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# FIRM FORMATION AND ECONOMIC FREEDOM: A LOOK AT THE EFFECT OF REGULATION AND FISCAL POWER ACROSS STATES

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FIRM FORMATION AND ECONOMIC FREEDOM: A LOOK AT THE EFFECT OF  
REGULATION AND FISCAL POWER ACROSS STATES

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A Thesis  
Presented to  
the Graduate School of  
Clemson University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts  
Economics

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by  
Cameron Charles Cox  
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Accepted by:  
Dr. Andrew Hanssen, Committee Chair  
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## ABSTRACT

This paper looks at the effect of economic freedom, a cost of investment for entrepreneurial action, on the amount of firms established across states and years. My hypothesis is that economic freedom has a positive effect on the number of firms that are established in a given year. My assumption for why this is the case is because greater economic freedom implies that costs of investing in a new firm will decrease thereby increasing the incentive to create new firms. I use data from the Mercatus Institutes Freedom index and the United States Census Bureau for firm formation and economic freedom, respectively. I use data that is across states for 2002, 2008, and 2010 I find that economic freedom has a statistically significant economic effect on the number of firms established.

## DEDICATION

I dedicate this paper to my mother and step-father. They have both always been a driving force in my education and career and have been nothing but understanding when it comes to my goals. Thank you both for everything you've done to get me here.

## ACKNOWLEDGMENTS

I wish to thank Professor Hanssen for his understanding and assistance throughout my graduate school career. I also wish to thank Professor Tollison and Professor Hobbs for their knowledge and impact on my understanding of economics. Finally, thank you to all my past economic professors who made this all possible.

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## CHAPTER ONE

### INTRODUCTION

Since Coase's 1937 paper, *The Nature of the Firm*, economists have begun studying how and why firms come into existence. A large body of literature on the creation of new firms (known as "startup firms"), has been central to current work on economic growth. One reason for this is because new firms are the embodiment of innovation, especially with rapidly changing technologies not easily integrated by existing firms (Feldman 2001). But why is innovation important? I argue that innovation promotes economic growth which in turn increases income per capita. This is the major flaw with papers, such as Davis, Haltiwanger, and Schuh 1996, that argue against the large effect of establishing new businesses because they focus on job creation and not innovation.

The incentivizing mechanisms involved in creating firms are a cost of investment (risk) and expected payoff. My focus is on these costs of investment; specifically I look at economic freedom, an aspect of these investment costs that have only recently become available, on a large scale, for use in applied econometric work. I am measuring the burden that government puts on the ability of firms to be established. Although research on economic freedom and related topics (public choice) have been around since at least the 1960s only recently have such a wealth of data across regions been collected and analyzed.

Economic freedom, in relation to firm formation, can be thought of as the cost that government imposes on investments in new firms. Therefore, if economic freedom is

higher, then the associated cost of investing in the creation of a new firm is lower. If true, states that have more economic freedom should have a larger amount of newly created firms, holding other things constant.

In determining how large an effect economic freedom has on firm formation it is important to control for other costs of investment, faced by start-up entrepreneurs. I include control variables for both labor and capital costs. I also control for other related effects which affect the expected payoff of entrepreneurship including: educational attainment, industry mix, and technology.

Finally, I choose to look at state level firm formation because it provides sufficient variation in economic freedom and my selected control variables

## CHAPTER TWO

### LITERATURE REVIEW

My methodology follows a paper by Swaleheen and Stansel (2007) which looks at economic freedom and its effects on economic growth. However they look at economic freedom's effect on corruption, where they define corruption as public officials found guilty of taking bribes. They find that high economic freedom will mitigate the adverse effects of corruption and therefore has a positive effect on growth. Another key difference between this paper and similar studies is the economic freedom measure I employ. A standard measure used in a number of these studies is from the *Economic Freedom of the World* (Gwartney, Hall, and Lawson 2011) which proxies' economic freedom across different countries. Another common source is the *Economic Freedom of North America* index, which is also produced by the Fraser Institute. This paper uses a new index: *Freedom in the 50 States* by Ruger and Sorens which provides proxy measures of total freedom by state and how it affects migration of individuals from one state to another. So while there are papers, i.e. Campbell & Rogers 2007, which do look at economic freedom by state, these use the Fraser Institute data. However, I have been unable to find papers that use the Ruger and Sorens data.

