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The effects of social spending on entrepreneurship in developed nations

Shelby Solomon · Joshua S. Bendickson · Eric W. Liguori  · Matthew R. Marvel

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Abstract Understanding how national policy can spur entrepreneurial activity is central to entrepreneurship research. Over the past decade, there has been a limited set of research findings to suggest that social spending may increase entrepreneurship in addition to serving more direct social purposes. We examine the topic through the lens of market failure theory and Austrian economics. In accordance with the Austrian perspective, we theorize that social spending increases the opportunity cost of entrepreneurship, thereby decreasing the attractiveness of entrepreneurship in comparison to salaried employment. Drawing from a sample of 31 developed countries spanning 2004–2011, we investigate the effects of social spending on entrepreneurial attitudes and activity. Our results indicate that country level social spending negatively affects entrepreneurial activity, business ownership, and the public's view of entrepreneurship as a career choice. The findings suggest that social spending may be better suited for addressing

social issues compared to spurring entrepreneurial attitudes or activity. Our findings have implications for both the entrepreneurship and national policy literature.

Keywords Entrepreneurship · International Fiscal Issues · Welfare, well-being and poverty · Government programs · Provision and effects of welfare programs · Economic systems

JEL Classifications H87 · I38 · L26 · P50

1 Introduction

The economic importance of entrepreneurship is well established and there is a surge of interest in better understanding how national policy can fuel this engine for economic growth (Isenberg 2010; Liguori et al. 2019; Roundy 2019). A central question that is often debated among academics, policy makers, and ecosystem stakeholders is what can we do at a national level to spur entrepreneurial activity? Often, this debate revolves around whether it is better to foster entrepreneurship through government programs (i.e., social spending) or rely upon the market to act as a self-regulating system (Sandström et al. 2019).

Social spending is of great controversy in the national policy-entrepreneurship debate as policy researchers often disagree about its value to increasing entrepreneurial activity. On one hand, market failure theorists suggest that entrepreneurship and innovation are public goods and should receive governmental support such as

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subsidies, tax breaks, or grant money similar to other public goods (e.g., clean air and water) (Hausmann and Rodrik 2003; Martin and Scott 2000). Advocates of social spending argue, from a position of market failure theory, that these policies encourage individuals to choose entrepreneurship as a career, because they create safety nets and allow entrepreneurs to take risks without the fear of facing personal destitution in the event of failure (Olds 2013, 2014; Sinn 1996). Conversely, the Austrian economics perspective contests that social spending is a disincentive to entrepreneurship because it increases the opportunity cost of starting a business. Tax schemes are often required for social spending which may hamper profit incentives (Parker 2004) and social spending provides would-be necessity entrepreneurs an alternative to self-employment (Henrekson 2005). The Austrian view suggests that market freedom, rather than social spending interventions, is the most conducive means to enhance entrepreneurial activity because entrepreneurs can reap the largest rewards (Freytag and Thurik 2007; Kirzner 1997). Despite considerable debate about the implications of social spending on entrepreneurship, very few studies investigate this topic (Sandström et al. 2019). Thus, our research question is *Does social spending (country level) impact entrepreneurial attitudes and activity (country level)?*

This area of research is of particular concern as scholars have found that governmental institutions often *intend* to stimulate entrepreneurial activity, but they are less efficient than markets at allocating resources (e.g., Engberg et al. 2019). This is a major issue for policy makers and ecosystem stakeholders who need to understand the implications of social spending policy in order to determine which path to take for economic development. A second major concern in this line of inquiry is that, unfortunately, most studies that investigate national policy characteristics and entrepreneurship focus on an individual country or region (e.g., Heinonen et al. 2010; Sternberg 2012) but this approach can be problematic in terms of generalizability to other country contexts.

