EXPLAINING MOTIVATIONS OF SENIOR ENTREPRENEURSHIP: THE ROLE OF SOCIAL SECURITY SYSTEMS

Área de investigación: Emprendimiento social

Allan Oswaldo Villegas Mateos
EGADE Business School, Tecnológico de Monterrey
México
a_villegas@itesm.mx

José Ernesto Amorós Espinosa
EGADE Business School, Tecnológico de Monterrey
México
amoros@itesm.mx

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Abstract

The aim of this paper is to analyze the relationship between the national systems of social security and senior entrepreneurship activity. To understand the growing phenomenon of senior entrepreneurship, we developed a multilevel model using a dataset from the Global Entrepreneurship Monitor that allows us to relate country-level variables, such as social security contributions, level of economic development, government support and policies, and burden taxes and bureaucracy, with individual-level variables, such as the household income, experience fear of failure and type of business. We contribute to the literature on the contextual determinants of entrepreneurship by examining multilevel data on 42,100 individuals from 31 countries members of the OECD for the period of 2010–2016. Our findings indicate that the country-level predictor, social security contributions have a negative effect but statistically non-significant relationship with the decision to engage in senior entrepreneurial activity.

Keywords: Senior Entrepreneurship, motivations, social security systems, GEM, OECD.

1. Introduction

Entrepreneurship is important because its implications on jobs creation, economic growth, and the development of many geographic entities, from small villages to regions and even entire countries (Lour et al., 2014). The impact of entrepreneurial activity, particularly the new business creation on employment and economic growth, are important topics on many government's agenda (Haftendorn & Salzano, 2003; Spigel & Harrison, 2018). Therefore, there is an increasing interest of researchers to analyze the factors or conditions that foster entrepreneurship as well as new trends to stimulate better the entrepreneurial activities. One of the newest trends in entrepreneurship is related with the age of the entrepreneurs called intergenerational entrepreneurship. The key of success of this concept lies in a thorough

research of the differences and similarities between the different age cohorts of entrepreneurs, and their practical implications (Kautonen, Down, & Minniti, 2014; Rehák et al. 2017). Most of entrepreneurship research focuses on nascent entrepreneurs or establish entrepreneurs without taking in consideration the age variable. In accordance with Schlosser and Zolin (2016) "entrepreneurs who start their first businesses between the ages of 55 and 64 years represent the fastest growing entrepreneurship segment in America and Australia". The proportion of the population in European Union countries who are over 55 years old rose from 25% in 1990 to 30% in 2010 and it is estimated to reach 37% by 2030 (Eurostat, 2012). Hence, we can notice a potential growing segment for senior entrepreneurs, but the real question is what the best conditions for them are to foster entrepreneurial activities.

There are two relevant drivers for senior entrepreneurship: (1) the national systems of social security that could guarantee a replacement rate of earnings after retirement and, (2) the senior stage of life could be accompanied with higher levels of experience, more networks, and more social capital, which enables a potential creation of new ventures reducing some risks that are present in other live-stages for example for inexpert youth entrepreneurs (Baucus & Human, 1994). Hence, to study this phenomenon it is relevant to consider some institutional variables at country-level (DiMaggio & Powell, 1983; Scott, 2001). Additionally, there are factors or conditions necessary for entrepreneurship in accordance to entrepreneurial ecosystems theories (Isenberg, 2011; Reynolds et al. 2005; Stam, 2015, World Economic Forum, 2013) that shape the motivations to pursue entrepreneurial opportunities (Amorós et al., 2017; Baumol, 1990; Estrin et al. 2013; Williams, 2009).

Related to motivations, we can distinguish between two main drivers: the first one, opportunity-driven entrepreneurs which are believed to be better prepared, to have superior skills, and to generate more value than, the second, what we call the necessity-driven entrepreneurs (Levie & Autio, 2008). Indeed, the necessity-driven entrepreneurs start a business because of a lack of other resources like employment (Shane, 2009; Valdez & Richardson, 2013). While opportunity-driven entrepreneurs follow personal aspirations, profit, innovation and growth (Reynolds et al. 2005).

