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Characteristics of Cities and Social Entrepreneurship¹

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Abstract:

Social entrepreneurship research remains largely conceptual and qualitative, which makes the comparisons with profit-seeking entrepreneurship difficult. This paper is an attempt to fill in this empirical divide. As such, we perform a statistical study of the characteristics of the social entrepreneurial city. Using a nationwide dataset on social venturing at the city level in France, we find that the social entrepreneurial city shares many common points with the entrepreneurial city: it is a large city, with a diversified economy and a highly educated and active population. There are also some major differences, as social entrepreneurship emerges in places lacking of creative arts and entertainment options, where there is abundance of social workers, and where a significant portion of inhabitants are living in social housing.

Keywords: social entrepreneurship, externalities, spatial variation

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Introduction

Economic activities are unequally distributed across space (Rosenthal and Strange, 2004). For instance, Bettencourt et al. (2010) show that GDP and patents exhibit a superlinear scaling with cities size, that is these variables are related to population size through a power law with a scaling exponent larger than one. Very few cities are thus concentrating large shares of nations' GDP and patents. Similarly, Balland et al. (2020) find that the higher the complexity of an activity – measured for instance in terms of the number of years of education required in this activity – the higher the superlinearity. Thus, the more complex an activity, the higher its spatial concentration.

Entrepreneurship is also a spatial phenomenon. Firms births are indeed concentrated in few regions (Armington and Acs, 2002), few cities (Glaeser and Kerr, 2010) and even in few neighborhoods (Andersson and Larsson, 2014). We note however that, to our knowledge, there is no equivalent quantitative study of the spatial distribution of social entrepreneurship, despite the rise of this kind of entrepreneurship and the emerging academic interest for this domain.

A first explanation of this lack of statistical work is the profusion of definitions of social entrepreneurship. Definitions are often conceptual and focusing on the motivations and unique characteristics of the individual entrepreneur (Dacin et al., 2010). As such, Mulgan et al. (2007, p. 13) qualifies social entrepreneurs as “*a very small number of heroic, energetic and impatient individuals*”, Moulaert and MacCallum (2019) put forth their ethical values and Waddock and Post (1991) highlight their leadership. This semantic profusion is the indicator of a still blurred field, which boundaries are not clearly drawn, hence the lack of quantitative assessments. Another explanation is that social entrepreneurs are often defined as innovators. The hypothesis herein is that social entrepreneurs are by definition or by nature Schumpeterian entrepreneurs, that is individuals introducing innovation. For instance, Waddock and Post (1991, p. 393) state that these new entrepreneurs produce “*catalytic changes in the public sector agenda*” (), and Weerawardena and Mort (2006, p. 28) indicate that “*social entrepreneurship strives to achieve social value creation through the display of innovativeness*”. Such emphasis on innovation hampers empirical investigations as there is still no consensus about what constitutes a social innovation (Pol and Ville, 2009).

Beyond the Schumpeterian meaning of the term, “entrepreneur” ordinarily designates any business creator (Baumol, 2004), regardless of the innovation content of this firm. Accordingly, empirical research on entrepreneurship focuses on numbers of business creations or on the number of small firms in a given area (Glaeser, 2007; Armington and Acs, 2002; Andersson and Larsson, 2014). In a similar vein, in this paper, we circumvent the definitional issue of social entrepreneurship by considering the creation of social ventures. We thus depart from the innovative view promoted in the literature. This theoretical shift offers several advantages: (i) it facilitates empirical identification of social entrepreneurs, and (ii) it allows the comparison with conventional entrepreneurship research. Such comparison is particularly needed as a number of authors are casting doubt on the usefulness of social entrepreneurship as a distinct concept (Dacin et al., 2010; 2011).

Our objective in this paper is to fill the identified lack of measurement of the propensity of social entrepreneurship in cities. In particular, we question what in a city's characteristics fosters social entrepreneurship, and we compare these with the drivers of (standard or profit-seeking) entrepreneurship.

Using a nationwide dataset on social venturing at the city level in France, we find that the social entrepreneurial city shares many common points with the entrepreneurial city: it is a large city, with a diversified economy and a highly educated and active population. There are also some major differences, as social entrepreneurship emerges in places lacking of creative arts and entertainment options, where there is abundance of social workers, and where a significant portion of inhabitants are living in social housing. These peculiarities of the social entrepreneurial ecosystem bring support to contributions advocating for social entrepreneurship research.

The rest of the paper is organized in four parts. The first section reviews the characteristics on the archetypal entrepreneurial city and discusses their relevance regarding social entrepreneurship. It also seeks to identify specific drivers that should be taken into account to address social entrepreneurship in cities. The second section brings a workable definition of social entrepreneurship and presents our city-level dataset. The results of our econometric analysis are presented in section 3, and the section 4 concludes the paper.