To address these challenges and investigate how national social spending impacts entrepreneurial attitudes and activity, we follow recent scholarship from the domain of *comparative international entrepreneurship*. This line of inquiry is gaining momentum (Engelen et al. 2009) and focuses on cross-national comparisons of entrepreneurial activity across countries (Terjesen et al. 2016). Aldrich (2000) cautioned that researchers have sometimes presumed their findings

are universal rather than being nation-specific, thus limiting understanding and theory development. Cross-national research enables comparison and replication and reduces the risk of nation-specific results that are not generalizable to other countries. In this vein, we draw from a unique longitudinal sample of developed countries to provide actionable advice about how national social spending translates to entrepreneurial attitudes and activity at the country level. Thus, we take a data-driven approach to test which view of social spending—market failure or the Austrian approach—prevails in the modern economy. To conduct a robust analysis, and paint a more complete picture, we test the direct effects of social spending on (a) entrepreneurial activity, (b) business ownership, and (c) the public's view of entrepreneurship as a career choice. Economic development involves a number of indicators that represent development and progress (Naude 2013). Key indicators such as attitudes towards entrepreneurship as a career choice, degree of entrepreneurial activity, and business ownership represent important criteria for policy makers to consider relative to spurring entrepreneurship. Another consideration is that while national social spending may be essential to improving a specific indicator, it may be less helpful, or even harmful, to other indicators of entrepreneurial activity. Our empirical undertaking clarifies how differences in national social spending systematically influence entrepreneurial attitudes and activity.

We believe that this research makes a number of contributions to the literature: first, to develop hypotheses and further theorize upon the topic of social spending and entrepreneurship we draw from and extend research on Austrian economic theory. As a result of our empirical undertaking, we highlight the negative effects of market intervention via social spending on nationwide entrepreneurship indicators. We apply an Austrian perspective of economic development to clarify how social spending increases the opportunity cost of entrepreneurship. Second, we inform the institutions versus markets debate (Sandström et al. 2019) by considering the institution of social spending and its relationship with entrepreneurial attitudes and activity at the country level. Third, Terjesen et al. (2016) recently called for increased comparative international entrepreneurship research that overcomes single country or regional approaches to improve generalizability. Their research pointed out that policy antecedents and entrepreneurial outcomes have often been investigated in

isolation from one another, thereby limiting theory development. We address these research gaps and perform an analysis using unbalanced longitudinal time series data across 31 developed countries¹ spanning 2004–2011.

In the next section, we review opposing theoretical perspectives about how social spending policy impacts entrepreneurship. We summarize empirical research to date and present a theoretical argument for why social spending at the country level will influence differences in entrepreneurial attitudes and activity. The method and results of our empirical examination are presented. A discussion follows and we conclude with implications for theory and practice.

2 Literature review

2.1 Theoretical perspectives of social spending and entrepreneurship

Over the past several decades, many nations have adopted the perspective of market failure theory as the paradigm for incentivizing entrepreneurship and innovation (Sandström et al. 2019). According to market failure theory, markets do not always produce desired outcomes due to poor incentives or other challenges which causes a misallocation of resources (Arrow 1962). Advocates of market failure theory conceptualize entrepreneurship and innovation as public goods and argue that governments should intervene to correct the failures (Hausmann and Rodrik 2003; Martin and Scott 2000).

Scholars from the market failure theory perspective view social spending as a means to encourage entrepreneurship while simultaneously correcting market failures. For example, an early theorization of social spending and entrepreneurship was based upon an attempt to model an optimal redistributive tax structure (Sinn 1996). In this vein, Sinn (1996) rationalized that redistributive tax systems are a way to provide social safety nets that encourage individuals to take more risk when it comes to career choices. As such, individuals may be more likely to become entrepreneurs and contribute to a

nation's economic development, rather than choosing salaried work. This logic is based on the concept that individuals will persist in entrepreneurial endeavors because the fear of becoming destitute is reduced by social programs. Accordingly, governments can play an active role in curbing the public's fear of becoming destitute from business failure by providing social safety nets (e.g., unemployment benefits, social security, healthcare, and so forth) to support those who might fail.

Recently, scholars have begun to empirically examine how social spending may reduce personal barriers to entrepreneurship and encourage risk taking (Islam 2015; Olds 2013, 2014). Olds (2013, 2014) notes that scholars often recognize that access to start-up capital is a barrier to entrepreneurship (Isenberg 2010; Liguori et al. 2019), but rarely do they consider the challenges faced by entrepreneurs in everyday life (e.g., access to healthcare or food) as a barrier. Olds (2013, 2014) found support for his assertion that personal challenges serve as barriers to entrepreneurship through an event analysis of expansions to both state-provided child insurance and nutritional assistance programs. Further, Olds (2013, 2014) attributed a rise in entrepreneurial activity to the social spending programs' abilities to decrease the personal risks (i.e., risk of child health issues and affording food). These studies are significant to the social spending-entrepreneurship debate as they illustrate how a given barrier to entrepreneurship (market failure) may be successfully targeted by a specific social spending policy (Olds 2013, 2014).