The central discussion of the entrepreneurial process is not whether opportunities exist or not (Alvarez & Barney, 2007) but rather, what is done to exploit them and by whom to propose better conditions for entrepreneurial activities (Ács et al. 2014; Companys & McMullen, 2007; Shane, 2003; Shane & Venkataraman, 2000). This exploitation process could have some singularities when we compare different groups by age. In consequence the aim of this research is to contribute to the entrepreneurship literature by studying the emerging phenomenon of entrepreneurship during senior age (Curran & Blackburn, 2001; Kautonen, 2008; Kautonen et al., 2014; Singh & DeNoble, 2003; Weber & Schaper, 2004), by increasing our understanding of the antecedents of individual entrepreneurial behavior in the aging population, and by considering national-level systems of social security in the analysis. In order to contrast the senior entrepreneurship phenomena, we compare with young entrepreneurs using the same empirical exercise. We expect differences between senior and youth entrepreneurs because individual and country variables may influence the output of entrepreneurial activity according ageing parameters.

2. Hypothesis development

Entrepreneurs who start their first businesses between the ages of 55 and 64 years represent the fastest-growing entrepreneurship segment in America and Australia (Schlosser & Zolin, 2016); nevertheless, as Kautonen (2008) pointed out, this type of entrepreneurial activity is an under-researched area of growing importance, and more empirical research is required to improve the understanding of this phenomenon. Therefore, to advance the empirical foundations of the senior entrepreneurship determinants, it is important to go beyond aggregated rates of entrepreneurial efforts and to clarify the determinants of different types of entrepreneurial endeavors (Reynolds et al., 2005; Valdez & Richardson, 2013). Senior entrepreneurs can benefit from the human capital and wealth they accumulate through their work experience. Through interviews with individuals in the Netherlands, van Soling (2014) found that those who postpone their retirement by creating an entrepreneurial venture have more wealth and human capital. This may explain, why senior entrepreneurs have low probability of fail a new business venture. Baucus and Human (1994) found two relevant drivers for senior entrepreneurship related (1) with the national systems of social security that could guarantee a

replacement rate of earnings after retirement and, (2) the senior stage of life could be accompanied with higher levels of experience, more networks, and more social capital, which enables a potential creation of new ventures reducing some risks that are present in other live-stages for example for inexpert youth entrepreneurs. The *National System of Social Security* could be an important country-level component like other institutional factors that are related with the general economic activity and specifically new business creation (Wainwright & Kibler, 2014). "Social security" refers to the programs established by statue that insure individuals against interruption or loss of earning power and for certain special expenditures arising from marriage, birth or death. Thus, the National Systems of Social Security are the set of programs for nationals that each country establishes through government programs that include in summary: *Old Age, Disability, and Survivors*, Sickness and Maternity, Work Injury, Unemployment, and Family Allowances (Social Security Administration, 2002, p. 1).

As we mention, the proportion of the population that is consider senior is a growing phenomenon. According with the United Nations, World Population Prospects (2017) in more developed regions in the world, population over 60 years old will represent 32.9% in 2050 versus 25.8 by 2020. Only in European Union, is calculated that by 2030, 37% of the population will be over 55 years old (Eurostat, 2012). Even this phenomenon is not so pronounced in less develop countries (from 11% in 2020 to 19.5% in 2050) this growing population will demand better conditions for their ageing periods. Additionally, the retirement age may change for each country considering factors like life expectancy, gross domestic product per capita, etc. Retirement programs that provide pensions or lump-sum payments to compensate for loss of income resulting from old age or permanent retirement, are very good in some countries, but the majority of development countries even some advanced economies from OECD show a lack of efficient social security systems. For example, Mexico that is an OECD member but a developing economy, the retirement age is 65 years and data from 2010 revealed that 28.8% of people over 65 did not have access to social security (Aguila et al., 2013). Following the example of Mexico, since it does not have a good system of social security we can infer that the senior entrepreneurs is a growing segment of the population that could be driven by necessity more than opportunity-driven trying to compensate the loss of income they might face after reaching 65 years.
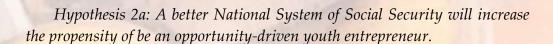
In contrast people with a good social security will less prone to assume "risk" pursuing a new business venture. It has been found that country-level social security contribution rates have a negative effect on the prevalence of entrepreneurial aspirations among the adult population (Hessels et al., 2007, 2008). We are assuming that the level of economic development is strong related with better social security that influences (decrease) motivations to pursue entrepreneurial opportunities (Amorós et al., 2017). Thus, we define the following hypotheses:

Hypothesis 1a: A better National System of Social Security will reduce the propensity of be an opportunity-driven senior entrepreneur.

