Journal of Business Venturing 30 (2015) 793–807

Contents lists available at ScienceDirect

Journal of Business Venturing

Uncovering the influence of social venture creation on commercial venture creation: A population ecology perspective

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ARTICLE INFO

Article history:
Received 20 January 2014
Received in revised form 13 March 2015
Accepted 20 April 2015
Available online 30 April 2015

Field Editor: S. Parker

Keywords:
Social entrepreneurship
Population ecology
Environmental influences
New venture creation

ABSTRACT

This study takes a population ecology perspective to uncover the influence that social venture creation exerts on commercial venture creation. Data from 88 Ohio counties during 2003–2007 uncovered a negative relationship suggesting that social ventures compete for resources with commercial ventures at the time of founding. Additionally, we found that income levels in the county affected the inter-population dynamics between social and commercial ventures. Specifically, lower income levels exacerbated the competitive relationship between social and commercial ventures. Low levels of government spending on welfare were found to suppress commercial start-up rates.

1. Executive summary

Social and commercial ventures play important economic and social roles in the environments in which they operate. Given their potentially complementary roles in society, these two types of organizations have led to scholarly investigation of the interactions between these organizational types through cross-sector collaboration (e.g., Di Domenico et al., 2009). Few studies, however, have investigated the dynamics between these organizations regardless of explicit collaboration. Since these organizations usually co-exist in a location without direct interaction, it is pertinent to uncover the possible influence that one group of organizations may have over the other. The growth in the size of the social sector makes it more pressing to investigate the influence that social organizations may exert on their commercial counterparts. In this study, we seek to uncover such influence.

Adopting a population ecology perspective (Hannan and Freeman, 1977), we investigate how social venture creation rates affect the creation of commercial ventures. We establish that the population of social ventures consists of organizations that are created out of collective-focused aspirations to create social value purposefully, while the population of commercial ventures consists of organizations that are created out of self-focused desires for the purpose of generating private gains (Lumpkin et al., 2013). We argue that social venture creation exerts a negative influence on the creation of commercial ventures and that this negative influence is exacerbated by harsh socio-economic conditions characterized by inadequate government spending on welfare and low income levels.

We conduct our empirical analysis at the county level by drawing on data from the state of Ohio. Our data consists of a panel of 88 counties over five years (2003–2007), which we gathered from a variety of archival sources. We test our hypotheses through a

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http://dx.doi.org/10.1016/j.jbusvent.2015.04.003
0883-9026/

simultaneous system of equations that effectively controls for the concurrent influence between social and commercial venture creation. We estimate the system of equations by using a generalized least squares approach with full-information maximum likelihood estimation (FIML).

We contribute to the social entrepreneurship literature by uncovering a competitive relationship between social and commercial ventures at the time of funding. Specifically, results demonstrate that an increase in the rates of social venture creation decreases the rates of commercial venture creation. This stands in contrast to previous studies that have implicitly assumed a symbiotic (i.e., positive) relationship between these two types of organizations (e.g., Estrin et al., 2013). We also contribute to population ecology by demonstrating that environmental factors not only affect organizational creation rates but also the ecological dynamics between the two populations. Specifically, the competitive relationship between social and commercial ventures is exacerbated under low-income conditions. Implications for entrepreneurs consist of being aware that competition for startup resources also comes from organizations in different sectors.

2. Introduction

Social entrepreneurship refers to the pursuit of opportunities to address social needs and catalyze social change through the innovative combination of resources and/or the creation of new organizations (Mair and Marti, 2006, 27). Given that its main purpose is to create social value (Moss et al., 2008; Smith and Stevens, 2010; Weerawardena and Sullivan Mort, 2006), social entrepreneurship has the potential to address persistent social problems more effectively than commercial entrepreneurship. Though commercial entrepreneurship may create collateral social value through the invisible hand (Smith, 1776), social entrepreneurship seems to have greater potential to solve complex social problems by purposefully addressing them. As such, scholars have investigated what makes social entrepreneurship different from commercial entrepreneurship to understand whether social ventures are superior at creating social value (Austin et al., 2006; Bacq et al., 2013; Dorado, 2006).

Social and commercial ventures are created for different purposes yet coexist in the same environments. For this reason, studies in the social entrepreneurship literature have investigated how the two types of ventures influence each other through explicit collaboration (Di Domenico et al., 2009; Meyskens et al., 2010). We argue that social and commercial ventures may also influence each other in the absence of collaboration. As an integral part of society, commercial ventures can capitalize on the benefits of the social value created by social ventures. For example, by alleviating social issues, social ventures may create better environments for commercial start-ups (Peredo and Chrisman, 2006). Indeed, Estrin et al. (2013) reported that, among individuals in the process of creating a new firm, as well as among individuals currently operating a young or established business, social entrepreneurial activity enhances commercial entrepreneurial activity across countries, suggesting a symbiotic relationship.

Note that the above research implicitly assumes that symbiosis may exist among both new and established ventures. This stands in contrast with a population ecology perspective, which encourages the study of organizational founding rates in entrepreneurship, since such approach provides a different lens for investigating the dynamics of organizational creation (Aldrich, 1990). By taking such a perspective, this article relaxes this implicit assumption by investigating whether the rate of creation of social ventures—captured at the moment in which the organizations are created as legal entities—enhances or undermines the creation of commercial ventures.

Given our focus on entrepreneurship as "successful venture creation" (Gartner, 1989, 62), we propose and empirically verify that symbiosis between social and commercial ventures is not likely to hold. Our main premise is that social and commercial ventures compete for similar resources upon founding, regardless of their ultimate goal. That is, creating social ventures may absorb resources necessary for the creation of commercial ventures, thus undermining their start-up rates. We also propose that competition between the two populations is exacerbated in environments characterized by low-income levels and governments that fail to address issues through traditional welfare mechanisms. Recent growth in the nonprofit sector highlights the timeliness of investigating this population's influence on the ecological dynamics of commercial organizations. In the first decade of the new millennium, the nonprofit sector grew by 24% in terms of number of organizations and by 41% in terms of revenue generated (Lambert, 2013). Additionally, during the same period, nonprofits added jobs at an average annual rate of 2.1%, while commercial organizations lost an average of 0.6% jobs per year (Lambert, 2013).

The present study contributes to the population ecology literature by uncovering the inter-population dynamics between social and commercial ventures as well as the conditions under which such dynamics change. The findings also contribute to the social entrepreneurship literature by showing that nonprofit social ventures, though beneficial for society, may not be as beneficial for commercial venture creation in the short-term. Finally, the results also add to the new venture creation literature by demonstrating that the creation rates of other organizational populations, regardless of explicit ties, are antecedents of new venture creation rates. The results also show that the economy of a region has an impact on the dynamics between social and commercial venturing.

3. The population ecology of commercial and social venture creation

Population ecology is particularly relevant in entrepreneurship research, which has long been concerned with the creation of new ventures as evidence of successful entrepreneurship (Baum and Singh, 1994; Tucker et al., 1990). This perspective "seeks to understand how environmental conditions and interactions within and between populations shape the diversity of organizations in society" (Hannan and Freeman, 1987, 912).