1. From entrepreneurial city to social entrepreneurial city

The empirical literature provides with many indicators of entrepreneurial activity. For instance, Bosma and Sternberg (2014) and Armington and Acs (2002) use the firms birth rate, Glaeser (2007) and Acs et al. (2011) use self-employment, and Glaeser (2007) proposes also firms' size – assuming that small firms are a sign of entrepreneurship. We note that none of these measurements is based on a Schumpeterian view. Also, all of these contributions propose to explain the unequal distribution of entrepreneurship across space. In particular, Glaeser (2007) summarizes the four main explanations for this phenomenon: (i) human resources, (ii) culture of entrepreneurship, (iii) the provision of specific inputs supporting entrepreneurial efforts, and (iv) the presence of a significant demand. In this section, we review each of these explanations, and we discuss their relevance in the case of social entrepreneurship. Our objective is to formulate testable hypotheses on the drivers and hampering factor of social entrepreneurship in cities.

Comparing social and conventional entrepreneurship can be a thorny exercise, as social entrepreneurship scholars assimilate the entrepreneur with an innovator. However, it is noteworthy that many examples of social innovations are in fact about replicative experiences. For instance, Vega and Kidwell (2007) mention the activities of Pierre Omidyar, founder of eBay, who also founded “an *innovative* program to provide start-up loans to aspiring entrepreneurs in developing economies” (p. 22) in the same vein as Muhammad Yunus' microfinance. As a consequence, the word “innovation” found in the social entrepreneurship literature may very well refer to replicative

or routinized enterprises, making the dialogue possible with the empirical literature on conventional entrepreneurship.

(i) Human resource

In this view, the entrepreneurial success of a handful cities can be explained by the over-representation of certain categories of people – for instance the highly educated or the older ones.. Glaeser (2007) finds that college education and age are both increasing the probability of self-employment. Similar results are found by Bosma and Sternberg (2014) in explaining the probability of starting new businesses in European cities.

For their part, social entrepreneurship studies mostly emphasize on social (Schumpeterian) entrepreneurs' exceptional characteristics in terms of leadership (Waddock and Post, 1991), creativity and ethical values (Mulgan et al., 2007). We can therefore expect an increasing propensity to engage in this line of activity when educational level rises. Indeed, like other types of entrepreneurs, the social ones need to identify needs that are potentially unmet, think and put into practice workable solutions – which often involve complex networks of actors (Roberts and King, 1988; Waddock and Post, 1991; Zahra et al., 2009; Desmarchelier et al., 2019).

Regarding the age effect, there seems to be no consensus in the literature. On one hand, in a qualitative investigation of a group of social entrepreneurs, Bardensen and Gardner (2004) find that “early traumas” and “early activism” (p. 46) are often motivating social entrepreneurship – suggesting that social entrepreneurs are relatively young. On the other hand, Light (2009, p. 22) claims that “old organizations can nurture social entrepreneurship”, and there are many examples of successful business leaders who then invest financial resources and efforts into philanthropy, like Bill Gates, or the already cited case of Pierre Omidyar.

Local culture of entrepreneurship

Glaeser (2007) also mentions the existence of a “*culture of entrepreneurship*” that differs across cities. This hypothesis has attracted interest after Saxenian’s seminal work comparing the Route 128 and the Silicon Valley (Saxenian, 1994). According to this study, Silicon Valley’s success is the product of a local culture of networking and partnership building among companies and universities. According to Florida (2002), the most innovative cities are those which are open to social diversity and which offer a vibrant nightlife and an independent cultural scene. In this perspective, the entrepreneurship culture is including elements that overcome the way local production systems are organized. However, subsequent works on the “culture hypothesis” departed from the networking view and disregarded the cultural dimension of cities. Instead, authors in this strand of literature retained the number of existing entrepreneurs as a relevant explanatory variable for future business creation – regardless of the new firm’s innovative content. Individual proximity with numerous entrepreneurs is indeed expected to decrease ambiguity and to offer models of behavior for future entrepreneurs (Minniti, 2005). On the empirical side, Andersson and Larsson (2014) find that the share of entrepreneurs in city neighborhoods in Sweden increases individuals’ probability to start a business, while Glaeser (2007) finds mixed evidence at the city level in the United States - in particular because of potential sectors effects.

Indeed, some sectors, like the construction industry, have higher self-employment rates than others (Glaeser, 2007).

A related discussion concerns the relative importance of localization and urbanization externalities (Rosenthal and Strange, 2004; Bosma and Sternberg, 2014), that is the extent of externalities produced by the concentration of a city's entrepreneurs in a single industry (Marshallian or specialization externalities), or by their dispersion across industries (Jacobian or diversity externalities). Transposed to the entrepreneurship culture hypothesis, this discussion considers if it is better for the creation of new businesses to have a high rate of entrepreneurship within the single considered industry or in the city in general.

Glaeser et al. (1992) test the relative importance of various types of externalities for employment growth in city industries. In this work, Marshall (or localization) externalities are associated with monopoly and specialization, Porter externalities are defined through competition and specialization, and Jacobs (or urbanization) externalities (Jacobs, 1969) are obtained through a combination of competition and diversity. Competition is measured by the ratio of firms per worker in a city industry compared with the United States average, and diversity is measured by the share of a city's five largest industries in its total employment. The authors' results strongly support Jacobs' externalities. Likewise, works related to the entrepreneurial culture hypothesis are generally using entrepreneurship rate in general as explanatory variable instead of sector-specific rates of entrepreneurship (Andersson and Larsson, 2014; Glaeser and Kerr, 2010).

