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# Public service provision, social protection and social entrepreneurship

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**Abstract**

Despite the increasing interest in social entrepreneurship (SE), there is still much unknown about the drivers of SE. As social enterprises often complement public services and social protection, this study examines the relationship between the national provision of these factors and entrepreneurs' propensity for SE. To do so, a multilevel analysis on 39,054 entrepreneurs from 58 countries is conducted, in which several measures of engagement in SE are considered. Overall, the analysis finds no evidence for relationships between the national provision of public services and social protection, and entrepreneurs' propensity for SE. Subsample analyses on basis of a country's stage of economic development confirm this finding. Nevertheless, as a relatively large proportion of the variance in the propensity for SE appears to reside at the country level, the study validates the application of multilevel modeling in the field of inquiry of SE. Furthermore, the subsample analyses indicate that determinants of SE are not identical across countries in different stages of economic development.

**Keywords:** social entrepreneurship, public service, social protection, institutional theory, global entrepreneurship monitor, multilevel modeling

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# 1 Introduction

All over the world, the last two decades have seen a rapid increase in (awareness of) social entrepreneurship (SE). Next to generating private economic gains, social enterprises particularly pursue a social objective, for instance promoting inclusiveness, social cohesion, or international development. Well-known examples of enterprises that are considered social are Tony’s Chocolonely and Fairphone, but the vast majority of social entrepreneurs currently operate on a relatively small scale (Karré, 2020). In addition, there is no consensus on what SE exactly entails. Nevertheless, it is considered to have a high potential in addressing contemporary challenges (Gupta et al., 2020; Saebi et al., 2019).

In doing so, SE may complement public services, which are generally provided or paid for by governmental institutions. For instance, social enterprises may be engaged in providing environmental protection, education, or healthcare (Interreg Europe, 2021). Furthermore, SE regularly creates employment for people with a distance to the labor market, by involving them in their business (Interreg Europe, 2021). As these people are often dependent on social protection programs, SE may also function as a form of social protection for vulnerable groups in society. Thus, social entrepreneurs can take on tasks that are generally seen as the responsibility of the government.

However, a clear division of roles between governments and social entrepreneurs is not always present (Borzaga et al., 2020; Bozhikin et al., 2019). On the one hand, governmental institutions may better fulfill their responsibilities by stimulating entrepreneurs who complement public services and social protection, while on the other hand, social enterprises may arise because of a lack of provision from these institutions. It is thus interesting to examine to what extent countries’ provision of public services and social protection affects entrepreneurs’ tendency towards SE. Therefore, this study aims to answer the following research question:

**To what extent are degrees of national public service provision and social protection related to entrepreneurs’ propensity for social entrepreneurship?**

To find an answer to this question, a multilevel analysis of 39,054 entrepreneurs residing in 58 countries is conducted. An overview of these countries can be found in Appendix B. Individual-level data originate from the Adult Population Survey of the Global Entrepreneurship Monitor (GEM) of 2015, which contained specific questions on the topic of SE. From these data, several measures for engagement in SE are extracted. On country level, the provision of public services is measured using the Governance Effectiveness Indicator (World Bank, 2021g). Furthermore, the national provision of social protection is quantified as the percentage of the population which is covered by at least one social protection benefit, and the percentage of unemployed that receive unemployment benefits (both obtained from the International Labour Organization (2020)). Considering results of the main analysis and several robustness analyses, it is concluded that none of these three country-level variables are significantly related to entrepreneurs’ engagement in SE. Nevertheless, the study shows that a considerable share of the variance in engagement in SE resides at the country level.

The study contributes to the academic literature on SE in various ways. First, it shows that, just like for traditional entrepreneurship, the macro (country) level context is definitely important for the tendency towards and characteristics of SE. Although some SE related

studies have for example focused on effects of national formal institutions (e.g. Stephan et al., 2015) and cultural values (e.g. Canestrino et al., 2020), several authors suggest to further study how the macro context influences SE activity, as this is still underexposed in SE literature (e.g. Gupta et al., 2020; Saebi et al., 2019). By examining the relationship between social protection coverage and SE, which has not been done before, this study contributes to this field of inquiry. In this way, the study also further examines the tenability of two important theoretical perspectives on institutional drivers for SE: the institutional void and the institutional support perspective. These perspectives will be further described in the theoretical framework of this study.

Furthermore, several literature reviews showed that, to date, SE research mainly contains case studies or analyses based on small sample sizes. Hence, although the number of SE-related papers has increased significantly over the last two decades, SE research yet often lacks profound quantitative analysis (Gupta et al., 2020; Sassmannshausen and Volkmann, 2018; Terjesen et al., 2016; Urbano et al., 2017). Moreover, only a few empirical studies on SE apply a multilevel research approach (Saebi et al., 2019), in which individual-level and macro-level data are combined to examine cross-level relationships. In addition, studies that did utilize such a research design, for example Estrin et al. (2013), Pathak and Muralidharan (2018), Sahasranamam and Nandakumar (2020) and Stephan et al. (2015), examine the propensity for SE analyzing a sample of both entrepreneurs and non-entrepreneurs. However, factors determining this ‘absolute’ propensity for SE may partly be found because of a relationship with engagement in entrepreneurship in general, without being specifically relevant for SE. To investigate this issue, this study considers the propensity for SE of entrepreneurs only. In doing this, the study is unique compared to other multilevel studies on SE.

Besides the increasing academic interest in SE, governments are more and more aware of (the potential positive impact of) SE as well. For instance, the European Commission (2021) will release a ‘European action plan for social economy’ by the end of this year (2021), by which they try to further enhance the development of social enterprises. Likewise, the United Nations (2020) recently published a report on youth SE, aiming to contribute to a better understanding of how it can both support the development of young people and help achieve the Sustainable Development Goals. To design effective policies to support SE, a proper understanding of the drives of social entrepreneurs is necessary. This study contributes to this understanding by analyzing the relationship between provision of public services and social protection, and SE. Furthermore, the study provides insight into countries’ SE climate, which may stimulate policy-makers to foster SE, and entrepreneurs to be engaged in SE. In addition, increasing knowledge and awareness of SE can encourage people to support social entrepreneurs, for example by providing funding or consuming ‘social’ products and services. Thus, by drawing attention to SE, the study contributes to a social entrepreneurial climate.

This paper will be continued with a theoretical framework, in which relevant scientific literature will be discussed, to form hypotheses for the study. Subsequently, in chapter 3, obtained variables and the empirical approach of the study will be clarified. Afterward, chapter 4 presents the results of the empirical analysis and evaluates the hypotheses. To investigate the robustness of the analysis, several robustness analyses are performed, which will be discussed in chapter 5. In chapter 6, implications of the results and limitations of the study are considered, to end with a general conclusion in chapter 7.

## 2 Theoretical framework

Preceding the empirical analysis, literature regarding SE will be discussed in this section. First, a general introduction to this field of inquiry will be given. Subsequently, SE will be considered in a macro context. Finally, three hypotheses will be formulated, which will be tested in the continuation of this study.

### 2.1 Social entrepreneurship

Although very few papers introduced the concept of ‘social entrepreneurship’ already in the 1950s, it remained hardly examined for almost half a century. Until the 2000s, only a few studies focused on, or even mentioned SE, mostly using the concept in a different meaning than today. However, in the past two decades, the prevalence and interest in SE rapidly increased, both in developed, emerging, and developing countries (Doherty et al., 2014; Lepoutre et al., 2013; Saebi et al., 2019; Sassmannshausen and Volkmann, 2018; Urbano et al., 2017). This rise can be attributed to several social trends which created opportunities for SE, such as new models of public service delivery, rising inequality, and increasing interest in alternative economic systems (Doherty et al., 2014). SE is nowadays perceived as a research area of great significance (Gupta et al., 2020), and is considered seriously by governments and market participants.

Yet, within the relatively new field of inquiry, there is no clear consensus on what the term ‘social entrepreneurship’ actually means. Consequently, in empirical studies, the SE construct is quantified in many different ways (Dwivedi and Weerawardena, 2018; Rawhouser et al., 2019; Saebi et al., 2019). As shown by Bacq and Janssen (2011) and Dacin et al. (2010), amongst others, the area of research covers several academic disciplines and is strongly dependent on social convictions and contextual factors, causing definitions to vary considerably. Some definitions for instance focus on the creation of socially relevant innovations, while others see SE as applying business principals to solve social problems (Bacq and Janssen, 2011; Dacin et al., 2010). Given the contested nature of the concept of SE, harmonization toward a widely accepted general definition is cumbersome (Choi and Majumdar, 2014).

Nevertheless, the majority of somewhat recent SE definitions stress the combination of creating social value and entrepreneurial activities. In this sense, SE distinguishes itself from typical non-profit organizations, which primarily depend on donations and government support (Doherty et al., 2014; Lepoutre et al., 2013; Saebi et al., 2019; Zahra et al., 2009). Moreover, SE definitions often consider the creation of social value as main objective of a social entrepreneur (Gupta et al., 2020; Saebi et al., 2019; Thompson et al., 2011; Urbano et al., 2017). Although it is hard to objectively assess this priority, in that way, SE can be distinguished from corporate social responsibility, which is more applicable as an extension to traditional profit-orientated ventures (Saebi et al., 2019). In line with this second criterion, Santos (2012) proposes that SE differs from commercial entrepreneurship by a predominant focus on value creation instead of value capture.

Herewith, the creation of social value can be achieved in various ways. On the one hand, social value can be created by benefiting the recipients of a specific good or service, for instance by providing health care or foodstuffs to those in urgent need of it. On the other

hand, beneficiaries can be part of the value creation process, for instance if social enterprises create employment opportunities or enhance social cohesion (Saebi et al., 2019). Besides, the creation of social value can be cross-subsidized by the economic activity of the social enterprise, or be integrated into the economic activity of the enterprise (Saebi et al., 2019). In these ways, different forms of SE can be distinguished (Saebi et al., 2019).

Especially when social entrepreneurs integrate the creation of social value in a economic activity, they engage in activities that have a high potential for value creation, but less potential for value capture (Santos, 2012). Often, such activities involve (mostly positive) externalities. These are positive effects of a business activity that spill over to third parties, such as the creation of freely available knowledge or improvement of the common living environment. As capturing this created value is difficult, profit-orientated entrepreneurs are inherently less interested in activities involving large positive externalities. This results in a lack of supply through the market, leaving space for government provision and SE (Santos, 2012). Santos (2012) argues that while governments primarily focus on the provision of goods which are relevant to the general public, SE rather focuses on powerless or disadvantaged segments of the population. Indeed, these segments face under-provision of beneficial goods by both the market and the government. Thus, SE driven by other-regarding motives will enter this domain, trying to address the needs of these segments. Nevertheless, helping powerless segments of the population is not the essence of SE (Santos, 2012). Indeed, numerous social enterprises pursue more of a general social goal, such as improving social cohesion (e.g. the Social Care Network) or public health (e.g. myTomorrows).

Moreover, entrepreneurs who specifically focus on environmental goals are in general classified under the umbrella of SE as well. Indeed, for both environmental and social entrepreneurs, creating social value is seen as main motivation. In addition, social and environmental goals are often difficult to disentangle (Lepoutre et al., 2013). Still, it is notable that social entrepreneurs in principle focus on activities involving positive externalities, while environmental entrepreneurs seek to reduce the negative externality of environmental degradation. Thus, in some studies, these two types of entrepreneurship are deliberately examined separately. However, as most papers examine these types of SE jointly, this distinction will not be considered explicitly in the remainder of this theoretical framework.

## **2.2 Social entrepreneurship in a macro context**

Just as traditional entrepreneurship, the macro-level context plays a significant role in the propensity to and characteristics of SE. Thus, SE can be considered as a multilevel concept, where factors on several levels influence entrepreneurship-related decisions (Saebi et al., 2019). For traditional entrepreneurship, the macro-level influence on entrepreneurship has been studied widely. Many different factors, such as levels of development, culture, geographical characteristics, and formal institutional characteristics, are found to affect (potential) entrepreneurs, both at regional and country level (Urbano et al., 2019). However, such macro-level factors do not always seem to affect SE in the same way (Hechavarría, 2016). Moreover, these factors have yet been studied less extensively in relation to SE (Gupta et al., 2020; Saebi et al., 2019). Nevertheless, to date, few economic, cultural, and institutional factors have been analyzed.

First, some studies find country-level economic development to be positively related to individuals' engagement in SE (Estrin et al., 2013; Lepoutre et al., 2013). Possibly, in more developed countries, individuals' basic needs are generally better satisfied, decreasing the opportunity costs of being a social entrepreneur (Lepoutre et al., 2013). Hence, economic development possibly makes way for SE. Besides, Pathak and Muralidharan (2018) shows that country-level income inequality increases the likelihood of individual level engagement in SE. As a high degree of inequality is often tied to societal concerns, it can be a stimulus to prosocial motivations and initiatives (Pathak and Muralidharan, 2018). However, neither economic development (Griffiths et al., 2013; Hoogendoorn, 2016) nor income inequality (Griffiths et al., 2013) are always found to (directly) affect SE. Thus, other factors might be more important for predicting SE (Lepoutre et al., 2013).

