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Environmental Entrepreneurship and Inclusive Growth: A Three-fold Approach to Analysis

Abstract

This article assesses the contribution of entrepreneurs to inclusive growth, and explores both the determinants and impact of environmental entrepreneurs on pollution emissions. In particular, we place emphasis on how economic and institutional development shape these relationships. Firstly, we use a dynamic linear panel model to quantify the impact of various types of entrepreneurship on inclusive growth proxied by real household expenditure growth. Though there is no significant direct effect on inclusive growth, entrepreneurship appears to be more important in developing countries. Secondly, using a random effects model, we consider entrepreneurs' role in pollution-reduction efforts. We find that entrepreneurs have contributed positively to carbon dioxide emissions. This effect, however, decreases with level of development, suggesting that improving institutional quality is key to promoting environmental entrepreneurship capable of making a difference to climate change. Finally, we use a hierarchical probit model to identify the key determinants of environmental entrepreneurship for individual entrepreneurs. Surprisingly, we find that high environmental pressure is associated with a lower probability of becoming an environmental entrepreneur. Overall, we argue that these results are best explained by appealing to institutional differences that exist between countries at different levels of development. This means that in less developed countries entrepreneurship is seen as means of providing income and employment, whereas at the technological frontier entrepreneurship is more capable of enhancing innovation and productivity. With respect to ecological issues, then, higher quality institutions are more successful in shaping incentive structures for entrepreneurs, thereby increasing their engagement with environmental market failures.

Keywords

environmental entrepreneurship; inclusive growth; GEM-data; social entrepreneurship; developing nations; low income; middle income; technological learning; innovation and development; probit; dynamic panel model

Introduction

Despite the optimism with which economic growth figures are quoted by economists, journalists and politicians, the view that GDP per capita is at best an imperfect and at worst misleading measure of living standards has become increasingly popular in both academic and popular discourse (Costanza et al., 2013; Klenow & Jones, 2016). It has become difficult to deny that in the face of rising inequality (Milanovic, 2013; Piketty & Saez, 2014) ecological crises (IPCC, 2018), and the subsequent faltering of confidence in governments and democratic institutions (Guriev et al., 2017; Papaioannou & Guriev, 2020), all is not well with the standard performance indicators of the economy. Such concerns have prompted the development of "green", "inclusive" and "transformative" approaches to growth that put greater emphasis on welfare, intergenerational equity, and sustainability (Dasgupta, 2009; Hall et al., 2012; Jakob & Ederhofer, 2014), as well as examining the factors driving this subset of entrepreneurs, and the financial viability of such ventures (Cheng et al., 2014; Friede et al., 2015) Given this novel direction, policymakers in both developing and developed countries have been keen to recruit entrepreneurs as leaders of this transformation. In particular, environmental entrepreneurship has become increasingly more important (Meykens and Carsrud, 2013) as new ventures can serve as vessels for societal and environmental amelioration.

However, many of these arguments have not received due empirical support. Though it is recognised that entrepreneurial activity matters for growth (e.g., Wong et al., 2005; Savrul, 2017; Ferreira et al., 2017; Urbano et al., 2019; Lafuente et al., 2020), the diverging accounts of who an entrepreneur 'actually is' make it difficult to both explicate the channels that underly this association, and to make any definitive statements about scholarly consensus. Moreover, only a handful of studies consider either the relationship between entrepreneurship and 'inclusive' growth (Lundin, 2015), or the extent to which entrepreneurs can contribute to reducing pollution emissions (Sun *et al.*, 2020). As pointed out by Neumann (2021), questions remain about the efficacy of pro-entrepreneurial policies, particularly in emerging and developing countries, meaning that the understanding of what motivates and propagates this particular subset of entrepreneurs should be furthered (Thompson et al., 2011).

Therefore, this paper seeks to provide some tentative answers to the following questions: (1) To what extent does entrepreneurship matter for inclusive growth? (2) To what extent does entrepreneurship matter for changes in pollution emissions? (3) What are the determinants of environmental entrepreneurship? We argue that all three questions are related and reveal the ways in which institutions shape both the type and effects of entrepreneurial activity.

Hence, we add to the literature in three distinct ways. Firstly, we contribute by using a novel approach to address the role of entrepreneurs in promoting inclusive growth. We employ a Dynamic Linear Panel model where an economic growth measure was regressed on various measures of entrepreneurship. Instead of the more well-established measure of GDP per Capita growth (Lundin, 2015), we used the growth in real per Capita Household Expenditure on Final Goods and Services to account for inclusive growth, showing that developing countries benefit most from entrepreneurship in this regard.

Secondly, using a random effects estimator, we model the contribution that entrepreneurs have made to pollution reduction efforts. By using data from the Emission Database for Global Atmospheric Research (EDGAR), we regress growth in various fossil-fuel emissions against measures of entrepreneurial activity showing that though this activity has contributed positively, particularly to carbon dioxide emission, more developed economies have been more effective encouraging the emergence and development of green entrepreneurship. Thirdly, we draw on the paper of Hörisch et al. (2017) in establishing some of the individual and institutional factors driving and constraining environmental entrepreneurship, which following Dean and McMullen (2007, pp. 58*),* we understand as *"*the process of discovering, evaluating, and exploiting economic opportunities that are present in environmentally relevant market failures*"*. We expand on the Hörisch et al. (2017) study both by using the more recent GEM 2015 data set, as well as by adding more institutional factors to the analysis. Specifically, the analysis will concern itself with examining the characteristics of countries in the 2015 GEM wave classified as middle- and low-income countries by the World Bank[i].

Overall, we argue that our three results can be consistently explained by appeal to an institutional theory of entrepreneurship. Namely, institutional differences lead to "heterogeneity in the quality and quantity of entrepreneurship across countries" (Lafuente et al. 2020). This means that the decision to become an entrepreneur, the type of entrepreneurial activity taking place, and its economic significance are all embedded in a particular institutional setting. Assuming then that growth rates are higher in institutionally more developed countries (Acemoglu et al. 2005), it follows that entrepreneurs in that context would be more efficient in responding to market opportunities and more effective at changing aggregate outcomes. Thus, the paper will attempt to establish a coherent link from the factors determining the effect of entrepreneurship to the factors determining the likelihood of engaging in environmental entrepreneurship. We hope the chain of analysis can inform both future research on environmental entrepreneurs as well as policy decisions targeting environmental entrepreneurs.

The rest of this paper will be structured as follows: The ensuing section will review existing literature on the topic of entrepreneurship and growth broadly, and environmental entrepreneurship and inclusive growth specifically. The literature review will serve to establish the theoretical framework for our explored hypotheses and analysis. Here we also introduce the concepts from institutional theory that underlie the interpretation of our results. The third section will cover the data sets and variables employed, as well as the methods we have used. The penultimate section displays and discusses the results of our models, where each model will be presented in a separate sub-section. The final section will consider the implications of our findings for further research and policymaking, as well as discussing the limitations of the analysis.

Literature Review

Background: Institutions and Entrepreneurship

Achieving stable and sustainable economic growth has remained a central objective of government policy, yet its determinants are still hotly contested among researchers (Helpman, 2004). One unexpected addition to this vast literature has been entrepreneurship, whose role, though universally recognised, is nevertheless imperfectly understood (Bjørnskov & Foss, 2016). However, a promising line of inquiry that provides a solid theoretical foundation to the understanding of this topic has been institutional theory (Hörisch et al., 2015).

Famously, Douglas North (1990) defines institutions as: “the humanly devised constraints that shape human interaction”. A clear consequence of this view is that institutions “structure incentives in human exchange, whether political, social, or economic”. The relevance for entrepreneurship is evident: institutions provide individuals, who possess the necessary qualities and knowledge to be entrepreneurs, with incentives and signals regarding the availability of market opportunities (Baumol, 2010). This implies that the existence of market opportunity is not, in and of itself, a sufficient condition for entrepreneurial activity, which

means that even severe environmental degradation may not serve as a sufficient motive for new venture creation. Empirically, this line of reasoning has been confirmed by a myriad of studies exploring the effect of institutions on both the quantity and quality of entrepreneurial activity (e.g., Stephen et al., 2005; Aidis et al., 2008; Nyström, 2008; Urbano and Alvarez, 2014; Fuentelsaz et al., 2015; Elert et al., 2017).

A notable example is Sobel (2008), who finds strong empirical support for Baumol's (1990) hypothesis that "entrepreneurial individuals channel their effort in different directions depending on the quality of prevailing economic, political, and legal institutions," that is, institutional quality matters for the relative amounts of productive and unproductive entrepreneurial activity taking place in an economy. More recently, Audretsch et al. (2019) argue that the there are six significant determinants of the quantity and quality of entrepreneurship in a given country: (a) level of financial development; (b) availability of entrepreneurial capital and cognition; (c) the regulatory framework; (d) corruption; (e) government size; and (f) government support. Empirically, they find that improvements in many of these institutional variables have a greater positive effect on entrepreneurship in developing economies.

Evidently, as a result of institutional differences (both formal and informal) the number and type of entrepreneurial opportunities differs between economies. Put another way, "the institutional framework within which an activity is performed often determines whether this activity is productive, unproductive or destructive" (Douhan & Henrekson, 2010, p. 630). This means that low and middle-income countries will likely face a different set of challenges in promoting entrepreneur-driven growth to higher income economies (Baumol, 1990; Sobel 2008). Though, as we have seen, there is a growing body of research exploring these issues by linking institutions, economic performance and entrepreneurial activity (Audretsch et al., 2006; Urbano et al., 2019), researchers have typically neglected entrepreneurial contributions to household welfare, inclusive growth and environmental change.

In what follows, we consider the literature that underlies each of our three research questions and formulate testable hypotheses that we explore empirically.

Entrepreneurship and Inclusive Growth

The project of quantifying the economic benefits of entrepreneurial activity has commanded significant academic attention. It is argued that entrepreneurs contribute to growth through three separate channels: innovation, productivity growth, and employment. Baumol (2004), for instance, claims that many "ground-breaking" innovations are created predominantly by smaller firms. Indeed, Acs and Audretsch (1987, 1988, 1991) find examples of industries where SMEs account for a greater proportion of the total volume of innovation than larger incumbents. In fact, Kritikos (2014) points out that small firms tend to be more efficient at adopting new ideas than older established firms. Furthermore, starting with Geroski (1989) and Nickell (1996), it has come to be recognised that new firm entry and the subsequent increase in product market competition is beneficial to productivity growth.

On the other hand, cross-country studies have not always had such positive results. Both Carree and Thurik (1999), and Blanchflower (2000) use data from the OECD to show that a negative relationship exists between entrepreneurship and economic growth rates. This supports the U-shaped hypothesis at the heart of the Schumpeterian theories of growth and competition discussed in Aghion & Griffiths (2008), as well as Alesina et al. (2007), who suggest that competition is only beneficial to firms closer to the world technological frontier, and thus developing countries may not experience much benefit from entrepreneur-led competition.

One major limitation of these studies is the failure to use more inclusive measures of economic performance. A notable exception is the study by Carree et al., (2002), who use a vector error correction model to analyse the effect of entrepreneurship on real household income for a sample of OECD countries. They find that entrepreneurship has a positive effect on inclusive growth both in the short and long-run. However, again, their study is limited to considering a

panel of 23 high-income economies, and so does not give any insight into how entrepreneurs contribute to inclusive growth in the developing world.

Another weakness of the literature is that little attention is paid to how entrepreneurship benefits developing countries. A "hockey-stick relationship" can be observed between total entrepreneurial activity (as measured by GEM) and the level of development (Reynolds et al., 2001; Wennekers et al., 2005; Vivarelli, 2013). This disappears when "necessity" and "opportunity" driven entrepreneurs are finally distinguished. The implication is that developing countries see more entrepreneurs whose primary motivation for opening their business is the need to support their family. Thus, SMEs act as a poverty-reduction mechanism that supports household income, and boosts consumption. Thus, following Caree et al. (2002), inclusive growth can be best measured using the household level of income or consumption.