Considering that social entrepreneurs often operate through mobilizing a variety of actors – public and private – in complex networks (Roberts and King, 1988; Waddock and Post, 1991; Zahra et al., 2009; Desmarchelier et al., 2019), we expect Jacobs-urbanization externalities to be an important factor in fostering social business creation. The presence of other social entrepreneurs could undoubtedly produce fruitful example cases to aspiring social entrepreneurs, but we assume such cases to be rare given the relative novelty of the phenomenon of social entrepreneurship.

Application to social entrepreneurship of Florida's hypothesis on the virtues of an independent cultural scene and of social diversity is uncertain. Indeed, on one hand, cultural events are certainly offering occasions for networking and discussing about local social issues. But on the other hand Florida (2002) finds that such events are happening in resourceful places like San Francisco or New York instead than in the most pauperized areas – where social entrepreneurs are most needed.

Inputs

A third range of explanation of the unequal spatial distribution of entrepreneurship is that some locations are endowed with inputs that are favorable to business creation. In Glaeser (2007), such inputs include venture capital, as well as labor supply and the presence of a high degree of competition among suppliers of specialized inputs. Other favorable local conditions include the existence of associative groups helping aspiring entrepreneurs as well as universities (Feldman, 2001). In our view, these factors are related to the culture hypothesis as they involve the presence of entrepreneurs and their networking (Saxenian, 1994). It follows that the frontier between inputs and the culture hypothesis seems ill-defined. Also, venture capitalists are not bound to invest their

funds locally. As such, Glaeser (2007) finds no evidence of local venture capital's influence on self-employment rate.

Zahra et al (2009) develop a typology of social entrepreneurs depending on their search strategy, that is "*how they discover social opportunities*" (p. 520). They distinguish three categories: the "social bricoleur", the "social constructionist" and the "social engineer". The bricoleur is acting locally, finding local issues to which he brings small-scale answers using "non-specialized resources" (p. 525). The social constructionist identifies growing needs and builds "scalable solutions" (p. 525) for which external funding might be necessary. Finally, the social engineer identifies "*systemic problems ... and address(es) them by bringing about revolutionary change*" (p. 526). It follows from this typology that specialized inputs are not necessary to the "bricoleurs", and that "engineers" might rely on specialized inputs found in their city and also from a larger horizon. In a geographical perspective, this discussion indicates that it is likely that social bricoleurs are more uniformly distributed across cities than social engineers. Overall, local specialized inputs might not be of fundamental importance for social entrepreneurship in general – that is abstracting from the specific categories suggested by Zahra et al (2009).

Social entrepreneurs often build social ventures through multi-agent networks (Desmarchelier et al., 2020; Waddock and Post, 1991; Roberts and King, 1988). These networks, that Desmarchelier, et al. (2019) call Public Service Innovation Networks for Social Innovations (PSINSIs), are coproduced by citizens, third sector agents and the public sector. In this sense, supportive public administrations, as well as a dense ecosystem of social workers should be considered as important inputs for social entrepreneurship.

Demand

Given the previous discussion about externalities, one may assume that the largest cities are also the most innovative thanks to higher intra and inter-sectoral spillovers. However, while New York city is many times bigger than San Francisco, Florida (2002) finds it less attractive for the "creative class". For their part, Bettencourt et al. (2010) argue that reasoning in terms of per capital statistics is biased in favor of large cities. Indeed, such indicators assume a linear relationship between their numerator (GDP, patents, business creations...) and the denominator (population) while in reality these quantities are linked through a power law relationship due to the spillover effects. The authors thus compute "scale adjusted metropolitan indicators" that take into account the scaling effect induced by a larger population. As a result, they establish that "New York is quite an average city, marginally richer than its size might predict, not very inventive and quite safe" (p. 4), while some smaller cities like San José are "truly exceptional" (p. 4). Accordingly, Glaeser (2007) finds only a weak evidence of a relationship between the demand-side and business creation.

The relationship between social entrepreneurship and demand is not straightforward neither. At first, one could assume that the bigger the social difficulties, the stronger the incentives to create organizations with a social mission. However, from the discussion of the culture of entrepreneurship hypothesis, we find that it is likely that large industrial and monopolistic cities, like Detroit, would have relatively few social entrepreneurs while being riddled with social issues.

In summary, the social entrepreneurial city – if it exists – should share many common points with the entrepreneurial city, that is one with a diversified production system, a significant proportion of highly educated inhabitants, but also with social issues that need to be solved. All in all, this would resemble a resourceful place. Consequently, the poorest of all cities – i.e. those with very few qualified labor and a production system concentrated into few (and declining) industries – would have low chances to see emerging social enterprises. We propose to test these hypotheses with empirical data.

2. The Data

We start this section by explaining our measurement strategy for identifying social entrepreneurship. Then, we present our independent variables and test for their colinearity.