Some research on national social spending has considered more than a single country, using a comparative international approach, and found support for the market failure theory of social spending and entrepreneurial activity. For example, a time series research study covering 50 countries from 2001 to 2009 yielded statistical support for social and public goods spending predicting national entrepreneurial activity (Islam 2015). The author theorized that the mechanism linking entrepreneurship to social spending was the alleviation of financial constraints, which allowed nascent entrepreneurs to take time off from work to focus on their development and education to successfully build entrepreneurial skills. Extending on the financial constraint argument, Song et al. (2020) drew from a study of 45 countries spanning the years 2006–2013 and found social security programs were related to increased technology entrepreneurship. They concluded that these programs allow nascent entrepreneurs to take time off from work to make

¹ Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Mexico, Netherlands, New Zealand, Norway, Poland, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States

investments in their personal development necessary for launching a knowledge intensive technology firm (Song et al. 2020). However, these authors also reasoned that social security contributions may increase the opportunity cost of entrepreneurship as a whole—forming the basis of the present study in which we discuss in the following sections.

While indeed some research has found empirical support that social spending encourages entrepreneurship, scholars have also found strong evidence to support the contrary (e.g., Cowling and Bygrave 2006; Koellinger and Minniti 2009). The argument against social spending policy indicates social spending inhibits a country's entrepreneurial activity because of the unintended increase in the opportunity cost of entrepreneurship—a notion which is consistent with Austrian economics (Kirzner 1997). For example, generous social security programs with mandated employer contributions can have the unintended consequence of reducing the incentive to save money, which makes nascent entrepreneurs less able to independently finance ventures (Henrekson 2005). Social security programs make labor more expensive for employers while also reducing the financial urgency of unemployed individuals to engage in entrepreneurship (Hessels et al. 2008). Several studies have found a negative relationship among social spending policy and entrepreneurial activity. For example, Hessels et al. (2007) utilized a cross-sectional study of 36 countries and found a negative link between countries with generous employer funded social security programs and entrepreneurial activity (Hessels et al. 2007). In a related study of 29 countries, the strength of a nation's social security system negatively predicted entrepreneurial motivations (Hessels et al. 2008). Several studies have yielded similar negative results when considering how other forms of social spending impact entrepreneurship. Cowling and Bygrave (2006) drew from a cross-sectional study of 37 countries and found that unemployment positively predicts necessity entrepreneurship, but social welfare expenditures mitigate necessity entrepreneurship. They concluded that the negative relationship between social spending and necessity entrepreneurship was the result of the opportunity costs unemployed individuals face in terms of lost leisure time and unemployment benefits if starting a venture. Furthermore, Koellinger and Minniti (2009) drew from a longitudinal study of 16 OECD countries and found that national unemployment spending crowds out nascent entrepreneurs.

In light of the conflicting findings regarding the relationship between national social spending and entrepreneurship, we seek to extend theory and empirically test the relationship through the use of longitudinal data. To this end, we endorse the opportunity cost argument informed by Austrian economics (Kirzner 1997). We build from prior research by investigating the extent to which social spending affects entrepreneurial attitudes and activity (i.e., entrepreneurial activity, business ownership, and the public's view of entrepreneurship as a career choice). Further, we use a general measure of social spending that captures more than a single mechanism such as social security or supplemental nutrition assistance alone. In using a general measure of social spending, longitudinal data set, comparative sample of developed nations, and multiple measures of entrepreneurial outcomes (objective and subjective measures), we offer a more comprehensive study of the topic than previously available. Ultimately, we call into question the social spending prescriptions of market failure theory and suggest that limited government intervention is a more effective approach for fostering a nation's level of entrepreneurship.

2.2 Austrian economics, opportunity cost, and hypotheses development

Historically entrepreneurship research has shared a tight bond with Austrian economics (Baumol 1993; Schumpeter 1935). The Austrian perspective emphasizes the importance of market freedom, such that entrepreneurs may explore and invent free of any exogenous forces (Baumol 2002). The Austrian perspective focuses on market transformations or disequilibrium, which allows for entrepreneurial opportunity as opposed to primarily focusing on market equilibriums (Baumol 1993; Dahmen 1984; Schumpeter 1935). This view maintains that the constant economic change of the market is caused by exogenous shocks to the market (e.g., war, exploration, and governmental implosions), which facilitates entrepreneurial activity as new opportunities become available as a result of shocks. These economic transformations keep the market in a near-ongoing state of disequilibrium and also serve as the driving force for entrepreneurship, as the economic changes render old firms obsolete and present new opportunities for entrepreneurs. A government regulation can also represent an important shock to the market that will lead individuals to seek out a means to exploit

new opportunities as a result of the regulation change. We believe there are four reasons, based on the Austrian approach, that national social spending may inhibit entrepreneurial attitudes and activity at the national level.