Many papers have addressed similar questions concerning firm formation but use other variables to proxy for variations in firm creation. For instance, *Technology Regimes and New Firm Formation* by Scott Shane and *The State New Economy Index* report by The Marion W. Kauffman Foundation and The Information and Technology Foundation

look at the effects of new technologies on firm formation. Shane's paper looks at how technology regimes alter the formation of firms. He argues that there are four important dimensions of technology regimes: (1) the age of the technical field, (2) the tendency of the market toward segmentation, (3) the effectiveness of patents, and (4) the importance of complementary assets in marketing and distribution. Each factor influences the tendency for inventions to be exploited through the formation of new firms (Shane 2001). *The State New Economy Index* report looks at the ability of states to promote, through the institutional frameworks of the state, the incorporation use of changing technologies. The report then indexes each state based upon this ability.

Kihstrom and Laffont (1979) explore how differences in risk aversion will affect firm formation in their paper *A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion*. They use a competitive general equilibrium theory model which posits that less risk adverse people become entrepreneurs and more risk adverse become workers, which implies less risk adverse people establish new firms.

Other papers look at variations in firm formation across regions. Feldman (2001), in *The Entrepreneurial Event Revisited*, looks at regional effects of changes in technology, specifically in the Washington D.C. metropolitan area. Another paper that focuses on regional differences is Catherine Armington & Zoltan J. Acs paper *The Determinants of Regional Variation in New Firm Formation*. In this paper they revisit general regional differences in firm birth rates (how fast firms are being established) noting that there is now better data and that the makeup of the economy has undergone large structural changes in its move from industrial manufacturing to services and high technology.

What it comes down to is that previous papers have either looked at economic freedom and its effects on firm formation using different economic freedom data or papers have focused on firm formation but haven't looked at economic freedoms effect on it. My intent is to increase the literature on economic freedom and firm formation that uses Ruger and Sorens' data.

## CHAPTER THREE

### MODEL

I look at the effect that increasing economic freedom, which can also be thought of as decreasing the cost of doing business, will have on firm creation. I wish to also control for factors that can increase or decrease the incentives to establish a firm. Although I wish this to measure the overall attractiveness of a state's business environment the driving force of my measure seems to be tax burden. I use firm creation in a given year as my dependent variable. Previous studies have pointed to industry makeup, technology, capital costs, and labor costs as factors that contribute to the creation of firms. I use percent of newly-created firms in each industry across states to account for industry makeup. I create this by taking total newly-created firms and dividing it by total firms. This is important because some states have higher firm creation because of a specific industry (an example is manufacturing in Washington State). Then I use the State New Economy Index to control for technology across states. Finally, I use gross state product per capita to account for labor and capital costs. I also add educational attainment (high school or better) as a control variable for education which can also cause variation in firm creation. My formal model is:

Figure 1: Equation Model

$$E_i = \beta_0 + \beta_1 F_i + \beta_2 H_i + \beta_3 S_i + \beta_4 G_i + \beta_k I_i$$

Note: Multiple Regression Model, where E is firm formation, F is the economic freedom measure, H is high school attainment (as a percent), S is the State New Economy Index, G is Gross State Product, and I is a vector of all sector variables, again all of these indexed by state i.

I assume that Ruger and Sorens index is a good measure of economic freedom. I also assume that regional variation is negligible because these variations are encompassed by industries in that region (which I control for already). I also assume that *The State New Economy Index* is a good proxy for technology and that high school or better is a better proxy for education than Bachelors or better.

## CHAPTER FOUR

### DATA

The data I am using in my study is firm formation, population, firm sector, GSP, and education data from the United States Census Bureau, technology data from *The State New Economy Index* and economic freedom data from the Mercatus Center's *Freedom in the 50 States*.

#### Firm Formation Data

Firm formation comes from the Business Dynamics Statistics (see other census data for more details on BDS) through the U.S. Census Bureau. Firm creation is defined as number of firms established in a given year and broken down by state. I calculate this by dividing firms established by that state's population in that year. A summary of the data is available on the following page.

An issue with the data is that because of limitations on my economic freedom data I only use three years of firm formation data, 2002, 2008, and 2010. However if we look at firm formation over these years there is small change in overall rank of states (70% change at most five positions).