2.1. Measuring social entrepreneurship

Since the empirical literature on entrepreneurship does not focus on Schumpeterian innovators, and also because the notion of social innovation is still not clearly defined, we propose to measure social entrepreneurship through social businesses creation – regardless of the innovative content of these businesses.. We thus need to identify these specific companies. In 2014, the French Ministry of Economy elaborated a law aiming at promoting and supporting the development of the social economy within the country. In particular, this law created a labelling for social enterprises, called ESUS.³ Companies need to meet four criteria to be labelled:⁴

1. The enterprise should pursue a social objective
2. The search for social inclusion should have consequences on the financial results of the company.
3. Remuneration levels and inequalities within the company should remain contained within predefined boundaries.
4. The shares of the firm should not be traded on stock markets.

Labelled companies can then benefit from various funding mechanisms, like tax-free venture capital investments. We propose to use the number of these **ESUS (solidarity firms thereafter)** as a proxy for social entrepreneurship. The advantages of such a proxy is that it provides with a clear definition of what a social company is and a nationwide dataset. The drawback however is that there is no clear correspondence between the birth of the company and its labelling. We believe that this issue remains a minor concern, as the fourth criterion about stock markets (mentioned above) ensures that labelled organizations are rather young or relatively small.

³ ESUS stands for Entreprise Solidaire d'Utilité Sociale (Solidarity enterprise for social utility)

⁴ <https://www.economie.gouv.fr/entreprises/agrement-entreprise-solidaire-utilite-sociale-ess>

The national directory of **solidarity firms**⁵ is providing the full list of labelled companies at the city level. In total, 975 firms have received this label since its implementation. Table 1 shows the number of such firms by year. We observe a peak in 2017, with a total of 923 labelled companies. Note that most of these firms have been labelled in 2016 as the label goes for a period comprised between two to five years. The spatial distribution of these firms in 2017 is displayed in Figure 1. We observe a high geographical concentration. Indeed, only 467 cities are hosting **solidarity firms**, while the country counts 36,718 cities.⁶ Besides, the vast majority of these 467 cities are hosting only one of such firms. Top 3 cities are Paris (73 firms), Lille (31 firms) and Marseille (23 firms).

Given the identified spatial concentration, we propose using a binary indicator, named $esus_i$, as dependent variable, such as $esus_i = 1$ if the city i is hosting at least one **solidarity firm**, and $esus_i = 0$ otherwise. It appears that most of the social companies do not apply to the ESUS label,⁷ either because they do not know its existence or because they do not think of themselves as eligible. Consequently, social firms in a city are likely a multiple of the number of our solidarity firms. Therefore, we propose to classify a city i as social entrepreneurial when $esus_i = 1$.

Table 1: Number of ESUS firms in France over the years

Year	Number of ESUS firms
2016	769
2017	923
2018	894
2019	780

⁵ <http://www.esspace.fr/annuaire-entreprises-economie-sociale-et-solidaire-ess-france-eyes-atonis-cnccres-insee.html>

⁶ The total list of French cities can be found at: <https://www.insee.fr/fr/information/2028028>

⁷ https://www.cnccres.fr/media/client/gridfichier/ressource5/etudeentreprisesesus1801bdi_vf.pdf