Understanding how different organizations compete or benefit from each other at the time they are created is a challenge, since it is difficult to determine how many organizations failed to be created because of competition. A population ecology perspective is

helpful for understanding these relationships, because, although we are not able to determine how many organizations failed to be created, we are able to uncover how the growth of one population affected the growth of the other. This would potentially lead to interesting findings on the evolution of organizations, industries, and communities. For example, Mezias and Kuperman (2000) used this perspective to analyze the evolution of the film industry by looking at different organizational populations including filmmakers, distributors, and movie theaters. Their findings show how the organizational populations evolved and the interdependencies among them that led to such evolution. The authors concluded that, since entrepreneurs are part of a collective, understanding the dynamics among the different organizational populations would aid them in their individual success.

3.1. Organizational populations and carrying capacities

One of the main tenets of the ecological perspective is that the environment has finite resources for which organizations compete. Consequently, there exists an environmental carrying capacity that limits the size of organizational populations (Hannan and Freeman, 1989). Though finite, environmental carrying capacities are not fixed since they respond to a variety of exogenous factors. For example, increasing demand for environmentally friendly products has increased the carrying capacity for organizational populations related to the production and sales of such products.

An organizational population consists of a group of organizations that share similar characteristics and compete for similar resources (Hannan and Freeman, 1989). For example, Baum and Oliver (1996) studied the population of daycare centers in the Toronto area. Daycare centers constitute a population since they provide the same types of services and utilize similar resources, such as facilities, types of employees, and materials used. The authors further considered for-profit and nonprofit daycare centers as two distinct populations since their legal form would cause these organizations to behave differently. Similarly, other studies have examined the ecological dynamics of organizational populations such as industrial and craft labor unions (Hannan and Freeman, 1987), voluntary organizations (Tucker et al., 1990), and instruments manufacturers (Audia et al., 2006).

In the present study, we focus on the dynamics between the populations of commercial and social ventures. The *commercial venture population* consists of organizations that engage in operations with the purpose of generating private gains (Austin et al., 2006), such as economic profit, and non-financial benefits including feelings of accomplishment and independence (Van de Ven et al., 2007). Commercial ventures are generally created based on self-focused desires such as wealth accumulation or self-employment, whereas social ventures are created based on collective-focused aspirations such as wealth giving or community development (Lumpkin et al., 2013). Though it has been argued that commercial ventures also provide collateral social value (Schramm, 2010), their main goal is to produce economic and personal gains.

The *social venture population* is comprised of those organizations that are created for the fulfillment of a social mission (Zahra et al., 2009). In other words, social ventures are created to exploit scalable opportunities for social value creation (Perrini et al., 2010). Lumpkin et al. (2013) explained that social value creation, though subjective and difficult to measure, has some underlying characteristics that differentiate it from purely economic value creation. First, they emphasized that social value creation is a positive externality since it does not accrue directly to the entrepreneur or stockholders. Additionally, social value creation is a deliberately generated outcome. That is, to be considered a social venture, organizations need to be built around a specific social mission, without which they would not exist.

Social ventures can be created under different legal forms or structures including nonprofit and for-profit forms (Townsend and Hart, 2008), and hybrid, joint ventures, or subsidiary structures (Kistruck and Beamish, 2010). For our study, we base our choice of the population of social ventures on the primacy of the social mission. We focus exclusively on the population of nonprofit social ventures, since nonprofit organizations are required to state an explicit social mission in order to obtain their tax-exempt status (Internal Revenue Service, 2014). Similar to commercial organizations, the form chosen by social ventures would influence their behavior. Social ventures registered under for-profit legal forms are more likely to juggle between commercial and social identities. Additionally, identifying social ventures in the for-profit world is a challenging task, since the law does not require these organizations to state a social mission explicitly.[3]

4. Inter-population dynamics between social and commercial ventures

Population ecologists explain that organizational foundings in a population are affected by three processes: intra-population, inter-population, and institutional. Intra-population processes pertain to the dynamics within a single population and relate to how the number of existing organizations, previous foundings, and disbandings affect the founding rates in such populations. These are also referred to as density-dependent processes since the increasing or decreasing density affects future founding rates (Hannan and Freeman, 1987). Institutional processes refer to aspects of the external environment such as policies, location, and culture that affect founding rates (Aldrich, 1990).

Inter-population processes refer to inter-relationships among different organizational populations that modify carrying capacities, thus affecting organizational founding rates (Paarlberg and Varda, 2009). Studies of inter-population processes are less numerous than those studying intra-population dynamics. Researchers studying inter-population dynamics have mainly focused on competitive relationships between populations (Aldrich, 1990). That is, their main interest has been on how the founding rates of a focal population diminished foundings or increased disbandings in another population. A few studies, however, have found positive inter-

[3] Though new for-profit legal forms in the U.S., such as Benefit Corporations and L3Cs, require the adoption of an explicit social mission, legislation for these legal forms has only been approved in a few states. In addition, social ventures have the option of organizing into other for-profit forms such as LLC, S-Corp, and C-Corp.

population effects in which increased foundings in one population have helped increase foundings in the other (Audia et al., 2006; Mezias and Kuperman, 2000).

In the interest of parsimony, we examine the dynamics between social and commercial ventures uniquely from the perspective of social ventures. In other words, we focus on the effect of social venture creation rates on commercial venture creation rates, while controlling for the effect of commercial venture creation on social venture creation rates. The reason is that we are interested on how this relatively new form of entrepreneurship affects the more established form. Fig. 1 depicts the density (number of active organizations) for the populations of social and commercial ventures. Note that, during this study's time period, the population of commercial ventures is larger than the population of social ventures. This could be due to the newness of the social venture population. In addition, the latter exhibits steady growth during the five years under study, whereas the former seems to have plateaued in the last three years, which suggests a degree of interplay between the two populations. Thus, we are interested in uncovering whether social venture foundings are partly responsible for the changes in density of commercial ventures.

4.1. The impact of social venture creation on commercial venture creation

Some studies suggest a symbiotic relationship between our populations of interest, because, by addressing persistent social needs, social ventures create better environments in which commercial ventures can thrive (Di Domenico et al., 2009; Peredo and Chrisman, 2006). Similarly, social entrepreneurship may generate country-level social capital that may encourage commercial entrepreneurship activity, when this activity consists of nascent and existing ventures (Estrin et al., 2013). We propose, however, that at the time of founding, these populations may draw on similar resources and, thus, exhibit a competitive relationship instead. We are not implying that a one-to-one relationship in terms of the resources mobilized exists, but we are proposing that, at the local level, there is a degree of overlap in the resources required for the creation of social and commercial ventures. Population ecology holds that competition among organizational populations is based on similarities of resource requirements (Hannan and Freeman, 1989). As such, populations with greater resource overlap are more likely to compete with each other for those resources (Hannan and Freeman, 1987).