Table 1: Firm Formation by State (per Capita)

State	2002	2002 Rank	2008	2008 Rank	2010	2010 Rank	Average of 2002,2008,2010	Average Rank
AK	348.260	9	267.360	13	254.470	12	290.030	11
AL	247.090	42	188.650	46	163.310	48	199.683	46
AR	280.380	29	198.430	40	190.200	38	223.003	37
AZ	287.330	24	247.640	19	207.480	30	247.483	25
CA	293.590	23	244.150	21	218.200	23	251.980	23
CO	401.460	3	342.760	3	304.650	3	349.623	3
CT	255.530	39	215.110	34	191.300	36	220.647	38
DE	360.350	6	261.240	14	236.490	18	286.027	14
FL	352.380	7	299.670	7	294.860	5	315.637	7
GA	306.770	18	252.600	17	214.280	24	257.883	20
HI	261.690	38	198.320	41	182.730	40	214.247	40
IA	281.270	27	213.840	35	202.470	33	232.527	32
ID	374.670	5	318.970	4	267.450	8	320.363	5
IL	255.340	40	224.530	30	209.810	28	229.893	33
IN	252.580	41	190.950	44	167.540	46	203.690	43
KS	310.370	17	232.720	25	210.400	26	251.163	24
KY	235.090	47	176.210	48	168.040	45	193.113	48
LA	242.100	45	208.360	38	190.580	37	213.680	41
MA	276.910	30	215.340	33	209.870	27	234.040	30
MD	271.030	34	212.750	36	199.860	34	227.880	34
ME	316.750	16	259.000	15	248.570	15	274.773	15
MI	245.790	44	190.190	45	171.430	43	202.470	44
MN	304.170	19	240.170	23	225.940	21	256.760	21
MO	299.920	20	230.460	27	239.810	17	256.730	22
MS	238.570	46	180.980	47	166.950	47	195.500	47
MT	413.090	2	366.030	2	326.630	1	368.583	2
NC	276.250	31	227.620	29	207.840	29	237.237	29
ND	343.640	11	295.940	8	313.630	2	317.737	6
NE	320.610	15	242.210	22	242.500	16	268.440	16
NH	299.190	21	245.150	20	229.790	20	258.043	19
NJ	298.590	22	249.100	18	230.210	19	259.300	18
NM	275.160	32	218.040	32	180.210	41	224.470	36
NV	344.790	10	286.740	11	251.980	13	294.503	9
NY	283.130	25	258.650	16	262.980	9	268.253	17
OH	228.280	49	171.530	49	159.060	49	186.290	49

Table 1 Continued

State	2002	2002 Rank	2008	2008 Rank	2010	2010 Rank	Average of 2002,2008,2010	Average Rank
OK	282.540	26	233.550	24	204.790	31	240.293	27
OR	333.350	12	287.580	10	261.290	11	294.073	10
PA	232.520	48	193.120	43	175.220	42	200.287	45
RI	263.320	36	229.290	28	223.510	22	238.707	28
SC	270.830	35	212.540	37	192.720	35	225.363	35
SD	394.070	4	303.580	6	292.570	6	330.073	4
TN	245.950	43	206.170	39	171.300	44	207.807	42
TX	273.860	33	221.000	31	203.200	32	232.687	31
UT	349.360	8	303.600	5	269.680	7	307.547	8
VA	280.790	28	232.580	26	211.590	25	241.653	26
VT	326.270	14	275.090	12	262.340	10	287.900	13
WA	330.520	13	288.470	9	250.860	14	289.950	12
WI	263.150	37	198.030	42	183.550	39	214.910	39
WV	221.720	50	158.070	50	143.420	50	174.403	50
WY	473.380	1	382.570	1	303.700	4	386.550	1
Average Across States					259.529			

Note: Numbers are per 100,000 people

### Freedom Data

My economic freedom data comes from Ruger and Sorens' *Freedom in the 50 States*, which is presented through the Mercatus Center at George Mason University. The study splits freedom in to three separate categories: regulatory freedom, fiscal freedom, and personal freedom. Economic freedom can then be calculated by combining regulatory freedom and fiscal freedom (suggested by the authors). Each freedom variable is broken down into smaller parts which are each given a certain weight which Ruger and Sorens determine according to the estimated costs that government restrictions impose on their victims. So for instance tax burden has a higher weight than labor market freedom

because the estimated cost of a higher tax burden is larger than a decrease in labor market freedom. These costs are determined by average industry estimates. Please see Ruger and Sorens' index for details on these estimates.