Regarding cultural factors, countries' level of self-expression values (Hechavarría, 2016; Hoogendoorn, 2016; Puumalainen et al., 2015) and postmaterialistic values (Stephan et al., 2015) are found to benefit SE. Likewise, Canestrino et al. (2020) and Griffiths et al. (2013) show that gender egalitarianism positively relates to SE as well. Conversely, traditional societal values, which for example emphasize the importance of families and deference to authority, are found to be negatively related to SE prevalence rates, while being positively related to commercial entrepreneurship (Hechavarría, 2016). Besides, interestingly, studies show a positive association between both societal individualism and SE (Hoogendoorn and Hartog, 2011), and in-group collectivism and SE (Canestrino et al., 2020; Pathak and Muralidharan, 2016). On the one hand, individualism may indeed be related to a lower degree of social service provision by informal sources, providing opportunities for SE (Hoogendoorn and Hartog, 2011). On the other hand, however, in-group collectivism, which is characterised by social cohesion and mutual loyalty, could favor the propensity to behave socially as well (Canestrino et al., 2020; Pathak and Muralidharan, 2016). Nevertheless, Canestrino et al. (2020) conclude that culture only is also not sufficient to explain national differences in SE rates.

Next to economic and cultural factors, formal institutional factors are found to be related to SE. As public services and social protection are typically provided by governmental institutions, these factors are of particular interest to this study. Regarding the relation between institutions and SE, two theoretical perspectives are of prime relevance: the institutional support, and the institutional void perspective. According to the first, more active governments will stimulate SE, for instance through funding, assistance, or activities that enhance the network of social entrepreneurs. Moreover, governments can contract out with social enterprises, trying to realize more efficient or effective ways to address social needs. Governments and social entrepreneurs can thus be regarded as natural partners, both seeking to create social value (Bozhikin et al., 2019; Hoogendoorn, 2016; Stephan et al., 2015). In contrast to the institutional support perspective, the institutional void perspective implies that government activity is negatively related to SE. Indeed, according to this perspective, SE is enhanced by institutional voids, i.e. conditions of limited government support. Due to such voids of government support, social needs are less satisfied, creating demand for SE. Since active governments will seek to fulfill unattended social needs, demand for SE will decrease (Hoogendoorn, 2016; Stephan et al., 2015).

Table 1: Studies examining the relationship between formal institutional factors and social entrepreneurship (SE)

Study	Methodology	Institutional factors	Association with SE
Estrin et al. (2013)	Multilevel logistic regression $N = 114.341$ (47 countries)	Executive constraints Public expenditure	Positive Negative
Ferri and Urbano (2011)	Country-level linear regression $N = 49$	Public expenditure Access to finance Government effectiveness	Negative Not significant Not significant
Hoogendoorn (2016)	Country-level linear regression $N = 49$	Public expenditure Rule of law	Positive Positive
Puumalainen et al. (2015)	Country-level linear regression $N = 49$	Principal component score of GNI per capita (PPP) Human development index Government effectiveness Regulatory quality Rule of law	Not significant
Stephan et al. (2015)	Multilevel logistic regression $N = 106.484$ (26 countries)	Mean score of Fiscal freedom Public expenditure	Positive

All papers used Global Entrepreneurship Monitor 2009 data to quantify prevalence of SE or propensity for SE.

Several studies empirically tested the relationship between national formal institutional factors and the prevalence of SE or propensity for SE. Table 1 provides an overview of these studies. Interestingly, the results of the papers differ considerably. On the one hand, Estrin et al. (2013) and Ferri and Urbano (2011) provide some evidence for the institutional void thesis, by finding a negative relationship between public expenditure and SE. On the other hand, however, Hoogendoorn (2016) and Stephan et al. (2015) find evidence for the institutional support perspective, namely positive effects of public expenditure, rule of law, and government activism (a combination of fiscal freedom and public expenditure). Besides, Ferri and Urbano (2011) and Puumalainen et al. (2015) do not find significant effects of government effectiveness and the level of governance development (which was measured by a principal component score of five factors).

Although all these studies used data of the GEM 2009 for their empirical analysis, differences in the measurement of SE may be a main reason for these divergent findings. Estrin et al. (2013) and Stephan et al. (2015) both apply a multilevel research approach, thus examine individual likelihood of engagement in SE. Nevertheless, Stephan et al. (2015) consider individuals as social entrepreneurs if they are engaged in either nascent or operating SE, while Estrin et al. (2013) only consider individuals' social entrepreneurial entry, i.e. engagement in a social startup. Analyzing associations on country-level, Puumalainen et al. (2015) consider

the total (both early stage and established) SE activity as a percentage of the population, while Ferri and Urbano (2011) apply the percentage of individuals who are involved in starting SE to measure SE. Still, all these studies apply some kind of absolute measure of SE, i.e. relative to the total population. Hoogendoorn (2016), on the other hand, applies a relative measure, namely the percentage early-stage social entrepreneurial activity of all early-stage entrepreneurial activity.

As the measurement of SE may affect the results found, it is important to take the measurement of this study into account for the formulation of hypotheses. As will be further discussed in the next chapter, in the main analysis<sup>1</sup> SE will be measured as entrepreneurs' engagement in (both nascent and operational) SE. By analyzing the propensity for SE within a sample of entrepreneurs only, a relative measure of SE will be applied, which is somewhat in line with the measurement of Hoogendoorn (2016). Nevertheless, applying a multilevel study approach and considering both nascent and operational SE is more similar to the analysis of Stephan et al. (2015).

## 2.3 Hypothesis

Public services are services or commodities which generally benefit all members of a particular society or community, such as public education and infrastructure. These services are typically provided or financed by governmental institutions, as they are in the interest of citizens and are often under-provided by the market. Nevertheless, governments may decide to regulate the provision of public goods, to enter public-private partnerships, or even liberalize the market provision of public services. Thus, (social) enterprises can be engaged in the provision of public services in several ways. Regarding entrepreneurship in general, studies find negative relations between national public service delivery and entrepreneurship (Friedman, 2011), and government expenditure and entrepreneurship (Aidis et al., 2012; Estrin et al., 2013).

However, as discussed in the previous subsection, such relations are less clear regarding SE. Empirical literature presents no clear consensus on the effect of governmental institutional factors, possibly due to the variability in the measurement of SE. As this study will consider entrepreneurs' propensity to both nascent and operating social entrepreneurial activity, quantification of SE is mostly in line with the studies of Hoogendoorn (2016) and Stephan et al. (2015). Since these studies provide evidence for the institutional support perspective, it is expected that this perspective will also apply to the empirical analysis in this study. Regarding the provision of public services, it is thus expected that governments that realize high levels of public service delivery will support SE to better meet social needs. Hence, entrepreneurs will be more inclined to be engaged in SE in such contexts. This leads to the following hypothesis::

**H1: Better provision of public services is positively related to an entrepreneur's propensity for social entrepreneurship.**

Next to the provision of public services, the social protection of citizens is also commonly considered a task of governmental institutions. Social protection delivery includes several types of social protection, such as social pensions and child benefits. Still, social protection

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<sup>1</sup>Since there are many different ways to measure SE, the study will take into account several other ways to measure SE in robustness analyses.

is surely not guaranteed in every country. According to the International Labour Organization (2021), only 46.9 percent of the world population is effectively covered by at least one social protection benefit. Although social protection can act as a safety net which mitigates potential risks of entrepreneurship, Wennekers et al. (2005) found that social security has a negative effect on nascent entrepreneurship. Indeed, unemployed individuals in countries with a relatively generous social security system have less financial need to set up a business for themselves (Wennekers et al., 2005).

However, to my best knowledge, to date, no papers have specifically focused on the relationship between social protection and SE. Yet, the institutional void and support perspectives are applicable to the case of social protection as well. Indeed, as social enterprises can provide healthcare, employment, or accommodation, they may serve as a partial replacement or addition to social protection programs that are provided by governmental institutions. Furthermore, just as social protection programs (World Bank, 2021f), SE typically focuses on vulnerable groups in society (Santos, 2012). Regarding the expected relation between social protection and SE, we will again apply the rationale of the institutional support perspective, following the evidence and similar SE quantification of Hoogendoorn (2016) and Stephan et al. (2015). Hence, the following is hypothesized:

**H2: Better provision of social protection is positively related to an entrepreneur's propensity for social entrepreneurship.**

A particular form of social protection are unemployment protection schemes, which provide temporary income support in case of an involuntary loss of a job. Worldwide, only 18.6 percent of unemployed workers actually receive unemployment benefits (International Labour Organization, 2021). As shown by Koellinger and Minniti (2009), analyzing 16 OECD countries from 2002 to 2005, generous unemployment benefits are negatively related to nascent entrepreneurship. Since these benefits harm motivation to enter self-employment in case of unemployment, and make holding a job more attractive, it can indeed have a negative effect on individuals' propensity towards self-employment (Laffineur et al., 2017). From that point of view, generous unemployment benefits may also deter people to be engaged in SE. However, an entrepreneur's propensity for SE may be even higher in countries providing generous unemployment benefits, as a consequence of a relatively stronger decrease in total entrepreneurial activity than the decrease in SE.

Besides, by providing jobs and contributing to the development of new skills, SE could combat unemployment (Zainea et al., 2020). Thus, just as SE could reduce the need for social protection programs, it may reduce the need for unemployment benefits. On the one hand, this may increase demand for SE in countries where unemployment benefits are lacking. On the other hand, governments seeking to protect the unemployed may therefore also seek to stimulate SE. As there are no studies that have further examined these issues to date, the same reasoning as for the first two hypotheses will be followed. Thus, in line with the institutional support perspective, the overall effect of unemployment benefits on SE is expected to be positive.

**H3: Better provision of unemployment benefits is positively related to an entrepreneur's propensity for social entrepreneurship.**

### 3 Data & methodology

To test the formulated hypothesis and find an answer to the research question of this study, a multilevel analysis of 39,054 entrepreneurs from 58 countries will be conducted. To do so, individual-level data are combined with country-specific variables of these countries. This section first describes the data sources used in the analysis. Subsequently, the dependent, independent, and control variables of the analysis will be discussed. Finally, the empirical approach will be explained.

#### 3.1 Data sources

The individual-level data used in this study originate from the Adult Population Survey of the Global Entrepreneurship Monitor (GEM APS) of 2015 (Global Entrepreneurship Research Association, 2021c). The GEM research project is annually carried out by the Global Entrepreneurship Research Association (GERA), by collecting survey data on entrepreneurship-related topics in countries all over the world. In doing so, the project aims to enable cross-country analyses on entrepreneurship-related topics (Bosma et al., 2016). While some (general) entrepreneurship-related topics are covered in the GEM APS every year, in 2009 and 2015 the survey included additional questions on the topic of SE. Herewith, these survey data are unique compared to data from other large-scale surveys on entrepreneurship like World Bank’s Enterprise Surveys and the Flash Eurobarometer Surveys on entrepreneurship, which are both less specifically focused on the topic of SE. Hence, both the GEM APS 2009 (e.g. Estrin et al., 2013; Pathak and Muralidharan, 2018; Sahasranamam and Nandakumar, 2020; Stephan et al., 2015) and the GEM APS 2015 (e.g. Canestrino et al., 2020; Pathak and Muralidharan, 2020) are often used for multilevel studies within the research area of SE. However, as country-level data on social protection are only available in a limited fashion for the period around 2009, only data of the GEM APS 2015 are used in this study.

With very few exceptions, data of this survey consist of at least 2000 adults of the working-age population (18-64 years old) per country, ensuring representative national samples. All surveys were conducted at the same time of the year (Global Entrepreneurship Research Association, 2021d), by telephone or face-to-face, in respondents’ own language (Global Entrepreneurship Research Association, 2021a). The data collection followed strict quality control procedures. Furthermore, to ensure comparability, the same measurement approach is applied in all countries (Global Entrepreneurship Research Association, 2021b). After dropping observations from Taiwan due to the absence of country-specific variables, and dropping individual observations with missing data on necessary variables<sup>2</sup>, the survey contains 165,356 observations from 58 countries. An overview of these countries can be found in Appendix B. As this study specifically focuses on an entrepreneur’s propensity for SE, non-entrepreneurs are not taken into account in the main empirical analysis. These are respondents who neither own a business (either nascent, new, or established), nor can be considered as social entrepreneurs in the broad definition of SE of Bosma et al. (2016)<sup>3</sup>. Excluding these non-entrepreneurs from the main sample reduces the number of observations to 39,054.