This intuition can be expressed more succinctly as a simple pair of hypotheses:

> **H1.1:** *Entrepreneurship has a positive effect on inclusive growth (measured as household income or consumption)*
>
> **H1.2:** *Entrepreneurship will have a more important role in driving inclusive growth for less developed countries, as more persons rely on self-employment as a source of income to support their consumption*

Entrepreneurship and Pollution Emissions

Another dimension of the sustainable development and inclusive growth paradigm is pollution reduction and positive environmental change. Some papers by the OECD (2011, 2013, 2018) have tended to implicate SMEs as key drivers of environmental degradation and fossil-fuel use, though remain optimistic that government policy can encourage the entry of greener

entrepreneurs. York and Venkataraman (2010) concur, developing a model that suggests entrepreneurs as the solution to environmental degradation, rather than its cause. They argue that entrepreneurial entry can reduce uncertainty and provide information to incumbent firms thus increasing the supply of green goods and services. Moreover, if the expected return of environmental goods is particularly uncertain, entrepreneurial firms may be more likely to introduce new product and process innovation than incumbents. This line of argument is very well complemented by the empirical findings by Audretsch (1995), who finds that industries where there is no convergence regarding the expected value of new products, sees greater entrepreneurial activity, entry, and innovation.

One difficulty here, however, is that less developed countries often do not have the institutions to support "environmental entrepreneurs" and fail to incentivise "eco-innovation", and though there are some social groups who possess the necessary human capital to pursue innovative opportunities, barriers to entry remain high (Potluri and Phani, 2020). It is thus expected that developing countries are, on average, less successful in promoting "environmental entrepreneurs," meaning that, in all likelihood, entrepreneurial contributions to the environment are largely negative. To our best knowledge, there are no cross-country studies that seek to quantify these effects. We therefore pursue a second pair of hypotheses:

> **H2.1:** *The impact of entrepreneurship on growth of pollution emissions is positive*
>
> **H2.2:** *Developed countries are more successful at utilising entrepreneurship to constrain growth in emissions and environmental degradation*

Environmental Entrepreneurship and Its Determinants

When considering the determinants of environmental entrepreneurship, it is pertinent to consider both the endogenous characteristics of the would-be entrepreneur, as well as the exogenous conditions under which they operate. This section will therefore review existing literature to identify individual characteristics for use in the analysis. Further, the following

section will discuss institutional factors that may also influence entrepreneurship, as well as highlighting the research gap related to environmental pressure and state characteristics in existing literature.

Individual Characteristics

Individual characteristics have repeatedly been shown to influence the likelihood of engaging in entrepreneurship (e.g., Koellinger et al., 2007; Amorós et al., 2021). GEM data has been integral to this development, through the provision of several self-reported indicators of personality traits and individual perceptions of society. Of these traits, one that has persistently shown a reduction in the probability of an individual engaging in entrepreneurship is their perceived fear of failure (Kwon and Arenius, 2010; Amorós et al., 2021). In the GEM report, fear of failure is reported among individuals who see opportunities for a new entrepreneurial venture but feel constrained by fear of failure (GEM, 2016). It intuitively makes sense that individuals feeling constrained by the risk of failure will also be less likely to engage in the risky behaviour. Our model will examine whether that is true for environmentally/socially oriented entrepreneurs, who may have a lower inclination towards profit-seeking, thus possibly mitigating some of the most disagreeable components of failure: namely, financial risk. We are interested in seeing whether engaging in environmental entrepreneurship is affected by fear of failure, both in the full sample, as well as in the middle- and low-income sub-sample. As a component of this analysis, we will also examine the same regressions when performed only on the population engaged in TEA, to see whether there may be any significant difference between the environmental entrepreneurs and entrepreneurs at large. Hypothesis 3.1 is thus given as:

> **H3.1:** *Individuals reporting fear of failure are less likely to engage in environmental entrepreneurship than the population at large, but more likely when considering only the population of entrepreneurs.*

Conversely, individuals reporting that they believe they have the skills required to succeed in an entrepreneurial venture are found to be more likely to engage in TEA (Koellinger et al., 2007). To start a business is a conscious act that requires some level of confidence in one's own ability

to succeed. Our model will indicate whether individuals with more confidence in their skillset are more likely to engage in environmental entrepreneurship , and whether an entrepreneur reporting such confidence is more likely to be environmentally oriented than not. This will again be examined both in the full data sample as well as on the limited country sample of developing economies. We formulate Hypothesis 3.2 as:

> **H3.2:** *Individuals reporting confidence in their own ability to succeed in an entrepreneurial venture are more likely to engage in social and environmental entrepreneurship than the population at large, and more likely when compared to the population of entrepreneurs.*

Finally, in the block on individual traits, we consider the effect of knowing someone who has started an entrepreneurial venture in the preceding two years. This can be considered to reflect a form of social capital which can influence entrepreneurial efforts (Amorós et al., 2019). Generally, previous research has found a positive relationship between knowing an entrepreneur and engaging in entrepreneurship (e.g., Kwon and Aurenius, 2010; Autio et al., 2013; Amorós et al., 2019). Similar to the previous two hypotheses, we formulate Hypothesis 3.3 as:

> **H3.3:** *Individuals who report knowing an entrepreneur are more likely to engage in Environmental entrepreneurship compared both to the population at large, and the population of entrepreneurs.*

Individual Perceptions

An adjacent set of measures to personality traits is individual perceptions of how their society operates, and whether that may facilitate establishing a personal venture. We first consider how individuals perceive the current opportunity of engaging in entrepreneurship. Perceived opportunities have been well-established as a factor increasing the likelihood of an individual engaging in entrepreneurship (Amorós et al., 2021). Opportunities are conceived as a gap in the

market which an entrepreneur can fill with their business (Kirkwood and Walton, 2010). We see no obvious reason why perception of opportunities should not impact environmental entrepreneurs and are primarily concerned with whether it may impact the likelihood within the subset of entrepreneurs. Nevertheless, we formulate Hypothesis 3.4 as:

> **H3.4:** *Individuals reporting a perceived gap in the market – a business opportunity – are more likely to be environmental entrepreneurs. Entrepreneurs perceiving a gap in the market are more likely to be environmentally oriented.*

The second part of our individual perceptions block is the perception of various societal attitudes towards entrepreneurship, hereunder the media representation of entrepreneurs, the status of entrepreneurs, and the overall societal perception of entrepreneurs. These variables have to the authors' knowledge been explored less in research, but Hörisch et al. (2017) demonstrated a negative relationship between the positive status of entrepreneurs, and the likelihood of an entrepreneur being an ESE. Our primary motivation is to see if it is possible to reaffirm this assertion, and to establish it to be present among middle- and lower-income countries as well. We define Hypothesis 3.5 as:

> **H3.5:** *Individuals reporting (high status/positive media representation/positive perception) of entrepreneurs in their society are more likely to be environmental entrepreneurs.*

State Characteristics

With our selection of state variables, we will expand on the research performed by Hörisch et al. (2017) in two distinct ways. Firstly, by selecting a complimentary set of regressors, which can potentially enlighten the proliferation of ESEs further, and; secondly, by using the measure of environmental pressure used in Hörisch et al. (2017), both as an individual regressor to reaffirm their findings with a more recent dataset, but, more importantly, by utilising it in interaction with the other state level variables, to see if we can establish any state traits that exhibit

significant effects only when environmental pressure is high and vice versa. Specifically, we want to consider one set of political risk factors, and one set of business institutions. The topic of political risk has to the authors' knowledge not yet been explored in great detail in relation to entrepreneurship, however higher political risk factors have been shown to exhibit a significant positive relationship with higher firm entry density (Dutta et al., 2013). A plausible explanation for this phenomenon is that higher political risk factors are associated with governments being less capable of responding to needs, with entrepreneurial activities instead taking that role. This draws on assumptions in institutional void theory (Mair and Marti, 2009; Estrin et al., 2016). We formulate Hypothesis 3.6 as:

> **H3.6:** *Higher political risk increases the probability of engaging in environmental entrepreneurship. Entrepreneurs are more likely to be environmentally oriented if political risk factors are higher.*

Next, the business environment of a country has been shown to have a significant impact on entrepreneurship rates (Dvouletý, 2016), with barriers serving as a disincentive for would-be entrepreneurs. We formulate Hypothesis 3.7 as:

> **H3.7:** *Greater business freedom has a positive impact on the likelihood of engaging in environmental entrepreneurship. Environmental entrepreneurs are affected more positively than other entrepreneurs.*

Environmental Pressure and Interaction

Finally, we want to consider the effect of environmental pressure, which can serve as an opportunity incentive specifically for environmental entrepreneurs. The measure for environmental pressure we use is the per capita ratio of ecological footprint to ecological capacity for each nation, which has previously been shown to have a positive correlation with

the environmental orientation of entrepreneurs (Hörisch et al., 2017). We formulate hypothesis 3.8 as:

> **H3.8:** *A higher degree of environmental pressure increases the likelihood of engaging in environmental entrepreneurship. Entrepreneurs are more likely to be environmentally oriented when environmental pressure is high.*

The last hypothesis will also capture interaction between the state characteristics and environmental pressure, which can indicate whether the effect of environmental pressure changes depending on the state characteristics. This specific configuration, using environmental pressure as an interaction term with various state characteristics, is to our knowledge novel. The intuition is that entrepreneurs may be more respondent to environmental opportunities when political risks are high (void theory), and that better institutions for doing business may have the same effect (Mair and Marti, 2009; Estrin et al., 2016).

In summary, we hope that the first analytical section can identify some drivers of environmental entrepreneurship, particularly in middle- and low-income countries. With that information in hand, we will turn to the second section, which will consider how various forms of entrepreneurship can be drivers of economic growth.

Methods

For our purposes, we construct two datasets: one for examining the role of entrepreneurs in inclusive growth and pollution emissions, and the other for evaluating the determinants of environmental entrepreneurship. For simplicity we refer to these as the '*Macro'* and '*Micro'* datasets, because the first primarily concerns country-level outcomes and the latter focuses on the determinants of individual actions.

Macro Dataset

A panel data set is constructed that comprises 85 countries from 2007 to 2017, though not all variables are available for the entire sample period. Given the scope of our investigation, there are several key dependent variables, while the independent and control variables utilised are similar for both the analysis of inclusive growth and pollution.

Dependent Variables

There are two groups of dependent variables corresponding to the two models that use the *Macro* database.

First is growth in *real final per capita household expenditure* (RHE), which is defined by the World Bank as "the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households". We depart from the conventional measures of economies performance, such as GDP per capita growth, and use instead the growth of RHE which, in our judgement, more accurately captures the inclusive aspects of growth. As pointed out by a recent survey performed by the ONS and the Stiglitz-Sen-Fitoussi report, household expenditure is strongly linked with personal and economic well-being of a household. Moreover, expenditure is usually affected more by shifts in long-run perceptions of people's own economic situations, rather than by fluctuations in short-run income. Hence, it follows that RHE is a better measure of inclusive growth than GDP per capita

as it is more sensitive to real changes in household welfare and reflects more than simply aggregate economic activity.

Second, we consider three measures of pollution emissions: growth in per capita carbon dioxide CO_2 emissions ($gCO2$), growth in per capita methane CH_4 emissions ($gCH4$) and growth in per capita nitrogen dioxide NO_2 emissions ($gNO2$). These are based on data drawn from the Emission Database for Global Atmospheric Research (EDGAR). We seek to estimate the impact entrepreneurship has had, if any, on growth in fossil-fuel based emissions. As pointed out earlier, there has been little quantitative research done on whether entrepreneurship plays a positive or negative role in environmental change. This is particularly surprising given the rising interest in promoting green and transformative entrepreneurship, particular in low-middle income economies.

Independent and Control Variables

The main independent variable for both approaches is aggregate entrepreneurial activity which accounts for 7 different entrepreneurial types using data drawn from the annual survey results published by the Global Entrepreneurship Monitor (GEM). Data from GEM has been used extensively in previous studies, and though its TEA index has been criticised[1], this has mostly been more conceptual issues that are not directly relevant to our argument.

As such, we extend the scope of previous GEM research (Autio, 2005; Minniti, Bygrave, and Autio, 2005; Valliere and Peterson, 2009) and account for a wider variety of entrepreneurial types. Moreover, a set of interaction terms between level of development and entrepreneurship ($ENTRE \times DTTF$) are introduced to explore how distance to technological frontier affects ($DTTF$) the benefits entrepreneurial activity.