First, the type of entrepreneurial activity that often results from individuals and organizations capitalizing on new regulation consistently falls under the category of unproductive rent-seeking activity (e.g., tax evasion, litigation, or subsidy seeking; Gustafsson et al. 2017). We expect that individuals are acutely aware of the opportunity cost of entrepreneurship and may seek out less, or unproductive, opportunities if they are considered less risky or may yield greater benefits.

Second, to fund social spending programs, tax schemes are often required which can hamper the profit incentives of entrepreneurs while concurrently increasing the attractiveness of government sector jobs (Parker 2004). For a government to draw funds for social programs, it must often collect the money from firm profits through direct or indirect means (i.e., corporate taxes or personal taxes which reduce consumer disposable income). This social spending increases the opportunity cost of becoming an entrepreneur, as profits may be mediocre and forgone government sector wages can be high—negatively impacting opportunity motivated entrepreneurship.

Third, social spending can inhibit necessity-based entrepreneurship if would-be necessity entrepreneurs conclude that they are better off collecting state funds until they regain salaried employment, rather than seeking self-employment (Aidis et al. 2008). For example, in an in-depth examination of the Swedish welfare state and its effect on entrepreneurship, Henrekson (2005) concluded that social safety nets disincentivize entrepreneurship as citizens can count on state support during hard times, and unemployment benefits serve as a substitute for income.

Fourth, national social spending leads to an expansion of government employment opportunities for its citizens (O'Connor 2017). In addition to reasonable living wages, government positions often have considerable benefits including pensions, time off, and work-life balance (Tan 2015). Conversely, entrepreneurship typically entails a heavy workload, psychological stress, and relatively poor work-life balance in comparison to salaried or public sector employment (König et al. 2012). Because high levels of social spending create more government employment, we expect this further increases the opportunity cost of entrepreneurship—making business ownership particularly less attractive.

In sum, we take the view that social spending will have unintended negative side-effects of increasing the opportunity cost of entrepreneurship and pulling individuals towards careers that are less likely to impact entrepreneurship. Therefore, in consideration of our theoretical logic, we posit the following two hypotheses:

Hypothesis 1: Social spending negatively affects entrepreneurial activity.

Hypothesis 2: Social spending negatively affects business ownership.

Although a great deal of entrepreneurial activity is necessity-based, in developed nations, it generally reflects opportunity-based entrepreneurship. We suggest that the degree of national social spending in developed nations impacts individual attitudes about entrepreneurship as a career choice. In a national context with high social spending, we expect citizens to view entrepreneurship as a more volatile career role, with considerable risk compared to other career options. When considering job alternatives, most employment options will be more certain and stable than entrepreneurship as a career choice. Further, individuals may view the long hours and risk associated with entrepreneurship as constraining to quality of life. We again invoke the concept of opportunity cost in regard to how individuals may perceive the lifestyle of an entrepreneur. We anticipate that even though social spending might protect entrepreneurs from becoming destitute (Olds 2013, 2014), the perception of this career path will be lower in countries with greater social spending. Therefore, we posit the following:

Hypothesis 3: Social spending negatively affects the public's view of entrepreneurship as a good career choice.

3 Method

3.1 Data sources

Our variables come from three large and commonly used archival datasets: Global Entrepreneurship Monitor (GEM), the World Bank, and the Organisation for Economic Co-operation and Development (OECD). Our sample covers 2004 to 2011 in 31 (primarily

considered developed) countries. These sources are reputable and well-known among entrepreneurship, economic, and international business literatures. Each model has a sample of approximately 120 observations.