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<sup>2</sup>Variables which are required for the estimation of all main models, namely the broad measure of SE, female, age, education, and self-efficacy.

<sup>3</sup>I.e. individuals who are ‘starting or currently leading any kind of activity, organisation or initiative that has a particularly social, environmental or community objective’ (Bosma et al., 2016, p. 9).

While the individual-level data of this study originate from the GEM APS, data on the country-level variables are collected from three different data sources. In line with Estrin et al. (2013), Ferri and Urbano (2011), Hoogendoorn (2016) and Stephan et al. (2015), where possible the country-level variables are lagged by 1 year, i.e. obtained for 2014. In this way, endogeneity between these variables and the dependent variables, in particular eventual endogeneity resulting from reversed causality, may be somewhat reduced. First, data of the World Bank are obtained to measure countries' provision of public services and the country-level economical control variables. Second, data on the provision of social protection and unemployment benefits are retrieved from the Social Security Inquiry Database of the International Labour Organization (ILO). The ILO also uses these data in their reports on social protection. Third, to control for national cultural factors, data of Hofstede's model of national culture are obtained. These dimensions are often used for international comparisons of cultural values, in the research field of SE for example by Hoogendoorn and Hartog (2011) and Puumalainen et al. (2015).

## 3.2 Dependent variables

The dependent variables of this study quantify eventual engagement in SE, thus, at the individual level. There are several variables constructed which quantify this engagement, to be able to take into account different definitions and types of SE. These dependent variables are all dichotomous, with traditional (non-social) entrepreneurship as baseline category (i.e. coded 0), and respondents who are classified as social entrepreneurs coded 1. Various dichotomous outcome variables are preferred over a categorical variable which would simultaneously include several types (definitions) of SE, in order to simplify interpretation of the results. Appendix A provides a flowchart displaying an overview of the criteria by which the dependent variables are constructed.

For constructing the primary dependent variable of the analysis, the broad definition of SE of Bosma et al. (2016) has been followed. Hence, respondents are categorized as social entrepreneurs if they are 'starting or currently leading any kind of activity, organisation or initiative that has a particularly social, environmental or community objective' (Bosma et al., 2016, p. 9). This broad measure thus includes entrepreneurs who are probably at least partly driven by prosocial behavior, thus not only seeking to generate financial value. As can be seen in Table 2, 23.1% of the surveyed entrepreneurs can be considered as social entrepreneurs in the broad sense, i.e. meet the criteria to satisfy this broad definition. Considering the country-level descriptive statistics in Appendix B, entrepreneurs in Luxembourg were most likely to be engaged in SE (61.9%), while in Barbados only 3.4% of the entrepreneurs satisfied the broad measure of SE.

Yet, not all of these social entrepreneurs may esteem the creation of social value more important than generating financial value, thus can be considered as social entrepreneurs by the definition of e.g. Santos (2012). To also analyze relationships with engagement in SE in this more narrow sense of the concept, a second dependent variable is constructed. Following the criterion applied by Bosma et al. (2016), for this variable respondents are only categorized as social entrepreneurs if they agree on the statement 'For my organization, generating value to society and the environment is more important than generating financial value for the

company' (Bosma et al., 2016, p. 14). Of the entrepreneurs in the sample, 13.2% meet this criterion, which is somewhat more than half of the social entrepreneurs covered by the broad definition. Herewith, entrepreneurs from Mexico are not taken into consideration, as this question was not asked to them. Hence, Mexico will also be excluded from the analysis regarding this second dependent variable.

Furthermore, three alternative dependent variables are constructed in order to perform some robustness analyses. These dependent variables include solely engagement in operational SE, solely engagement in nascent SE, and solely engagement in SE with more emphasis on creating social value than on environmental value<sup>4</sup>. An overview of the criteria by which these variables are constructed can again be found in Appendix A. By conducting these robustness analyses, it can be examined to what extent the measurement of engagement in SE influences the outcomes of the analyses. Besides, by including the non-entrepreneurial respondents in the research sample, the relationships between the provision of public services and propensity for SE, and social protection and propensity for SE are also examined considering the entire population. Herewith, non-entrepreneurial respondents are allocated to the same category as non-social entrepreneurs, hence coded 0. This robustness analysis thus considers the absolute propensity for SE, allowing for better comparison of the results to studies that also apply full population samples to analyze propensity for SE.

### 3.3 Independent variables

While the dependent variables of this study are measured on individual level, the main independent variables are measured on country level. To quantify countries' provision of public services, World Bank's Government Effectiveness Indicator of 2014 has been obtained. This indicator is one of the Worldwide Governance Indicators, and measures 'perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies' (Kaufmann et al., 2010, p. 4). The measure ranges from -2.5 to 2.5, with higher values indicating a better governance performance. A detailed methodology of the construction of this indicator is described by Kaufmann et al. (2010). The average Government Effectiveness score of countries included in this study amounts 0.56. Switzerland has the highest score (2.11), Egypt the lowest (-0.82).

To quantify the national provision of social protection, the percentage of the population covered by at least one social protection benefit (SPC) is considered. Data on this indicator are retrieved from the ILO and are available for 44 countries for the year 2016, which was the first year the ILO determined this measure. The ILO compiled the indicator through data of the ILO Social Security Inquiry of 2016 and a number of other international and regional data sources. A description of their methodology can be found in the World Social Protection Report 2017-19 (International Labour Organization, 2017, p. 199-209). Although it certainly would have been more appropriate to use data for 2014, cross-country variations of the social protection coverage are not expected to be very different between 2014 and 2016, as developing or enhancing social protection programs usually takes a long time (International

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<sup>4</sup>Just as for the narrow measure of SE, Mexico is also excluded from the analysis regarding the latter alternative dependent variable.

Labour Organization, 2017). Thus, using data for 2016 instead of 2014 does probably not have a very large impact on the presented results. Of the 44 observed countries, the average social protection coverage in 2016 amounted to 67.4%. Between countries, however, differences in social protection coverage are large. While in some countries the entire population was covered by at least one social protection benefit, in Burkina Faso this was only the case for 7.5% of the population.

Finally, the national provision of unemployment benefits is measured as the percentage of the unemployed receiving unemployment benefits (UBC). Again, this indicator is obtained from the ILO. For 26 countries, this indicator is available for 2014. For 13 other countries, data of 2014 were not available, but is estimated manually in the following way:

$$x_{c2014} = x_{ct_1} + \frac{2014 - t_1}{t_2 - t_1} \times (x_{ct_2} - x_{ct_1})$$

With  $x$  = percentage of unemployed receiving unemployment benefits

$c$  = country

$t_1$  = last year before 2014 for which the indicator is computed by the ILO

$t_2$  = first year after 2014 for which the indicator is computed by the ILO

For another 13 countries, data were only available after 2014. For those countries, data of the first available year after 2014 is used. An overview of the years from which the data occurs can be found in Appendix B. That the data on unemployment benefits coverage are not all from the same year may again harm the validity of the empirical analysis. Yet, as can be seen in Appendix B, most countries from which data were retrieved after 2014 have a rather low coverage of unemployment benefits (in some cases even as low as 0.0%). As unemployment benefits coverage does usually not decline over time (International Labour Organization, 2020), it is arguable that differences from the unemployment benefits coverage in 2014 are generally small for these countries. This to some extent alleviates concerns about the validity. Considering countries' coverage of unemployment benefits, just as for overall social protection coverage, between countries differences are large. In Belgium and Ireland, all unemployed may receive unemployment benefits, while in several other countries unemployment benefits are not provided at all.

### 3.4 Control variables

In line with many prior multilevel studies on SE, for example Estrin et al. (2013), Pathak and Muralidharan (2018) and Stephan et al. (2015), on individual level there will be controlled for gender, age, and educational attainment. Gender is quantified as a dummy variable (0 = male, 1 = female). Age is expressed in years, ranging from 18 to 99.<sup>5</sup> Respondents' educational attainment is coded as a categorical variable, coded 0 for (pre-)primary, basic or lower secondary education, 1 for (upper) secondary education, and 2 for post-secondary or tertiary education. Besides, there will be controlled for respondents' self-efficacy, which expresses beliefs in own competence. To measure respondents' self-efficacy, their answer

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<sup>5</sup>Often, studies using data of the GEM APS only include individuals up to age 65, as this is the retirement age in many countries. However, as this study only considers nascent and operational entrepreneurs, the retirement age is of little relevance.

Table 2: Descriptive statistics

Variable	<i>N</i>	Mean	S.D.	Min.	Max.
<i>Dependent variables</i>					
Social entrepreneur, broad (0/1)	39,054	0.231	0.422	0	1
Social entrepreneur, narrow (0/1)	36,144	0.132	0.339	0	1
Operational social entrepreneur (0/1)	39,054	0.153	0.360	0	1
Nascent social entrepreneur (0/1)	39,054	0.078	0.268	0	1
Non-environmental social entrepreneur (0/1)	37,198	0.082	0.277	0	1
<i>Individual-level control variables</i>					
Female (0/1)	39,054	0.425	0.494	0	1
Age (years)	39,054	40.747	12.838	18	99
Education (=0) (0/1)	39,054	0.309	0.462	0	1
Education (=1) (0/1)	39,054	0.312	0.463	0	1
Education (=2) (0/1)	39,054	0.379	0.485	0	1
Self-efficacy (0/1)	39,054	0.804	0.397	0	1
<i>Country-level independent variables</i>					
Government effectiveness	58	0.561	0.799	-0.823	2.112
Social protection coverage (%)	44	67.380	30.519	7.5	100
Unemployment benefits coverage (%)	52	30.121	28.242	0	100
GDP per capita, PPP (in \$1000)	58	25.875	18.563	1.692	101.298
GDP growth (%)	58	3.011	2.186	-2.513	8.640
Power distance	46	60.304	21.825	13	104
Individualism	46	45.435	24.619	6	91

*S.D.* standard deviation, *Min.* minimum, *Max.* maximum.

(= 0) (pre-)primary, basic or lower secondary education, (= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *PPP* converted by purchasing power parity.

to the question ‘Do you have the knowledge, skill, and experience required to start a new business’ is considered. Respondents could answer either answer ‘yes’ or ‘no’, which results in a dummy variable (0 = no, 1 = yes). As shown by Estrin et al. (2013) and Sahasranamam and Nandakumar (2020), entrepreneurial experience and believing in ones human capital are significant determinants of engagement in SE.

In addition to the individual-level control variables, some country-level control variables are taken into account. At first, there will be controlled for countries’ gross domestic product (GDP) per capita and GDP growth, in order to control for countries’ level of economic development. After all, as discussed before, this economic context may influence the propensity for SE. GDP per capita will be measured in \$1000 international dollars, converted by purchasing power parity. GDP growth is expressed as annual growth rate. Herewith, just as for the main independent variables, data for 2014 are utilized. These data are obtained from the World Bank (2021c,d).

As a robustness analysis, we also included two country-level cultural variables: power distance and individualism. Both variables are measured as index scores, where higher scores indicate higher levels of, in this case, power distance and individualism. Power distance indicates the extent to which the less powerful population of a society accepts and expects

an unequal distribution of power (Hofstede Insights, 2021), and is found to be negatively related to SE (Puumalainen et al., 2015). Individualism expresses populations' preference for a society in which individuals are expected to mostly take care of themselves and their immediate families (Hofstede Insights, 2021), and is found to be positively related to SE (Hoogendoorn and Hartog, 2011). For both variables, data are obtained for 2015 (Hofstede, 2021), due to the unavailability of data for 2014. As these data are also only available for 46 countries, including the cultural control variables will considerably limit the sample size. Therefore, these variables are not included in the main analysis.

Furthermore, considering prior research (Hoogendoorn, 2016; Pathak and Muralidharan, 2018), there has also been controlled for national measures of economic inequality (World Bank, 2021e) and rule of law (World Bank, 2021f) of 2014. However, since including these variables causes serious issues of multicollinearity, indicated by very strong correlations between these variables and other country-level variables and variance inflation factors of above 20, these variables are not further covered in this study. Finally, the analyses were also carried out using z-standardized scores of all non-binary and non-categorical variables. In line with Stephan et al. (2015), age was standardized based on its individual-level mean and standard deviation across the sample, while the country-level variables were standardized based on the country-level mean and standard deviation. However, standardizing the variables did not lead to significant changes in the results; significance levels stayed virtually the same in all models. To facilitate interpretation of the results, this paper will present the results of the analyses using non-standardized variables.