[1] For this line of argument see, for example, the article by Henrekson and Sanandaji (2014) who argue that small business activity is not a good measure of Schumpeterian entrepreneurship, preferring instead to use the number of self-made billionaires.

Variable	Definition
TEA	Percentage of all respondents (18-64): involved in a nascent firm or young firm or both
$TEAnec$	Percentage of all respondents (18-64): involved in TEA and reporting necessity as a major motive.
$TEAopp$	Percentage of all respondents (18-64): involved in TEA and reporting opportunity as major motive.
$TEAhjg$	Percentage of all respondents (18-64): involved in TEA and expecting 19 or more jobs 5 years after the business has started
$TEAnp$	Percentage of respondents within TEA: reporting that their product is new to all customers
$TEAdiff$	Percentage of respondents within TEA: reporting that no businesses offer the same product
$TEAtech$	Percentage of respondents within TEA: reporting that they use the very latest technology, not available one year ago
$DTTF$	Distance To the Technological Frontier: the ratio real GDP per capita of a given country to the maximum in the sample for a given year
Source: GEM and World Bank	

Table 1 – Summary of Key Variables

In addition to the aforementioned dependent and independent variables, a set of macroeconomic and institutional control variables are introduced. These measures are operationalised using data drawn from the Penn World Tables, World Bank, World Economic Forum and GEM. Following the previous studies by Wong *et al.* (2005), Valliere and Peterson (2009) and Flachaire *et al.* (2014), we control for business cycle fluctuations (AG, U), quality of economic institutions $(ROL, COMP)$, human capital (HC), investment(INV), population

growth (POP), physical capital (PC) and perceptions of entrepreneurial opportunity $(Opport, FrFail)$.

Business cycle fluctuations are proxied not only by an average of the 5-year lagged GDP growth rate, but also by the unemployment rate. We also acknowledge Nystrom's (2008) argument that entrepreneurship may be more effective in an economy with better institutions and property right protection, and hence include a measure of 'regulatory quality' (RQ), and 'competitiveness' $(COMP)$ as a control variable that accounts for law and property right enforcement, as well as productivity-enhancing institutions. The rest of the control variables are commonly used in growth regressions[2].

We also consider the possible issue of multicollinearity. The only potential source of worry is the 0.779 value of the correlation coefficient between the $COMP$ (that measures competitiveness), and $DTTF$ (measuring level of development). However, the variance inflation factors reveal no problems between the potential controls. A descriptive summary of all variables can be found in the Appendix.

Estimation Models

Dynamic Panel Model of Inclusive Growth

Panel data allows us to control for unobserved individual-specific effects. However, a problem remains: static models are often mis-specified because the within-group error terms are serially correlated. This means that any statistical inferences made from such models are invalid. To account for this possibility, we estimate a dynamic panel model for RHE growth:

[2] For a survey of these measures and determinants of growth see Barro (2003), Roe (2003) or Antonio and Jarociński (2010).

$$rhe_{it} = \alpha_1 ENTRE_{it} + \alpha_2 (ENTRE_{it} \times DTTF_{it}) + \alpha_3 DTTF_{it} + \sum_{j=1}^{\rho} \gamma_j rhe_{it-j} + X'_{it}\beta + \mu_i + \eta_t + \varepsilon_{it}$$

where rhe_{it} is real per capita household expenditure growth in country i in year t (our measure of inclusive growth), $ENTRE_{it}$ is the entrepreneurship variable which takes different values according to the type of entrepreneurship under consideration: $ENTRE \in \{TEA_{it}, TEAopp_{it}, TEAnec_{it}, TEAhjg_{it}, TEAnp_{it}, TEAdiff_{it}, TEAtech_{it}\}$ and $DTTF_{it}$ is the distance of country i at time t to the technological frontier measured as the ratio of real GDP per capita of each respective country to the maximum in the sample for that particular year.

Therefore, $(ENTRE_{it} \times DTTF_{it})$ is an interaction term which hopes to capture the differential marginal effect of entrepreneurship on inclusive growth at different levels of development. The specification also includes ρ lags of real household expenditure growth to control for the entire time-path of RHE growth, and hence account for its historical dynamics. The vector X'_{it} contains the set of macroeconomic control and institutional variables. The terms, μ_i and η_t are the country and time fixed effects, that are accounted for using a first-difference transformation as part of the GMM estimation procedure (see below) and with a set of time dummy variables respectively. Lastly ε_{it} is the random error term.

Notice that including a lagged dependent variable on the right-hand side of the model means that fixed and random effects estimators exhibit the 'Nickel bias' caused by the failure of the strict exogeneity assumption (Nickell, 1981). To account for this bias the difference-GMM estimator, developed in Arellano-Bond (1991), is used. This estimator is valid under the assumption of sequential exogeneity which holds when the there is no second-order autocorrelation of errors and when the time dimensions is small[ii]. Arellano-Bond AR (2) autocorrelation tests results are reported in the Appendix for each model showing that the null hypothesis of no second-order autocorrelation cannot be rejected.

Random Effects Model of Pollution Emissions

We also explore the role of entrepreneurs in either promoting or reducing fossil fuel emissions. The Hausman specification and Wooldridge (2002) serial correlation tests - reported in the Appendix for each model specification - reveals that the null hypothesis of no autocorrelation cannot be rejected. In addition, the tests reveal that the random effects estimator is best suited for our data:

$$POL_{it} = \alpha_1 ENTRE_{it} + \alpha_2 (ENTRE_{it} \times DTTF_{it}) + \alpha_3 DTTF_{it} + X'_{it}\beta + \mu_i + \varepsilon_{it}$$

where, $POL_{it} \in \{gCH4_{it}, gNO2_{it}, gCO2_{it}\}$ is a measure of growth in pollution emissions in country i in year t. $ENTRE_{it}$ is the entrepreneurship variable and $DTTF_{it}$ is the distance of country i in year t to the technological frontier measured as the ratio of real GDP per capita of each respective country to the maximum in the sample for that particular year. Hence, as before, $(ENTRE_{it} \times DTTF_{it})$ captures the differential marginal effect of entrepreneurship on growth in emissions at different levels of development. The vector X'_{it} contains the set of macroeconomic control and institutional variables. The terms, μ_i are the country fixed effects while ε_{it} is the random error term.

Micro Dataset

Methods

Following previous research on environmental entrepreneurs, we opted to consider four groups of variables: Individual attributes, individual perceptions, state-level institutions, and environmental pressure and its interaction with the institutional measures. In addition, we consider both individual and national control variables. These variables and their interpretation will be discussed in full in section 3. Following Hörisch et al. (2017), we consider a set of hypotheses for each group, to be tested on the full sample of countries and the subset of middle- and low-income countries. This section will define and elaborate each set of variables: individual attributes (hypotheses 3.1-3.3), individual perceptions (hypotheses 3.4-3.5), state

institutions (hypotheses 3.6-3.7), and environmental pressure with interaction (hypotheses 3.8-3.9).

Theoretical Model

We use data from the 2015 GEM APS combined with various institutional indicators as detailed in Appendix C, with a corresponding correlation matrix in Appendix G. The data employed covers the year 2015, with 163,566 respondents from 56 different countries. Summary statistics of the dataset can be found in Appendix E. 28 Countries in the sample are considered Middle and Low-income countries, codified according to World Bank standards for the year 2015. There are 74,323 individual respondents from those countries. There are 20,328 respondents categorised as engaged in TEA, of which 1,218 are engaging in environmental entrepreneurship. This variable is created by first considering all respondents reporting that they are engaged in entrepreneurial activity, then coding the subset that reports that profits are reinvested in service of social or environmental goals (Question 6A17 in the 2015 GEM APS) as environmentally oriented entrepreneurs. This process is illustrated in *figure 1* below.

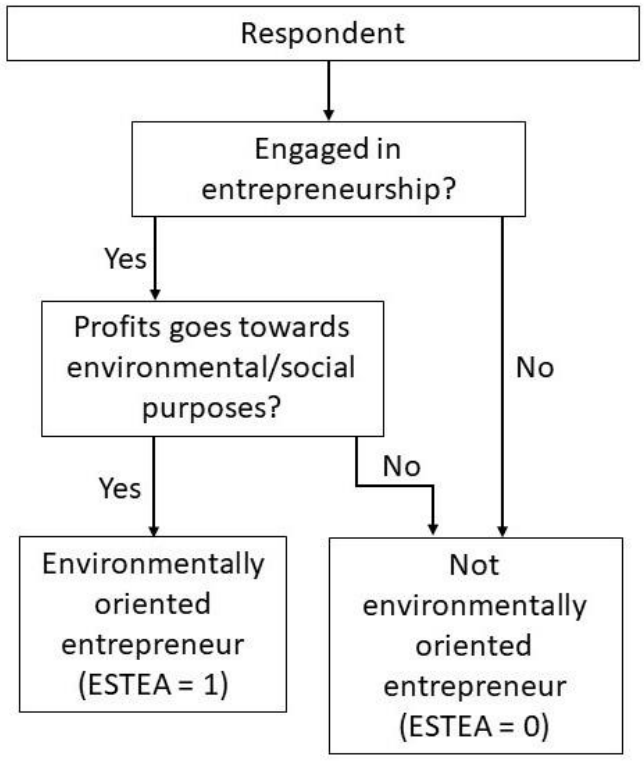

Figure 1 Identifying Environmental entrepreneurs

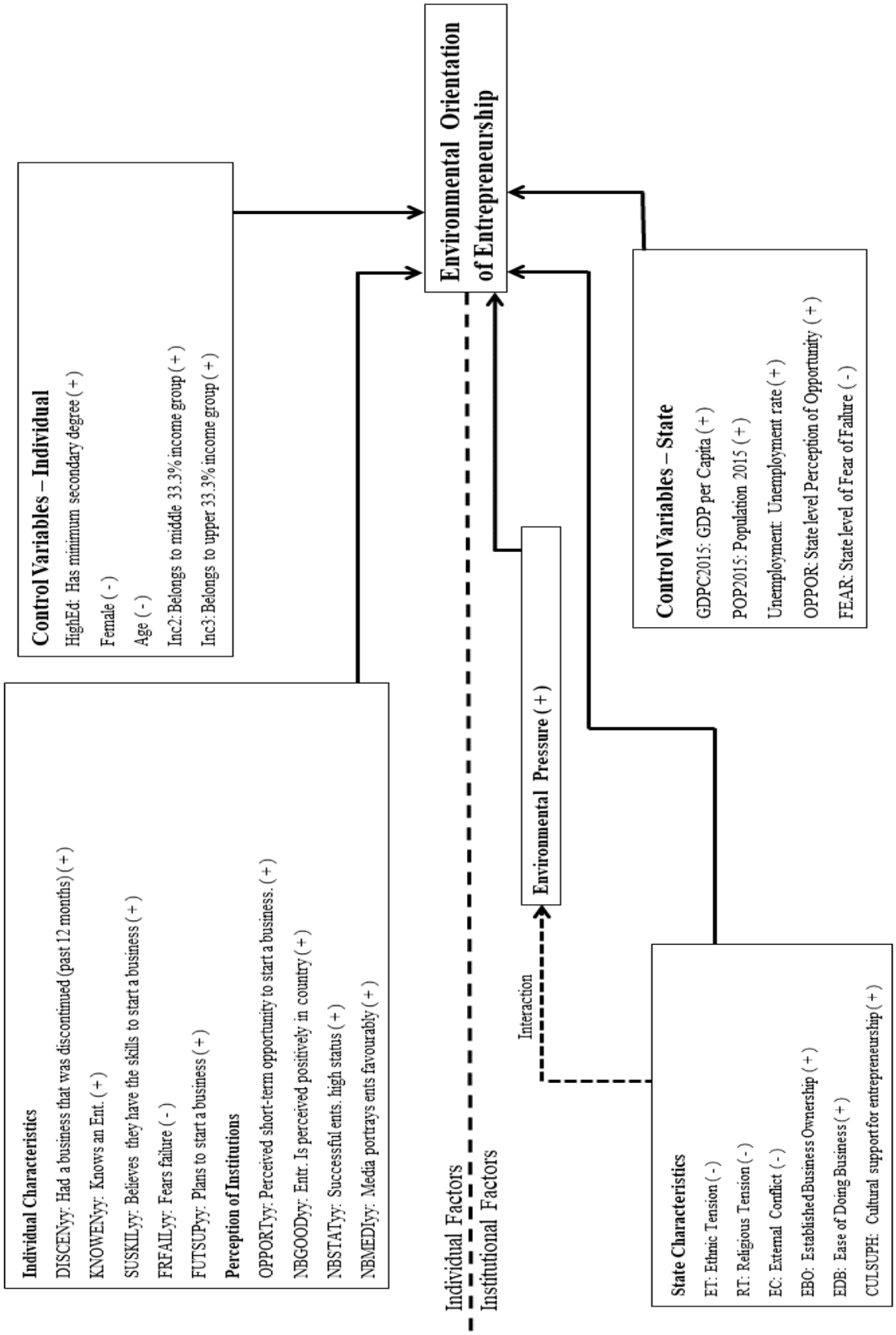

Figure 2 Conceptual model

The model will follow Hörisch et al. (2017) in considering both societal and individual level factors, but will expand on this by implementing more institutional variables, as well as implementing interaction terms. This method allows us to capture and control for effects outside the scope of the GEM APS. In addition, it can alleviate any possible common method

bias (Siemensen et al., 2010; Hörisch et al., 2017). The conceptual model can be seen in *figure 2.*