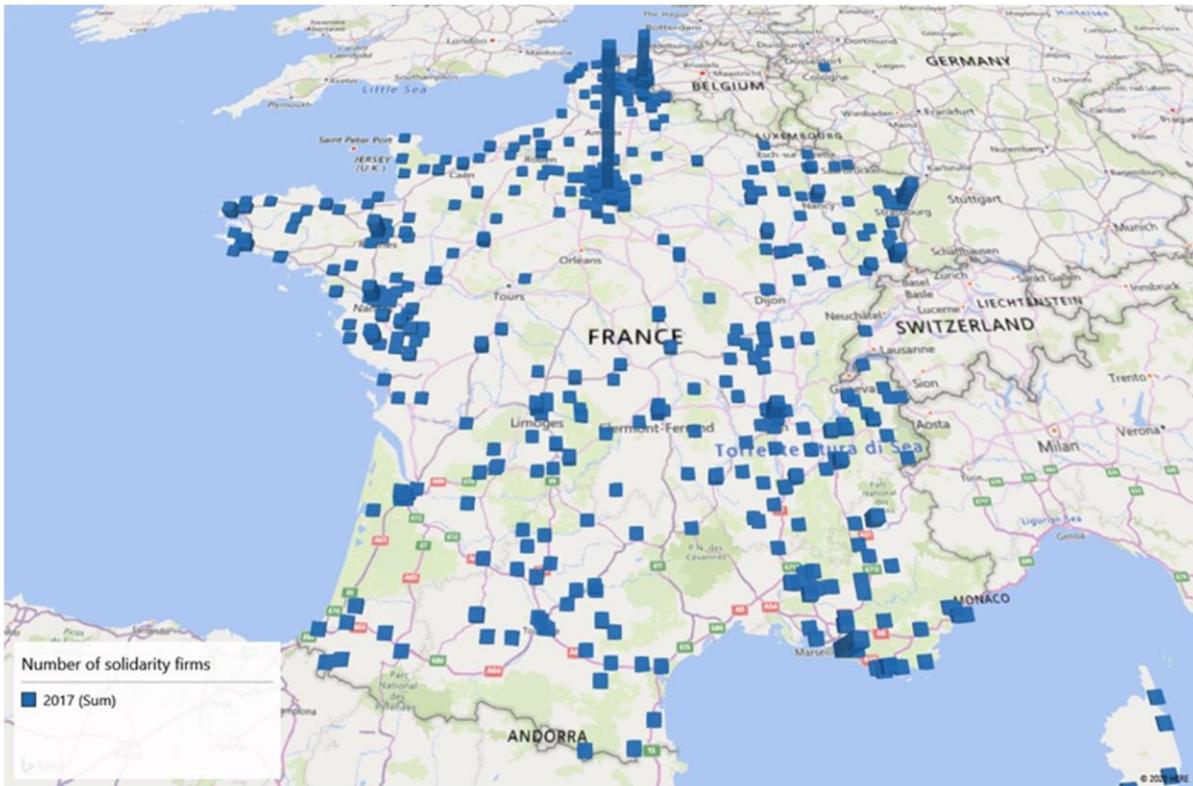


Figure 1: Distribution of ESUS organizations across cities in 2017

2.2. Independent variables selection and colinearity

Following Glaeser (2007), propose to explain the presence of solidarity firms in cities through variables representing the four main explanations of entrepreneurship found in the literature: (i) human resources, (ii) culture of entrepreneurship, (iii) the provision of specific inputs supporting entrepreneurial efforts, and (iv) the presence of a significant demand. The data we use are all provided by the French national bureau of statistics (INSEE). Our dependent variable, $esus_i$, is based on count of solidarity firms in 2017, we thus use 2017 data for the independent variables whenever possible. However, since data at the city level are not updated on a yearly basis by INSEE, we sometimes have to rely on 2016 numbers. We notify the reader every time 2016 data is used.

The following variables are meant to account for the so-called “human resource hypothesis”:⁹

- $Activ_i$, the share of the population in the city i which is employed or actively searching for a job in 2016.
- $College_i$, the share of the population above 15 in the city i which is holding a college degree in 2016.

⁹ Raw data can be found at: https://statistiques-locales.insee.fr/#bbox=-1046993,6661347,2586108,1619645&c=indicator&f=000&i=rp_ageact_15_64.tx_act&s=2016&view=map1

- $Population_i$, the total number of inhabitants in the city i , provided by the 2017 population census.¹⁰
- $AgeingIndex_i$, the number of inhabitants of 65 years old or above, divided by the number of inhabitants younger than 20 years old. The higher this index, the older is the population of a city.

If the population hypothesis is correct, then a large, active and highly educated population should nurture entrepreneurship. We thus expect these variables to positively influence the probability of social entrepreneurship in the city. Thus far, aging is assumed to have an ambiguous relationship with $esus_i$.

We explore the culture of entrepreneurship hypothesis with the following variables:

- $BusCreation_i$ provides the rate of business creation per thousand inhabitants in the city in 2017.¹¹ A similar variable is used in Armington and Acs (2002).
- $Top5Empl_i$ is the share of the five biggest industries (out of 38 sectors) in the city i (in terms of employment) in the total employment of this city at the end of 2015.¹² For each city, the INSEE is providing the number of firms per sector and per size categories in terms of employees numbers. We estimate city-industry employment by multiplying the number of firms by the central value of each employment category. These figures are then divided by the total employment that we have estimated in the city so as to identify the top 5 industries. This variable is computed in the same manner as the “specialization” index in Glaeser et al. (1992).
- $CreativeArts_i$ is the share of creative arts and entertainment activities in the city’s total employment. Data source and computing method are those used in $Top5Empl_i$.

If the “culture of entrepreneurship hypothesis” is applicable to social entrepreneurship, then a higher rate of business creation should increase the probability of social enterprise creation in the city. Also, this probability should be negatively related with the share of the five biggest industries in city employment. Indeed, urbanization – or Jacobs’ – externalities emanate from economic diversity rather than from specialization.

Regarding to presence of specialized inputs, we do not have data about venture capital in French cities, but a clear relationship with social entrepreneurship would be unlikely, considering that capital is not geographically bounded (Glaeser, 2007). Also, it seems that some forms of social entrepreneurship, notably the one called “social bricoleur” (Zahra et al., 2009), only require generic inputs. What the existence of the ESUS label reveals however is that social entrepreneurship may need support from public administration. Also, in an extensive literature review, Desmarchelier, Djellal and Gallouj (2019) find that public services, associative workers and citizens are instrumental in establishing networks of actors aiming at social innovation. We

¹⁰ Population estimates in 2017 can be found at:

<https://www.insee.fr/fr/statistiques/4265429?sommaire=4265511>

¹¹ Total numbers of business creations can be found at: <https://www.insee.fr/fr/statistiques/2021271>

¹² Raw data are available at: <https://www.insee.fr/fr/statistiques/2517292>

thus consider the following variables as proxies for specialized inputs in the context of social entrepreneurship:¹³

- $PublicADM_i$, the share of public administrations in the total employment in the city i at the end of 2015.
- $SocialWork_i$, the share of social work activities in the total employment of the city i at the end of 2015.
- $HumanHealth_i$, the share of activities related with human health in the total employment of the city i at the end of 2015.