There are a number of reasons to believe that foundings in the population of social ventures exhaust resources necessary for the creation of commercial ventures. Previous research investigating cross-sector ecological dynamics has suggested that nonprofit status acts as a distinctive competitive advantage for the acquisition of resources and community support (Baum and Oliver, 1996). Therefore, nonprofit social venture start-ups may prevail over their commercial counterparts. This phenomenon is exacerbated by recent trends pushing nonprofit organizations to engage in commercial activity to fund their social mission, such as government grant cuts, growing size of organizations, increased demand for services, and increased competition, among others (Leroux, 2005; Young and Salamon, 2002). Between 1982 and 2002, the commercial revenue of nonprofits in the U.S. increased by 219% and, by 2002, it accounted for 58% of total nonprofit revenue (Kerlin and Pollak, 2011). Nonprofits that traditionally relied on philanthropic donations and grants are adding commercial activities that oftentimes are not related to their overarching mission. This situation places them in direct competition with commercial organizations, since, relative to the resources required to fulfill a social mission, the resources necessary to exploit commercial opportunities in the social sector have greater degrees of overlap with the resources required by commercial ventures.

In terms of resources necessary for organizational creation, social and commercial ventures may experience overlap mainly in financial and human capital. Traditional sources of financial capital for social ventures include donations, government and foundation grants, and corporate sponsorships (Dees, 1998). At first glance, social and commercial organizations should not have to compete for financial capital, since the funding sources mentioned are not applicable to commercial organizations. However, the financial capital fueled into the nonprofit social sector could be used, in different forms, for funding commercial organizations. For example, a corporation could use its money to fund its own corporate entrepreneurial venture instead of providing sponsorship for a social venture. In addition, the surge in impact investing—venture investing, private equity, and direct lending for social impact (Bugg-Levine and Emerson, 2011)—is channeling private investors' funds into the social sector.

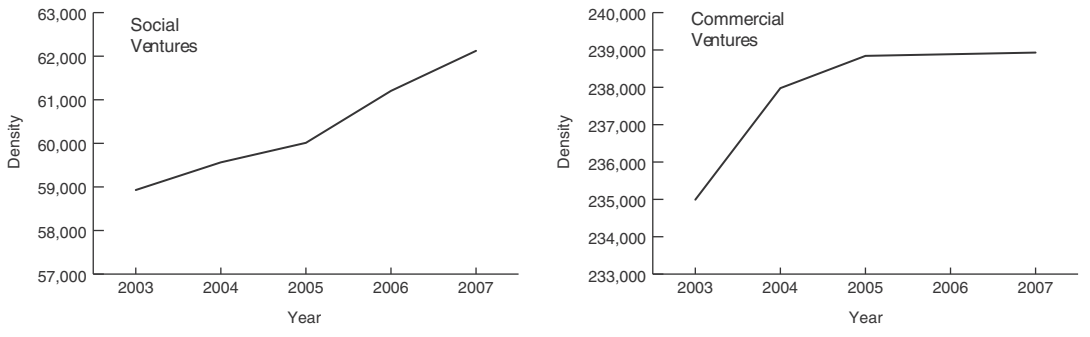

Fig. 1. Social and commercial venture densities.

Competition for human capital is also a form of diffuse competition (Aldrich, 1990), since founding entrepreneurs for both types of organizations possess similar characteristics. Previous research on social ventures has emphasized that, similar to commercial entrepreneurs, social entrepreneurs need the entrepreneurial and business skills necessary for successful venture creation (Haugh, 2007; Peredo and Chrisman, 2006). Thus, the difference in the main objective of new ventures does not mean that the entrepreneurial skills of the founders should be fundamentally different. For this reason, when an individual decides to form a social venture, one individual may be taken away from the pool of potential entrepreneurs that could have formed a commercial venture.[4]

Human capital also refers to potential employees that both populations wish to attract. For instance, both may seek college graduates for their managerial positions, thus competing with each other in a diffuse manner (Aldrich, 1990). In this aspect, nonprofit social organizations may possess an advantage, since it has been reported that employees of nonprofit organizations value job quality more and wages less than do commercial employees (DiMaggio and Anheier, 1990). Thus, the current and increasing emphasis society places on job satisfaction and quality of life over financial gains (Benjamin et al., 2012) may sway managers to the nonprofit sector. Furthermore, nonprofit social ventures have the advantage of being able to attract volunteer labor, which allows organizations to operate under extreme financial constraints.

Pertaining specifically to the population of nonprofit social ventures, researchers have explained that these organizations are likely to prevail over commercial organizations for a variety of reasons. Some authors have stated that nonprofit organizations have an unfair advantage, which originates from tax exemptions (Gomes and Owens, 1988; Schiff and Weisbrod, 1991). Hence, they argue that as the population of nonprofit social organizations expands, purely commercial organizations (especially small firms) are crowded out of the market (Bennett and DiLorenzo, 1988). Other researchers (Baum and Oliver, 1996; Weisbrod, 2004) explain that nonprofit social ventures may prevail in some industries because they are able to provide better services given that they are not preoccupied with making money, whereas the commercial organizations oftentimes have to downgrade the quality of their services in order to generate a profit. In conclusion, we hypothesize that when studying founding rates of social and commercial ventures, competition will be the dominant relationship.

Hypothesis 1. Social venture creation rates are negatively associated with commercial venture creation rates

4.2. The influence of the environmental context

Institutional processes that include state policies, political factors, spatial location of the organizational population, and cultural factors also influence organizational founding rates (Aldrich, 1990). Government policies affect founding rates by enhancing legitimacy of an organizational form through regulations and tax policies, demand stimulation, or through direct subsidies for certain types of organizations. Culture may influence foundings by affecting the way entrepreneurs in each community perceive the opportunities in their environment. Spatial location is also an important factor influencing founding rates, and it refers to the characteristics of the geographical location in which the populations exist (Aldrich, 1990).

The role of the geographical location's characteristics on entrepreneurial activity is well documented in regional entrepreneurship studies. For instance, Wagner and Sternberg (2004) reported that the regional environment heavily influences the individual start-up decision. Similarly, Stam (2007) explained that studying the regional environment is crucial since entrepreneurs tend to locate their ventures in their home region, if not in their own homes. As such, each region provides a unique environment that can both encourage and limit different kinds of entrepreneurship (Hindle, 2010).

Similarly, population ecologists hold that economic and social contextual factors can produce variations in founding rates across populations (Aldrich and Wiedenmayer, 1993). Most studies have investigated the influence of such contextual factors on founding rates of specific populations. However, changes in the nature of those external or institutional factors can influence not only foundings within populations, but can also alter the ecological dynamics among populations (Tucker et al., 1990). Consistent with these arguments, we propose that the hypothesized influence of social venture creation on commercial venture creation will differ based on the type of environment in which the two populations coexist. We investigate the influence of two environmental factors relevant to social and commercial venturing. These factors consist of (1) government's spending on welfare and (2) socioeconomic conditions as indicated by local income levels.

4.2.1. Government spending on welfare

Governments have the ability to influence market mechanisms by removing conditions that create market imperfections (Gnyawali and Fogel, 1994). Through various policies and procedures, governments can contribute to the efficient functioning of markets and, thus, influence the creation of organizations. Researchers have investigated how different government-related actions influence organizational creation; such actions include tax policy, business regulations, subsidies, and government spending (Felsenstein et al., 1998; Kloosterman, 2003; Sørensen, 2007; Tan, 1997). Among those, government spending is particularly relevant to the type of organizations that can be created in a region. Suboptimal spending can result in social market failure conditions, defined as situations in which governments do not have the will, power, or resources to address social issues (Austin et al., 2006; Urbano et al., 2010).