For the following model estimations, we have a twofold objective: Firstly, we hope to engage with some of the findings of Hörisch et al. (2017), to see if the results using the 2009 wave are reproducible using data from the new questionnaire format employed by GEM from 2015 onwards. Secondly, we hope to further expand on the findings of Hörisch et al. (2017), by introducing more institutional variables, and examining how they interact with the measure for environmental pressure. In addition, we will consider these effects within the restricted set of Middle- and Low-income countries, as well as on the restricted set of all individuals engaged in TEA. The former regression set serves the objective of illuminating any would-be differences present in the driving factors for environmental entrepreneurship in smaller economies, while the latter will highlight differences between the factors driving environmental entrepreneurs as compared to the population of entrepreneurs at large.

Estimation Model

Due to the omission of self-reported environmental focus on the part of the entrepreneur for the 2015 questionnaire, the continuous variable employed by Hörisch et al (2017) was not an option. Instead, we constructed a Boolean variable capturing the entrepreneurs who also report an emphasis on providing social value. The core model for estimation will then be the following probit specification:

$$ESTEA_{ij} = \beta_1 + \beta_2(CVState)_{2j} + \beta_3(CVIndiv)_{3ij} + \beta_4(IndChar)_{4ij} + \beta_5(PercInst)_{5ij} + \beta_6(StateChar)_{6j} + (\beta_7[EnvPress \times StateChar]_{7j}) + \varepsilon$$

The various factor groups are introduced through a hierarchical probit model, with one group added per block. This allows us to control the significance of each variable block separately, through evaluation of Likelihood Ratios (LR) for each block. To ensure a normal distribution of continuous variables, we employ the natural logarithm of those measures in our regressions.

Results and Discussion

Approach 1: Inclusive Growth

Columns (1) - (6) of *Table 2* report results for the dynamic panel estimation of RHE for Total Entrepreneurial Activity (TEA), Necessity-driven Entrepreneurship $TEAnec$ and Opportunity-driven Entrepreneurship ($TEAopp$). For each entrepreneurial type, we report results from using 1 and 2 lags of RHE as an independent variable and in all such cases, the second lag of RHE is significant which provides *a posteriori* justification for its inclusion[iii]. The reported estimates are given alongside their respective t-statistics that are based on heteroskedasticity robust standard errors. Note also that the Appendix reports the $AR(2)$ test for each of the 14 estimated models, each showing that the null hypothesis of no second-order autocorrelation can be rejected.

	(1)	(2)	(3)	(4)	(5)	(6)
L.rhe	0.466***	0.207*	0.469***	0.199*	0.463***	0.207*
	(3.31)	(1.82)	(3.44)	(1.84)	(3.26)	(1.77)
L2.rhe		-0.221**		-0.235***		-0.223**
		(-2.56)		(-2.64)		(-2.57)
TEA	0.000412	0.000986				
	(0.37)	(1.10)				
TEA*DTTF	-0.00976**	-0.00936**				
	(-2.21)	(-2.18)				
TEAnec			-0.000971	0.00513		
			(-0.24)	(1.26)		
TEAnec*DTTF			-0.00786	-0.0303		
			(-0.40)	(-1.59)		
TEAopp					0.000915	0.000664
					(0.77)	(0.81)
TEAopp*DTTF					-0.0106**	-0.00648*
					(-2.27)	(-1.71)
DTTF	0.331	-0.00597	0.196	-0.0851	0.323	-0.0655
	(0.72)	(-0.03)	(0.48)	(-0.53)	(0.70)	(-0.37)
Opport	0.00125***	0.000717**	0.00118***	0.000655**	0.00124***	0.000738**
	(3.43)	(2.10)	(3.33)	(2.08)	(3.44)	(2.17)
FrFail	-0.00111**	-0.00135***	-0.00112**	-0.00126***	-0.00112**	-0.00136***
	(-2.28)	(-2.96)	(-2.22)	(-2.80)	(-2.34)	(-2.96)
_cons	1.295	0.0449	1.277	-0.105	1.322	0.0604
	(1.60)	(0.06)	(1.60)	(-0.14)	(1.63)	(0.08)
Instruments	68	66	68	66	68	66
N	334	261	334	261	334	261

t statistics in parentheses (based on heteroskedasticity robust standard errors)
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2 – Entrepreneurship and Inclusive Growth estimation results I

Across these six specifications, shown in *Table 2*, entrepreneurship is not significant, meaning that there is no evidence that it has a uniform direct effect on inclusive growth, which provides evidence against hypothesis **H1.1**. That being said, for 'total entrepreneurial activity' (TEA) and 'opportunity-driven entrepreneurship' ($TEAopp$), the interaction term with 'distance to the technological frontier' ($DTTF$) is significant and negative, which implies that in both cases, the effect of entrepreneurship on inclusive growth is lower for countries with higher levels of development. This is a surprising result to us, but may suggest the existence of an "entrepreneurial catch-up effect," thereby providing some evidence for hypothesis **H1.2**.

Previous studies on the topic of entrepreneurship and economic growth, have tended to support the thesis that developing countries do not have the requisite institutional environments to support growth-enhancing entrepreneurship. For example, Van Stel *et al.* (2005) finds that entrepreneurs have a negative impact on GDP per capita growth in developing countries. The authors offer two possible explanations of their results. First, they suggest that developing countries have a notable absence of larger companies that give more sustainable and productive employment to individuals compared to new ventures and small businesses. Second, it is pointed out that entrepreneurs in developing economies have lower human capital levels, and frequently operate in low value-added sectors, thereby contributing very little to economic growth. Sautet (2013) takes a different line of argument, arguing instead that institutional factors limit the emergence of 'systemic' entrepreneurship in a developing context, hence restricting the contribution of entrepreneurs to growth. More recently, Boudreaux (2019) comes to a similar conclusion, while McCarthy *et al.* (2018) find instead that entrepreneurial activity has a negative effect on GDP growth in low-middle income countries.

On the other hand, perhaps the findings vindicate our choice of dependent variable. Afterall, it is conceivable that in a developed economy entrepreneurship affects other components of economic growth, such as investment and innovation, far more than household expenditure. In particular, this hypothesis becomes more plausible when we consider the major role of small business in reducing poverty among less developed countries, thereby relegating investment

and innovation to a more secondary role. For example, Tamvada (2010) finds that entrepreneurs that employ others have the highest returns in terms of consumption, followed by salaried employees and self-employed entrepreneurs. It would therefore be expected that if entrepreneurship is the primary source of income for many households in a developing context, the quantity of entrepreneurial activity would be strongly linked to expenditure (more so than in a developed context).

	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
L.rhe	0.439***	0.196*	0.467***	0.212*	0.475***	0.225*	0.462***	0.216*
	(3.18)	(1.69)	(3.34)	(1.86)	(3.23)	(1.92)	(3.30)	(1.90)
L2.rhe		-0.221***		-0.224**		-0.221**		-0.224**
		(-2.63)		(-2.57)		(-2.49)		(-2.49)
TEAhjg	0.00505	0.00697						
	(0.85)	(1.55)						
TEAhjg*DTTF	-0.0599**	-0.0327**						
	(-2.39)	(-2.08)						
TEAnp			-0.000117	0.000399				
			(-0.23)	(0.75)				
TEAnp*DTTF			0.00193	0.000560				
			(1.07)	(0.39)				
TEAdiff					0.00223***	0.00101		
					(2.71)	(1.56)		
TEAdiff*DTFF					-0.00449**	-0.00333*		
					(-1.97)	(-1.66)		
TEAtech							0.000837*	0.000579
							(1.74)	(1.43)
TEAtech*DTTF							-0.00206	-0.00161
							(-1.09)	(-1.06)
DTTF	0.278	-0.102	0.155	-0.161	0.236	-0.0836	0.212	-0.140
	(0.66)	(-0.58)	(0.37)	(-1.04)	(0.58)	(-0.48)	(0.53)	(-0.87)
Opport	0.00111***	0.000642**	0.00117***	0.000691**	0.00121***	0.000767**	0.00119***	0.000702**
	(3.26)	(2.05)	(3.37)	(2.15)	(3.63)	(2.42)	(3.50)	(2.13)
FrFail	-0.00105**	-0.00138***	-0.00114**	-0.0014***	-0.00112**	-0.00136***	-0.0011**	-0.00137***
	(-2.21)	(-3.13)	(-2.27)	(-3.27)	(-2.34)	(-2.92)	(-2.24)	(-2.95)
_cons	1.301*	0.0680	1.356*	-0.00920	1.286	-0.0831	1.257	-0.0225
	(1.73)	(0.09)	(1.65)	(-0.01)	(1.59)	(-0.11)	(1.53)	(-0.03)
Instruments	68	66	68	66	68	66	68	66
N	334	261	334	261	334	261	334	261

t statistics in parentheses (based on heteroskedasticity robust standard errors)
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3 – Entrepreneurship and Inclusive Growth estimation results II

Delving deeper, models (7) – (14), in presented in *Table 3*, evaluate the effects of high-job creation expectation entrepreneurs ($TEAhjg$), new-product entrepreneurs ($TEAnp$), differentiated-product entrepreneurs ($TEAdiff$) and new technology-based entrepreneurs

($TEAtech$). Here the results are largely consistent with those of models (1) – (6). Similar to before, the coefficients of the interaction terms for 'high-job creation entrepreneurs' with 'distance to the technological frontier' ($TEAhjg \times DTTF$) and 'differentiated-product entrepreneurs' with 'distance to the technological frontier' ($TEAdiff \times DTTF$) are both significant and negative implying, again, that as development improves, the contribution of entrepreneurship to household expenditure growth decreases. Nonetheless, there are noticeable differences.

With one lag of RHE on the right-hand side, both differentiated-product entrepreneurship ($TEAdiff$) and new technology-based entrepreneurship ($TEAtech$) produce a significant (to the 1% and 10% levels respectively) and positive effect on RHE, and though this effect becomes not significant when another lag of RHE is added to the model, it does support the view that more innovative or Schumpeterian entrepreneurs are the important drivers of growth in all economies.

It is also noteworthy that the control variables for entrepreneurial perceptions are significant across all models with expectations of entrepreneurial opportunity ($Opport$) having positive and fear of failure ($Frfail$) having a negative effect on household expenditure growth. This perhaps highlights the importance of considering perceptions, expectation and informal institutions in analysis of social or environmental entrepreneurship.

Overall, our first approach reveals that there is a mixed relationship between entrepreneurship and inclusive growth. Though we find little evidence that entrepreneurship uniformly affects expenditure growth (evidence against **H1.1**), we do find that this association is sensitive to levels of development (evidence for **H1.2**). In particular, there is robust evidence that as countries improve their development, entrepreneurship plays a less important role in improving household welfare.