### 3.5 Empirical approach

In this study, individual entrepreneurs in several countries are observed, considering variables on both individual and country level. Theoretically, this study is well suited for a multi-level empirical approach. Indeed, as entrepreneurs from the same country may share more similar unobserved characteristics and operate under more similar conditions, behavior of entrepreneurs is probably partly dependent on the country they live in. Hence, observations from the same country are not fully independent of each other, violating one of the main assumptions of a traditional logistic regression. Ignoring within-country correlation may result in biases in parameter estimates and might lead to an underestimation of their standard errors, increasing the risk of committing type 1 errors (Guo and Zhao, 2000; Snijders and Bosker, 2011). Therefore, this study may apply random-intercept multilevel modeling, in which the intercept is allowed to vary by group. By doing so, this model accounts for the non-independence of observations that are nested within groups (countries), which improves the correctness of test statistics (Guo and Zhao, 2000; Snijders and Bosker, 2011). As the dependent variables of this study are binary, and data is structured in two levels, theoretically, the estimation of two-level random-intercept logistic regression models is appropriate (Guo and Zhao, 2000). Formally, this model can be specified as follows:

$$\text{Logit}(P(Y_{ij} = 1)) = \alpha_{00} + u_{0j} + \sum_{k=1}^K \beta_k x_{kij} + \sum_{m=1}^M \gamma_m z_{mj}$$

Here,  $Y_{ij}$  indicates the binary measure of engagement in SE for entrepreneur  $i$  in country  $j$ , which equals 1 if this individual does so. The fixed intercept is denoted by  $\alpha_{00}$ , while  $u_{0j}$  denotes the random intercept which varies per country  $j$ . As  $x_{kij}$  represent the  $k$ -th individual-level independent variables, coefficient  $\beta_k$  estimates this variable. Furthermore,  $z_{mj}$  represent the  $m$ -th country-level independent variable, thus coefficient  $\gamma_m$  estimates this variables.

There are several ways to test the appropriateness of multilevel estimation techniques statistically. First, by including no predictors or controls in a (logistic) multilevel regression model, the Intraclass Correlation Coefficient (ICC) estimates to what extent variation in the outcome variable can be attributed to between-countries differences (Guo and Zhao, 2000). For the broad and narrow measure of SE, this ICC equals 0.205 and 0.184, indicating that 20,5% of the variance in broad SE and 18,4% of the variance in narrow SE resides at the country level. These values exceed mentioned thresholds of 0.05 (Heck et al., 2013) and 0.10 Hox et al. (2017), and can be considered high (Hox et al., 2010). For the dependent variables which will be applied in the robustness analyses, the ICCs exceed these thresholds as well. Thus, these results support the application of multilevel estimation techniques in this study.

Second, the application of single-level logistic regression models can be compared to the application of multilevel models using Likelihood Ratio (LR) tests. For all estimated multilevel models (robustness analyses included), the  $p$ -value of these tests against a single-level logistic model equals 0.000 (thus  $<0.05$ ), indicating that multilevel models are confidently preferred over these single-level models.

Table 3: Overview variance inflation factors (VIFs)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(A)	(B)
Female	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Age	1.08	1.08	1.07	1.07	1.06	1.06	1.08	1.06
Education (=1)	1.45	1.49	1.44	1.57	1.59	1.57	1.51	1.60
Education (=2)	1.55	1.60	1.55	1.65	1.68	1.65	1.63	1.69
Self-efficacy	1.01	1.02	1.01	1.01	1.02	1.02	1.02	1.02
GDP (\$1000)	3.45	2.77	1.94	3.90	3.93	2.93	6.13	6.62
GDP growth	1.16	1.25	1.19	1.14	1.27	1.12	1.34	1.39
Government eff.	3.62			3.79			8.21	7.34
SPC		3.00			2.89		3.49	3.80
UBC			1.90			2.24	3.23	3.15
Power distance				2.77	2.79	3.03		3.17
Individualism				2.84	3.35	2.74		3.33
Mean VIFs	1.79	1.65	1.39	2.07	2.06	1.84	2.86	2.93
$N$ observations	39,054	30,306	35,912	31,004	25,200	29,730	27,720	24,127
$N$ countries	58	44	52	46	37	43	40	35

These variance inflation factors are obtained using the broad measure of engagement in social entrepreneurship as dependent variable. Models 1-6 are used as main regression models, models A and B are estimated as robustness analysis.

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

eff. effectiveness, SPC social protection coverage, UBC unemployment benefits coverage.

Table 3 shows the variance inflation factors (VIFs) and the number of observations of several possible combinations of variables in the regression models. The VIFs can be used to investigate eventual issues of multicollinearity within regression models. As models containing all three independent variables simultaneously (named A and B) contain VIFs of above 5, these models would possibly suffer from multicollinearity (James et al., 2013; Menard, 2002). Moreover, estimating the effect of all these three variables simultaneously in a model without cultural control variables reduces the sample size to 27.720 observations in only 40 countries. To overcome these issues, the three independent variables will be included separately in the regression models. Then, all VIF values are under the conservative threshold of 5 (James et al., 2013; Menard, 2002), and the sample sizes increase considerably. Yet, the models including all three independent variables simultaneously will be estimated as robustness analysis.

To enable direct interpretation of the results of the estimated logistic regressions models, the average marginal effects of the variables will be presented in this paper. These effects can be interpreted as the average increase (in percentage point) in the probability of being engaged in SE. As robustness analysis, the effects are also estimated using linear two-level random intercept regression models. After all, in these regression models, the estimated effects can be interpreted directly, which may make the interpretation more meaningful (Hellevik, 2009). All statistical analyses are executed in Stata, a statistical software program that is widely used for academic research.

## 4 Results

This section will describe the results of the main analysis of this study. First, the correlation matrices as presented in Tables 4 and 5 will be considered shortly. Then, the results of the regression models applying the two main measures of SE will be discussed. Finally, the subsample analyses will be considered.

With correlation coefficients no higher than 0.2, both the broad and the narrow measure of SE are only weakly correlated with the independent and control variables of the analysis. Although no immediate conclusions can be drawn from these single correlation coefficients, they indicate that, using these data, entrepreneurs' propensity for SE is a difficult phenomenon to predict. Besides, most country-level independent and control variables are (fairly) strongly correlated. On individual level, the correlation between variables is weak.

Table 4: Correlation coefficients of individual-level variables

	(1)	(2)	(3)	(4)	(5)	(6)
(1) SE (broad)	-					
(2) SE (narrow)	0.780*	-				
(3) Female	0.025*	0.026*	-			
(4) Age	-0.008	0.014*	-0.019*	-		
(5) Education	0.125*	0.136*	-0.026*	-0.031*	-	
(6) Self-efficacy	-0.120*	-0.107*	-0.075*	-0.018*	0.029*	-

\* $p < 0.001$ . All correlation coefficients are estimated using pairwise correlations.  
*SE* engagement in social entrepreneurship.

Table 5: Correlation coefficients of SE (broad), SE (narrow) and country-level variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) SE (broad)	-								
(2) SE (narrow)	0.780*	-							
(3) GDP	0.115*	0.114*	-						
(4) GDP growth	0.069*	0.033*	-0.321*	-					
(5) Gov. eff.	0.093*	0.104*	0.841*	-0.370*	-				
(6) SPC	0.039*	0.064*	0.794*	-0.432*	0.827*	-			
(7) UBC	0.043*	0.065*	0.668*	-0.374*	0.813*	0.659*	-		
(8) Pow. dis.	-0.149*	-0.115*	-0.706*	0.322*	-0.696*	-0.599*	-0.677*	-	
(9) Individualism	0.167*	0.123*	0.727*	-0.235*	0.714*	0.714*	0.596*	-0.744*	-

\* $p < 0.001$ . All correlation coefficients are estimated using pairwise correlations.  
*SE* engagement in social entrepreneurship, *GDP* gross domestic product, *Gov. eff.* government effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage, *Pow. dis.* power distance.

## 4.1 Main regression models

Table 6 shows the results of the regression models using the broad measure of SE as dependent variable. In both the models excluding and including cultural control variables, none of the independent variables of interest is significantly associated with this measure of SE. On country level, only individualism generally seems to be significantly related to SE. Specifically, the estimated average marginal effects indicate that an increase of 1 index point of individualism on average increases the probability that entrepreneurs in that country are engaged in SE with about 0.2%-point, *ceteris paribus*. Furthermore, both the economic control variables, GDP and GDP growth, are positively related to broad SE if cultural control variables are excluded. However, adding these cultural control variables largely renders these relationships insignificant.

Individual control variables are more powerful in predicting entrepreneurs' propensity for SE. In particular education and self-efficacy appear to be related to the broad measure of SE. *Ceteris paribus*, entrepreneurs who attained secondary education are on average about 5%-point more likely to be engaged in SE, while having attained post-secondary education increases this probability even by about 12%-point (both compared to those being in the lowest category of educational attainment). Meanwhile, entrepreneurs who believe they have the knowledge, skill, and experience required to start a new business are on average between 13.3%-point and 15.6%-point less likely to be engaged in SE, *ceteris paribus*. Besides, female entrepreneurs' are also somewhat more likely to be engaged in SE. Finally, entrepreneurs' age does not seem to be significantly related to entrepreneurs' propensity for SE.

Considering the narrow measure of SE, the results of the regression models, which are shown in Table 7, are fairly similar as for the broad measure of SE. Again, none of the variables quantifying national public service provision and social protection appears to be significantly associated with SE. Furthermore, country-level individualism and individual-level gender, education, and self-efficacy are still significant in predicting entrepreneurs' propensity for SE as defined by Santos (2012). Compared to SE in the broad sense, all estimated average marginal effects are somewhat smaller for this narrow definition. However, as marginal effects estimate effects on likelihood in percentage points, and fewer entrepreneurs meet the narrow definition, this does not imply that the relationships are less meaningful. For example, the *ceteris paribus* increase in the probability of being engaged in SE (narrow) of entrepreneurs who attained post-secondary education, which is about 9.5%-point, is quite substantial, as the average probability of the sample is only 13.2%.

In the estimated null models (not shown in the Tables), the variances of the random intercepts (i.e. the between-country variance of the dependent variable) equal 0.8506 for broad SE, and 0.7423 for narrow SE. Adding the independent and control variables decreases this variance. For example, in model 1 for the broad measure of SE, the variance equals 0.6773, suggesting that the variables included in this model together can explain 20.4%  $((0.8506 - 0.6773)/0.8506 \times 100)$  of the between-country variance in entrepreneurs' likelihood of engaging in SE.

Table 6: Random-intercept logistic regressions with engagement in social entrepreneurship (broad) as dependent variable

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	0.0210*** (0.0071)	0.0224*** (0.0084)	0.0187** (0.0074)	0.0279*** (0.0073)	0.0288*** (0.0083)	0.0284*** (0.0076)
Age	-0.0003 (0.0003)	-0.0003 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)
Education (=1)	0.0518*** (0.0110)	0.0485*** (0.0121)	0.0504*** (0.0118)	0.0514*** (0.0116)	0.0526*** (0.0143)	0.0488*** (0.0117)
Education (=2)	0.1248*** (0.0123)	0.1185*** (0.0129)	0.1261*** (0.0135)	0.1234*** (0.0130)	0.1216*** (0.0151)	0.1230*** (0.0135)
Self-efficacy	-0.1387*** (0.0146)	-0.1489*** (0.0156)	-0.1332*** (0.0154)	-0.1399*** (0.0153)	-0.1563*** (0.0165)	-0.1364*** (0.0154)
<i>Country-level variables</i>						
GDP (\$1000)	0.0031*** (0.0012)	0.0023* (0.0012)	0.0040*** (0.0009)	0.0018 (0.0013)	0.0001 (0.0019)	0.0028*** (0.0008)
GDP growth	0.0153** (0.0073)	0.0179** (0.0071)	0.0157** (0.0071)	0.0114 (0.0078)	0.0197*** (0.0073)	0.0124 (0.0078)
Government eff.	-0.0038 (0.0332)			0.0162 (0.0393)		
SPC		0.0003 (0.0009)			0.0007 (0.0009)	
UBC			-0.0010 (0.0007)			-0.0005 (0.0006)
Power distance				0.0007 (0.0011)	-0.0005 (0.0013)	0.0009 (0.0012)
Individualism				0.0022** (0.0010)	0.0020** (0.0010)	0.0026*** (0.0009)
Observations	39,054	30,306	35,912	31,004	25,200	29,730
Countries	58	44	52	46	37	43
Variance random intercept	0.6773	0.5775	0.6664	0.5219	0.4269	0.5033
ICC	0.1707	0.1493	0.1684	0.1369	0.1149	0.1327
LR-test	3977.63***	2750.07***	3694.35***	2187.26***	1410.12***	2061.94***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

Table 7: Random-intercept logistic regressions with engagement in social entrepreneurship (narrow) as dependent variable