One way in which governments attempt to address social issues is through the provision of welfare. Social market failure is likely to occur when governments are not able to allocate sufficient funds to their welfare programs. Since social market failure situations are

[4] For example, if potential entrepreneurs are found in a situation that triggers compassion (Miller et al., 2012), then these individuals may decide to achieve their entrepreneurial goals by starting a social venture instead of a commercial venture.

considered important sources of opportunities for social value creation, social ventures are more likely to be created to exploit them (Austin et al., 2006). Consistent with this argument, studies have found that countries with limited provision of traditional welfare had higher rates of social entrepreneurship activity (Cornwall, 1998). Similarly, Badelt (1997) argued that a decrease in government spending is an important factor influencing the growth of the nonprofit entrepreneurship sector.

Following previous studies, we focus on government spending on welfare as an institutional process affecting ecological dynamics between our organizations of interest. Tucker et al. (1990) argued that the effect of some institutional processes on organizational foundings might not persist after ecological dynamics are accounted for. For this reason, we investigate the role of government spending on welfare while accounting for intra- and inter-population dynamics. Additionally, given that previous studies find a relationship between government spending and organizational founding, we focus on the possible influence that this factor exerts on the inter-population dynamics between social and commercial venture creation. Our premise is that institutional processes also affect ecological dynamics between populations.

Government spending may affect the previously hypothesized competitive relationship between social and commercial venture creation in a number of ways. First, as previously noted, insufficient government spending on welfare gives rise to social market failure, which in turn, generates opportunities for social value creation. These opportunities are more appropriately exploited through social entrepreneurial organizations rather than through purely commercial ones. Therefore, potential entrepreneurs may be more likely to start a social venture to tackle the available opportunities. Even potential entrepreneurs that may have initially considered purely commercial venturing may be drawn to social entrepreneurship in this type of environment, thus making the competition for resources (in this case human resources) between the two populations more prevalent.

Second, in assessing entrepreneurial opportunities, commercial entrepreneurs assess demand and their capabilities to calculate expected returns. When expected returns are sufficiently high, entrepreneurs are more likely to act on the opportunity and to gather the human and financial capital needed from external sources (McMullen, 2011). In situations of low government spending on welfare, expected returns from commercial opportunities are less likely to be worth pursuing. Thus, commercial organizations are less likely to be created to pursue low-return opportunities. In contrast, as the social issues in low-government-spending situations increase, the demand for social solutions increases. In this case, the expected social return sought by social entrepreneurs is likely to be high enough to deem the opportunity worth pursuing. As such, social entrepreneurs would be highly motivated to convince external actors to support their entrepreneurial endeavors by providing the necessary resources even if that means that some of those resources are taken away from the resource pool of commercial ventures.

Hypothesis 2. Low levels of government spending on welfare strengthens the negative relationship between social and commercial venture creation rates

4.2.2. Income

Economic conditions can be gauged by the level of income in a country or region, which acts as an indicator of overall prosperity (Todaro, 2000). As such, income levels have been used as an indicator of economic development in various regional studies investigating entrepreneurial activity (Acs and Armington, 2004; Bird and Wennberg, 2014; Kibler, 2012). The entrepreneurship literature has shown that the economic conditions of a region have strong influence on the creation of new businesses. For example, Brixy and Grotz (2007) found that harsh economic environments resulted in a decrease in net commercial start-up rates. In contrast, social entrepreneurship scholars have argued that social ventures emerge due to, among other factors, economic crises and lack of individual opportunity (Peredo and Chrisman, 2006). Similarly, Corbin (1999) found that nonprofit social ventures were more likely to be created in economically distressed areas, regardless of whether they addressed poverty issues.

The aforementioned studies suggest that nonprofit social ventures are likely to prevail over commercial ventures when the region's income levels are low. Following our premise, we propose that low income levels not only directly influence organizational foundings in the two populations, but also indirectly influence foundings by modifying the inter-population dynamics between them. Specifically, we argue that when income levels are low, the competitive relationship between social and commercial ventures becomes more prevalent. A reason for this rests on the nonprofit status of the social ventures we study. This status enables them to draw on resources, such as volunteers, cash donations, and in-kind donations that are not available to for-profit organizations (Haugh, 2007). Though social ventures are able to garner these resources in any situation, their ability do so becomes more relevant in harsh socio-economic environments in which commercial ventures have difficulty gathering the necessary resources for startup.

In addition, the level of income affects the availability of financial capital for both populations. The availability of financial capital is an important predictor of commercial venture start-up rates (Gnyawali and Fogel, 1994). In the nonprofit social sector, financial capital is an equally important resource for organizational creation. We propose that at low levels of income, the creation of a social venture is more likely to tap the financial capital that would otherwise be devoted to commercial ventures. As already noted, harsh socio-economic conditions increase the demand for social ventures and reduce the demand for commercial ventures. Therefore, when financial resources are limited, they are more likely to be used to stimulate the creation of social ventures. For example, a corporate investor that would usually invest in commercial startups may be more motivated to donate to a nonprofit social venture in social market failure situations. This is because the donation would generate guaranteed returns through tax deductions, while investment on a commercial venture in such suboptimal conditions may not generate a return and may even waste the limited financial resources.

Hypothesis 3. Low income levels strengthen the negative relationship between social and commercial venture creation rates.

5. Methods

5.1. Data

Consistent with population ecology findings that stronger competitive effects are found at local levels rather than at broad geographical levels (Baum and Oliver, 1996; Lomi, 1995; Swaminathan and Wiedenmayer, 1991), we conducted our empirical test at the county level. Regional entrepreneurship researchers back the strength of local and regional characteristics as opposed to national or supranational ones in explaining entrepreneurial activity (Feldman, 2001; Sternberg, 2009). We concluded that comparing inter-population dynamics at the county-level would allow us to capture stronger effects. The sample for the present study consists of all 88 counties in the state of Ohio and covers the period from 2003 to 2007. We gathered data from a number of secondary sources, including the Internal Revenue Service, the Ohio Department of Development, the Ohio Secretary of State, the Ohio Department of Education, the Ohio Department of Taxation, the Ohio Department of Job and Family Services, the U.S. Census Bureau, the Bureau of Economic Analysis, and the National Bureau of Economic Research.

5.2. Measures

5.2.1. Dependent variable: commercial venture creation rate

Consistent with population ecology studies, we focus on the number of organizations to account for the size of the population. The number of organizations may have little effect on other possible size dimensions such as the number of employees or the resources controlled by each organization (Hannan and Freeman, 1987). Our dependent variable, the *commercial venture creation rate*, is the ratio of new commercial establishments to the population of active establishments in a county. As such, it follows the ecological approach to operationalizing venture creation rates that has been adopted in a number of entrepreneurship studies (Anyadike-Danes et al., 2005; Bosma et al., 2011). We obtained the data to calculate this variable from the Ohio Department of Development.