3.1.1 Dependent variables

The dependent variables are total early-stage entrepreneurial activity (TEA), business ownership, and entrepreneurship as a good career. TEA is the percentage of 18- to 64-year-olds who are nascent entrepreneurs or owner-managers; TEA is a common proxy for illustrating national levels of entrepreneurship (Acs et al. 2014; Chowdhury et al. 2015). Business ownership is the share of 18- to 64-year-olds who own and run a business that requires other paid employees beyond the owners for more than 42 months. Entrepreneurship as a good career is the percentage of 18- to 64-year-olds who believe entrepreneurship is a desirable career. Lastly, we lag TEA and business ownership by 1 year given we expect it may take some time for these policies to take root. We opted not to lag the model with entrepreneurship as a good career given we expect the independent variable could have a more immediate effect in this regard.

3.1.2 Independent variables

Our independent variable is the OECD's measure of social spending, which is the percentage of each country's GDP that is allocated by the government to promote social needs such as healthcare, unemployment, public housing, and more. This measure does not include private social spending. Social Spending indicates the strength of a nation's welfare state as well as economic egalitarianism (i.e., common features of socialism policy; Bowles and Gintis 1997; Hewitt 1977). Moreover, we expect governmental social support institutions like the welfare state to compete with entrepreneurship as a prospective means of income for citizens through both providing benefits for the unemployed and requiring a large staff of well-compensated salaried workers to operate the system.

3.1.3 Control variables

We include nine control variables based on useful entrepreneurial ecosystem characteristics that may differ across countries and impact the observed rate of

entrepreneurship in a given country. Our measures of ecosystem characteristics are taken from the World Bank and from the GEM National Expert Survey (NES). The control variables include GDP per capita, financing for entrepreneurs, government support and policies, taxes and bureaucracy, governmental programs, basic entrepreneurship education, advanced entrepreneurship education, research and development transfer, and infrastructure. Table 1 provides a definition of each variable. We included GDP Per Capita as a relevant measure of economic institutional development (Chan et al. 2008) and as a variable that is often used in comparing entrepreneurial issues across countries (e.g., Acs and Lippi 2019). Next, we included GEM-NES control variables given that surveys can yield high-quality and reliable data in entrepreneurship research (Coviello and Jones 2004; von Bloh et al. 2019) and relying on experts is a valuable means to understanding entrepreneurial differences across countries (e.g., Hechavarría and Ingram 2019).

3.2 Model estimation and results

3.2.1 Tests of hypothesized relationships

Table 2 presents the descriptive statistics and correlations.

Minimum and maximum values, means, and standard deviations are within expected ranges. Given our unbalanced longitudinal time series panel, we test our hypotheses using random effects multiple regression analyses (i.e., general least squares). We specified the models using "country" as the identifying variable and estimated the models with "xtregar" command in Stata to control for autocorrelation associated with time series data as well as specifying "re" for random effects.

Per our hypotheses, we expect increases in social spending to reduce three entrepreneurship-related outcome variables (i.e., TEA, business ownership, and entrepreneurship as a good career). We ran regression analyses of social spending (as well as nine control variables) on the varying measures of entrepreneurship.

3.2.2 Regression results

In Table 3, we report the results of our regression analyses.

Column 1 reveals the relationship social spending has on TEA ($-0.28, p < 0.000$); column two denotes

Table 1 Description of study variables

Variable name	Source	Description/definition from source
Entrepreneurial activity (DV)	Global Entrepreneurship Monitor (APS)	Percentage of 18–64 population who are either a nascent entrepreneur or owner-manager of a new business
Business ownership (DV)	Global Entrepreneurship Monitor (APS)	Percentage of 18–64 population who are currently an owner-manager of an established business, that is, owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months
Entrepreneurship as a good career (DV)	Global Entrepreneurship Monitor (APS)	Percentage of 18–64 population who agree with the statement that in their country, most people consider starting a business as a desirable career choice
Social spending (IV)	Organisation for Economic Co-operation and Development	State social expenditure, in percentage of GDP
GDP per capita (CV)	The World Bank	In 2017 U.S. dollars
Financing for entrepreneurs (CV)	Global Entrepreneurship Monitor (NES)	Availability of financial resources—equity and debt—for small and medium enterprises (SMEs) (including grants and subsidies)
Govt. support and policies (CV)	Global Entrepreneurship Monitor (NES)	Extent to which public policies support entrepreneurship—entrepreneurship as a relevant economic issue
Taxes and bureaucracy (CV)	Global Entrepreneurship Monitor (NES)	Extent to which public policies support entrepreneurship - taxes or regulations are either size-neutral or encourage new and SMEs
Governmental programs (CV)	Global Entrepreneurship Monitor (NES)	Presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal)
Basic ent. education (CV)	Global Entrepreneurship Monitor (NES)	Extent to which training in creating or managing SMEs is incorporated within the education and training system at primary and secondary levels
Advanced ent. education (CV)	Global Entrepreneurship Monitor (NES)	Extent to which training in creating or managing SMEs is incorporated within the education and training system in higher education such as vocational, college, business schools, and more
R&D transfer (CV)	Global Entrepreneurship Monitor (NES)	Extent to which national research and development will lead to new commercial opportunities and is available to SMEs
Infrastructure (CV)	Global Entrepreneurship Monitor (NES)	Presence of property rights, commercial, accounting and other legal and assessment services and institutions that support or promote SMEs