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	0.0181*** (0.0061)	0.0210*** (0.0071)	0.0149** (0.0061)	0.0234*** (0.0064)	0.0248*** (0.0074)	0.0229*** (0.0067)
Age	0.0002 (0.0002)	0.0002 (0.0003)	0.0003 (0.0002)	0.0003 (0.0003)	0.0003 (0.0003)	0.0003 (0.0003)
Education (=1)	0.0386*** (0.0074)	0.0347*** (0.0085)	0.0398*** (0.0083)	0.0358*** (0.0083)	0.0349*** (0.0104)	0.0365*** (0.0089)
Education (=2)	0.0957*** (0.0096)	0.0889*** (0.0098)	0.0975*** (0.0107)	0.0925*** (0.0094)	0.0905*** (0.0111)	0.0951*** (0.0101)
Self-efficacy	-0.0903*** (0.0115)	-0.0968*** (0.0132)	-0.0887*** (0.0124)	-0.0929*** (0.0121)	-0.1046*** (0.0137)	-0.0935*** (0.0127)
<i>Country-level variables</i>						
GDP (\$1000)	0.0016* (0.0008)	0.0013 (0.0011)	0.0021*** (0.0006)	0.0005 (0.0011)	-0.0014 (0.0014)	0.0009 (0.0008)
GDP growth	0.0084* (0.0045)	0.0087 (0.0054)	0.0094** (0.0044)	0.0075* (0.0045)	0.0095* (0.0050)	0.0083* (0.0046)
Government eff.	0.0022 (0.0216)			0.0028 (0.0290)		
SPC		0.0001 (0.0006)			0.0001 (0.0007)	
UBC			-0.0003 (0.0005)			-0.0002 (0.0004)
Power distance				0.0001 (0.0006)	-0.0007 (0.0008)	0.0004 (0.0006)
Individualism				0.0017*** (0.0006)	0.0020*** (0.0007)	0.0018*** (0.0006)
Observations	36,144	27,644	33,096	28,694	23,057	27,461
Countries	57	43	51	45	36	42
Variance random intercept	0.5648	0.5689	0.5644	0.4648	0.4399	0.4462
ICC	0.1465	0.1474	0.1464	0.1238	0.1179	0.1194
LR-test	1791.07***	1405.88***	1734.64***	1398.65***	1082.17***	1370.45***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

## 4.2 Subsample analyses

Contrary to what was expected, none of the three independent variables of interest seems to be significantly related to entrepreneurs' propensity for SE for the total sample of countries. Hence, it may be interesting to examine whether the hypotheses do hold for groups of countries in different economic stages of development. Indeed, country-level determinants of SE may differ across developing and developed countries (Chowdhury et al., 2019; Hoogendoorn, 2016). In line with the two perspectives on SE described in the theoretical framework, in more developed countries SE could be mainly motivated by government support, while in less developed countries the void of public service delivery and social protection could be the main driver of SE. Furthermore, several control variables may work out differently in different stages of national development.

To distinguish effects for countries in different stages of development, the countries are divided considering the classification of economies of the GEM of 2015, which is adapted from the Global Competitiveness Report (CGR) 2014/2015 of the World Economic Forum (Bosma et al., 2016). In this classification, three stages of economic development are distinguished: (1) factor-driven economies, (2) efficiency-driven economies, and (3) innovation-driven economies. An overview of the stages in which the countries are classified can be found in Appendix B. To have a sufficient number of countries per subsample, entrepreneurs of stage 1 and 2 countries (36 countries in total) will form the first subsample, while entrepreneurs of countries in the third stage (22 countries in total) will form the second subsample. Furthermore, the same methodology as for the main regression analysis is applied.

Considering the results of the subsample analyses, which are presented in Appendix C, again the provision of public services and social protection does not have much effect on SE. Yet, in stage 1 and 2 countries, the national provision of unemployment benefits is significantly associated with both measures of SE in model 3. The estimated marginal effects indicate that an increase of 1%-point of countries' unemployed receiving unemployment benefits on average decreases the probability that entrepreneurs in that country are engaged in SE with respectively 0.32%-point (broad measure) and 0.16%-point (narrow measure), *ceteris paribus*. However, including cultural control variables renders these associations insignificant.

Besides, in stage 3 countries, entrepreneurs' propensity for SE may be somewhat related to the national economic factors. First, although not confirmed by regression model 5, GDP seems to be positively associated with the broad definition of SE in these highly developed countries. Moreover, GDP growth positively here relates to both measures of SE, if cultural control variables are included in the regression models. Furthermore, individualism appears to be foremost significantly associated with SE in stage three countries. Indeed, interestingly, this significant association does not apply to stage 1 and 2 countries only.

Regarding the individual level control variables, most of the previously described significant associations apply to both subsamples. Only, the average higher probability that female entrepreneurs' are engaged in SE does not apply to stage 1 and 2 countries. Finally, the negative association between self-efficacy and SE is less strong in these countries. Thus, in highly developed countries, it more often may be less self-confident, skilled, and/or experienced entrepreneurs who are involved in SE.

## 5 Robustness analyses

To investigate the robustness of the empirical analysis, several robustness analyses are performed. First, logistic regression models containing all three independent variables of interest and the two cultural control variables simultaneously are estimated. The estimated marginal effects of these regression models can be found in Appendix D. Overall, again none of the three variables of interest appeared to be significantly related to SE. However, in stage 1 and 2 countries only, both government effectiveness (positive) and unemployment benefits (negative) are significantly associated with the measures of SE. Besides, the models indicate that GDP growth is positively associated with the broad measure SE.

Second, alternative measures of engagement in SE, namely operational SE, nascent SE, and non-environmental SE have been used as dependent variables. Compared to the main regression models, using these variables lead to similar results concerning the independent variables of interest, nor result in any other surprising alterations. Third, instead of logistic regression models, linear multilevel regression models were estimated, to check if this would lead to notable differences in results. However, as could be expected (Hellevik, 2009), the results of these linear models were very comparable with the estimated marginal effects of the logistic regression models, with respect to both significance and size of the associations.

Fourth, the subsample analyses were conducted on basis of countries' Human Development Index (HDI) score of 2015 (United Nations Development Programme, 2021), instead of using the classification of the CGR 2014/2015. In this way, countries were divided on basis of their level of human development, instead of on their stage of economic development. As the country-level mean HDI of the 58 countries in the sample equaled 0.80, the two subsamples consisted of countries with an HDI smaller than 0.8 (25 countries), and an HDI larger than 0.8 (33 countries). Compared to the subsample analyses on basis of the classification of the CGR, this alternative division again did not lead to considerable changes in results.

Finally, effects are estimated on the absolute propensity for SE, i.e. the propensity of the whole population. Thus, herewith non-entrepreneurial respondents of the GEM APS 2015 are also included in the research sample. The estimated marginal effects of these regression models can again be found in Appendix D. Again, none of the variables measuring countries' public service delivery and social protection were significantly related to SE, neither in one of the subsamples. Nevertheless, the effects of some control variables did change compared to the main analysis. Namely, unsurprisingly, being female decreases the absolute likelihood of being engaged in SE, while self-efficacy increases this likelihood. Furthermore, the positive relationship between country-level individualism and engagement in SE diminishes or even disappears when considering the absolute propensity for SE. As respondents of Spain and the United Kingdom are disproportionately represented in the sample including non-entrepreneurial respondents (together representing 19,5% of this sample), this robustness analysis has also been performed excluding these respondents. This did not result in significant differences compared to the robustness analysis that included these respondents.

## 6 Discussion

After checking for several measures of engagement in SE, the empirical analysis did not find strong evidence for effects of the national level of public service delivery and social protection on an entrepreneur’s propensity for SE. As shown in Table 5, the general correlation between the three considered institutional variables and entrepreneurs’ engagement in SE already appears to be rather weak. Furthermore, in the main regression models, as presented in section 4.1, none of these variables is significantly associated with SE. Considering the results of the subsample analyses, which are presented in Appendix C, only the coverage of unemployment benefits is significantly negatively associated with entrepreneurs’ propensity for SE in stage 1 and 2 countries. However, including cultural control variables renders this association insignificant. Finally, although including all three considered institutional variables simultaneously also brings forth some significant associations in stage 1 and 2 countries (Table 12), in general the robustness analyses performed confirm the results of the main analysis, even for the absolute propensity for SE (Table 13 and 14). So, all in all, the study does not find evidence that is robust enough to assume significant associations between the national level of provision of public services and social protection, and individuals’ propensity for SE. Thus, while it was expected that relationships would be in line with the institutional support perspective, this is not confirmed by the results of this study. However, the results neither confirm the opposite, namely the institutional void perspective.

Nevertheless, this does not necessarily mean that these theoretical perspectives do not hold true in practice. A possible explanation for not finding evidence for one of the two perspectives could indeed be that the effects are actually occurring both, so that these effects empirically cancel each other out. Moreover, SE may be even stimulated by institutional support from or institutional void in other countries. For instance, in countries with lower levels of public service delivery and social protection, SE may be supported by institutions of more developed countries. This can be done, for example, via subsidies and funds for international development or micro-financing, such as the loan fund of the EU Programme for Employment and Social Innovation (European Investment Bank, 2021) and the Dutch Good Growth Fund (Dutch Ministry of Foreign Affairs, 2019). At the same time, SE in countries with strong institutions may be also stimulated by a lack of public services and social protection in other countries (Zahra et al., 2008). Social objectives and the creation of social value are indeed not tightly bounded by national borders. The international nature of social value creation could also explain the absence of a clear effect. Unfortunately, it is difficult to examine whether this is actually the case on basis of the available data, neither considering the subsample analysis. Indeed, this would require more specific data on spatial characteristics of (social) enterprises, and how the enterprises are financed or supported.

Besides, it may also be that SE is less driven by country-level institutional factors than expected. It might be, for example, that SE is more influenced by local institutional voids and/or support instead of the functioning of national institutions. Institutional characteristics can indeed vary largely between sub-national regions (Andrews et al., 2012; International Labour Organization, 2021), since in many countries (such as Switzerland and the United States) a significant part of the policy-making takes place at a more regional or local level. As for traditional entrepreneurship (Bosma, 2009; Fritsch and Storey, 2014; Trettin and Welter,

2011), these regional factors may be of great importance for SE. In Sweden, for example, it appears that urbanised municipalities have higher social venture entry rate compared to non-urbanised municipalities (Kachlami et al., 2018). The eventual regional influx on the propensity for SE may thus result in a lack of evidence for the theoretical perspectives at the national level.

## 6.1 Theoretical contributions and practical implications

Although this study does not provide evidence for a relationship between formal institutional factors and SE, it contributes to the literature on SE in several ways. First, to my best knowledge, it is the first study that applies a multilevel approach to examine entrepreneurs' propensity for SE, instead of the propensity of the whole population. In contrast to studies that examine this absolute propensity (Estrin et al., 2013; Stephan et al., 2015), overall, institutional factors do not seem to affect the relative propensity of entrepreneurs. While it was expected that entrepreneurs in countries with high levels of public service delivery and social protection would be particularly engaged in SE, this is surprisingly not shown by the empirical analysis. Moreover, note that, in contrast to the findings of Estrin et al. (2013) and Stephan et al. (2015), the results of the robustness analysis of this study considering the absolute propensity for SE neither indicate significant associations between provision of public service delivery and social protection, and SE.

Second, the study validates the application of a multilevel approach in the field of inquiry of SE. After all, the analysis shows that a relatively large proportion of entrepreneurs' variance in the propensity for SE, 20,5% of the variance in broad SE, and 18,4% of the variance in narrow SE, resided at the country level. Nevertheless, the country-level variables included in this study are only able to explain 20,4% of the between-country variance in entrepreneurs' likelihood of engaging in SE. From this analysis, it is thus not entirely clear which country-level factors influence entrepreneurs' propensity for SE. Only national levels of individualism appear to be significantly positively related to SE. Hence, although several other studies (e.g. Estrin et al., 2013; Sahasranamam and Nandakumar, 2020; Stephan et al., 2015) also used multilevel modeling to analyze propensity for SE, it is recommended to apply this empirical approach more widely in this field of study. The literature review of Saebi et al. (2019) supports this finding.

Third, the study supplements the literature with the subsample analyses considering countries' stage of economic development. Namely, these analyses demonstrate that determinants of SE are not equal across countries in these different stages of development, and that SE may thus be driven by different factors in these countries. This finding is of interest to policy-makers as well, as it indicates that SE-related policies should not be drafted too generically, but have to take into account unique characteristics and the entrepreneurial climate of countries. Especially for policy-makers of intergovernmental organizations, this is a useful insight, which should be incorporated in for example the 'European action plan for social economy' of the European Commission (2021) and policies following the 'World Youth Report' on SE of the United Nations (2020).