If public administrations and the third sector are playing a supportive role for social entrepreneurship, then we expect them to be positively related to our dependent variable.

Reading from Glaeser (2007), the demand hypothesis seems poorly related with entrepreneurship. This is surely because markets are well integrated across cities in modern economies. However, a social entrepreneur defines himself through its social objective, which should be a response to identified social issues. On this ground, we hypothesize that the scale of social and economic difficulties in a city could increase the probability of social business creation.

The demand hypothesis is investigated through the following variables:

- $NonGraduate_i$, the share of people above 15 in the city i with no more than a middle school degree (in 2016).¹⁴
- $LowRent_i$, the share of the population in the city i who live in a low-rent or social housing (in 2016).¹⁵
- $MedIncome_i$, the median income (in euros) in the city in 2017.¹⁶
- $SingleF_i$, the share of single families among the total number of families in the city in 2016.¹⁷

While all these variables have been produced by the same institute (INSEE), they emanate from different surveys. Consequently, their geographical coverage is not always the same. Keeping only the cities for which all data are available, we obtain a dataset with 31,092 observations, among which 467 cities are hosting at least one solidarity company.

Descriptive statistics for the dependent variables are provided in Table 2. All statistical indicators show a wide amplitude. We find that the average French city in 2017 is having a population of

¹³ Raw data can be found at: <https://www.insee.fr/fr/statistiques/2517292>

Employment numbers are estimated using the same procedure as for $Top5Empl_i$

¹⁴ Data can be found at: https://statistiques-locales.insee.fr/#bbox=1046993,6661347,2586108,1619645&c=indicator&f=000&i=rp_ageact_15_64.tx_act&s=2016&view=map1

¹⁵ Data can be found at: https://statistiques-locales.insee.fr/#bbox=-1046993,6661347,2586108,1619645&c=indicator&f=000&i=rp_ageact_15_64.tx_act&s=2016&view=map1

¹⁶ Data source: <https://www.insee.fr/fr/statistiques/4291712>

¹⁷ Data source: https://statistiques-locales.insee.fr/?view=map1&indics=rp.pt_fammonop&serie=2016&lang=fr

2099 inhabitants, among which 75.9 % are active on the job market, 23.38 % of the adults (above 15) are holding a university degree, while 29.36 % are holding at best a middle school degree.

The average French city is old: with an average aging index of 97%, we can say that there are nearly as many inhabitants aged below 20 than there are aged 65 or above. 3.7 % of the population of the average city is living in a low rent housing. The average median income is €21,132. The employment structure is concentrated, as the top 5 sectors in the average city account for 74.6 % of the total employment. While this characteristic should hamper entrepreneurship, we find that the rate of business creation - 5.6 new businesses per 1000 inhabitants - is rather high compared with the numbers reported in Armington and Acs (2002), who found an average of 3.85 new enterprises per 1,000 workers in the U.S. in 1994. Our figure is consistent with those reported by Bosma and Sternberg (2014) regarding the rate of early-stage entrepreneurial activity in European cities. Public administrations, social works and activities related to human health account for 8.6%, 4.1% and 2.5% of the average city's employment, respectively. Finally, the creative arts represent 2.8% of the employment.

Table 2: Descriptive statistics of the dependent variables ($N = 31,092$) (data in %, except for the variables identified with *)

Variable	Mean	Std	Min.	Max.
$Activ_i$	75.999	4.824	26.100	94.200
$College_i$	23.389	8.239	2.700	73.000
$Population_i (*)$	2099.276	16040	72.000	2204773.000
$AgingIndex_i$	97.638	60.945	6.700	1700.000
$BusCreation_i$	5.677	4.491	0.000	56.338
$Top5Empl_i$	74.635	11.932	0.000	100.000
$CreativeArts_i$	2.827	3.933	0.000	76.087
$PublicADM_i$	8.614	6.752	0.000	100.000
$SocialWork_i$	4.158	10.076	0.000	96.899
$HumanHealth_i$	2.576	5.325	0.000	91.613
$NonGraduate_i$	29.367	7.795	5.400	67.200
$LowRent_i$	3.770	6.509	0.000	68.900
$MedIncome_i (*)$	21132	3607.9	8690.000	50280.000
$SingleF_i$	10.675	7.015	0.000	66.700

Table 3 presents the correlation matrix of the dependent variables. We observe a high negative correlation between the share of inhabitants holding a college degree and the share of inhabitant without such a degree. This reveals a segregation tendency in French cities: people from the two extremes of the education spectrum are not living side by side in the same cities. We also observe a collinearity between these two variables and the median income: cities with higher proportion of college degree holders are richer, while those with higher proportions of non-graduates are poorer. Interestingly, the rate of businesses creations is not correlated with the aging index, while an older population is often regarded as a driver of entrepreneurship (Glaeser, 2007). This may be explained by the fact that the legal retirement age in France is lower than 65. Entrepreneurship is thus not a

necessity for this category of the population. In accordance with Florida (2002), Table 3 reveals that college graduates are more frequent in places with a creative arts scene. However, creative arts are not correlated with the rate of business creation.