Economic freedom is broken down into the following (in their paper economic freedom accounts for 67.3% of total freedom): Tax Burden (42.5%), Government Employment (4.2%), Government Spending (2.8%), Government Debt (1.8%), Fiscal Decentralization (1.2%), Freedom from Tort Abuse (17.1%), Property Right Protection (11.3%), Health Insurance Freedom (8%), Labor Market Freedom (5.6%), Occupational Licensing Freedom (2.5%), Miscellaneous Regulatory Freedom (1.9%), and Cable and Telecom Freedom (1.1%). The first five are related to fiscal freedom and the other measures are related to regulatory freedom. Now the way in which the study gives a calculation for economic freedom is different from other studies such as the Fraser Institute's method which uses a scale, an example would be a 1 to 10 scale (Ashby, Bueno, Martinez, & McMahon 2012). Ruger and Sorens combine all the data for each state and get an average of economic freedom. For example, if New York has economic freedom of 100 then New York is one standard deviation more economically free than the average state. Table 2 below summarizes the economic freedom index values for all three years by state.

Table 2: Economic Freedom Across States

State	2001	2007	2009	State	2001	2007	2009
AL	7.27	20.71	24.94	MT	5.03	26.85	30.82
AK	15.53	7.12	-4.88	NE	22.26	6.09	22.25
AZ	13.68	23.41	14.68	NV	25.99	7.81	6.97
AR	2.51	-11.94	5.34	NH	56.51	49.85	40.67
CA	-58.09	-63.91	-75.89	NJ	-32.7	-62.07	-75.4
CO	31.86	38.86	31.57	NM	-33.51	-29.13	-17.84
CT	-17.46	-14.86	-28.01	NY	-112.23	-138.73	-137.31
DE	14.6	5.36	11.66	NC	21.93	13.49	5.51
FL	24.98	13.6	4.06	ND	18.24	30.49	44.94
GA	13.71	10.56	14.43	OH	-7.27	-8.11	-14.31
HI	-58.36	-87.22	-72.91	OK	10.4	35.78	54.53
ID	17.24	31.8	27.77	OR	17.11	1.97	23.6
IL	6.93	-17.63	-10.62	PA	4.42	-0.23	-3.1
IN	22.65	-3.79	17.18	RI	-31.45	-34.43	-38.15
IA	17.97	20.81	26.38	SC	4.99	11.7	13.96
KS	27.8	9.31	12.33	SD	56.35	60.05	77.73
KY	-4.95	-11.15	6.71	TN	59.82	46.51	51.22
LA	-28.34	-37.4	-23.97	TX	21.54	25.89	37.44
ME	-55.16	-60.91	-36.48	UT	4.22	7.46	19.07
MD	-18.18	-20.72	-15.25	VT	-24.13	-53.41	-31.63
MA	-18.36	-14.12	-14.03	VA	36.85	36.04	35.48
MI	-8.37	-5.29	-9.16	WA	8.45	-7.18	-5.03
MN	-25.14	-12.19	-8.45	WV	-56.41	-47.01	-32.35
MS	-52.71	-22.84	-19.65	WI	-26.71	-15.49	-14.67
MO	28.47	28.96	35.05	WY	34.86	30.16	-5.59

The major drawback to this data is that it is limited. The data was first developed in 2007 and has been calculated every two years. The 2001 data was added retrospectively this year. While economic freedom data does exist for 2011 there is no accompanying firm formation data for 2012. Other indexes, like the Frazier Institute, present a larger set of data but this data doesn't weight based on estimated cost, instead it weights all categories the same.

### Other Census Data

The rest of my data comes from the Census Bureau. This data includes population, all industries (also known as sectors), gross state product (GSP), and educational attainment. This and firm formation data come from The Business Dynamics Statistics, developed by the Center for Economic Studies, which are compiled from the Longitudinal Business Database (LBD). The LBD is created by taking snapshot files from the Census Bureau's Business Register (United States Census Bureau 2013). The industry data consists of all different sectors of the economy. These industries include: Mining, Manufacturing, and Professional, scientific, and technical services. My population data consist of census and census estimate figures through the Current Population Survey. The gross state product data is divided by state population for each year. Finally I have education data which is also part of The Current Population Survey which ask the question, "What is the highest grade of school...has completed, or the highest degree...has received?" This data includes figures for high school or better and bachelor's degree or better. However, I use only high school or better because I can only use one since these measures are highly correlated and high school fits the data better (i.e. Bachelors isn't necessary to start a firm). All these data are used to control for other relevant factors in determining business creation.

### State New Economy (SNE) Index Data

The State New Economy Index report by The Information Technology and Innovation Foundation and The Kaufman Foundation is a report that focuses on the

question, “To what degree does the structure of state economies match the ideal structure of the New Economy?” The report looks at 26 different indicators related to this question which can be split into five categories: knowledge jobs, globalization, economic dynamism, transformation to a digital economy, and technological innovation capacity (Kaufman 2010). Each of these categories is one aspect of technology’s effect on firm formation. More on each of these categories can be found at the beginning of the report.