the effects of social spending on business ownership ($-0.35, p < 0.000$); column 3 represents social spending's effect on entrepreneurship as a good career choice ($-0.88, p < 0.001$). In light of our results, we find strong support for the notion that social spending diminishes entrepreneurship outcomes across a variety of entrepreneurship-based variables. These results are in line with our predications in hypotheses 1–3. While the value of r-squared is a bit weaker in model 3 (i.e., 0.29), more is explained by models 1 and 2 (i.e., r-squared = 0.54 and 0.47).

4 Discussion

We set out to better understand how country level policies impact entrepreneurial activity and extend the comparative international entrepreneurship literature by

exploring the implications that social spending has on entrepreneurship perceptions and activity. Although social spending undoubtedly has many societal benefits in terms of helping the less fortunate (e.g., providing healthcare, education, mental health programs), our findings which utilize a broad set of time series data, indicate that social spending inhibits entrepreneurship across a variety of measures. These findings yield a number of theoretical contributions and practical implications. First, we deduce that changes in the opportunity cost of entrepreneurship indeed play a significant role in fostering national levels of entrepreneurship and that social spending has the unintended side effect of increasing the opportunity costs of entrepreneurship. Second, we interpret this as evidence that the lure of profits rather than concerns for personal risk plays a larger and more widespread role in steering the public to become entrepreneurs.

Table 2 Descriptive statistics and correlations

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Total Ent. Activity	7.81	3.93	1.00												
2. Business Ownership	17.47	8.81	0.13	1.00											
3. Ent. as a Good Career	59.07	12.29	0.29**	0.37**	1.00										
4. Social Spending	20.18	6.02	-0.60**	-0.48**	-0.25**	1.00									
5. GDP Per Capita	34830	17840	-0.02	-0.58**	-0.13	0.44**	1.00								
6. Financing for Ent.	2.73	0.44	-0.00	-0.40**	-0.18*	0.02	0.43**	1.00							
7. Govt. Support & Pol.	2.67	0.44	0.05	-0.28**	-0.28**	0.08	0.40**	0.42**	1.00						
8. Taxes and Bureaucracy	2.48	0.54	0.23**	-0.34**	-0.15	-0.08	0.55**	0.29**	0.62**	1.00					
9. Govt. Programs	2.79	0.43	0.05	-0.42**	-0.25**	0.15	0.56**	0.42**	0.69**	0.64**	1.00				
10. Basic Ent. Edu.	2.10	0.37	0.05	-0.41**	-0.16	-0.06	0.40**	0.44**	0.27**	0.45**	0.30**	1.00			
11. Advanced Ent. Edu.	2.83	0.33	0.22**	-0.16	-0.09	-0.23	0.08	0.36**	0.28**	0.37**	0.35**	0.40**	1.00		
12. R&D Transfer	2.60	0.39	0.12*	-0.39**	-0.31**	0.12**	0.60**	0.61**	0.53**	0.50**	0.61**	0.43**	0.46**	1.00	
13. Infrastructure	3.88	0.50	0.20**	-0.47**	-0.21*	0.03	0.35**	0.18**	0.27**	0.42**	0.32**	0.19**	0.32**	0.12*	1.00