Overall, there seems to be no dramatic collinearity issue, as the variance inflation factors for each variable remain relatively low (see Table 4).

Table 3: Correlation Matrix of the Dependent Variables

	<i>Activ_i</i>	<i>College_i</i>	<i>Population_i</i>	<i>AgingIndex_i</i>	<i>BusCreation_i</i>	<i>Top5Empl_i</i>	<i>CreativeArts_i</i>	<i>PublicADM_i</i>	<i>SocialWork_i</i>	<i>HumanHealth_i</i>	<i>NonGraduate_i</i>	<i>LowRent_i</i>	<i>MedIncome_i</i>	<i>SingleF_i</i>
<i>Activ_i</i>	1.000													
<i>College_i</i>	0.214	1.000												
<i>Population_i</i>	-0.055	0.100	1.000											
<i>AgingIndex_i</i>	-0.356	-0.245	-0.028	1.000										
<i>BusCreation_i</i>	0.015	0.253	0.088	0.042	1.000									
<i>Top5Empl_i</i>	0.056	-0.282	-0.149	0.044	-0.194	1.000								
<i>CreativeArts_i</i>	0.002	0.136	-0.016	0.032	0.065	-0.118	1.000							
<i>PublicADM_i</i>	-0.038	-0.073	-0.030	0.018	-0.093	0.218	0.072	1.000						
<i>SocialWork_i</i>	-0.175	-0.031	0.029	0.117	-0.001	-0.071	-0.084	0.072	1.000					
<i>HumanHealth_i</i>	-0.138	0.074	0.062	0.076	0.036	-0.202	-0.038	-0.088	0.095	1.000				
<i>NonGraduate_i</i>	-0.379	-0.762	-0.009	0.393	-0.146	0.160	-0.123	0.029	0.163	0.037	1.000			
<i>LowRent_i</i>	-0.189	-0.023	0.218	-0.060	0.064	-0.344	-0.091	-0.128	0.176	0.210	0.180	1.000		
<i>MedIncome_i</i>	0.282	0.662	0.014	-0.270	0.112	-0.163	0.052	-0.097	-0.028	0.032	-0.587	-0.112	1.000	
<i>SingleF_i</i>	-0.132	-0.017	0.093	0.032	0.075	-0.144	-0.008	-0.023	0.087	0.102	0.094	0.286	-0.120	1.000

Table 4: Variance Inflation Factors

	Variance inflation factors
<i>Activ_i</i>	1.335
<i>College_i</i>	3.372
<i>Population_i</i>	1.073
<i>AgingIndex_i</i>	1.351
<i>BusCreation_i</i>	1.116
<i>Top5Empl_i</i>	1.363
<i>CreativeArts_i</i>	1.068
<i>PublicADM_i</i>	1.108
<i>SocialWork_i</i>	1.120

<i>HumanHealth_i</i>	1.101
<i>NonGraduate_i</i>	3.148
<i>LowRent_i</i>	1.442
<i>MedIncome_i</i>	1.944
<i>SingleF_i</i>	1.118

3. Empirical Results: what explains social entrepreneurship in cities?

Table 5 shows the outputs of a logistic regression of our binary $esus_i$ variable over the 14 variables selected to represent the various hypotheses (i.e. population, entrepreneurial culture, inputs and demand hypotheses) about the factors driving social entrepreneurship. We draw six main results from statistical work.

Table 5: Regression outputs on the determinants of social business creation in cities

		Dependent variable: $esus_i$ (0 or 1)
human resource hypothesis	$Activ_i$	-0.059*** (0.013)
	$College_i$	0.043*** (0.013)
	$Population_i$	0.0000329*** (0.00000381)
	$AgingIndex_i$	0.00031 (0.0011)
Culture of entrepreneurship hypothesis	$BusCreation_i$	-0.016 (0.0168)
	$Top5Empl_i$	-0.067*** (0.006)
	$CreativeArts_i$	-0.162*** (0.033)
Specialized inputs hypothesis	$PublicADM_i$	-0.006 (0.011)
	$SocialWork_i$	0.028*** (0.005)
	$HumanHealth_i$	0.022*** (0.008)
Demand hypothesis	$NonGraduate_i$	0.011 (0.014)
	$LowRent_i$	0.046*** (0.006)
	$MedIncome_i$	-0.0000438* (0.0000229)

<i>SingleF_i</i>	0.0167 (0.011)
<i>Constant</i>	4.313*** (1.373)
<i>R-squared</i>	0.299

Note: $N = 31,095$, standard errors in parentheses, *** $p < 0.01$, * $p < 0.1$

Result 1: All three hypotheses are at least partially supported by the regression, since all of them are displaying at least one significant variable.

