be a single-employee firm (51.12% of the firms versus 54.31% of the firms; p-value=0.0184), and a higher percentage of entrepreneurs tend to have previous entrepreneurial experience (45.49% versus 41.18%; p-value=0.0112). Therefore, from Panel A, we conclude that although the licensing regulations do not significantly affect the total entrepreneurial activity in a state, they have a significant impact on the percentage of single-employee firms and on the percentage of firms with experienced owners.

Panel B shows that the zoning regulations score does not have a statistically significant impact on the entrepreneurial activity in a state. The median entrepreneurial activity index is 0.2436% in high-score states versus 0.2584% in low-score states (the p-value of the difference is 0.3240).

We are seeing that the zoning regulations score has a statistically significant impact on some firm and entrepreneur characteristics. When we look at the medians, we are seeing that in high-score states, a lower percentage of firms tend to be a newly-founded firm (5.56% of the firms versus 6.67% of the firms; p-value=0.0875), and a marginally higher percentage of entrepreneurs tend to have previous entrepreneurial experience (45.20% versus 41.46%; p-value=0.1029). From Panel B, we

conclude that although the zoning regulations do not significantly affect the total entrepreneurial activity in a state, they have a significant impact on the percentage of newly-founded firms and on the percentage of firms with experienced owners.

In Table 4, Panel A looks at health and safety regulations, and Panel B looks at environmental regulations. As we can see from Panel A, the health and safety regulations score does not have a statistically significant impact on the entrepreneurial activity in a state. The median entrepreneurial activity index is 0.2452% in high-score states versus 0.2528% in low-score states (the p-value of the difference is 0.4015).

Table 4: The Impact of Health & Safety and Environmental Regulations

Panel A. Health & Safety Regulations					
Variable	High		Low		Mann-W.
	Mean	Med.	p-value	Med.	p-value
Entreactivity	0.2549	0.2452	0.2547	0.2528	0.4015
ageofbuslessthanone	6.16	6.08	6.16	5.97	0.3565
Employeesone	51.20	51.61	55.37	54.27	0.0319
Previousentre	44.78	45.24	42.65	41.80	0.1109
Female	38.09	38.64	35.62	36.42	0.0901
Black	9.21	5.92	5.01	3.94	0.0572
Panel B. Environmental Regulations					
Variable	High		Low		Mann-W.
	Mean	Med.	Mean	Med.	p-value
Entreactivity	0.2589	0.2584	0.2496	0.2326	0.2515
ageofbuslessthanone	6.19	5.66	6.13	6.14	0.4895
Employeesone	51.09	50.94	55.50	54.94	0.0073
Previousentre	44.83	44.90	42.58	42.57	0.1824
Female	37.68	38.64	36.14	36.00	0.1036
Black	9.43	5.26	4.72	4.34	0.1131

On the other hand, we are seeing that the health and safety regulations score has a statistically significant impact on some firm and entrepreneur characteristics. When we look at the medians, we are seeing that in high-score states, a lower percentage of firms tend to be a single-employee firm (51.61% of the firms versus 54.27% of the firms; p-value=0.0319), a

marginally higher percentage of entrepreneurs tend to have previous entrepreneurial experience (45.24% versus 41.80%; p -value=0.1109), a higher percentage of entrepreneurs tend to be female (38.64% versus 36.42%; p -value=0.0901), and a higher percentage of entrepreneurs tend to be black (5.92% versus 3.94%; p -value=0.0572). Therefore, from Panel A, we can conclude that although the health and safety regulations do not significantly affect the total entrepreneurial activity in a state, they have a significant impact on several firm and owner characteristics.

Panel B shows that the environmental regulations score does not have a statistically significant impact on the entrepreneurial activity in a state. The median entrepreneurial activity index is 0.2584% in high-score states versus 0.2326% in low-score states (the p -value of the difference is 0.2515).