Hypothesis 1b: A better National System of Social Security will reduce the propensity of be a necessity-driven senior entrepreneur.

Even we put special focus on senior entrepreneurs is interesting to address the differences between the youth and senior ones, in order to test if demographic variable like *age* is influenced by the current social security system. However, a high rate of entrepreneurial activity does not necessarily lead to positive economic outcomes (Shane, 2009). Also, the recognition of the importance of entrepreneurship has unchained a transition to pay special attention in the policies that might help not only increasing the quantity of new business ventures, but also the quality of them (Stam, 2015). The opportunity-driven entrepreneurship is more likely to accomplish this assumption to increase the quality of the entrepreneurship and some researchers have focused their work on this type because of its potential impact in economic development (Ács, 2006; Levie & Autio, 2011). So, in contrast, a better social security could be an incentive for younger people to pursue a new business entrepreneurial activity by opportunity, whereas is the contrary effect on necessity-driven entrepreneurs. Thus, we state the following.

Hypothesis 2a: A better National System of Social Security will increase the propensity of be an opportunity-driven youth entrepreneur.

Hypothesis 2b: A better National System of Social Security will reduce the propensity of be a necessity-driven youth entrepreneur.

We also complement our national level analysis with some individual characteristic that could help to profile the senior entrepreneurs'
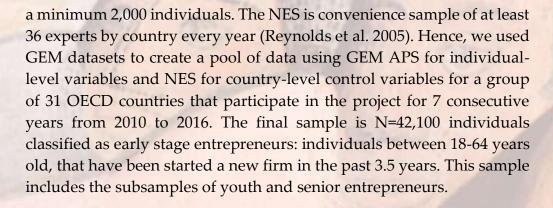
motivations. The senior stage of life could be accompanied with higher levels of experience, more networks, and more social capital. In this case, the *experience* is perceived as accumulated human capital and has a significant value for an enterprise started by seniors (Botham and Graves, 2009). However, the nature of experience is highly relevant, and determines the actual impact on the entrepreneurial activity (Weber and Schaper, 2004). Youth entrepreneurs by their own have a lack of experience so it is an indicator that youth and senior entrepreneurs would match because the youths possess more energy and new knowledge. At the same time, the human capital ages, and if not in use, the impact of this experience diminishes (Hart et al. 2004). For social capital in the form of *networks* is proved to be an important factor across all age categories, but relevant networks can help the older individuals to have better access to advice and potential partners (De Bruin and Firkin, 2001). The literature suggests that the experience helps to avoiding failure and growing the new business. Finally, the *social capital* as financial capital has been found to have diverse effects on the seniors when it comes to entrepreneurial propensity. There are higher probabilities for senior to have accumulated capital and provides potential funding for a new venture, however, excess of finance can have a negative effect on the entrepreneurial intention of seniors (Kilber et al. 2011). Seniors have better access to finance than youth entrepreneurs, but the sources may be different and would probably affect business success which can be tested in future research.

3. Methodology

3.1 Data collection

Most of the data came from the first the Global Entrepreneurship Monitor, GEM project which recollects data from several countries with two instruments: at individual level with the "Adults Population Survey" or APS and second at national level with the "National Expert Survey" or NES. GEM data is useful because capture several characteristics of the entrepreneurs, individual-level like motivations, type of business and socio-demographics variables. Additionally, recognizes the approach to the national entrepreneurial ecosystem as the framework of the conditions needed to launch a business, which it defines as the "Entrepreneurial Framework Conditions" captured by the NES. At individual level the APS is applied to a random sample of

a minimum 2,000 individuals. The NES is convenience sample of at least 36 experts by country every year (Reynolds et al. 2005). Hence, we used GEM datasets to create a pool of data using GEM APS for individual-level variables and NES for country-level control variables for a group of 31 OECD countries that participate in the project for 7 consecutive years from 2010 to 2016. The final sample is N=42,100 individuals classified as early stage entrepreneurs: individuals between 18-64 years old, that have been started a new firm in the past 3.5 years. This sample includes the subsamples of youth and senior entrepreneurs.