Approach 2: Emissions Growth

The results from the random effects models (1) – (9) are reported in *Table 4* below. Of the three measures of fossil fuel emissions, entrepreneurship only plays a significant role the growth of carbon dioxide and nitrogen dioxide emissions. Notice, that in the case of carbon dioxide, both 'total entrepreneurial activity' (TEA) and 'opportunity-driven entrepreneurship' ($TEAnp$) have a positive effect on emission growth, which provides positive evidence for hypothesis **H2.1**. This is consistent with previous findings. For instance, the OECD estimates that 60-70% of industrial pollution is caused by the operating activities of SMEs, especially those in the manufacturing sector (OECD, 2013; 2018; Koirala, 2019).

	(1) gCO2	(2) gCH4	(3) gNO2	(4) gCO2	(5) gCH4	(6) gNO2	(7) gCO2	(8) gCH4	(9) gNO2
TEA	0.00153*	0.000947	-0.000516						
	(1.87)	(1.63)	(-0.90)						
TEA*DT	-0.00570*	-0.00223	0.00326						
TF	(-1.91)	(-0.90)	(0.64)						
TEAopp				0.00208*	0.00114	-0.000392			
				(1.81)	(1.42)	(-0.54)			
TEAopp*				-0.00899**	-0.00242	0.00349			
DTTF				(-2.30)	(-0.72)	(0.54)			
TEAnp							0.000418	-0.000055	-0.000360
							(0.94)	(-0.22)	(-1.15)
TEAnp*							-0.00295·	0.00151	0.00210*
DTTF							(-1.71)	(1.13)	(1.92)
DTTF	-0.0207	0.0195	-0.0427	-0.00856	0.0177	-0.0387	-0.0308	-0.0223	-0.0463***
	(-0.69)	(0.91)	(-0.99)	(-0.27)	(0.75)	(-0.86)	(-0.92)	(-1.01)	(-2.82)
Opport	0.000429*	-0.000043	0.000186	0.000477*	-0.000025	0.000148	0.000595***	0.000111	0.000171
	(1.88)	(-0.34)	(0.50)	(1.95)	(-0.19)	(0.40)	(2.73)	(0.84)	(0.66)
FrFail	-0.000129	0.000282	0.000198	-0.000149	0.000264	0.000216	-0.000231	0.000188	0.000213
	(-0.41)	(1.20)	(0.65)	(-0.47)	(1.12)	(0.71)	(-0.65)	(0.81)	(0.67)
_cons	-0.106**	0.00266	0.0424	-0.103**	0.00865	0.0354	-0.0705	0.0306	0.0301
	(-1.97)	(0.08)	(1.21)	(-1.97)	(0.28)	(1.02)	(-1.38)	(1.24)	(0.98)
R-sqr (within)	0.0705	0.0438	0.0320	0.0739	0.0426	0.0331	0.0777	0.0431	0.0329
R-sqr (between)	0.4770	0.2932	0.2136	0.4594	0.2746	0.2011	0.4137	0.2271	0.2128
R-sqr (overall)	0.1942	0.0914	0.0688	0.1943	0.0894	0.0676	0.1852	0.0859	0.0684
N	564	564	564	564	564	564	564	564	564

t statistics in parentheses (based on heteroskedasticity robust standard errors)
· $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 4 – Entrepreneurship and Pollution Emission Growth estimation results

Interestingly, in the models that use growth in carbon dioxide emissions (gCO_2) as the dependent variable, the interaction term for all types of entrepreneurship with 'distance to the

technological frontier', $(ENTRE \in \{TEA,\ TEAopp,\ TEAnp\} \times DTTF)$, is significant and negative, implying that entrepreneurs operating in more developed countries contribute less to carbon dioxide pollution than those in a developing context (reflecting hypothesis **H2.2**). This is quite intuitive, because developed countries tend to have a greater proportion of innovative entrepreneurs that are able to exploit new opportunities, and thus respond quickly to environmental challenges that offer potential returns (OECD, 2011). In the case of pollution emissions, there are greater incentives offered to productive entrepreneurs to engage in green activities or offer more transformational services, thereby contributing more to emission reduction efforts. For instance, in the UK and Finland, 90% and 70% of all green technology firms respectively are small-medium sized enterprises (OECD, 2017).

We find the opposite result concerning nitrogen dioxide emissions and 'new product entrepreneurship' $(TEAnp)$. At first glance this may appear as an unexpected result. However, nitrogen dioxide emissions are primarily driven by cars, trucks and other forms of transport which are far more prevalent in developed countries (US EPA, 2011). Moreover, it is difficult for entrepreneurs to enter into the automobile industry due to significant entry barriers and high start-up capital requirements, meaning that reductions in emissions growth are more likely to be driven by larger incumbents. This explains the negative coefficient of the 'distance to the technological frontier' $(DTTF)$ term, which suggests that, on average, more developed countries have lower nitrogen dioxide emission growth rates.

Overall, our second approach provides some evidence showing that, in general, entrepreneurs have played a largely negative role in environmental change, contributing positively to growth in carbon dioxide emissions. However, this contribution is smaller in more developed economies illustrating that government policies aimed at promoting green activity, and more efficient institutions provide a better environment for green entrepreneurship. Note, however, that these results can only be interpreted tentatively. Further exploration is warranted owing to the potential endogeneity between entrepreneurship and pollution emission. Afterall, innovation -driven entrepreneurship is often conceived as an endogenous response to market opportunities.

Approach 3: Determinants of Environmental Entrepreneurship

Consider briefly the seven model specifications for the full sample and the limited set of all entrepreneurs.

Full Sample	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnGDPC	0.083*	0.098*	0.107**	0.121**	0.140***	0.069	0.081*
	(1.773)	(1.892)	(2.189)	(2.510)	(2.885)	(1.411)	(1.738)
lnPOP	-0.027*	-0.038**	-0.026*	-0.039**	-0.030*	-0.027*	-0.023
	(-1.739)	(-2.361)	(-1.679)	(-2.478)	(-1.932)	(-1.779)	(-1.481)
OPPOR	0.012***	0.013***	0.013***	0.013***	0.014***	0.011***	0.012***
	(6.481)	(6.213)	(6.675)	(6.906)	(7.572)	(6.356)	(6.619)
Female	-0.090***	-0.096***	-0.090***	-0.095***	-0.094***	-0.090***	-0.091***
	(-2.777)	(-2.965)	(-2.778)	(-2.924)	(-2.912)	(-2.778)	(-2.805)
HighEd	0.211***	0.239***	0.210***	0.225***	0.230***	0.213***	0.214***
	(6.275)	(6.966)	(6.216)	(6.617)	(6.763)	(6.307)	(6.337)
Upper 3rd inc	0.095**	0.073*	0.099**	0.081**	0.084**	0.095**	0.094**
	(2.328)	(1.783)	(2.422)	(1.971)	(2.049)	(2.325)	(2.316)
SUSKIL	0.481***	0.478***	0.481***	0.474***	0.478***	0.482***	0.479***
	(10.508)	(10.359)	(10.500)	(10.314)	(10.403)	(10.528)	(10.463)
FRFAIL	-0.109***	-0.106***	-0.109***	-0.109***	-0.108***	-0.108***	-0.109***
	(-3.052)	(-2.974)	(-3.062)	(-3.067)	(-3.017)	(-3.034)	(-3.055)
KNOWENT	0.402***	0.405***	0.402***	0.412***	0.400***	0.402***	0.401***
	(11.461)	(11.418)	(11.459)	(11.694)	(11.354)	(11.446)	(11.419)
Expects to start	0.484***	0.481***	0.483***	0.481***	0.480***	0.484***	0.484***
	(14.167)	(14.038)	(14.129)	(14.055)	(14.035)	(14.175)	(14.171)
OPPORT	0.150***	0.153***	0.149***	0.152***	0.152***	0.150***	0.151***
	(4.397)	(4.441)	(4.364)	(4.418)	(4.434)	(4.348)	(4.409)
lnEcoFoot	-0.157***	-0.772**	-0.300***	-1.044***	-0.641***	-0.117**	-0.422**
	(-4.738)	(-2.248)	(-3.663)	(-5.332)	(-6.670)	(-2.253)	(-2.051)
RT	0.003	-0.068***	-0.003	-0.016	-0.053**	-0.004	-0.002
	(0.147)	(-2.795)	(-0.163)	(-0.794)	(-2.373)	(-0.186)	(-0.114)
EC	-0.187***	-0.260***	-0.199***	-0.273***	-0.240***	-0.185***	-0.185***
	(-7.522)	(-8.160)	(-7.679)	(-8.646)	(-8.785)	(-7.406)	(-7.435)
EBO	-0.029***	-0.027***	-0.031***	-0.033***	-0.033***	-0.026***	-0.030***
	(-5.778)	(-4.037)	(-6.070)	(-8.646)	(-8.785)	(-7.406)	(-7.435)
EDB	0.005	0.010**	0.005	0.007*	0.004	0.007*	0.005
	(1.549)	(2.285)	(1.332)	(1.922)	(1.205)	(1.831)	(1.514)
lnEcoFoot # ET		-0.033	0.035*				
		(-1.379)	(1.920)				
lnEcoFoot # EC		0.041		0.091***			
		(1.476)		(4.620)			
lnEcoFoot # RT		0.095***			0.100***		
		(3.086)			(5.410)		
lnEcoFoot # EBO		-0.015*				-0.006	
		(-1.939)				(-0.996)	
lnEcoFoot # EDB		-0.000					0.004
		(-0.040)					(1.308)
constant	-2.672***	-2.060***	-2.691***	-2.074***	-2.351***	-2.656***	-2.665***
	(-6.292)	(-4.536)	(-6.320)	(-4.613)	(-5.430)	(-6.526)	(-6.273)
PseudoR-sqr	0.195	0.200	0.196	0.198	0.199	0.195	0.196
BIC	7105	7124	7112	7094	7086	7115	7114
AIC	6852.5	6825.4	6850.7	6832.4	6824.5	6853.5	6852.8

**p<0.10, **p<0.05, ***p<0.01, t-statistics reported in parentheses. Note: Due to space limitations, some variables have been omitted. The regressions are presented in full in the appendix.*