We are seeing that the environmental regulations score has a statistically significant impact on some firm and entrepreneur characteristics. When we look at the medians, we are seeing that in high-score states, a lower percentage of firms tend to be a single-employee firm (50.94% of the firms versus 54.94% of the firms; p -value=0.0073), a marginally higher percentage of entrepreneurs tend to be female (38.64% versus 36.00%; p -value=0.1036), and a marginally higher percentage of entrepreneurs tend to be black (5.26% versus 4.34%; p -value=0.1131). From Panel B, we conclude that although the environmental regulations do not significantly affect the total entrepreneurial activity in a state, they have a significant impact on several firm and owner characteristics.

Conclusion

Our objective in this study is to determine how different regulations affect the entrepreneurial activity in U.S. states. We use the "United States Small Business Friendliness Survey" done by Kauffman Foundation and Thumtack.com in 2013. This survey asks small business owners their opinions on six different types of regulations including "employment, labor and hiring regulations", "tax code and tax-related regulations", "licensing forms, requirements and fees regulations", "zoning regulations", "health and safety regulations", and "environmental regulations". We ran several nonparametric tests to see if there has been more entrepreneurial activity in states with a high score in each of these categories compared to the states with a low score.

Our results show that “employment, labor and hiring regulations” has a significant impact on the entrepreneurial activity in a state. When “employment, labor and hiring regulations” are seen as more favorable in a state, there is significantly more entrepreneurial activity in that state. We find that “tax code and tax-related regulations” is also marginally significant, meaning that if a state’s tax code and tax-related regulations are seen as more favorable in a state, there is significantly more entrepreneurial activity in that state. On the other hand, we find that the results for the other four categories of regulations (i.e. “licensing forms, requirements and fees regulations”, “zoning regulations”, “health and safety regulations”, and “environmental regulations”) are insignificant. In other words, they do not significantly impact the entrepreneurial activity in a state.

Our findings indicate that states and cities that want to improve their environment for small businesses should specifically focus on “employment, labor and hiring regulations” and “tax code and tax-related regulations”. They need to spend their resources on improving these regulations rather than trying to improve all types of regulations.

In this study, we also look at whether certain small businesses and certain entrepreneurs are more active in states with high regulation scores. We find that this is true. Each type of regulation affects the composition of small businesses and entrepreneurs operating in a state. We conclude that although only “employment, labor and hiring regulations” and “tax code and tax-related regulations” affect the total entrepreneurial activity in a state, all six regulation categories affect the composition of small firms and entrepreneurs operating in a state.

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Uticaj različitih vrsta pravilnika na preduzetničku aktivnost i vrstu preduzetnika

APSTRAKT

Naš cilj u ovoj studiji je da se utvrdi kako različiti propisi utiču na preduzetničke aktivnosti u Sjedinjenim Američkim Državama. Takođe, cilj je bio da ispitamo da li se povoljniji propisi u nekim zemljama odražavaju na preduzetnike u poredjenju sa drugim državama. U našem radu smo koristili istraživanje koje je radila Kauffman Fondacija i Thumtack.com u 2013. na osnovu sprovedene ankete koja se zasnivala na mišljenju preduzetnika o šest različitih vrsta propisa, uključujući zapošljavanje, poreske propise, licenciranje, urbanističke propise, propise u oblasti zdravstvenog osiguranja i ekološke propise. Korišćeno je nekoliko neparametrijskih testova kako bi se utvrdilo da li je došlo do više preduzetničkih aktivnosti u zemljama s visokim rezultatom u svakoj kategoriji regulacije u uporedjenju sa zemljama s niskom ocenom. Dobijeni rezultati pokazuju da su propisi u sferi zapošljavanja imali značajan uticaj na preduzetničke aktivnosti u državi. Takođe su poreski propisi imali značaj. Ovi rezultati ukazuju na to da države i gradovi koji žele da unaprede svoje poslovno okruženje za male preduzetnike posebno treba da se usredsrede na poboljšanje propisa iz domena rada, zapošljavanja i poreza.

KLJUČNE REČI: *preduzetništvo, mala preduzeća, propisi, preduzetnička aktivnost, karakteristike vlasnika*

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