Our dependent variables are, in one hand, the senior early-stage entrepreneurs (people in the 55-64 years old cohort) and in the other the youth cohort between 18-25 years old. Both groups according age, also were classified using GEM´s methodology into opportunity-driven ones (OPP), people that have a business opportunity to be more independent or want to obtain additional incomes, and the necessity-driven (NEC), people that do not have any additional options in the labor market and by consequence, they need to be entrepreneurs. The explanatory or independent variables were defined in three sub-groups: (1) country-level predictor, (2) country-level control variables, and (3) individual-level control variables.

3.2 Model

To test the defined hypotheses, we use a multi-level data analysis. Multilevel modeling is appropriate when data are hierarchically structured that is, when they consist of units grouped at different levels of a hierarchy (Amorós et al. 2017). We assume that individuals act homogeneously, without considering the effect of the environment on their decisions. Therefore, we use a hierarchical linear modeling (HLM) that is a multilevel technic that is accurate for our two levels models:

$$Y_{ijt} = \beta_0 + \beta_1 Country\_pred_{jt} + \beta_{2-7} Indiv\_controls_{ijt} + \beta_{8-10} Country\_controls_{jt} + \mu_{ijt} + \varepsilon_{jt}$$

Where j are countries, i the individuals and t the years analyzed. Where Y_{ijt} are the dependent variables (OPP or NEC); $Country\_pred_{jt}$ are the country predictors; $Indiv\_controls_{ijt}$ are the individual controls; and $Country\_controls_{jt}$ are the country control variables. The combination

of $\mu_{ijt} + \varepsilon_{jt}$ represents the random part of the equation, where ε_{jt} are the country-level residuals, and μ_{ijt} are the individual-level residuals. Our main *country-level predictor* comes from data retrieved from the OECD's *Social Security Contributions as percentage of the GDP* (% of GDP). *Country-level control* variables from NES are two sub-indices; *Government support and policies* and *Burden taxes and Bureaucracy* which measures national experts' perceptions of how taxes and different regulatory tasks burden entrepreneurial efforts in a country (Levie & Autio, 2008). We also control by the level of economic development measured by the *GDP per capita* retrieved from International Monetary Fund. At *individual level* we control by variables retrieved from GEM´s APS: have entrepreneurship skills and self-efficacy for *experience*, *household income* and *educational level* for social capital (Baucus and Human, 1994), plus *fear of failure* since in the review of literature we found that youth entrepreneurs are willing to take more risks. For firm characteristics, we introduce the type of business by *industry*. We also control by *gender*.

4. Results

To investigate potential multicollinearity problems, we calculate the variance inflation factors (VIFs) for all our variables. VIF values greater than ten indicate reasons for concern due to collinearity among the variables, and tolerance values less than 0.1 indicate collinearity among variables. Therefore, our values do not suffer from collinearity. Then, we proceed to test our hypothesis using HLM, the **Table 1** shows the estimation results. Models 1 and 2 show the results for senior entrepreneurs' hypothesis tests, explaining OPP and NEC, respectively, as proposed in the equation of the model. Models 3 and 4 show the results for youth entrepreneurs' hypothesis tests, explaining OPP and NEC as well.