Set of Entrepreneurs	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
OPPOR	0.013***	0.011***	0.014***	0.013***	0.015***	0.012***	0.013***
	(5.303)	(4.051)	(5.421)	(5.301)	(5.962)	(5.020)	(5.324)
B. What c~y	0.006***	0.005***	0.006***	0.006***	0.005***	0.006***	0.006***
	(3.456)	(3.276)	(3.417)	(3.398)	(3.334)	(3.396)	(3.440)
HighEd	0.245***	0.270***	0.244***	0.257***	0.261***	0.248***	0.247***
	(5.845)	(6.331)	(5.819)	(6.093)	(6.165)	(5.902)	(5.863)
SUSKIL	0.130**	0.129**	0.130**	0.124**	0.131**	0.131**	0.129**
	(2.101)	(2.071)	(2.109)	(2.004)	(2.124)	(2.123)	(2.095)
FRFAIL	-0.037	-0.029	-0.038	-0.036	-0.036	-0.033	-0.037
	(-0.817)	(-0.634)	(-0.828)	(-0.797)	(-0.793)	(-0.730)	(-0.813)
KNOWENT	0.230***	0.237***	0.229***	0.241***	0.228***	0.228***	0.229***
	(5.189)	(5.298)	(5.174)	(5.409)	(5.129)	(5.146)	(5.169)
Discont. a bus	0.082	0.098	0.082	0.092	0.087	0.083	0.082
	(1.121)	(1.325)	(1.113)	(1.254)	(1.185)	(1.131)	(1.114)
Expects to start	0.386***	0.392***	0.385***	0.389***	0.388***	0.387***	0.386***
	(9.262)	(9.369)	(9.225)	(9.306)	(9.289)	(9.289)	(9.271)
OPPORT	0.058	0.058	0.057	0.059	0.059	0.056	0.058
	(1.347)	(1.341)	(1.313)	(1.359)	(1.361)	(1.305)	(1.345)
NBSTAT	-0.032	-0.020	-0.033	-0.018	-0.024	-0.035	-0.031
	(-0.611)	(-0.378)	(-0.636)	(-0.338)	(-0.460)	(-0.673)	(-0.591)
NBGOOD	-0.051	-0.051	-0.051	-0.053	-0.048	-0.052	-0.051
	(-0.966)	(-0.965)	(-0.966)	(-0.989)	(-0.907)	(-0.980)	(-0.964)
NBMEDI	0.007	0.012	0.008	0.019	0.013	0.002	0.007
	(0.133)	(0.232)	(0.143)	(0.355)	(0.253)	(0.044)	(0.134)
CULSUPH	0.092	0.092	0.091	0.092	0.088	0.094	0.092
	(1.319)	(1.309)	(1.301)	(1.307)	(1.249)	(1.336)	(1.314)
lnEcoFoot	-0.145***	-0.576	-0.284***	-1.016***	-0.541***	-0.035	-0.282
	(-3.585)	(-1.310)	(-2.748)	(-4.211)	(-4.598)	(-0.540)	(-1.094)
ET	0.027	0.041	0.009	-0.001	0.001	0.048*	0.026
	(1.084)	(1.269)	(0.322)	(-0.042)	(0.046)	(1.783)	(1.036)
RT	-0.021	-0.092***	-0.027	-0.038	-0.063**	-0.043*	-0.024
	(-0.868)	(-3.094)	(-1.107)	(-1.510)	(-2.320)	(-1.653)	(-0.961)
EC	-0.187***	-0.269***	-0.197***	-0.272***	-0.230***	-0.180***	-0.186***
	(-6.131)	(-6.859)	(-6.264)	(-7.019)	(-6.942)	(-5.856)	(-6.114)
EBO	-0.033***	-0.024***	-0.036***	-0.037***	-0.036***	-0.028***	-0.034***
	(-5.559)	(-3.088)	(-5.745)	(-5.976)	(-5.834)	(-4.314)	(-5.532)
EDB	0.010**	0.021***	0.009**	0.012***	0.009**	0.015***	0.010**
	(2.340)	(3.767)	(2.171)	(2.674)	(2.093)	(3.072)	(2.293)
lnEcoFoot#ET		-0.033	0.034				
		(-1.095)	(1.467)				
lnEcoFoot#EC		0.075**		0.089***			
		(2.218)		(3.671)			
lnEcoFoot#RT		0.059			0.082***		
		(1.586)			(3.595)		
lnEcoFoot#EBO		-0.030***				-0.016**	
		(-3.146)				(-2.137)	
lnEcoFoot#EDB		-0.004					0.002
		(-0.842)					(0.539)
constant	-2.102***	-1.148*	-2.130***	-1.386**	-1.806***	-2.011***	-2.093***
	(-3.727)	(-1.878)	(-3.766)	(-2.301)	(-3.151)	(-3.562)	(-3.708)
PseudoR-sqr	0.105	0.110	0.106	0.108	0.108	0.106	0.105
BIC	5214	5235	5222	5210	5211	5219	5223
AIC	5014.5	4998.0	5014.4	5002.7	5003.5	5012.0	5016.2

**p<0.10, **p<0.05, ***p<0.01. t-statistics reported in parentheses. Note: Due to space limitations, some variables have been omitted from the above presentation. The regressions are presented in full in the appendix.*

Between the country level controls, only the mean level of OPPOR (perceived opportunity) is persistently significant. GDP per Capita is only significant in models 2 - 4, and with a positive probit coefficient it appears to follow in the tracks of previous research (Dvouletý, 2016; Hörisch et al., 2017) as does the at times significantly negative probit coefficient of *lnPopulation* (Ferreira et al., 2017). Among the individual controls, females are significantly less likely to be environmental entrepreneurs, while individuals with higher education levels are significantly more likely to engage in environmental entrepreneurship. Again, this is what one would come to expect from existing knowledge (e.g., Kwon and Aurenius, 2010). However, in the entrepreneur sub-set, the gender coefficient has been rendered not significant, indicating that an entrepreneur's gender has little impact on their environmental orientation. Turning to the individual block of variables, we can observe a strong positive and strong negative probit coefficient for suspected skills and fear of failure respectively. However, in the sub-set the coefficient for fear of failure is not significant, while the coefficient for suspected skills is marginally significant. This may lend some support to the notion that confidence in one's own skills is of importance for the environmental orientation of entrepreneurs (*H3.2*). Knowing an entrepreneur is highly significant in both sets of regressions, suggesting that it has a great impact on both the likelihood of an individual engaging in environmental entrepreneurship, and the orientation of an entrepreneur (*H3.3*). Finally, one significant and unexpected coefficient to point out, is the negative probit coefficient of environmental pressure. As we shall see, it remains thus persistently across the regression sets, and its interpretation is that as the rate of environmental pressure increases, the likelihood of individuals engaging in environmental entrepreneurship decreases. Thus, our regressions appear to provide counter-evidence to the suggestion that higher environmental pressure increases the likelihood of engaging in environmental entrepreneurship. A possible avenue for further research on this phenomenon may be to see if one can instead observe a lagged effect, as possible entrepreneurs may need several years to respond to environmental opportunities.

Middle- and Low-Income Countries

In conducting the same regression sets on a subset of middle- and low-income countries we hope to establish any tendencies that could be helpful for policy suggestions in the countries in question. The first thing worth noting is that the probit coefficient for population size has changed significantly, indicating that in smaller economies, a relatively larger population increases the likelihood of individuals increasing in environmental entrepreneurship, *ceteris paribus.* The same is true in the sub-set of only entrepreneurs. Suspected skills have a positive and significant coefficient in the full sample, but does not hold for the entrepreneur subset. One plausible explanation for this is that the attributes influence the decision to become an entrepreneur, but has little or no significant influence on the probable orientation of an entrepreneur. The first consistently significant result we want to highlight is that individuals knowing entrepreneurs are significantly more probable to engage in environmental entrepreneurship, both among the full population, and the sub-sample of entrepreneurs. This suggests that social capital in the form of knowing someone with entrepreneurial experience is especially important for environmental entrepreneurs in smaller economies, and that one may incur a snowballing effect if one manages to increase entrepreneurship in a given country or region. This also lends fairly strong support to hypothesis 3.3. Future plans to engage in a new venture is also highly significant and positive, perhaps best interpreted as an expression of current entrepreneurs being more likely to plan to engage in new ventures in the near future as well. This appears to be especially true for environmental entrepreneurs. While perceived opportunities are still significant in the full set, it has been rendered not significant in the entrepreneur subset, thus providing no support for the hypothesis that environmental entrepreneurs are more sensitive than other entrepreneurs to market gaps. The measures for cultural support, perceptions, and media portrayals are all not significant in both model sets, yielding no support to the theory that influencing the perception of entrepreneurial activity will deliver higher rates of environmental entrepreneurs.

Mid- and Low-Income Countries	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnPOP	0.124***	0.124***	0.129***	0.134***	0.127***	0.118***	0.119***
	(4.410)	(2.877)	(4.388)	(4.621)	(4.541)	(4.090)	(4.182)
OPPOR	0.024***	0.021***	0.025***	0.028***	0.023***	0.026***	0.022***
	(4.632)	(3.180)	(4.665)	(4.959)	(4.400)	(4.687)	(3.988)
FEAR	-0.012***	-0.013***	-0.012***	-0.010**	-0.012***	-0.012***	-0.012***
	(-3.109)	(-2.947)	(-3.164)	(-2.571)	(-3.200)	(-3.171)	(-3.224)
Female	-0.134***	-0.134***	-0.134***	-0.133***	-0.135***	-0.135***	-0.134***
	(-3.040)	(-3.016)	(-3.037)	(-2.996)	(-3.052)	(-3.049)	(-3.023)
HighEd	0.252***	0.243***	0.251***	0.232***	0.260***	0.254***	0.246***
	(5.377)	(5.085)	(5.337)	(4.907)	(5.507)	(5.416)	(5.227)
Upper 3~e	0.167***	0.188***	0.170***	0.192***	0.160***	0.169***	0.170***
	(2.940)	(3.236)	(2.980)	(3.335)	(2.819)	(2.975)	(2.985)
SUSKIL	0.364***	0.400***	0.365***	0.377***	0.366***	0.365***	0.366***
	(5.832)	(6.283)	(5.844)	(6.010)	(5.850)	(5.842)	(5.849)
KNOWENT	0.382***	0.369***	0.383***	0.376***	0.379***	0.383***	0.387***
	(7.639)	(7.255)	(7.644)	(7.506)	(7.544)	(7.652)	(7.709)
Expects to start-u~	0.501***	0.481***	0.500***	0.488***	0.504***	0.502***	0.496***
	(10.412)	(9.890)	(10.388)	(10.107)	(10.458)	(10.420)	(10.290)
OPPORT	0.192***	0.207***	0.192***	0.195***	0.193***	0.191***	0.192***
	(3.961)	(4.247)	(3.961)	(4.017)	(3.995)	(3.956)	(3.967)
NBGOOD	-0.065	-0.068	-0.067	-0.068	-0.064	-0.067	-0.064
	(-1.014)	(-1.051)	(-1.036)	(-1.059)	(-1.003)	(-1.044)	(-0.991)
NBMEDI	0.011	-0.021	0.010	0.002	0.009	0.009	0.010
	(0.165)	(-0.322)	(0.155)	(0.029)	(0.139)	(0.140)	(0.148)
CULSUPH	0.055	0.052	0.055	0.054	0.053	0.056	0.055
	(0.676)	(0.639)	(0.684)	(0.664)	(0.661)	(0.688)	(0.684)
lnEcoFoot	-0.254***	3.464***	-0.361**	1.622***	-0.522***	-0.177*	0.369
	(-4.418)	(3.021)	(-2.014)	(3.145)	(-2.772)	(-1.771)	(0.784)
ET	0.055*	0.187***	0.055*	0.082**	0.067**	0.061*	0.062*
	(1.698)	(4.343)	(1.692)	(2.423)	(1.998)	(1.840)	(1.894)
RT	-0.060**	-0.158***	-0.062**	-0.066**	-0.079***	-0.068**	-0.054**
	(-2.339)	(-4.498)	(-2.382)	(-2.430)	(-2.766)	(-2.522)	(-2.054)
EC	0.010	0.201***	0.010	0.132**	0.001	0.006	0.027
	(0.244)	(3.474)	(0.231)	(2.507)	(0.024)	(0.148)	(0.632)
EBO	-0.031***	-0.012	-0.032***	-0.031***	-0.031***	-0.029***	-0.027***
	(-4.674)	(-1.037)	(-4.718)	(-4.660)	(-4.604)	(-3.994)	(-3.761)
EDB	0.007	0.010	0.007	0.011**	0.005	0.010*	0.006
	(1.388)	(1.038)	(1.324)	(2.030)	(1.015)	(1.668)	(1.222)
lnEcoFoot # ET		0.017	0.026				
		(0.181)	(0.633)				
lnEcoFoot # EC		-0.307***		-0.197***			
		(-4.325)		(-3.645)			
lnEcoFoot # RT		0.254***			0.057		
		(4.061)			(1.499)		
lnEcoFoot # EBO		-0.022				-0.009	
		(-1.167)				(-0.938)	
lnEcoFoot # EDB		-0.029**					-0.010
		(-2.490)					(-1.330)
constant	-6.226***	-7.505***	-6.335***	-7.184***	-6.064***	-6.391***	-6.321***
	(-6.512)	(-7.147)	(-6.481)	(-6.805)	(-6.441)	(-6.520)	(-6.529)
PseudoR-sqr	0.198	0.206	0.198	0.201	0.198	0.198	0.198
BIC	3902	3917	3912	3899	3910	3912	3911
AIC	3665.9	3637.0	3667.5	3654.2	3665.6	3667.1	3666.2

**p<0.10, **p<0.05, ***p<0.01, t-statistics in parentheses. Note: due to space limitations, some variables have been omitted. The regression is presented in full in the appendix.*