5.2.2. Independent variable: social venture creation rate

We calculated the *social venture creation rate* based on the number of new and active tax-exempt organizations in Ohio as provided in the Internal Revenue Service Exempt Organizations Business Master File. Similar to our dependent variable, this variable follows the ecological approach and is constructed as a ratio of new nonprofit organizations in the county to the population of active nonprofits expressed in percentage points. Individual nonprofit social ventures were aggregated to the county-level according to the Ohio municipal, township, and school board roster published by the Ohio Secretary of State. Nonprofits officially register with the Ohio Secretary of State before applying for and obtaining their tax-exempt status from the IRS. Because it takes time for the newly created organization to obtain the tax-exempt status (often six months or more), which is what our data captures as the startup event, we utilized the moving average approach to approximate the number of social ventures created in a particular year that reflects such delay. That is, for every year in the sample, we calculated the average of startups that obtained tax-exempt status in the previous and current years to construct each county-year observation. The numbers we obtained for each year closely approximate the estimates of nonprofits created in the state of Ohio reported by the Secretary of State.

5.2.3. Moderators

We operationalize *government spending on welfare* with the amount of transfer payments to each county. Transfer payments include cash benefits such as Social Security, unemployment insurance, and educational assistance, and in-kind benefits such as food stamps and housing assistance. Transfer payments represent the ability of government to address social ills. We obtained the statistics from the Ohio Department of Development. The *income level* variable was operationalized with per capita income in constant 2004 U.S. dollars. The Ohio Department of Development compiled the estimates based on information provided by the U.S. Bureau of Economic Analysis.

5.2.4. Control variables

As mentioned earlier, one of the main tenets of population ecology is the existence of a carrying capacity that limits the size of a population. Because carrying capacity for a specific population is not readily observable, previous population ecology studies have included in their empirical models variables known to affect the carrying capacity of the population in question (Baum and Oliver, 1996; Bird and Wennberg, 2014; Zhang et al., 2009). The assumption is that carrying capacity is fixed net of the control variables included (Hannan and Freeman, 1987). For any given population, carrying capacity is affected by the population density (i.e.,, size of the organizational population) and by the availability of resources necessary to sustain the organizational population (Hannan and Freeman, 1989). The availability of resources, in turn, is usually proxied by the possible demand for the organizational type (Boeker, 1991).

Consistent with previous studies, we control for the ecological and resources factors in our empirical model. For the ecological effects, we include the variables *commercial venture density* and *social venture density*, which consist of the number of active organizations of each type in each of the counties (in thousands). These variables isolate density-dependent process from the inter-population processes that are the focus of our study. We obtained the numbers from the Ohio Department of Development and the IRS Masterfile respectively.

Since our organizational populations consist of entire sectors (i.e., nonprofit and for-profit), as opposed to a single industry, our control variables representing resources and demand consist of characteristics of the locales under study that are likely to affect carrying capacity, and, thus, creation rates. We controlled for the county's *population and income growth* as these variables may have

direct impact on the number of ventures necessary to serve each county. These two variables are represented as indexed with the base case being 100. We also controlled for county *innovativeness* as the ratio of county-level patents granted per 10,000 residents. The existence of patents could translate in opportunities for venture creation in the locales. The National Bureau of Economic Research's Patent Data Project provided information on utility patents of Ohio assignees. Consistent with previous research (Anokhin, 2013), we matched each patent to the assignee's municipality and then aggregated to the level of counties in accordance with the Ohio municipal, township and school board roster published by the Ohio Secretary of State.

We also included the *unemployment rate* as a control, since previous research has found that unemployment is an important influence on venture creation rates (Chang et al., 2011; Evans and Leighton, 1990). We obtained data on unemployment rates from the Ohio Department of Job and Family Services. We also included the percentage of people considered to be in a situation of *poverty*. This variable may affect both demand and supply for social ventures. On one hand, a share of social ventures is created to address poverty and poverty-related issues. Thus, an increase in poverty rates would increase demand for these organizations. On the other hand, people in disadvantaged economic situations may be less likely to start a social venture, since they would need to provide for themselves and their families in other ways. The numbers for the variable *poverty* were obtained from the Ohio Department of Development. Finally, we included *sales* and *income* tax rates as they may influence the viability of establishing a commercial venture in the county. We gathered these numbers from the Ohio Department of Taxation.

5.3. Approach to analysis

To uncover the interplay between social and commercial venture creation, it is not sufficient to address both forces in isolation. Consider the following regression equation for commercial venture creation:

$$\begin{aligned} CVC_{it} = {} & \beta_0 + \beta_1 SVC_{it} + \beta_2 TP_{it} + \beta_3 INCOME_{it} + \beta_4 SVC_{it} * TP_{it} + \beta_5 SVC_{it} * INCOME_{it} \\ & + \beta_6 POPGROW_{it} + \beta_7 INCGROW_{it} + \beta_8 INNOV_{it} + \beta_9 CVD_{it} + \beta_{10} INCTAX_{it} \\ & + \beta_{11} SALETAX_{it} + \varepsilon_{it} \end{aligned} \tag{1}$$

where

CVC	Commercial venture creation rate
SVC	Social venture creation rate
TP	Transfer payments (government spending on welfare)
INCOME	Income level
POPGROW	Population growth
INCGROW	Income growth
INNOV	Innovativeness
CVD	Commercial venture density (currently active commercial startups)
INCTAX	Income tax
SALETAX	Sales tax

and where i denotes each county in the dataset, t denotes each year, and ε_{it} is a normally-distributed error term. Although this equation establishes the relationship between commercial and social venture creation, social venture creation in Eq. (1) is not exogenous—instead, it is endogenous, or co-determined with commercial venture creation. Ignoring this endogeneity implies that the parameter estimates resulting from analysis will carry a simultaneous equation bias, necessitating the specification of a simultaneous system of equations (Greene, 2007).

To avoid a potential simultaneous equation bias, we propose the following specification for social venture creation:

$$\begin{aligned} SVC_{it} = {} & \gamma_0 + \gamma_1 CVC_{it} + \gamma_2 TP_{it} + \gamma_3 INCOME_{it} + \gamma_4 POPGROW_{it} + \gamma_5 INCGROW_{it} + \gamma_6 POVERTY_{it} \\ & + \gamma_7 UNEMP_{it} + \gamma_8 SVD_{it} + \nu_{it} \end{aligned} \tag{2}$$

where the variables not included in Eq. (1) are

UNEMP	Unemployment rate
POVERTY	People of all ages in poverty
SVD	Social venture density (Currently active social startups)

and where i and t again denote county and year and v_{it} is a normally-distributed error term.

We tested the hypotheses by estimating the simultaneous system of equations specified by Eqs. (1) and (2). Estimation was conducted using a generalized least squares approach (Richard et al., 2007) using full-information maximum likelihood estimation (FIML). Unlike other techniques, such as two and three-stage least squares, FIML estimates every parameter in Eqs. (1) and (2) simultaneously. Although computationally more intensive, the standard errors resulting from FIML estimation are most efficient among the class of simultaneous equation estimators (Greene, 2007; Wooldridge, 2010). To further avoid potential bias, we accounted for the panel structure in the data by using a fixed-effects specification with county and time effects.