* $p < 0.05$ ** $p < 0.01$

Table 3 Results of the regression analysis

Independent Variables	(1)		(2)		(3)	
	Ent. Activity		Business Ownership		Ent. as a Good Career	
	Coef.	<i>p</i> value	Coef.	<i>p</i> value	Coef.	<i>p</i> value
Social Spending	-0.28 (0.06)	0.000	-0.35 (0.09)	0.000	-0.88 (0.26)	0.001
GDP Per Capita	0.00 (0.00)	0.232	-0.00 (0.00)	0.004	0.00 (0.00)	0.406
Financing for Ent.	-0.35 (0.74)	0.637	-1.25 (0.78)	0.108	-2.39 (3.03)	0.431
Govt. Support and Policies	0.19 (0.97)	0.848	-1.19 (0.87)	0.673	3.80 (3.76)	0.312
Taxes and Bureaucracy	0.96 (0.83)	0.247	0.71 (0.80)	0.375	-1.41 (3.24)	0.662
Governmental Programs	-0.91 (1.06)	0.390	-1.19 (1.01)	0.242	-7.19 (4.45)	0.106
Basic Ent. Education	-0.96 (0.85)	0.264	-0.24 (0.82)	0.769	-0.09 (3.27)	0.979
Advanced Ent. Education	0.54 (0.89)	0.545	0.31 (0.87)	0.721	-2.31 (3.62)	0.524
R&D Transfer	-0.32 (1.43)	0.826	1.05 (1.25)	0.403	4.79 (5.54)	0.387
Infrastructure	0.73 (0.76)	0.333	-1.89 (0.81)	0.019	-4.87 (3.19)	0.126
Constant	10.81 (3.19)	0.001	35.21 (3.64)	0.000	107.89 (13.62)	0.000
R^2	0.54		0.47		0.29	
Observations	112		132		129	

In this study, we find the existence of a negative link between social spending and entrepreneurship. We theorize that the negative relationship is primarily driven by rising opportunity costs of entrepreneurship. That is, we suggest that greater social spending (country level) increases the opportunity costs associated with being an entrepreneur, as other jobs should become increasingly attractive (e.g., better stability, better benefits, less stress, and less risk), and taxes to fund social spending programs reduce the profits that attract would-be entrepreneurs. Our findings support the notion that social spending tends to crowd out entrepreneurship (Koellinger and Minniti 2009). Our findings regarding opportunity cost, in turn, suggest that social spending is not only an ineffective means to foster entrepreneurship, but that it is also detrimental to nationwide entrepreneurship and the public's

perception of entrepreneurship as a good career choice. None of this, of course, mitigates the positive social benefits (e.g., providing income for people with disabilities) of social spending targeted at social issues.

Next, our study supports the Austrian view in lieu of the market failure perspective, as our results suggest social spending does not bode well for entrepreneurial activity. We observe that people tend to seek out entrepreneurship in environments where the opportunity cost of becoming an entrepreneur is low, rather than in environments where the personal risk assumed by the entrepreneur is low. We find this to be a curious pattern, as loss aversion is one of the most deeply accepted doctrines of human behavior (Baumeister et al. 2001). However, if loss aversion operated as a robust and salient deterring force in entrepreneurial decision-

making, then we should expect that the arguments of scholars who suggest social spending as a policy for encouraging entrepreneurship should hold up empirically (e.g., Olds 2013, 2014; Sinn 1996). We would expect that by offering social spending programs, which reduce the risks associated with entrepreneurship, then the door to self-employment would be opened to a greater number of people who have a lower risk tolerance. Yet in support of our hypotheses, we reject the notion of loss aversion or market intervention for the purpose of risk reduction as an effective means to encourage entrepreneurship. We provide empirical support to the counter argument that entrepreneurs are more motivated by the potential gains associated with a free market than they are frightened away by potential losses. Accordingly, we interpret our findings as evidence that nascent entrepreneurs assign a greater decisional weight to the potential upside of their choice than they do to the potential consequences of failure. Perhaps nascent entrepreneurs weigh upside wealth creation more heavily than the downside consequences because the potential monetary returns for success are near limitless, whereas the floor for failure is often limited to bankruptcy which is an undesirable but tolerable risk. Further, it is possible that a large portion of the population understands that entrepreneurship is an inherently risky activity such that even with the help of social spending programs, entrepreneurship still does not fit the risk tolerance of the public as a viable career option.