Mid-Low, Entrepreneurs	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnPOP	0.132***	0.165***	0.145***	0.142***	0.135***	0.118***	0.130***
	(3.842)	(3.127)	(4.063)	(4.023)	(3.955)	(3.301)	(3.771)
FEAR	-0.013***	-0.015***	-0.014***	-0.011**	-0.013***	-0.013***	-0.013***
	(-2.666)	(-2.743)	(-2.812)	(-2.276)	(-2.712)	(-2.779)	(-2.715)
Female	-0.120**	-0.123**	-0.120**	-0.120**	-0.121**	-0.121**	-0.119**
	(-2.221)	(-2.258)	(-2.221)	(-2.211)	(-2.237)	(-2.246)	(-2.213)
HighEd	0.281***	0.274***	0.276***	0.266***	0.289***	0.284***	0.278***
	(4.918)	(4.739)	(4.823)	(4.627)	(5.034)	(4.964)	(4.855)
Upper 3rd Inc	0.132*	0.141**	0.140**	0.150**	0.125*	0.136**	0.134*
	(1.924)	(2.010)	(2.018)	(2.163)	(1.804)	(1.970)	(1.941)
KNOWENT	0.233***	0.224***	0.235***	0.228***	0.230***	0.237***	0.235***
	(3.809)	(3.599)	(3.833)	(3.719)	(3.749)	(3.858)	(3.834)
Discontinued a bus~p	0.109	0.098	0.107	0.099	0.111	0.110	0.109
	(1.187)	(1.060)	(1.165)	(1.075)	(1.208)	(1.193)	(1.183)
Expects to start-u~	0.447***	0.431***	0.443***	0.432***	0.454***	0.449***	0.443***
	(7.638)	(7.294)	(7.564)	(7.353)	(7.726)	(7.663)	(7.534)
OPPORT	0.092	0.107*	0.091	0.095	0.093	0.090	0.092
	(1.526)	(1.764)	(1.518)	(1.577)	(1.557)	(1.499)	(1.533)
NBSTAT	0.117	0.095	0.109	0.099	0.123	0.112	0.115
	(1.516)	(1.213)	(1.414)	(1.273)	(1.594)	(1.450)	(1.494)
NBGOOD	-0.074	-0.079	-0.080	-0.078	-0.073	-0.080	-0.073
	(-0.952)	(-0.997)	(-1.022)	(-0.995)	(-0.930)	(-1.016)	(-0.938)
NBMEDI	0.010	-0.024	0.007	0.001	0.009	0.006	0.009
	(0.130)	(-0.308)	(0.086)	(0.008)	(0.114)	(0.082)	(0.118)
CULSUPH	0.087	0.084	0.089	0.086	0.086	0.089	0.088
	(0.885)	(0.849)	(0.898)	(0.870)	(0.867)	(0.901)	(0.891)
lnEcoFoot	-0.357***	2.076	-0.649***	1.255**	-0.665***	-0.208*	0.022
	(-5.098)	(1.529)	(-2.916)	(2.013)	(-2.879)	(-1.679)	(0.039)
ET	0.145***	0.259***	0.144***	0.162***	0.160***	0.158***	0.149***
	(3.556)	(5.036)	(3.533)	(3.876)	(3.787)	(3.765)	(3.618)
RT	-0.118***	-0.213***	-0.123***	-0.118***	-0.139***	-0.135***	-0.113***
	(-3.699)	(-5.157)	(-3.821)	(-3.616)	(-3.945)	(-3.986)	(-3.475)
EC	0.060	0.204***	0.055	0.158**	0.051	0.051	0.070
	(1.172)	(2.956)	(1.072)	(2.523)	(0.986)	(0.979)	(1.326)
EBO	-0.034***	-0.021	-0.036***	-0.034***	-0.033***	-0.030***	-0.032***
	(-4.183)	(-1.505)	(-4.377)	(-4.148)	(-4.076)	(-3.422)	(-3.564)
EDB	0.013**	0.010	0.012*	0.016**	0.011*	0.019**	0.012*
	(2.064)	(0.870)	(1.935)	(2.425)	(1.789)	(2.516)	(1.955)
lnEcoFoot # ET		0.132	0.072				
		(1.156)	(1.383)				
lnEcoFoot # EC		-0.246***		-0.168***			
		(-2.934)		(-2.598)			
lnEcoFoot # RT		0.280***			0.064		
		(3.797)			(1.399)		
lnEcoFoot # EBO		-0.010				-0.017	
		(-0.437)				(-1.462)	
lnEcoFoot # EDB		-0.029**					-0.006
		(-2.189)					(-0.668)
constant	-3.531***	-4.716***	-3.816***	-4.443***	-3.290***	-3.761***	-3.624***
	(-3.003)	(-3.735)	(-3.154)	(-3.457)	(-2.822)	(-3.137)	(-3.048)
PseudoR-sqr	0.130	0.138	0.131	0.132	0.131	0.131	0.130
BIC	2958	2978	2965	2960	2965	2965	2966
AIC	2769.0	2753.8	2769.1	2764.1	2769.0	2768.9	2770.6

**p<0.10, **p<0.05, ***p<0.01, t-statistics in parentheses. Note: Due to space limitations, some variables have been omitted. The regression is presented in full in the appendix.*

For the state level variables, the ethnic tension coefficient is positive and tends to be significant, indicating that people are more likely to engage in environmental entrepreneurship in countries with lower degrees of ethnic tension, and further, that entrepreneurs are more likely to be environmentally oriented when tensions are low. An interpretation of this may be that as environmental and social entrepreneurship is often going to provide "public goods" (Buchanan, 1969[1999]), people are less willing to bring this about if ethnic tensions are high and the goods provided can be exploited by groups in conflict. It is curious, then, that the opposite appears to be true for religious tension, where entrepreneurs are more likely to be environmentally oriented when religious tensions are high. As this result was highly surprising to the authors, the topic may warrant some more detailed approaches, ideally including a case-study of some of the countries exhibiting high religious tension. The coefficients for external conflict are positive, and in some models significant, more in line with what one would expect as imminent risk of armed conflict is a reasonable obstacle to engaging in the risk associated with an entrepreneurial venture.

Interaction Terms

The inclusion of interaction terms between state characteristics and the environmental pressure variable serves as a way to control whether states exhibiting certain traits may have a higher - or lower - degree of impact from environmental pressure. Due to the surprising nature of the environmental pressure variable, we are more than anything interested in seeing whether any of the interaction terms will significantly influence the coefficient. In the interaction terms, the most curious patterns appear to be external conflict risk and religious tension, both of which are significant and positive in the models including the full set of countries, which suggests that based on the full dataset, both individuals and entrepreneurs are more likely to have an environmental orientation if religious tension/conflict risk is low and environmental pressure is high. In other words, entrepreneurs respond better to environmental "opportunities" when the risk of internal and external conflict is lower. However, it is worth noting that this tendency does not hold in the subsamples where only the middle and low-

income countries are included. With the exception of the model including all interaction terms there is little significance in coefficients across the regression sets, lending only some conflicting support for hypothesis 1.4b when considering political risks, and no consistent support for the influence of business institutions.

Hypothesis	*Results*
H1.1	*Evidence Against*
H1.2	*Evidence For*
H2.1	*Evidence For*
H2.2	*Evidence For*
H3.1	*Some Evidence for in Middle- and Low-Income countries, none present in full sample*
H3.2	*Evidence for in full sample, but no significant difference between population of entrepreneurs.*
H3.3	*Evidence for*
H3.4	*Evidence for*
H3.5	*No evidence found*
H3.6	*Weak evidence*
H3.7	*Some evidence found*
H3.8	*Evidence found is to the contrary (lower probability of engaging in environmental entrepreneurship when environmental pressure is high)*

Limitations and Further Research

There are several important limitations of our study. When examining the effects of entrepreneurship on inclusive growth, we only considered growth in real household expenditure. Though we argued that it more adequately accounts for welfare changes than simply GDP per capita, it still falls short of measures that factor in income inequality and

subjective well-being. Therefore, we believe that it would be worthwhile to consider the causal effect of entrepreneurship on a wider set of inclusive growth variables. A similar objection can be made against our results on pollution emissions. Afterall, there are a large number of ways in which a firm can play a role in the 'green economy' that are not limited to reducing its carbon footprint. In addition, it may have been useful to use a greater number of institutional interaction terms in both of these models. Although, 'distance to the technological frontier' is a useful proxy for institutional quality, it does not provide much information about the underlying channels that shape the impact of entrepreneurship on the aggregate outcomes of interest. However, as well as being a limitation, this may serve as a potential stepping-stone for future research.

The section examining the determinants of the environmental entrepreneurship is primarily limited by the changing nature of the GEM studies. In particular, the authors found that direct comparison with previous research was made difficult by the fact that environmental orientation in 2015 was not reported on a sliding scale from 0-100 as it was in the 2009 GEM APS. As a result, it instead had to be operationalised as a binary variable based on the less definite question of reallocation of profits. Further, while the authors believe the operationalisation of environmental pressure is highly promising, there remains the question of whether our data best captures the pressure *perceived* by a given population. Indeed, it may be the case that a population is more likely to be engaged in environmental entrepreneurship if, for instance, the media reporting on environmental issues in the country is high. While our measure of environmental pressure may be correlated with media reporting, the latter has a

more plausible direct causal link to environmental entrepreneurs.

Some of the avenues for further research have already been highlighted above, but include:

- *Examining further the effect of environmental pressure as a factor in environmental entrepreneurship, for instance by expanding the variables with per capita CO2-emissions or other pollution measures.*

- *Closer study of countries with high religious tension. May there be other factors associated with those countries that explain the counterintuitive results obtained in section 4?*
- *Investigate more closely the channel and lines of causality that run between entrepreneurship and inclusive growth. More attention could be paid to other dimensions of inclusive growth and the ways that entrepreneurship may contribute, with special focus on the case of developing countries that do not have the necessary institutions to shape more innovation-driven entrepreneurship.*
- *Attempt at quantifying the impact of green entrepreneurship on the environment from an industry-level perspective thus giving greater guidance to policymakers, who seek to promote Environmental Entrepreneurs and eco-innovators.*

Conclusion

This paper has demonstrated an approach to assessing the individual and state attributes that affect the environmental orientation of entrepreneurs. This analysis has had an additional focus in looking specifically at middle- and low-income countries, where we found knowing an entrepreneur to be one of the most persistent traits associated with environmental orientation. This may indicate the possibility of a snowballing effect if a country or region is able to incentivise entrepreneurs through other means. We also discovered a highly surprising result from environmental pressure, which appears to decrease the likelihood of entrepreneurs having an environmental orientation, holding too for our middle- and low-income subsamples.

By investigating the role of entrepreneurs in inclusive growth, we find that entrepreneurial activity is more important for developing economies that those closer to the world technological frontier. This effect illustrates the important of entrepreneurs in supporting household consumption and is consistent with previous evidence of the dominance of necessity-based entrepreneurship in developing economies. However, we also find that developing countries are, due to poorer institutional quality, less effective at encouraging green sustainable

entrepreneurship. We thus confirm previous studies that point out that small-businesses share a portion of the responsibility for growing fossil-fuel emissions. Nonetheless, this effect is significantly smaller in developed countries, which means we remain hopeful that Environmental Entrepreneurs may yet prove their effectiveness in combating environmental degradation across the globe.