6. Results

6.1. Descriptive statistics and correlations

Table 1 provides descriptive statistics and correlations for the dependent, independent, moderator, and control variables included in the simultaneous equations. As the table shows, there were on average 2640 active commercial ventures and 693 social ventures per county during our sampling period. However, as the large standard deviations indicate, there is significant variability among the Ohio counties in terms of entrepreneurial activity. During our sampling period, we observed counties with as low as 200 commercial ventures. On the other end of the spectrum, we observed counties with over 30,000 such organizations. In the case of social ventures, the lowest incidence was 52 and the highest was 9779 organizations in a county. We reasoned that one startup of any type would have a greater impact in a county with a small organizational population, thus the need to calculate creation rates relative to the existing population of organizations. The average creation rate was 11% for commercial ventures and 7% for social ventures. Again, we observe significant variability in creation rates across counties. This variability is more prevalent for the social sector with some counties reporting rates of zero and some reporting up to 40%. In comparison, the commercial sector's rates range from 4% to 23% during the years sampled.

To better illustrate the variability of venture creation rates among the counties, Fig. 2 displays two Ohio maps depicting social and commercial venture creation rates respectively. We label the seven largest cities in the state. As can be seen, commercial venture creation seems to be concentrated in and around the counties hosting a large city. This is consistent with previous studies that found greater incidence of entrepreneurial activity in urban areas (see Sternberg (2009) for a review). In contrast, social venture creation rates, though still concentrated around urban areas, are more spread out across different counties. We found it interesting that social venture creation rates are greater in counties neighboring those hosting a large city than in the large-city county itself (exceptions are Columbus and Cincinnati). The most obvious differences between social and commercial venture creation rates occur in the southern and southeastern parts of the state. This may be due to this region, known as Appalachian Ohio, housing a number of economically distressed counties (Appalachian Regional Commission, 2005).

Note that the population of commercial ventures is considerably larger than the population of social ventures. This is expected given that the population of commercial ventures is more established. The population of social ventures is smaller, but shows steady growth. This growth could be due to increased awareness of pervasive social problems and of social entrepreneurship as a viable way to address them. Due to these differences, it is possible that the effect of social venture creation on commercial venture creation is smaller than the reverse.

As shown in Table 1, most of the correlation coefficients are below the recommended cutoff value of .70. An exception is the correlation between commercial and social venture density. However, this does not pose a multicollinearity problem as these two variables are included in separate equations. The variable *transfer payments* also shows correlations about the recommended cutoff. To rule out potential multicollinearity problems, we specified a system of equations without the correlated variables, with results remaining robust to this specification. Therefore, we conclude that multicollinearity does not jeopardize the validity of our results.

6.2. Hypotheses tests

Table 2 presents the results of hypotheses testing. As noted, the dependent variables are commercial venture creation (CVC) for Eq. (1) and social venture creation (SVC) for Eq. (2). Though our focus is on the effect of social venture creation on commercial venture creation (Eq. (1)), there are some effects in Eq. (2) worth noting. First, the effect of CVC on SVC is negative and significant ($\beta = -5.73$, $p < .001$). Given that the effect of SVC on CVC is also negative and significant, the relationship between these two populations is known as full competition (Aldrich, 1990). Second, the density of social ventures positively influences SVC ($\beta = 2.27$, $p < .10$), indicating that,

Table 1
Descriptive statistics and correlations.

				Correlations											
	Variables	*Mean*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1.	Commercial Venture Creation (CVC)	0.11	0.03	1.00											
2.	Social Venture Creation (SVC)	0.07	0.07	−0.18	1.00										
3.	Transfer payments	12.74	1.00	0.24	0.14	1.00									
4.	Income per capita	26.15	6.18	0.19	−0.08	0.31	1.00								
5.	Population growth	100.21	1.01	0.48	0.08	0.03	0.25	1.00							
6.	Income growth	98.84	12.29	0.05	−0.19	−0.10	0.69	−0.003	1.00						
7.	Poverty	0.11	0.04	0.03	0.06	0.02	−0.27	−0.30	0.09	1.00					
8.	Innovativeness	0.91	1.46	0.04	−0.05	0.48	0.23	0.01	−0.04	−0.11	1.00				
9.	Unemployment	5.85	1.49	−0.13	0.28	−0.17	−0.26	−0.37	0.04	0.66	−0.32	1.00			
10.	Commercial Venture Density	2.64	4.63	0.22	0.10	0.80	0.32	−0.02	−0.04	0.03	0.61	−0.16	1.00		
11.	Social Venture Density	0.69	1.33	0.20	0.09	0.77	0.31	−0.06	−0.03	0.07	0.58	−0.14	0.99	1.00	
12.	Income tax	0.63	0.37	0.01	0.02	0.66	0.28	−0.01	−0.10	−0.27	0.47	−0.30	0.62	0.58	1.00
13.	Sales tax	1.13	0.32	−0.16	−0.07	−0.49	−0.17	−0.16	0.15	0.34	−0.31	0.36	−0.38	−0.32	−0.43

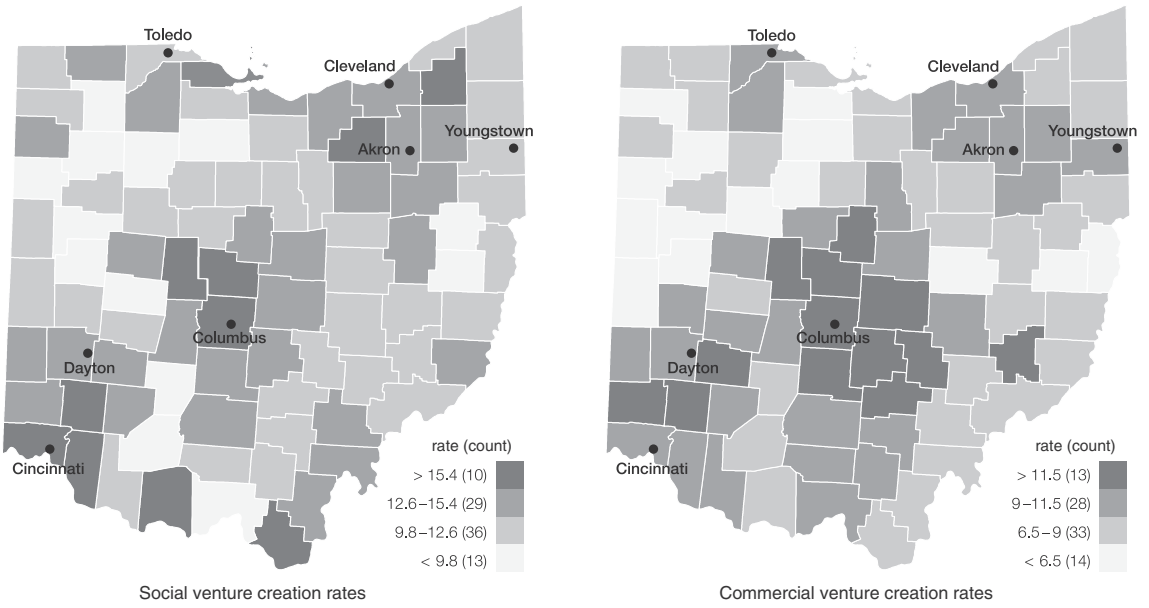

Fig. 2. Social and commercial venture creation rates in Ohio counties, year 2005.