Scores in each indicator are calculated as follows: To measure the magnitude of the differences between the states instead of just their ranks from one to fifty, raw scores are based on standard deviations from the mean. In the calculation of the five indicator category totals and the overall New Economy scores, the indicators are weighted both according to their relative importance and so that closely correlated ones don’t bias the results. The overall scores are calculated by adding the states’ adjusted scores in each of the five indicator categories and then dividing that total by the sum of the highest score achieved by any state in each category. Thus, each state’s final score is a percentage of the total score a state would have achieved if it had finished first in every category (Kaufman 2010).

This index controls for different industries as well. What is necessary to take away from this data is that it accounts for changes in technology.

### Data Summary

Firm formation is indexed by population. Also the freedom data isn’t useful until the following year because of the time frame of the freedom data. I therefore use the freedom data from 2001 for census data from 2002 and so on for the other two years of freedom data (this was suggested to me by Professor Sorens, one of the co-authors of the freedom study). I also do the with industry, GSP, and education data. Additional discussions with one of the authors of the State New Economy Index indicated that I

should use only the 2010 State New Economy index because of changes in methodology which makes using previous years not comparable. Therefore I use education, industry, GSP per capita, and freedom data for 2001, 2007, and 2009 then establishment of firms in the last year per capita for 2002, 2008, and 2010.

Below is a summary of the data (establishments are reported per 100,000 people). Education (high school or better) is read as a percent, all industry variables are read as decimals: percentages communitarian by multiplying the value by 100.

Table 3: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
High School or Higher	86.067	3.648	78.100	92.600
Accommodation & food services	0.080	0.011	0.056	0.105
Admin, support, waste manag. & remediation services	0.054	0.008	0.039	0.078
Agriculture, forestry, fishing, & hunting	0.006	0.005	0.001	0.022
Arts, entertainment, & recreation	0.019	0.004	0.012	0.033
Construction	0.131	0.021	0.095	0.215
Educational services	0.012	0.003	0.008	0.019
Finance & insurance	0.044	0.009	0.025	0.062
Health care & social assistance	0.097	0.011	0.069	0.123
Information	0.013	0.003	0.008	0.022
Management of companies & enterprises	0.007	0.010	0.003	0.094
Manufacturing	0.049	0.012	0.027	0.085
Mining	0.005	0.008	0.000	0.042
Other services (except public administration)	0.113	0.016	0.067	0.145
Professional, scientific, & technical services	0.116	0.022	0.070	0.174
Real estate & rental & leasing	0.045	0.010	0.029	0.074

Table 3 Continued

Variable	Mean	Std. Dev.	Min	Max
Retail Trade	0.129	0.018	0.097	0.186
Transportation & Warehousing	0.033	0.008	0.017	0.056
Utilities	0.002	0.001	0.000	0.008
Wholesale trade	0.055	0.009	0.034	0.079
SNE Index Score	58.356	12.261	35.300	92.600
Economic Freedom	-1.286	36.175	-138.730	77.731
Gross State Product	0.041	0.009	0.024	0.066

Note: Above figures are based on 150 observations.



## CHAPTER FIVE

### ANALYSIS

Due to multicollinearity between the State New Economy index and the collection of industry variables, I run two different models. Model #1 includes the State New Economy index score and Model #2 includes industry variables.

Table 4: Effects on Firm Formation per Capita (Excluding Industry)

Economic Freedom	0.29**		
	(0.124)	Constant	-226.161
High School or Better	5.896***		(104.895)
	(1.303)		
GPS per Capita	-2094.037***	R-Squared	0.223
	(570.592)	Observations	150
SNE Index Score	1.013**		
	(0.409)		

Note: Effects are per 100,000 people.

Assuming that the economic freedom variable is a good approximation for economic freedom, a small change in economic freedom can have a relatively large effect on firm formation. For example if we increase economic freedom 1% compared to the average state the number of established firms in a given state will increase by about 0.2 firms per 100,000 people, *ceteris paribus*. This is at most a 0.1% increase in firm formation.