Result 2: The most influential variables are *Top5Empl_i*, the share of a city's five biggest industries in its total employment, and *CreativeArts_i*, the share of creative arts in a city's employment. In accordance with Jacobs' hypothesis (Jacob, 1969), a more diversified city economy favors social business creation (see also Glaeser et al., 1992). Indeed, the negative coefficient suggests that a monopolistic city is less likely to host a solidarity firm. This result is paradoxical in the sense that such cities are often old industrial towns with needs for social entrepreneurship. The negative coefficient of *CreativeArts_i* minors this pessimistic conclusion. Indeed, poorer cities with relatively few entertainment options may still attract social ventures. This result suggests that Florida's hypothesis (2002) about the importance of a cultural scene for business creation does not apply to social entrepreneurship.

Result 3: The rate of business creation is not significant, suggesting a low connection between social entrepreneurship and conventional forms of entrepreneurship. This result confirms the theoretical literature on the peculiarities of social entrepreneurship (see Waddock and Post, 1991; or Mulgan et al., 2007 – among others).

Result 4: Most variables testing the population hypothesis are significant. Thus, large cities with a high proportion of college graduates are more likely to nurture social entrepreneurship. Contrary to what might have been expected for the establishment of conventional businesses, the proportion of the population which is actively involved in the labor market is having a negative influence on social entrepreneurship. We suggest that this is because this variable can act as a demand variable for social entrepreneurs. Indeed, low involvement in the economic life can be the reflect of social difficulties to which social enterprises are responding. Note that age seems to have no connection with social entrepreneurship.

Result 5: The share of the public administration in the city's employment is not significantly affecting *esus_i*. We can interpret this result in different ways. At first, we could deduce that social entrepreneurship is not responding to a lack of public services provision (an hypothesis frequently invoked though – see for instance Moulaert and Ailenei, 2005). Another explanation is that the city level is not relevant for studying the economic influence of the French public sector as it remains largely centralized.

Employment in the third sector (*SocialWork_i*) and in activities related to human health (*HumanHealth_i*) are both increasing the likelihood of social entrepreneurship. This result tends to confirm Desmarchelier, et al.'s hypothesis (2019) that citizen and third sector agents are instrumental in the emergence of social innovations.

Result 6: The demand hypothesis is supported by the negative coefficient of the activity rate (see “Result 4”) and by the positive coefficient associated with the share of inhabitant living in low rent housing. However, the share of non-graduates, the share of single families and the level of the city’s median income are not significant, bringing a mixed support for this hypothesis.

4. Conclusion

In this paper, we have proposed to depart from the Schumpeterian vision of the social entrepreneurs. As such, echoing empirical research in for-profit entrepreneurship, we defined social entrepreneurship as the creation of social ventures. The resulting proximity with entrepreneurship research proved to be fruitful for hypothesis building and for results comparison.

Overall, we have found that social entrepreneurship is unequally distributed across cities. Also, the social entrepreneurial city shares many similarities with the entrepreneurial one. Indeed, social entrepreneurs seem to benefit from urbanization externalities and the presence of a large and highly educated population. The social entrepreneurial city is thus a resourceful place – which may appear as paradoxical because this form of entrepreneurship is responding to unmet needs of the poorest. Our results show that such a traditional view remains partially correct, as we found that a high proportion of social housing and a low involvement in the labor market are predictors of social business creation. Interestingly, employment in the creative arts is a strong negative predictor of social entrepreneurship: contrary to Florida’s hypothesis (2002) regarding for-profit entrepreneurship, an active culture scene is not a prerequisite for social entrepreneurs.

Social entrepreneurship scholars often stress on the peculiarities of social entrepreneurs: they are said to be innovators, leaders who build networks of actors (Waddock and Post, 1991; Roberts and King, 1988), or passionate individuals seeking for “social return” instead than profit (Vega and Kidwell, 2007; Weerawardena and Mort, 2006). But the absence of a shared definition of the social entrepreneur and of social innovation is raising concerns about the legitimacy of these concepts (Pol and Ville, 2009; Dacin et al., 2010; 2011). For instance, Dacin et al. (2010) declares that “for many, it is not clear how the study of (yet another) type of entrepreneurship adds

theoretical value” (p. 1203). The present study brings support to the demarcative view, as we found no significant relation between social entrepreneurship and for-profit business creation.

While the results reported in this study are promising, it is important to stress on the limits of our methodology. The first limit is that we are not focusing on the innovative social entrepreneurs. Typologies, like the one proposed by Zahra et al. (2009) could thus be used in future works to refine our conclusions. For instance, are the factors favoring social bricoleurs the same as those favoring social engineers? Another limit is that we use a very light criterion to classify cities as social entrepreneurial ones: to recall, a city is classified as such when it is hosting at least one labelled solidarity firm. This light criterion is due to the fact that, so far, very few organizations have been labelled in France. An implicit hypothesis of our work is that labelled units are a small fraction of the total number of social ventures. As such, the presence of a labelled organization would be an indication of a local ecosystem of social entrepreneurship. Our results suggest that such ecosystems are presenting similarities and differences with conventional entrepreneurial ecosystems, but given the aforementioned limits, further studies are needed.

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