as the population of social ventures in a county increases over time, holding other county characteristics constant, a positive density dependence within the population of social ventures would be observed.[5]

Finally, poverty and unemployment rates negatively influence SVC ($\beta = -0.53$, $p < .10$; $\beta = -1.97$, $p < .05$). These results may seem counterintuitive, since one would think that as poverty and unemployment rates increase in a county, holding other factors constant, demand for social ventures would be created, thus increasing SVC rates over time as well. However, it seems as if poverty and unemployment affect SVC more through resource availability than through increased demand. That is, to create a social venture there must be qualified individuals willing to do the job. In harsh environments, characterized by persistent poverty and unemployment, such qualified individuals may be uncommon. In addition, other resources needed to run nonprofit social ventures such as donations, membership, and volunteers are scarce in this kind of distressed environment, thus preventing social venturing (Nissan et al., 2012).

As expected, the estimates show that as the population in a county increases over time, holding county characteristics constant, more commercial and social organizations are created to address the demand posed by the growing population. Contrary to expectations, Eq. (1) shows that income growth should be expected to exert a slight negative effect on CVC ($\beta = -0.09$, $p < .10$). A possible explanation is that income growth would increase the opportunity cost of starting a commercial venture. That is, the forgone income during the pre-startup and startup period is larger, making it more difficult for an individual to make the decision to start a venture. As expected, income taxes exhibit a negative relationship with commercial start-up rates ($\beta = -0.11$, $p < .10$). Income taxes raise the cost of doing business, thus deterring entrepreneurial activity. On the contrary, sales taxes are passed on to the consumer. As such, CVC rates are not affected in the same manner. This confirms our rationale for including these controls.

Regarding the hypothesized relationships, the results show that SVC rates negatively influence commercial venture creation rates ($\beta = -0.51$, $p < .001$). This lends empirical support to Hypothesis 1, which predicted that the creation of social ventures would undermine the creation of commercial ventures. The explanation for this main effect is that, upon founding, the two populations in a given county will compete for similar resources in their locality. As we have seen, CVC also exerts a negative effect on SVC. The results seem to indicate that the CVC rate has a stronger effect on SVC than the opposite. This asymmetric effect can be due to a tendency of commercial ventures to be more competitive than nonprofit social ventures (Baum and Oliver, 1996), which makes them more efficient at gathering resources. In addition, the amount of resources needed for startup is likely to differ between social and commercial ventures. Nonprofits are usually started with few resources, since their legal registration only requires a small board of directors and a clear social mission. On the other hand, commercial ventures are more likely to require more resources before they can legally register and start operations.

The variable *transfer payments*, which accounts for government spending, positively influences commercial start-up rates ($\beta = 0.33$, $p < .05$). This suggests that increased transfer payments across time create a good environment in the county by boosting the income of the most disadvantaged individuals, which in turn entices commercial entrepreneurial activity. Hypothesis 2 predicted

[5] Because our simultaneous system of equations incorporates county-level fixed effects, the conditional mean of the dependent variable can be thought of as consisting of an average county effect (the fixed effect) and deviations from that average associated with different independent variables (Greene, 2007). In other words, a potential interpretation of growth variables in the model is as deviations from average growth levels in each county.

Table 2
Simultaneous equations results with generalized least squares estimation.

Variables	Eq. (1) DV: CVC		Eq. (2) DV: SVC	
	Estimate	SE	Estimate	SE
Social Venture Creation (SVC)	−0.51***	0.05		
Commercial Venture Creation (CVC)			−5.73***	1.53
Transfer payments	0.33*	0.15	0.70	0.66
Income per capita	0.07	0.08	0.65	0.51
SVC × Transfer payments	−0.007	0.01		
SVC × Income	0.05**	0.01		
Population growth	0.29***	0.06	1.13**	0.40
Income growth	−0.09†	0.04	0.65	0.51
Poverty			−0.53†	0.29
Innovativeness	−0.02	0.02		
Unemployment			−1.97*	0.85
Commercial Venture Density	0.21	0.19		
Social Venture Density			2.27†	1.33
Income tax	−0.11†	0.05		
Sales tax	0.06†	0.03		
Intercept	0.16	0.28	2.86	1.96
Log Likelihood	−322.26			
	N = 257	.		

All variables standardized. Model includes fixed effects for each county and year in the data. Some year fixed effects omitted due to collinearity. Estimates for fixed effects are not shown.
† $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

that transfer payments would strengthen the inter-population relationship between social and commercial ventures. The results do not lend support to this hypothesis. Thus, we conclude that government spending on welfare only has a direct effect on CVC rates and does not affect inter-population processes.

Lastly, Hypothesis 3 predicted that at lower income levels, the negative effect of social venture creation on commercial venture creation would become stronger. This hypothesis is supported as the interaction estimate between social venture creation and income per capita is positive ($\beta = 0.05$, $p < .01$). Fig. 3 depicts this interaction. As predicted, the effect of social venture creation on commercial venture creation is more negative at low levels of income. That is, as the income of a county diminishes over time, holding other county characteristics constant, the competition between these two populations at founding is expected to become slightly more negative. The figure shows that at low levels of SVC rates, income levels do not make a difference in the resulting creation rates. This result highlights the role of the economic environment in supporting diverse organizational populations. It suggests that an improving economic environment is somewhat more forgiving of inter-population competition.

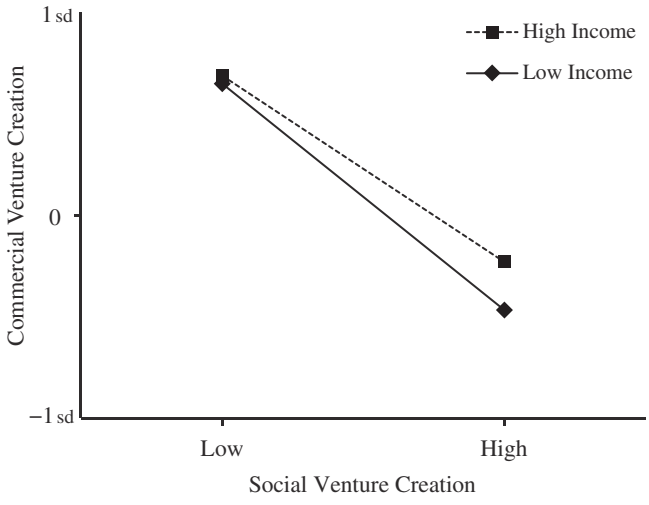

Fig. 3. Interaction of social venture creation rates and income.

7. Discussion

This study contributes to the literature on social venture creation by examining the influence that social venture creation exerts on commercial venture creation. Taking an ecological perspective, we predicted that social venture creation would undermine commercial venture creation due to competition for resources over time between the two organizational populations. Our empirical test supported this prediction by showing that as the social venture creation rates increased in a county, the commercial start-up rates decreased. The results also show that commercial venture creation rates exert a negative influence on social venture creation rates. Therefore, we conclude that the symbiotic relationship suggested by previous studies (Estrin et al., 2013; Peredo and Chrisman, 2006) may not hold at the time of creation, though it may hold over a longer term when looking at established organizations.