Finally, this study shows that social entrepreneurs, relative to non-social entrepreneurs, more often indicate they actually lack the knowledge and skills which are necessary for starting a business. Therefore, policy-makers should support social entrepreneurs to acquire these qualities. This can for instance be done by collaborating with members of the Euclid Network (2020), which seek to aid social entrepreneurs. Herewith, future policy specifically needs to focus on how entrepreneurs can deploy these qualities to enlarge their positive impact on society. As shown by Andersson and Ford (2015), both short-term and long-term outcomes of SE are indeed not yet necessarily positive for society.

## 7 Conclusion

Applying a multilevel approach, this study aimed to find an answer to the following research question: *‘To what extent are degrees of national public service provision and social protection related to entrepreneurs’ propensity for social entrepreneurship?’*. To do so, three country-level independent variables were considered: government effectiveness, coverage of social protection coverage, and coverage of unemployment benefits. On individual level, several measures for engagement in SE are taken into account. Beforehand, relationships were expected to be in line with the institutional support perspective, which indicates that more active governments will encourage SE. However, surprisingly, overall none of the three independent variables turned out to be significantly related to entrepreneurs’ engagement in SE. Subsample analyses on basis of countries’ stage of development largely confirm this finding. Thus, the results of this study indicate that degrees of national public service provision and social protection are not significantly related to entrepreneurs’ propensity for SE. Hence, the analysis neither provides evidence for the institutional support perspective, nor for the institutional void perspective.

Yet, the study does reveal a few other factors which are associated with entrepreneurs’ propensity for SE. On individual level, female and higher educated entrepreneurs are generally more likely to be social entrepreneurs, while self-efficacy is negatively associated with SE. Furthermore, country-level individualism appears to be positively associated with SE, although this association mainly seems to apply to more developed countries. Finally, this study validates applying multilevel methods for examining individual propensity for SE. Although it does not provide much insight into which country-level factors influence entrepreneurs’ engagement in SE, the analysis displays that a relatively large share of the total variance in the engagement resides at the country level.

### 7.1 Limitations and directions for future research

Surely, this study has several limitations. First, the applied narrow measure of SE is still rather broad. As discussed by Bosma et al. (2016), more criteria could be used to categorize social entrepreneurs. For example, this study did not consider whether social entrepreneurs are actually active in the market, so that respondents active in the non-profit sector could also be categorized as social entrepreneurs. Unfortunately, questions that further distinguished several types of social entrepreneurs were only included in the monitor in far fewer countries, thus taking these questions into account would have considerably limited the statistical power and external validity of the empirical analysis. Moreover, by using the GEM APS, this study analyses self-reported measures of SE. This may limit cross-country comparability of engagement in SE, as perceptions of ‘social objectives’ and ‘generating value to society’ may be different for respondents in different countries. Future studies may thus investigate determinants of SE using objective measures of SE. This would enhance the validity of SE research.

Second, this study only considers propensity for SE, but does not take into account social entrepreneurs’ scale of social impact. As the scale of (social) entrepreneurial activity can vary greatly between countries (Bosma et al., 2016), its impact on society may vary as well. For example, entrepreneurial activity in sub-Saharan Africa is generally characterised by

only employing few people and not having very high levels of sales (Bosma et al., 2016). Examining SE considering its impact on society thus may provide different insights compared to analyzing engagement in SE. Yet, consensus on how to measure this social impact is lacking (Rawhouser et al., 2019), even as cross-country data on this issue. Therefore, further research might first attempt to gather or compose cross-country data on the societal impact of (social) entrepreneurs.

Third, the variables which measure national levels of social protection may not give a perfect reflection of countries' actual state of social protection. After all, measuring the percentage of the population/unemployed which is covered does not provide information about the extent to which the coverage is for example sufficient to make a living. Being covered by one social protection benefit may indeed not be comprehensive if a country knows several different social protection programs (International Labour Organization, 2017, 2021). Likewise, small unemployment benefits may neither be sufficient to compensate for the loss of the initial wage (International Labour Organization, 2017, 2021). Furthermore, in contrast to the other country-level variables, data on social protection and unemployment benefits coverage are not all obtained for 2014, due to a lack of data for this year. While all data on social protection coverage are obtained for 2016, unemployment benefits coverage is not even measured in the same year for all countries. Although, as discussed in section 3.3, this is unlikely to have a very large impact on the results of the study, it to some extent harms the validity of the empirical analysis. Therefore, future studies may incorporate better measures to quantify levels of social protection. For instance, studies may use data of The Atlas of Social Protection Indicators of Resilience and Equity of the World Bank (2021a), which measure the adequacy of social insurance programs. Although these data are currently only available for a limited number of countries, they may be extended in the future. In this way, countries' social protection can be measured more accurately.

Fourth, as mentioned in the discussion, institutional characteristics may vary considerably between sub-national regions (Andrews et al., 2012; International Labour Organization, 2021), due to varying policy between federal states, regions, counties and municipalities (in for example Switzerland and the United States). Thus, estimating associations with institutional factors at the country level may not provide a good representation of the actual effects. Possibly, applying a regional approach would provide a better understanding of the relationship between institutions and SE. By obtaining regional data, future research could investigate whether this is actually the case.

Fifth, this study applies a cross-sectional design, so all variables are only measured at one point in time or for one year. Although, as in other studies, a time lag of one year is incorporated for most country-level variables, it is difficult to assess whether this time lag is adequate to assume causality of the estimated relationships. In combination with eventual omitted variable bias, as there is not controlled for all possible confounding factors, the empirical analysis only considers associations between variables. Causal inferences thus cannot be drawn from this study. By using longitudinal data, future studies may expose possible relationships more thoroughly.

Sixth, the study covers a rather small sample of countries. Although 58 countries are to some extent included in the analysis, which is relatively much compared to the 26 countries covered by Stephan et al. (2015) for example, the social protection coverage variable and the cultural variables were only available for 44 and 52 countries, respectively. In the subsample analyses, the number of included countries decreases even further. This limits statistical power of the analyses, which increases the likelihood of committing type 2 errors. Moreover, developing countries are both absolutely and relatively underrepresented in the sample. Only 9 of the 58 analyzed countries can for example be classified as factor-driven or transitioning to efficiency-driven economies, while in reality a much larger proportion of the countries are belonging to these categories (Schwab, 2014). This reduces reliability of the country-level estimates (Bryan and Jenkins, 2016), and may cause underestimation of cross-country heterogeneity in institutions (Estrin et al., 2013). Future research can examine data of more (developing) countries, in order to obtain more reliable and generalized results.

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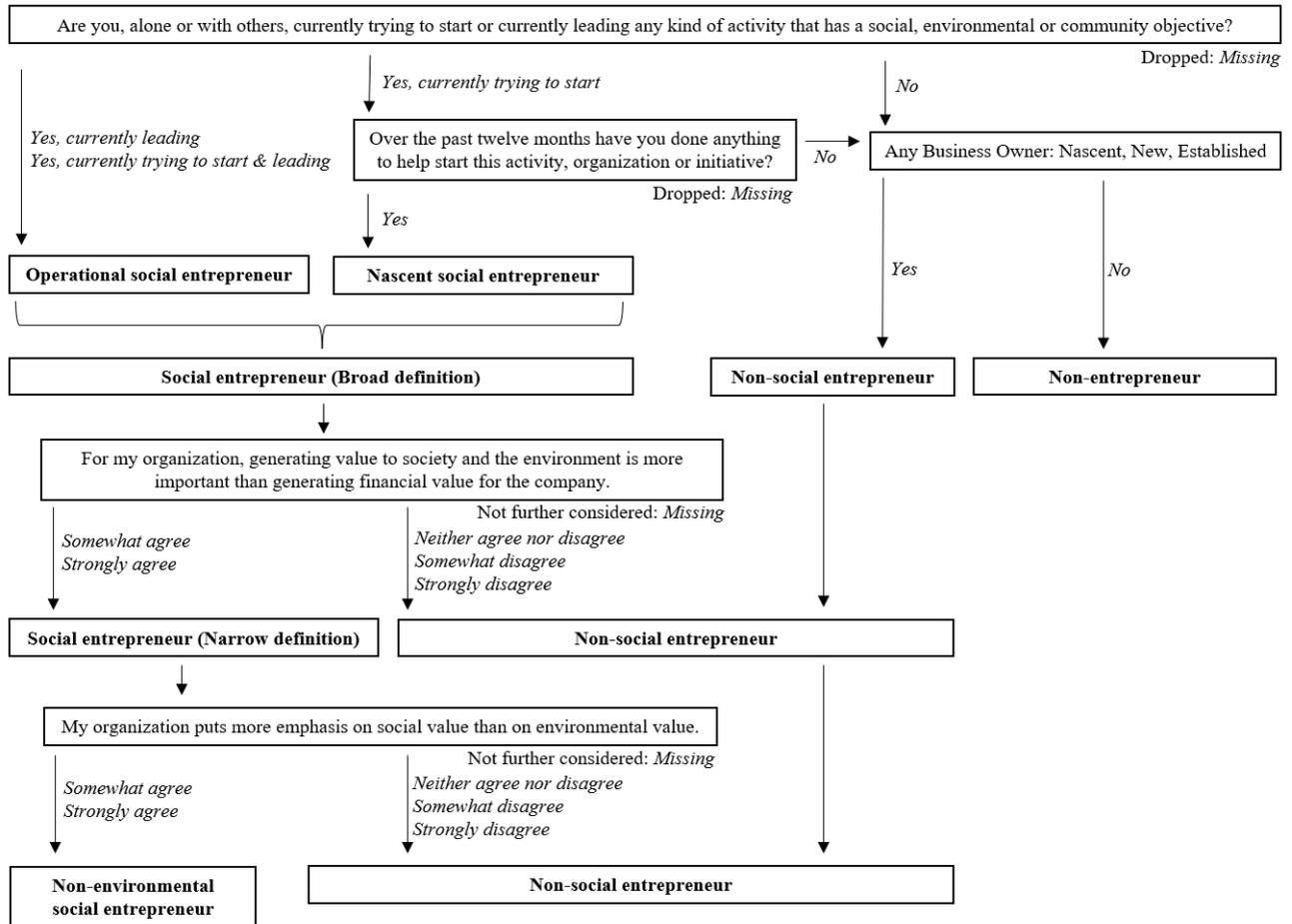
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# Appendix A Flowchart of the criteria for the dependent variables