In terms of policy recommendations, while we favor spending on social programs to address specific societal concerns, our findings suggest that when it comes to fueling entrepreneurial activity, the unintended consequences of social spending may negate any anticipated gains. Thus, policy makers should seek to create policies that allow for free markets if they are striving for increased entrepreneurial activity and economic development. We note that attempting to create free markets is often at odds with social spending as social spending systems are often funded through the use of tax schemes which can inhibit market freedom and increase the opportunity costs of entrepreneurship. In effect, increasing the opportunity cost of entrepreneurship can stifle economic development by causing markets to be artificially sparse and less competitive. Further, effective altruism suggests spending decisions should consider the extent to which the intended outcomes do the most good for the most people as well as what would have happened should no interventions (spending) have occurred (MacAskill

2016). Thus, a paradox exists for policy makers in that resources invested into one social program cannot be invested into another, so understanding the net societal gain is valuable. Maximizing the net impact is an essential part of being able to make the best investment decision. In the case of our study, this applies to policy makers given that they are often faced with making decisions on the deployment of limited resources. Moreover, as the gap between the need for social programming (and the government's capacity to respond) continues to widen (e.g., Daar et al. 2018), policy makers should seek validated approaches to prioritize social spending towards outcomes in line with constituent goals and net impact. In essence, we rely on our earlier arguments of opportunity cost in that policy makers not only have to choose among social spending programs but also need to consider that they may risk losing the positive benefits of entrepreneurship by pursuing those endeavors.

The findings and techniques developed in this paper may also be used to tease out other entrepreneurial motivations. For example, the role of identity in entrepreneurship research has been on a steady rise over the recent decades (e.g., Mathias and Williams 2017), as it allows researchers another means for conceptualizing entrepreneurial motivations beyond profit seeking alone. That is, scholars expect individuals to have entrepreneurial motivations as a means to express themselves and their identity in addition to financial interests (Falck et al. 2012; Obschonka et al. 2012). For instance, researchers have demonstrated that an entrepreneur's motivations are often tied to their identity and their need for self-expression through business ventures conducive to their identity attributes (e.g., craft work, communitarianism, or innovation; Cardon et al. 2009; Fauchart and Gruber 2011; Kuhn and Galloway 2015). However, we are not aware of any macro-level examinations regarding the extent to which noneconomic and economic interests play roles in entrepreneurially motivating the public across a nation. We encourage future studies to investigate the motivational effects of noneconomic factors such as identity by examining how national levels of entrepreneurship are affected by factors that are found to have a negative relationship with a nation's level of entrepreneurship (e.g., social spending). The findings of the present study are interpreted to suggest that Austrian economic policy plays a widespread and pervasive role in motivating entrepreneurship, but we nonetheless expect that other motivations play a tempering role in maintaining a given level of

entrepreneurship. Moreover, future research should examine this tempering role of nonfinancial motives as a means to quantify their effects.

As it pertains to entrepreneurship learning and pedagogy, at least two variables in our study should be of interest to entrepreneurship educators, namely, basic entrepreneurship education and advanced entrepreneurship education. Alarming, these entrepreneurship education control variables did not positively influence any of the dependent variables. Further, governmental programs (that are designed at least in part for educating potential and existing entrepreneurs) did not have a positive effect on any of the dependent variables. We are concerned with these findings such that variables pertaining to entrepreneurship education explain little to nothing about entrepreneurial outcome variables. Yet given that public education is generally considered a social good, these results are somewhat aligned with our theorizing. However, we suggest that further exploration is needed to better understand whether entrepreneurship education is a valuable metric to be used at the country level.

Heretofore, we have mentioned some areas for future research, yet we also wish to acknowledge a number of constraints on generality (Simons et al. 2017) and limitations with the present study. The study design was based on time series archival data covering the years 2004–2011 obtained from countries that were members of the OECD, an organization generally made up of democratic countries that have developed economic systems (i.e., the OECD does not track much of the third world). Thus, we expect our results to generalize to other countries with democratic political systems and developed economies. The findings and conceptual implications of our broad study are convergent with research that has taken a narrower approach in scope or sample (e.g., Aidis et al. 2008; Estrin and Mickiewicz 2011; Henrekson 2005), which credits the validity of previous scholarship as well as our findings. However, we do not have reason or evidence that our findings will replicate in developing economies. We also do not know if the results will hold into the future as the nature of work, employment, and the gig-economy could perhaps make self-employment more common than salaried work (McGrath 2013).

4.1 Summary and Conclusion

According to the findings of the present study, social spending is most aptly recognized as a drain on

entrepreneurship rather than a catalyst for entrepreneurship. Moreover, the negative link between social spending and entrepreneurship held up across multiple dependent variables. We attribute this pattern of findings to social spending policies increasing the opportunity cost of entrepreneurship. Our findings suggest policy makers should carefully weigh the social returns of entrepreneurship versus social spending, as we find a clear tradeoff between these two initiatives.

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