In addition to uncovering a negative effect of social venture creation on commercial venture creation, we proposed and tested environmental conditions that modify such an effect, focusing on government spending and income levels. Our prediction that lower income levels would intensify competition between social and commercial ventures was supported. Thus, in counties in which income diminishes over time, the competition for resources became more intense so that increases in social venture creation rates led to a slightly steeper decrease on the rates of commercial venture creation. This result also supports assertions that environmental factors not only influence foundings within an organizational population, but also influence the ecological dynamics between populations. However, our prediction that low levels of spending on welfare would also intensify competition between the organizational populations was not supported. It is possible that government spending does not have an immediate effect on inter-population dynamics. Government spending on welfare, however, did show a positive and significant effect on commercial venture creation. Thus, increasing transfer payment benefits may contribute to a more fertile ground for commercial start-ups.

7.1. Contributions and implications

This study contributes to the population ecology literature by testing the inter-population dynamics between social and commercial organizations, as opposed to populations such as industries and sub-industries where ecological dynamics are stronger (Hannan and Freeman, 1987). Defining populations broadly makes it harder to uncover ecological effects since the competition among them is more diffuse. Still, a significant negative relationship between our two broadly defined populations was found. In addition, we add robustness to the previous finding that environmental conditions (what ecologists call institutional processes) influence ecological dynamics within and between populations (Tucker et al., 1990) by including a richer operationalization of environmental variables that vary across time. Such a test for robustness was called for in the literature (Hannan and Freeman, 1987). The effect of recent social venture foundings remained strong after controlling for factors known to influence carrying capacity and, in consequence, commercial venture foundings. Thus, researchers studying ecological dynamics among organizational populations should not study them in a vacuum, but should instead consider the way in which external factors may modify such dynamics.

The present study also contributes to the new venture creation literature by demonstrating that the creation of social organizations acts as an antecedent that may hinder commercial venture creation. Therefore, researchers examining new venture creation rates in any organizational population should consider the influence of other populations as an important predictor of start-up rates (Aldrich, 1990).

Our study also contributes to the social entrepreneurship literature by testing the relationships between social and commercial ventures at the time of founding. Whereas most research in this area has focused on explicit cross-sector collaboration (Di Domenico et al., 2009), we examine cross-sector relationships regardless of explicit collaborations or conflict between organizations in the two populations. We show that social and commercial ventures indirectly compete for similar resources. These inter-population dynamics must be taken into account when studying the interplay of social entrepreneurship with external factors. The results are also a relevant contribution to the literature focusing on relevant differences and similarities between social and commercial ventures (Austin et al., 2006; Bacq et al., 2013; Dorado, 2006; Gras and Lumpkin, 2012). We demonstrate that social and commercial ventures can be studied as two distinct populations, since they behave in different ways as dictated by their motivations and organizational form. At the same time, the results suggest that their startup processes are similar in terms of the resources required for founding. This supports previous work that finds that the antecedents and outcomes of commercial and social venture tend to differ, whereas the entrepreneurial and business processes tend to be similar (Lumpkin et al., 2013).

Finally, we contribute to the regional entrepreneurship literature by focusing on the dynamics of two populations within one state. This literature emphasizes that entrepreneurship is regional, since the idiosyncrasies of a region are hardly found in others or at the country level (Feldman, 2001). Nevertheless, our conceptual framework can inform research into geographical areas that share features of the state of Ohio. For example, Carlsson and colleagues studied industrial clusters in Ohio and Sweden (Braunerhjelm and Carlsson, 1999; Carlsson, 2002) because of their similar economic history, industry structure, and institutional-level differences. It is likely that other states or multi-state regions that share similar characteristics with Ohio can be found in the US. Our predictions would be more likely to hold in such regions.

Some implications for nascent commercial ventures are that, especially in harsh environmental conditions, competition at the time of founding comes not only from companies that will engage in similar activities, but also from those organizations that utilize similar resources, in this case social ventures. In addition, both populations need to be aware of the environmental conditions in which they operate and of how these conditions affect the dynamics with other populations. Environmental scanning may aid both types of organizations to react faster to changing conditions. Commercial entrepreneurs could actively seek partnerships and collaborations with social ventures, thus capitalizing on social ventures cooperative behavior. Increased collaboration can serve to blur the boundaries between the two organizational populations, which could result in reduced competition.

Policy implications relate to the provision of resources for both organizational populations. Providing different resource alternatives for social and commercial ventures may reduce competition between the two populations, allowing them to co-exist in the same environment. Population ecologists maintain that organizational diversity helps society at better adjusting to uncertain and changing environments (Hannan and Freeman, 1987). Therefore, it could be beneficial to preserve the diversity of commercial and social organizations, rather than supporting one so it prevails over the other. Encouraging foundings in both populations could also be beneficial for society since new organizations bring about change and new opportunities that established organizations oftentimes fail to produce.

7.2. Limitations and future research

This study has some limitations that could be addressed in future research. First, we only included nonprofit social ventures in our sample, which limits our study's generalizability to other social entrepreneurial organizations. In addition, the population of commercial ventures studied may include a few ventures with a clear social purpose since, as mentioned, social ventures can also be created as for-profit organizations. The nature of the data, however, does not allow us to identify those organizations. Future research could focus on identifying social organizations in the for-profit sector to include them in the population of social organizations. Similarly, future research could identify necessity-based commercial ventures to uncover how this population interacts with both social ventures and opportunity-based commercial ventures.

As mentioned above, we focused on the relationships between two broad organizational populations. Though we uncovered significant effects, it would be interesting to examine the inter-population dynamics of more narrowly defined organizational populations. For instance, future research could focus exclusively on social ventures and study the ecological dynamics among non-profit, for-profit, and hybrid organizational forms.

Since findings from one region are not necessarily transferrable to other regions (Feldman, 2001; Sternberg, 2009), future research should consider and test the entrepreneurial framework conditions that prevail in the geographical area of study, as differences in these conditions could modify hypothesized relationships. In this study, we tested the effects of income per capita and government spending on welfare. Theoretically and empirically, future research could uncover other factors that could modify the relationships found in the state of Ohio. Possible factors to consider relate to socioeconomic conditions, culture, attitudes, and specific government policies.

The five-year time period utilized in this study may also limit our results, as population ecology studies usually examine longer time periods. Additionally, the small number of years in our sample limited our ability to capture longer-term effects of independent variables, since integrating time lags significantly reduced the sample size. Future research could focus on developing data sets that span longer time periods. This would allow researchers to capture a longer-term evolution of these two populations and to capture long-term effects of other variables, such as government spending.

8. Conclusion

In this study, we uncovered a negative influence between social and commercial venture startup rates. From this, we concluded that the competitive ecological relationship between these organizational populations is due to a degree of overlap in the resources needed to start these organizations. Even though commercial and social ventures differ in their purpose, they both draw on similar resources for startup. The results also demonstrate that the local economic environment influences the ecological dynamics between the organizations under study.

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