Table 5: Effects on Firm Formation (Excluding SNE index)

Economic Freedom	0.201*** (0.07)
High School or Better	3.042*** (0.857)
GSP per Capita	-823.143** (352.375)
Accommodation & food services	-1034.724** (499.447)
Admin, support, waste management, & remediation services	-1334.519** (576.843)
Agriculture, forestry, fishing, & hunting	-1743.369** (730.826)
Arts, entertainment, & recreation	-1144.593 (871.514)
Construction	-1223.55*** (352.538)
Educational services	-9317.847*** (1747.36)
Health care & social assistance	-3317.951*** (347.867)
Information	990.513 (1325.967)
Management of companies & enterprises	-824.059* (430.605)
Manufacturing	-2990.81*** (378.234)
Mining	-794.788 (490.555)
Other services (except public administration)	-2976.871*** (362.364)
Professional, scientific, & technical services	-1414.893*** (403.913)
Real estate & rental & leasing	-1604.84*** (401.809)

Table 5 Continued

Retail Trade	-1342.767*** (378.693)
Utilities	2216.059 (2591.473)
Wholesale trade	352.055 (531.462)
Finance & insurance	-2792.972*** (418.846)
Transportation/Warehousing	-1912.794*** (526.07)
Constant	1858.844 (322.396)
R-Squared	0.8789
Observations	150

Note: Effects are per 100,000 people.

This may not seem like a big change but we are looking at only a 1% movement to the average state's economic freedom. To explain the implications of these models I will interpret using a specific state: California, using California's economic freedom from 2009. If the state were to increase their economic freedom to almost the average (an increase of 110%) then, ceteris paribus, they could increase the number of firms created by 32 in Model #1 or 22 in Model #2. Using the number of firms created in 2010 for California (per capita) this change is anywhere between a 10.1% and a 14.68% increase in firm creation for that year.

What these results suggest is that government taxing (through actual taxes and regulations) is driving the positive effect of economic freedom on firm formation.

## CHAPTER SIX

### CONCLUSIONS

What these findings suggest is that economic freedom has a statistically significant effect on firm formation. If we accept that firm creation has a positive effect on economic growth then this analysis suggests increasing economic freedom should also be a positive for economic growth. What this means is that if as a society we want economic growth then one way to achieve that is through promoting and establishing economic freedom. This comes from the assertion that economic freedom decreases the cost of investment and establishment of a new firm.

One of the limitations of this analysis is that it doesn't have a large amount of data. This is due to the economic freedom data available. Further work should include additional economic freedom data. Looking closer at this data and its validity should be considered in future papers. There may also be other variations that are not accounted for in the earlier models.

In conclusion, when looking at ways to increase economic growth (more specifically growth in state gross domestic product through firm creation) policy should analyze the increase possible from economic freedom.

## REFERENCES

- Armington, C., & Acs, Z. (2002). The Determinants of Regional Variation in New Firm Formation. *Regional Studies*, 36(1), 33-45.
- Ashby, N.J., Bueno, A., Martinez, D. & McMahon, F. (2012). Economic Freedom of North America: 2012 Annual Report. The Fraser Institute.
- Campbell, N. D., & Rogers, T. M. (2007). Economic freedom and net business formation. *The Cato Journal*, 27(1), 23-36.
- Coase, R. (1937). The Nature of the Firm. *Economica*, 4(16), 386-405.
- Davis, S. J., Haltiwanger, J., & Schuh, S. (1996). Small business and job creation: Dissecting the myth and reassessing the facts. *Small Business Economics*, 8(4), 297-315.
- Feldman, M. (2001). The Entrepreneurial Event Revisited: Firm Formation in a Regional Context. *Industrial and Corporate Change*, 10(4), 861-891.
- Gwartney, J., Lawson, R., & Hall, J. (2011). Economic Freedom of the World: 2011 Report. Fraser Institute, Vancouver, British Columbia.
- Information Technology & Innovation Foundation & The Marion W. Kaufman Foundation (2010). The 2010 State New Economy Index.
- Kihlstrom, R., & Laffont, J. (1979). A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion. *Journal of Political Economy*, 87(4), 719-745.
- Ruger, W. P., & Sorens, J. (2013). Freedom in the 50 States. Washington, DC, Mercatus Center–George.
- Shane, S. (2001). Technology Regimes and New Firm Formation. *Management Science*, 47(9), 1173-1190.
- Swaleheen, M. & Stansel, D. (2007). Economic freedom, corruption, and growth. *Cato J.*, 27, 343.
- United States Census Bureau (2013). Business Dynamics Statistics. Retrieved from <https://www.census.gov/ces/dataproducts/bds/data.html>

Wilson, J. D. (1999). Theories of tax competition. *National Tax Journal*, 52(2), 269-304.