Table 1: Multilevel Analysis

Variables	Senior Entrepreneurs		Youth Entrepreneurs	
	(1) OPP	(2) NEC	(3) OPP	(4) NEC
Country Predictor				
Social Security	-0.013	-0.012	0.009	-0.011
	(0.018)	(0.024)	(0.019)	(0.028)
Individual-level variables				
Experience (YES)	0.132**	-0.093	-0.469***	-0.621***
	(0.053)	(0.072)	(0.047)	(0.086)
Fear to failure (YES)	-0.231***	0.270***	-0.169***	-0.013
	(0.043)	(0.060)	(0.044)	(0.083)
Household Income (Lower 33% reference)				
Middle 33%tile	0.046	-0.505***	-0.103**	-0.273***
	(0.051)	(0.067)	(0.049)	(0.091)
Upper 33%tile	0.182***	-0.865***	-0.168***	-0.596***
	(0.048)	(0.070)	(0.048)	(0.093)
Education (Basic reference)				
Some secondary	-0.592***	-0.699***	0.801***	0.776***
	(0.096)	(0.105)	(0.132)	(0.213)
Secondary degree	-0.753***	-1.063***	1.224***	0.889***
	(0.085)	(0.093)	(0.125)	(0.202)
Post-secondary	-0.485***	-1.329***	0.603***	0.257
	(0.084)	(0.099)	(0.128)	(0.210)
Graduate experience	-0.276***	-1.085***	-0.309**	-0.456*
	(0.095)	(0.131)	(0.153)	(0.274)
Gender (Male reference)				
Female	-0.106***	0.139**	-0.288***	0.011
	(0.038)	(0.057)	(0.040)	(0.078)
Industry (Extraction reference)				
Transforming sector	-0.285***	-0.097	0.195*	0.480**
	(0.082)	(0.124)	(0.107)	(0.229)
Business services	-0.341***	-0.338**	0.536***	0.457*
	(0.081)	(0.131)	(0.107)	(0.235)
Consumers, culture and society	-0.422***	-0.381***	0.547***	0.711***
	(0.079)	(0.121)	(0.103)	(0.223)
Country-level control variables				
Government Support	0.091	0.128	0.106	-0.122
	(0.088)	(0.137)	(0.093)	(0.180)
Tax Burden	-0.008	0.048	-0.091	-0.175
	(0.087)	(0.135)	(0.091)	(0.175)
GDP per capita	0.000**	0.000*	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-2.081***	-1.548***	-3.129***	-2.774***
	(0.337)	(0.466)	(0.362)	(0.632)
Wald chi2(22)	268.62	596.89	710.95	270.62
Prob > chi2	0	0	0	0
Log likelihood	-12024.367	-5957.6044	-11210.49	-3703.2118
Number of observations	42100	42100	42100	42100
Number of groups	31	31	31	31

Standard errors in parenthesis
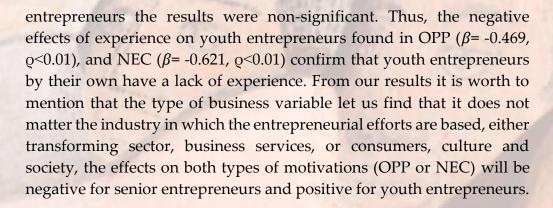
*** p<0.01, ** p<0.05, * p<0.1

With respect to the national system of social security, which is our main independent variable, we found that the effect associated with our Hypothesis 1a had a negative, but non-significant effect on senior entrepreneurs' likelihood of engaging on opportunity-driven entrepreneurial activity (β= -0.013, ϱ=0.454). The same results were obtained for Hypothesis 1b (β= -0.012, ϱ=0.608) and Hypothesis 2a (β= -0.011, ϱ=0.705). Consequently, Hypothesis 1a, 1b and 2b have the expected negative effect but not significative. In the opposite dynamic, Hypothesis 2a related with youth entrepreneurs engaging on opportunity-driven entrepreneurial activities had a positive effect, but also not significance (β= 0.009, ϱ=0.645) so this hypothesis 2a is not accepted. We observed also that all the educational levels had negative and statistically significant effects over the entrepreneurial motivations of senior entrepreneurs while for youth entrepreneurs the effects were positive except for "graduate experience".

Another important finding of our research is related with gender, one of our individual-level control variables, for female individuals the effects over opportunity-driven entrepreneurs were negative and statistically significant for both generations, senior entrepreneurs (β= -0.106, ϱ<0.01), and youth entrepreneurs (β= -0.288, ϱ<0.01) while for necessity-driven entrepreneurs we found a positive effect, but for senior entrepreneur the significance was lower (β= 0.139, ϱ<0.05) and for youth entrepreneurs it was not statistically significant. Therefore, men are more willing to be opportunity-driven entrepreneurs than women after having 55 years old. Regarding also one of the individual-level control variables, we found that fear of failure had a negative effect on OPP senior entrepreneurs and a positive effect on NEC senior entrepreneurs. The same variable had negative effect on both type of entrepreneurs from the youth generation, OPP and NEC, but for NEC youth entrepreneurs the results were statistically non-significant. Fear of failure measures individuals' lack of confidence in coping with the potential problems that could occur during the new business venture process (Autio et al., 2013; Wagner & Sternberg, 2004; Vaillant & Lafuente, 2007). Hence, this means that fear of failure affects individuals' decision to begin a new business venture if they are necessity-driven.