# Appendix B Country-level descriptive statistics

Country	<i>N</i> Total	<i>N</i> Entr.	% SE (B)	% SE (N)	% Fem.	$\bar{x}$ Age	$\bar{x}$ Ed.	% Self- Eff.	CGR Cat. 14/15	Gov. Eff. 2014	SPC 2016	UBC *	GDP (\$1000) 2014	GDP Gro. 2014
Argentina	2893	799	18.0	15.4	44.3	43.1	1.45	84.7	E	-0.16	66.1	6.3 <sup>a</sup>	19.684	-2.51
Australia	1909	508	39.4	27.6	40.2	45.1	1.60	75.8	I	1.61	82.0	52.7	46.880	2.53
Barbados	1918	672	3.4	2.2	43.8	39.5	1.40	93.2	E	1.20		85.4 <sup>a</sup>	15.175	-0.12
Belgium	1981	300	42.7	30.3	37.0	41.9	1.66	66.3	I	1.38	100.0	100.0	44.930	1.58
Botswana	2157	863	15.6	13.7	45.9	34.2	0.92	86.4	F	0.35	15.4	31.5 <sup>b</sup>	16.301	4.15
Brazil	1969	797	5.9	4.4	47.1	39.3	0.57	80.8	E	-0.14	61.5	7.8 <sup>a</sup>	15.719	0.50
Bulgaria	1641	167	9.0	5.5	43.1	43.7	0.60	88.6	E	0.08	88.3	26.2	17.561	1.89
Burkina Faso	1898	1084	56.5	29.7	43.0	35.5	0.06	89.6	F	-0.58	7.5	0.0 <sup>e</sup>	1.692	4.33
Cameroon	2433	972	21.3	5.6	44.7	37.0	0.56	89.2	F	-0.79	8.7	0.0 <sup>e</sup>	3.185	5.88
Chile	6073	2221	31.4	24.0	43.5	43.9	1.28	83.6	E	1.16	69.2	34.9	22.787	1.77
China	3553	700	31.1	17.2	43.6	39.4	1.15	58.3	E	0.32	63.0	14.9 <sup>a</sup>	12.550	7.43
Colombia	3627	1212	31.7	23.5	42.5	38.3	1.36	81.4	E	-0.10	40.8	4.6 <sup>b</sup>	13.307	4.50
Croatia	1861	348	48.6	27.7	43.7	41.0	1.43	79.0	E	0.69		20.3 <sup>a</sup>	22.061	-0.34
Ecuador	2093	1012	5.4	4.9	46.8	40.9	0.68	83.4	E	-0.47	31.7	4.5 <sup>a</sup>	11.713	3.79
Egypt	2435	338	25.4	17.9	25.7	37.1	1.24	73.7	E	-0.82	36.9		10.896	2.92
Estonia	2188	492	30.7	21.0	42.3	41.3	1.53	78.3	I	1.02	98.4	41.5	29.136	2.99
Finland	1952	400	29.5	19.7	37.0	43.4	1.33	76.8	I	2.00	100.0	95.3	41.757	-0.36
Germany	3670	480	23.5	15.9	39.0	44.8	1.55	82.1	I	1.73	99.5	94.5 <sup>a</sup>	47.012	2.21
Greece	1945	416	7.2	6.9	40.1	45.1	1.42	80.5	I	0.40		21.0	26.642	0.70
Guatemala	2140	594	18.5	13.8	41.9	35.9	0.57	83.5	E	-0.73	10.3	0.0 <sup>e</sup>	7.758	4.44
Hungary	1893	433	49.7	33.0	41.8	41.9	1.28	66.5	E	0.53	86.2	12.4	25.643	4.23
India	3233	633	32.4	25.8	31.6	38.0	0.97	77.1	F	-0.21	22.0	0.0 <sup>e</sup>	5.234	7.41
Indonesia	5395	2074	5.9	4.7	50.0	38.5	0.77	82.6	E	-0.04		0.0 <sup>d</sup>	10.278	5.01
Iran	2997	822	6.5	4.8	24.1	36.4	1.22	86.4	F	-0.43		6.6 <sup>c</sup>	15.236	4.60
Ireland	1903	464	49.1	36.8	38.7	42.4	1.69	73.1	I	1.60	90.1	100.0	51.154	8.64
Israel	1662	403	52.1	31.5	44.7	39.4	1.71	74.9	I	1.21	54.9	37.0	34.267	3.92
Italy	1932	265	42.6	27.1	33.6	42.9	0.83	59.6	I	0.37		37.8	36.195	0.00
Kazakhstan	1633	263	19.0	7.7	51.0	37.6	1.48	87.1	F	-0.04	100.0	3.6 <sup>a</sup>	24.726	4.20
Latvia	1964	495	11.3	8.6	42.6	39.3	1.30	82.4	E	0.96	96.5	33.3	23.804	1.07
Lebanon	2409	1175	7.7	6.1	38.4	37.9	1.01	86.5	E	-0.38	30.0		15.030	2.46
Luxembourg	1637	378	61.9	39.7	43.9	42.7	1.44	74.1	I	1.65		49.5	101.298	4.30
Macedonia	1856	278	21.6	14.8	31.7	39.3	1.34	80.9	E	0.13		10.6 <sup>a</sup>	13.368	3.63
Malaysia	1964	172	20.3	16.6	39.0	40.3	1.08	70.3	E	1.12		3.0 <sup>d</sup>	24.608	6.01
Mexico	4252	1205	7.4		46.8	38.0	0.54	66.4	E	0.20	50.3	14.9 <sup>c</sup>	18.057	2.85
Morocco	1761	201	11.4	7.0	28.4	37.3	0.61	80.1	E	-0.07			6.610	2.67
Netherlands	2187	411	21.4	15.4	35.5	45.0	0.55	81.0	I	1.82	97.5	67.2	49.233	1.42
Norway	1943	372	40.6	25.4	35.2	47.1	1.63	73.9	I	1.83	95.8	61.8	65.893	1.97
Panama	1913	343	8.5	5.9	42.3	39.8	0.96	77.3	E	0.26	38.2		22.897	5.07
Peru	1965	730	29.5	14.7	48.6	36.6	0.93	79.2	E	-0.27	25.5		11.510	2.38
Philippines	1955	636	35.1	21.4	61.3	40.1	1.23	87.9	F	0.19	47.1	0.0 <sup>d</sup>	6.961	6.35
Poland	1779	363	36.9	22.0	36.4	40.8	1.56	84.3	E	0.83	84.9	15.5	25.476	3.38
Portugal	1936	367	23.4	15.3	39.0	41.5	1.14	80.1	I	0.99	90.2	46.6	28.742	0.79
Puerto Rico	1948	236	26.7	17.5	41.9	38.8	1.65	90.7	I	0.36		6.2 <sup>e</sup>	33.683	-1.19
Romania	1921	410	21.7	10.6	39.3	40.2	1.49	80.7	E	-0.03	95.0	22.7	20.658	3.61
Senegal	2336	1403	30.7	15.2	47.0	36.6	0.27	95.7	F	-0.40		0.0 <sup>e</sup>	2.831	6.22
Slovakia	1875	364	34.6	17.8	36.8	40.3	1.25	80.8	I	0.88	92.1	9.9	28.997	2.64
Slovenia	1926	271	33.9	16.8	32.8	41.3	1.48	82.3	I	1.01	100.0	25.9	30.870	2.77
South Africa	3050	411	23.4	17.0	43.1	41.0	0.90	88.1	E	0.34		11.1 <sup>a</sup>	12.521	1.85
South Korea	1801	310	9.0	4.3	40.3	48.1	1.13	60.3	I	1.16	65.7	40.0	35.324	3.20
Spain	23289	3366	9.0	4.7	43.1	44.5	1.00	83.0	I	1.16	80.9	37.1	33.526	1.38
Sweden	4246	671	39.3	25.7	33.8	48.2	1.52	76.6	I	1.80	100.0	25.9	47.185	2.66
Switzerland	2300	389	30.1	18.6	36.5	48.1	1.54	78.1	I	2.11	92.7	57.7	64.103	2.45
Thailand	2965	1088	8.2	6.7	51.0	42.4	1.00	57.5	E	0.34		41.7 <sup>a</sup>	15.480	0.98
Tunisia	1836	355	27.6	19.4	33.5	37.4	1.39	83.1	E	-0.12			10.446	2.87
United Kingdom	9011	1282	36.1	25.8	37.5	45.2	1.39	78.0	I	1.63	93.5	60.0	41.289	2.86
United States	2360	616	42.0	29.5	43.0	44.7	1.77	82.0	I	1.47	76.1	27.9	55.050	2.53
Uruguay	2079	400	38.5	26.8	39.0	43.1	0.93	79.0	E	0.48		28.2 <sup>a</sup>	20.094	3.24
Vietnam	1908	624	4.5	3.9	59.0	38.6	1.02	71.6	F	-0.07		30.8 <sup>a</sup>	5.745	5.98
Total/Mean	165356	39054	23.1	13.2	42.5	40.7	1.07	80.4		0.56	67.4	30.1	25.875	3.01

Statistics of individual-level variables (columns 4 - 9) are calculated over the sample of entrepreneurs only. *Entr.* Entrepreneurs, *SE* Engagement in social entrepreneurship, *(B)* Broad, *(N)* Narrow, *Fem.* Female, *Ed.* Education, *Self-Eff.* Self-efficacy, *CGR Cat.* Global Competitiveness Report category, *Gov. Eff.* Government Effectiveness, *SPC* Social protection coverage, *UBC* Unemployment benefits coverage, *GDP* Gross domestic product, *Gro.* Growth.

*F* factor-driven economies, *E* efficiency-driven economies, *I* innovation-driven economies.

\* Values of UBC are obtained for several years. *a* calculated manually for 2014, *b* 2016, *c* 2017, *d* 2019, *e* 2020. Other values are obtained for 2014.

Overall means of individual-level variables (bottom row columns 4 - 9) are calculated over the sample of entrepreneurs (missing observations excluded).

Overall means of country-level variables (bottom row columns 11 - 15) are calculated over the sample of countries (missing observations excluded).

## Appendix C Results subsample analyses

Table 8: Random-intercept logistic regressions with engagement in social entrepreneurship (broad) as dependent variable, stage 1 and 2 countries only

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	0.0066 (0.0082)	0.0028 (0.0099)	0.0010 (0.0082)	0.0100 (0.0089)	0.0078 (0.0102)	0.0093 (0.0093)
Age	-0.0000 (0.0003)	-0.0001 (0.0004)	0.0002 (0.0003)	0.0003 (0.0004)	0.0002 (0.0004)	0.0003 (0.0004)
Education (=1)	0.0534*** (0.0126)	0.0488*** (0.0132)	0.0518*** (0.0140)	0.0512*** (0.0134)	0.0537*** (0.0169)	0.0468*** (0.0131)
Education (=2)	0.1157*** (0.0152)	0.1005*** (0.0135)	0.1168*** (0.0173)	0.1100*** (0.0168)	0.1003*** (0.0184)	0.1074*** (0.0167)
Self-efficacy	-0.1050*** (0.0165)	-0.1100*** (0.0180)	-0.0904*** (0.0160)	-0.1000*** (0.0188)	-0.1140*** (0.0209)	-0.0896*** (0.0171)
<i>Country-level variables</i>						
GDP (\$1000)	-0.0010 (0.0056)	-0.0042 (0.0074)	0.0022 (0.0042)	-0.0003 (0.0052)	0.0032 (0.0074)	0.0074 (0.0058)
GDP growth	0.0131 (0.0104)	0.0123 (0.0102)	0.0072 (0.0109)	0.0059 (0.0133)	0.0252* (0.0129)	0.0118 (0.0136)
Government eff.	0.0112 (0.0618)			0.0711 (0.0669)		
SPC		0.0010 (0.0012)			-0.0000 (0.0014)	
UBC			-0.0032** (0.0013)			-0.0013 (0.0021)
Power distance				0.0006 (0.0023)	-0.0019 (0.0030)	0.0013 (0.0027)
Individualism				0.0017 (0.0015)	0.0012 (0.0018)	0.0017 (0.0020)
Observations	26,333	18,880	23,191	18,519	13,774	17,245
Countries	36	26	30	25	19	22
Variance random intercept	0.8366	0.7272	0.7846	0.6651	0.5967	0.6465
ICC	0.2027	0.1810	0.1926	0.1682	0.1535	0.1642
LR-test	2959.90***	1923.29***	2761.08***	1340.40***	799.68***	1235.41***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

Table 9: Random-intercept logistic regressions with engagement in social entrepreneurship (narrow) as dependent variable, stage 1 and 2 countries only

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	0.0083 (0.0070)	0.0082 (0.0085)	0.0021 (0.0064)	0.0115 (0.0082)	0.0102 (0.0094)	0.0096 (0.0082)
Age	0.0003 (0.0003)	0.0003 (0.0003)	0.0004 (0.0003)	0.0005 (0.0003)	0.0004 (0.0004)	0.0005 (0.0003)
Education (=1)	0.0379*** (0.0078)	0.0359*** (0.0082)	0.0392*** (0.0089)	0.0343*** (0.0088)	0.0366*** (0.0114)	0.0346*** (0.0095)
Education (=2)	0.0882*** (0.0121)	0.0783*** (0.0109)	0.0889*** (0.0136)	0.0834*** (0.0117)	0.0782*** (0.0129)	0.0851*** (0.0114)
Self-efficacy	-0.0661*** (0.0122)	-0.0706*** (0.0142)	-0.0589*** (0.0127)	-0.0655*** (0.0137)	-0.0763*** (0.0163)	-0.0629*** (0.0141)
<i>Country-level variables</i>						
GDP (\$1000)	0.0001 (0.0035)	0.0003 (0.0053)	0.0025 (0.0025)	-0.0014 (0.0038)	0.0012 (0.0062)	0.0049 (0.0035)
GDP growth	0.0071 (0.0065)	0.0045 (0.0078)	0.0059 (0.0057)	0.0040 (0.0077)	0.0125 (0.0089)	0.0079 (0.0076)
Government eff.	0.0081 (0.0389)			0.0547 (0.0458)		
SPC		0.0000 (0.0010)			-0.0005 (0.0012)	
UBC			-0.0016** (0.0007)			-0.0015 (0.0014)
Power distance				-0.0005 (0.0015)	-0.0023 (0.0023)	-0.0003 (0.0019)
Individualism				0.0008 (0.0010)	0.0009 (0.0012)	0.0005 (0.0013)
Observations	24,054	16,800	21,006	16,829	12,213	15,596
Countries	35	25	29	24	18	21
Variance random intercept	0.6235	0.6324	0.5780	0.4918	0.4919	0.4586
ICC	0.1593	0.1612	0.1494	0.1301	0.1301	0.1223
LR-test	1067.90***	718.10***	994.25***	600.41***	384.82***	584.07***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

Table 10: Random-intercept logistic regressions with engagement in social entrepreneurship (broad) as dependent variable, stage 3 countries only