The experience effects were positive only for opportunity-driven senior entrepreneurs (β= 0.132, ϱ<0.05), but for necessity-driven senior

entrepreneurs the results were non-significant. Thus, the negative effects of experience on youth entrepreneurs found in OPP (β= -0.469, $\varrho<0.01$), and NEC (β= -0.621, $\varrho<0.01$) confirm that youth entrepreneurs by their own have a lack of experience. From our results it is worth to mention that the type of business variable let us find that it does not matter the industry in which the entrepreneurial efforts are based, either transforming sector, business services, or consumers, culture and society, the effects on both types of motivations (OPP or NEC) will be negative for senior entrepreneurs and positive for youth entrepreneurs.
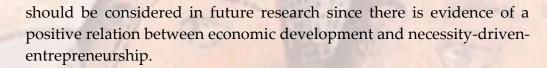
5.   Discussion and Implications

We examined the role of national system of social security in the decision of becoming an entrepreneur at late middle age to contribute to the discussion around two possible effects on the probability of engaging in senior entrepreneurial activity. Our results are not conclusive, future studies must be done around the topic, even though we can infer that the direction of the effect of the national system of social security is negative over the entrepreneurial intentions. This corroborates that at country-level social security contribution rates have a negative effect on the prevalence of entrepreneurial aspirations among the adult population (Hessels et al., 2007, 2008). One explanation about the non-significant effect of social security variable is related with the nature of the data. Our analysis was conducted using information of the social security contributions as percentage of the GDP that came only from OECD members only. With exception of Chile, Mexico and Turkey, the rest of the countries have relative high indexes of social security. Hence, further analysis around lower income countries should be addressed, although the availability of the data related to social security contributions may be a problem. Other possibility is make a fine-grained development of components of social security that could be more related with entrepreneurship activities, for example pension funds. Previous work on the contextual drivers of entrepreneurial efforts (Bowen and DeClercq, 2008; Levie and Autio, 2010) focus mainly on the contextual drivers of opportunity-driven efforts while our analysis considers the determinants of necessity-driven efforts. The literature shows a link with necessity-driven entrepreneurs because it represents an important part of the economy, and in many cases, provides individuals with a self-employment possibility, when no other options are available (Rehák et al. 2017). Thus, unemployment rates

should be considered in future research since there is evidence of a positive relation between economic development and necessity-driven-entrepreneurship.

To conclude, youth entrepreneurs and senior entrepreneurs are the two generations that every government must take into consideration if they want to take the economic advantages of fostering entrepreneurial activities. The knowledge and experience of the senior people in combination with the dynamism of the youth people, in a well-designed collaboration, can be the source of entrepreneurial activity that lowers the odds of failure caused by the weaknesses of each of the two groups of potential entrepreneurs (Rehák et al. 2017). The issue of youth unemployment world-wide, and specifically in Europe, has significantly increased in the past decade (ILO, 2015). At the same time, as high as the 40% of young people indicate interest in self-employment, however they face difficulties in access to finance, entrepreneurial training or knowledge about government programs (Halabisky, 2012). This leads to a discord between the intention and actual value creation by youth entrepreneurs in the economy, implying the untapped potential (Kourilsky, 2007) but probably could be solved working in conjunction with senior entrepreneurs.

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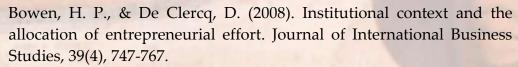
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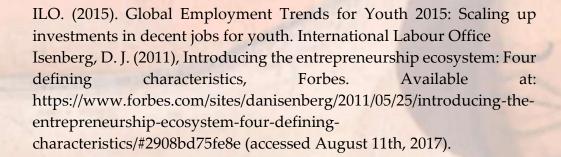
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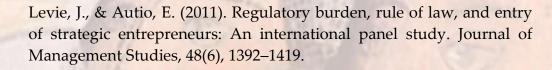
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