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	0.0523*** (0.0089)	0.0566*** (0.0091)	0.0524*** (0.0089)	0.0559*** (0.0083)	0.0574*** (0.0087)	0.0562*** (0.0083)
Age	-0.0009* (0.0005)	-0.0008 (0.0005)	-0.0009* (0.0005)	-0.0010* (0.0005)	-0.0008 (0.0006)	-0.0010* (0.0005)
Education (=1)	0.0450** (0.0210)	0.0434* (0.0242)	0.0451** (0.0210)	0.0466** (0.0212)	0.0449* (0.0246)	0.0468** (0.0214)
Education (=2)	0.1403*** (0.0210)	0.1425*** (0.0237)	0.1407*** (0.0211)	0.1405*** (0.0213)	0.1456*** (0.0230)	0.1413*** (0.0214)
Self-efficacy	-0.2035*** (0.0230)	-0.2097*** (0.0224)	-0.2039*** (0.0230)	-0.2003*** (0.0218)	-0.2120*** (0.0203)	-0.2011*** (0.0212)
<i>Country-level variables</i>						
GDP (\$1000)	0.0039*** (0.0009)	0.0022* (0.0013)	0.0037*** (0.0008)	0.0031*** (0.0010)	-0.0011 (0.0022)	0.0026** (0.0011)
GDP growth	0.0146 (0.0089)	0.0220*** (0.0067)	0.0143 (0.0101)	0.0192** (0.0097)	0.0209*** (0.0069)	0.0199** (0.0093)
Government eff.	-0.0163 (0.0596)			-0.0556 (0.0745)		
SPC		0.0019 (0.0032)			0.0016 (0.0024)	
UBC			-0.0001 (0.0006)			-0.0005 (0.0007)
Power distance				0.0002 (0.0017)	-0.0004 (0.0014)	0.0004 (0.0015)
Individualism				0.0032** (0.0013)	0.0027** (0.0013)	0.0031** (0.0014)
Observations	12,721	11,426	12,721	12,485	11,426	12,485
Countries	22	18	22	21	18	21
Variance random intercept	0.3533	0.2744	0.3544	0.2775	0.2157	0.2834
ICC	0.0970	0.0770	0.0973	0.0778	0.0615	0.0793
LR-test	644.52***	486.57***	644.58***	462.39***	386.10***	477.21***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

Table 11: Random-intercept logistic regressions with engagement in social entrepreneurship (narrow) as dependent variable, stage 3 countries only

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	0.0394*** (0.0082)	0.0430*** (0.0084)	0.0394*** (0.0079)	0.0426*** (0.0074)	0.0448*** (0.0075)	0.0427*** (0.0073)
Age	0.0001 (0.0005)	0.0001 (0.0005)	0.0001 (0.0005)	0.0000 (0.0005)	0.0001 (0.0005)	-0.0000 (0.0005)
Education (=1)	0.0353** (0.0178)	0.0266 (0.0201)	0.0353** (0.0179)	0.0360** (0.0184)	0.0283 (0.0209)	0.0361* (0.0186)
Education (=2)	0.1059*** (0.0173)	0.0989*** (0.0190)	0.1060*** (0.0173)	0.1061*** (0.0178)	0.1038*** (0.0190)	0.1065*** (0.0179)
Self-efficacy	-0.1355*** (0.0220)	-0.1347*** (0.0223)	-0.1356*** (0.0211)	-0.1349*** (0.0204)	-0.1404*** (0.0196)	-0.1353*** (0.0194)
<i>Country-level variables</i>						
GDP (\$1000)	0.0021** (0.0009)	0.0011 (0.0018)	0.0018** (0.0009)	0.0014 (0.0010)	-0.0024 (0.0020)	0.0009 (0.0011)
GDP growth	0.0099 (0.0073)	0.0182*** (0.0060)	0.0086 (0.0073)	0.0142** (0.0068)	0.0175*** (0.0061)	0.0143** (0.0066)
Government eff.	-0.0057 (0.0387)			-0.0410 (0.0411)		
SPC		0.0020 (0.0020)			0.0018 (0.0016)	
UBC			0.0004 (0.0004)			0.0001 (0.0004)
Power distance				0.0001 (0.0008)	-0.0005 (0.0008)	0.0005 (0.0008)
Individualism				0.0028*** (0.0008)	0.0028*** (0.0009)	0.0027*** (0.0009)
Observations	12,090	10,844	12,090	11,865	10,844	11,865
Countries	22	18	22	21	18	21
Variance random intercept	0.4600	0.4408	0.4543	0.3377	0.3083	0.3480
ICC	0.1227	0.1182	0.1213	0.0931	0.0857	0.0957
LR-test	576.15***	471.49***	574.60***	366.69***	314.17***	376.99***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

## Appendix D Results robustness analyses

Table 12: Random-intercept logistic regressions including all 3 main independent variables simultaneously

	All countries		Stage 1 and 2 countries only		Stage 3 countries only	
	SE (Broad)	SE (Narrow)	SE (Broad)	SE (Narrow)	SE (Broad)	SE (Narrow)
<i>Individual-level variables</i>						
Female	0.0301*** (0.0087)	0.0248*** (0.0077)	0.0080 (0.0114)	0.0091 (0.0109)	0.0575*** (0.0089)	0.0448*** (0.0073)
Age	-0.0002 (0.0004)	0.0003 (0.0003)	0.0002 (0.0005)	0.0004 (0.0004)	-0.0008 (0.0006)	0.0001 (0.0005)
Education (=1)	0.0494*** (0.0148)	0.0360*** (0.0115)	0.0506*** (0.0182)	0.0415*** (0.0135)	0.0450* (0.0249)	0.0284 (0.0208)
Education (=2)	0.1217*** (0.0162)	0.0946*** (0.0121)	0.1020*** (0.0207)	0.0898*** (0.0164)	0.1459*** (0.0235)	0.1040*** (0.0188)
Self-efficacy	-0.1542*** (0.0160)	-0.1074*** (0.0147)	-0.1079*** (0.0187)	-0.0832*** (0.0181)	-0.2125*** (0.0202)	-0.1404*** (0.0193)
<i>Country-level variables</i>						
GDP (\$1000)	0.0004 (0.0026)	-0.0019 (0.0021)	0.0054 (0.0071)	0.0054 (0.0054)	0.0014 (0.0023)	-0.0033 (0.0025)
GDP growth	0.0243*** (0.0069)	0.0104* (0.0061)	0.0302*** (0.0106)	0.0140* (0.0078)	0.0174** (0.0083)	0.0194** (0.0079)
Government eff.	0.0550 (0.0605)	0.0471 (0.0528)	0.1618** (0.0714)	0.1528*** (0.0383)	-0.1172 (0.1231)	0.0489 (0.0988)
SPC	0.0011 (0.0011)	-0.0002 (0.0009)	0.0022 (0.0020)	-0.0004 (0.0018)	0.0030 (0.0026)	0.0014 (0.0019)
UBC	-0.0014 (0.0009)	-0.0003 (0.0006)	-0.0101*** (0.0023)	-0.0068*** (0.0017)	-0.0007 (0.0006)	-0.0000 (0.0005)
Power distance	0.0000 (0.0013)	-0.0001 (0.0008)	-0.0020 (0.0022)	-0.0021 (0.0017)	-0.0016 (0.0019)	-0.0001 (0.0011)
Individualism	0.0018* (0.0011)	0.0019** (0.0007)	-0.0020 (0.0018)	-0.0014 (0.0014)	0.0027** (0.0011)	0.0028*** (0.0009)
Observations	24,127	22,020	12,701	11,176	11,426	10,844
Countries	35	34	17	16	18	18
Variance random intercept	0.3706	0.4161	0.3100	0.2305	0.1979	0.3054
ICC	0.1013	0.1123	0.0861	0.0655	0.0568	0.0850
LR-test	1187.32***	1004.06***	382.62***	157.39***	365.89***	311.59***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

*SE* engagement in social entrepreneurship.

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

Table 13: Random-intercept logistic regressions with engagement in social entrepreneurship (broad) as dependent variable, non-entrepreneurs included

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	-0.0087*** (0.0020)	-0.0094*** (0.0024)	-0.0092*** (0.0021)	-0.0067*** (0.0020)	-0.0076*** (0.0022)	-0.0068*** (0.0020)
Age	0.0001 (0.0001)	0.0000 (0.0001)	0.0001 (0.0001)	0.0000 (0.0001)	0.0000 (0.0001)	0.0000 (0.0001)
Education (=1)	0.0127*** (0.0032)	0.0125*** (0.0039)	0.0127*** (0.0035)	0.0145*** (0.0030)	0.0153*** (0.0036)	0.0143*** (0.0031)
Education (=2)	0.0448*** (0.0049)	0.0454*** (0.0053)	0.0469*** (0.0054)	0.0459*** (0.0044)	0.0475*** (0.0047)	0.0469*** (0.0046)
Self-efficacy	0.0415*** (0.0043)	0.0442*** (0.0049)	0.0453*** (0.0047)	0.0409*** (0.0034)	0.0428*** (0.0033)	0.0430*** (0.0034)
<i>Country-level variables</i>						
GDP (\$1000)	0.0007* (0.0004)	0.0006 (0.0004)	0.0007** (0.0003)	0.0004 (0.0004)	-0.0003 (0.0006)	0.0005* (0.0003)
GDP growth	0.0054** (0.0023)	0.0040** (0.0020)	0.0058*** (0.0023)	0.0032 (0.0021)	0.0041** (0.0019)	0.0035* (0.0021)
Government eff.	-0.0059 (0.0103)			-0.0037 (0.0127)		
SPC		-0.0003 (0.0003)			-0.0001 (0.0003)	
UBC			-0.0003 (0.0002)			-0.0002 (0.0002)
Power distance				-0.0001 (0.0003)	-0.0002 (0.0003)	-0.0000 (0.0003)
Individualism				0.0004 (0.0003)	0.0006* (0.0003)	0.0005* (0.0003)
Observations	165,356	133,005	153,037	139,447	116,990	133,808
Countries	58	44	52	46	37	43
Variance random intercept	0.5700	0.4785	0.5582	0.4173	0.3409	0.3650
ICC	0.1477	0.1270	0.1451	0.1126	0.0938	0.0999
LR-test	4542.31***	3201.44***	4219.29***	2426.93***	1744.00***	2176.41***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.

Table 14: Random-intercept logistic regressions with engagement in social entrepreneurship (narrow) as dependent variable, non-entrepreneurs included

	Basic models			Cultural control variables included		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual-level variables</i>						
Female	-0.0040*** (0.0014)	-0.0041** (0.0017)	-0.0048*** (0.0015)	-0.0030** (0.0015)	-0.0036** (0.0018)	-0.0034** (0.0016)
Age	0.0001** (0.0001)	0.0001 (0.0001)	0.0001** (0.0001)	0.0001* (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)
Education (=1)	0.0091*** (0.0021)	0.0087*** (0.0025)	0.0096*** (0.0023)	0.0093*** (0.0023)	0.0095*** (0.0027)	0.0096*** (0.0024)
Education (=2)	0.0309*** (0.0033)	0.0312*** (0.0037)	0.0324*** (0.0037)	0.0310*** (0.0030)	0.0323*** (0.0036)	0.0323*** (0.0033)
Self-efficacy	0.0221*** (0.0022)	0.0237*** (0.0024)	0.0241*** (0.0023)	0.0235*** (0.0022)	0.0251*** (0.0024)	0.0248*** (0.0022)
<i>Country-level variables</i>						
GDP (\$1000)	0.0003 (0.0003)	0.0003 (0.0003)	0.0003 (0.0002)	0.0001 (0.0003)	-0.0006 (0.0004)	0.0001 (0.0003)
GDP growth	0.0028** (0.0013)	0.0017 (0.0017)	0.0033** (0.0014)	0.0020* (0.0012)	0.0017 (0.0015)	0.0023* (0.0012)
Government eff.	-0.0025 (0.0064)			-0.0053 (0.0088)		
SPC		-0.0002 (0.0002)			-0.0002 (0.0002)	
UBC			-0.0001 (0.0001)			-0.0001 (0.0001)
Power distance				-0.0002 (0.0002)	-0.0003 (0.0002)	-0.0001 (0.0002)
Individualism				0.0003 (0.0002)	0.0005** (0.0002)	0.0003* (0.0002)
Observations	159,399	127,296	147,174	134,090	111,800	128,492
Countries	57	43	51	45	36	42
Variance random intercept	0.6427	0.6581	0.6350	0.5046	0.4655	0.4545
ICC	0.1634	0.1668	0.1618	0.1330	0.1239	0.1214
LR-test	2455.79***	1972.31***	2333.88***	1860.30***	1525.07***	1762.77***

Average marginal effects are displayed. Standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

(= 1) (upper) secondary education, (= 2) post-secondary or tertiary education.

*GDP* gross domestic product, *eff.* effectiveness, *SPC* social protection coverage, *UBC* unemployment benefits coverage.

*ICC* intraclass correlation coefficient, LR-tests are against single-level logistic model.