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Appendix A - *List of Countries 1:*

High Income	***Medium- Low Income***
Australia	*Argentina*
Barbados	*Botswana*
Belgium	*Brazil*
Chile	*Bulgaria*
Croatia	*Cameroon*
Estonia	*China*
Finland	*Colombia*
Germany	*Ecuador*
Greece	*Egypt*
Hungary	*Guatemala*
Ireland	*India*
Israel	*Indonesia*
Italy	*Iran*
Latvia	*Kazakhstan*
Luxembourg	*Lebanon*
Netherlands	*Macedonia*
Norway	*Malaysia*
Panama	*Mexico*
Poland	*Morocco*
Portugal	*Panama*
Puerto Rico	*Peru*
Slovakia	*Philippines*
Slovenia	*Romania*
South Korea	*Senegal*
Spain	*South Africa*
Sweden	*Thailand*
Taiwan	*Tunisia*
United States	*Vietnam*
Uruguay	

Appendix B - *List of Countries 2:*

High Income Sample	***Low & Medium Income Sample***
Australia	*Algeria*
Austria	*Angola*
Belgium	*Argentina*
Canada	*Barbados*
Chile	*Bolivia*

Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Japan
Latvia
Lithuania
Luxembourg
Netherlands
Norway
Poland
Portugal
Qatar
Republic of Korea
Saudi Arabia
Singapore
Slovakia
Slovenia
Spain
Sweden
Switzerland
Trinidad & Tobago
United Arab Emirates
United Kingdom
United States
Uruguay

Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Burkina Faso
Cameroon
China
Colombia
Costa Rica
Croatia
Dominican Republic
Ecuador
Egypt
El Salvador
Ghana
Guatemala
India
Indonesia
Iran
Jamaica
Kazakhstan
Lebanon
Malaysia
Mexico
Morocco
Nigeria
North Macedonia
Pakistan
Panama
Peru
Philippines
Romania
Russia
Serbia
South Africa
Thailand
Tunisia
Turkey
Uganda
Venezuela
Vietnam
Zambia

Appendix C - *Definition of Variables 1:*

Variable Name	Description	Source
Dependent Variables		
ESTEA	*Binary variable capturing the Environmental orientation of entrepreneurs from propensity to reinvest profits into environmenta/sociall purposes.*	Global Entrepreneurship Monitor (GEM) 2015 APS Global Individual Level Data.
Independent Variables		
SUSKILyy	*Respondent's belief in possessing abilities necessary to succeed as entrepreneurs. (0 = No belief, 1 = Belief)*	GEM 2015 APS Global Individual Level Data.
FRFAILyy	*Respondent's fear of failure as a restricting factor. (0 = no fear, 1 = fear)*	GEM 2015 APS Global Individual Level Data.
KNOWENTyy	*Respondent knows someone who started a business in the last two years. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
DISCENyy	*Respondent discontinued a business in the past 12 months. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
FUTSUPyy	*Respondent expects to start a business in the next 3 years. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
OPPORTyy	*Respondent perceives business opportunities. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
NBSTATyy	*Successful entrepreneurs enjoy a high status in respondent's society. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
NBGOODyy	*Entrepreneurship has a good reputation in respondent's society. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
NBMEDIyy	*Media portrays entrepreneurs favourably in respondent's county. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
CULSUPH	*Cultural support for entrepreneurship index is declared as* $\geq {}^{2}/_{3}$ *in respondent's country. (0 = low support, 1 = high support)*	GEM 2015 APS Global Individual Level Data.

Variable Name	Description	Source
lnEcoFoot	*Ecological pressure in respondent's country taken as the ratio of ecological footprint to ecological capacity. Logarithm taken to normalise distribution of variable. Continuous.*	Global Footprint Network
ET	*Risk index of ethnic tension (0 – 6) where 0 indicates very high ethnic tensions, and 6 indicates very low ethnic tensions. Ordinal.*	International Country Risk Guide (ICRG)
RT	*Risk index of religious tension (0 – 6) where 0 indicates very high religious tensions, and 6 indicates very low religious tensions. Ordinal.*	International Country Risk Guide (ICRG)
EC	*Risk index of external conflict (0 – 12) where 0 indicates a very high risk of conflict, and 12 indicates a very low risk of conflict. Ordinal.*	International Country Risk Guide (ICRG)
EBO	*Established Business Ownership*	World Bank Data
EDB	*Ease of Doing Business*	World Bank Data
Control Variables		
lnGDPC	*GDP per Capita in 2015. Taken as natural logarithm to normalise distribution. Continuous.*	World Bank Data
lnPOP	*Population in 2015. Taken as natural logarithm to normalise distribution. Continuous.*	World Bank Data
lnUnemp	*Unemployment rate in respondent's country in 2015. Taken as natural logarithm. Continuous.*	World Bank Data
OPPOR	*Mean response to OPPORTyy by country*	GEM 2015 APS Global Individual Level Data.
FEAR	*Mean response to FRFAILyy by country*	GEM 2015 APS Global Individual Level Data.
Female	*Respondent's gender (0 = Male, 1 = Female) Binary.*	GEM 2015 APS Global Individual Level Data.
age	*Respondent's age. Ordinal.*	GEM 2015 APS Global Individual Level Data.
Inc2	*Respondent belongs to middle 33.3% income bracket. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.

Variable Name	Description	Source
Inc3	*Respondent belongs to upper 33.3% income bracket. (0 = no, 1 = yes)*	GEM 2015 APS Global Individual Level Data.
HighEd	*Education level of respondent (0 = up to and including secondary, 1 = Post-Secondary and Graduate).*	GEM 2015 APS Global Individual Level Data.

Appendix D - *Definition of Variables 2:*

Variable	Definition	Source
rhe	*Growth of Real per Capita Household Expenditure measured as the market value of all goods and services purchased by households.*	World Bank
Opport	*Percentage of all respondents (18-64): who think that in the next 6 months there will be good opportunities for starting a business in the area where they live .*	GEM
FrFail	*Percentage of all respondents (18-64): who said fear of failure would prevent them from starting a new business.*	GEM
TEA	*Percentage of all respondents (18-64): involved in a nascent firm or young firm or both.*	GEM
TEAnec	*Percentage of all respondents (18-64): involved in TEA and reporting necessity (no better choice for work) as major motive.*	GEM
TEAopp	*Percentage of all respondents (18-64): involved in TEA and reporting opportunity as major motive.*	GEM
TEAhjg	*Percentage of all respondents (18-64): involved in TEA and expecting 19 or more jobs 5 years after the business has started (or 5 years from now on if the business is already operational).*	GEM
TEAnp	*Percentage of respondents within TEA: reporting that their product is new to all customers.*	GEM
TEAdiff	*Percentage of respondents within TEA: reporting that no businesses offer the same product.*	GEM
TEAtech	*Percentage of respondents within TEA: reporting that they use the very latest technology, not available one year ago.*	GEM
DTTF	*Distance to Technological Frontier measured as the ratio of real GDP per capita (2010$) of a given country to the maximum GDP per capita observed in the sample.*	Penn World Tables
TEA×DTTF	*Interaction term between the TEA index and the 'distance to the technological frontier variable'.*	GEM/ Penn World Tables
TEAnec×DTTF	*Interaction term between the subset of the TEA index that operate out of necessity and the 'distance to the technological frontier variable'.*	EM/ Penn World Tables

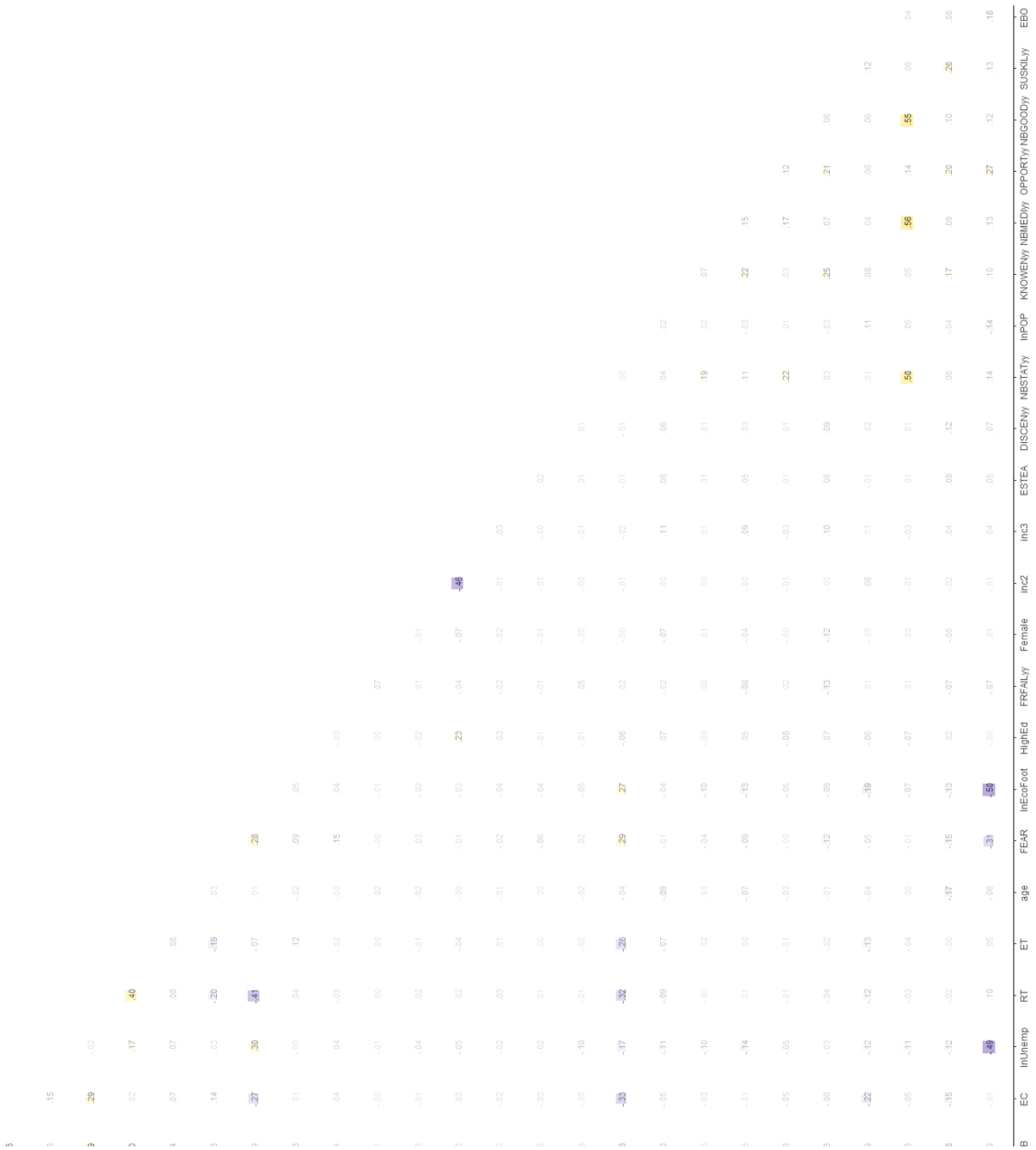
Variable	Definition	Source
TEAopp×DTTF	*Interaction term between the subset of the TEA index that operate due to a perceived opportunity and the 'distance to the technological frontier variable'*	EM/ Penn World Tables
TEAhjg×DTTF	*Interaction term between the subset of the TEA index with high-job growth expectations and the 'distance to the technological frontier variable'*	EM/ Penn World Tables
TEAnp×DTTF	*Interaction term between the subset of the TEA index that produce a new product for their customers and the 'distance to the technological frontier variable'*	EM/ Penn World Tables
TEAdiff×DTTF	*Interaction term between the subset of the TEA index whose products are strongly differentiated from other businesses and the 'distance to the technological frontier variable'*	EM/ Penn World Tables
TEAtech×DTTF	*Interaction term between the subset of the TEA index using the latest technologies and 'distance to the technological frontier variable'*	EM/ Penn World Tables
HC	*An index-based measure of Human Capital, that takes schooling and education as key components*	Penn World Tables
INV	*Investment to Output share*	Penn World Tables
U	*Unemployment Rate*	World Bank
RQ	*Regulatory Quality*	World Bank
AG	*5-year lagged average of the real GDP per capita growth rate (2010$)*	World Bank
POP	*Population Growth*	Penn World Tables
COMP	*Global Competitiveness Index*	World Economic Forum
PC	*Real value of Capital Stock*	Penn World Tables
gCO2	*Growth in real per capita emissions of carbon dioxide*	EDGAR
gCH4	*Growth in real per capita emissions of methane*	EDGAR
gNO2	*Growth in real per capita emissions of nitrogen dioxide*	EDGAR

Appendix E – *Summary statistics 1:*

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
ESTEA	163,566	.0058325	.076148	0	1
lnGDPC	161,566	9.96815	.7274036	7.973434	11.39505
lnPOP	161,566	3.304094	1.635237	-1.25413	7.249107
lnUnemp	161,566	2.066024	.7443051	-.5108256	3.260785
OPPOR	163,566	41.16445	13.78338	14.2	70.2
FEAR	163,566	36.21526	9.308675	14.7	75.4
Female	163,561	.507083	.4999514	0	1
age	162,486	40.65992	14.17987	18	99
HighEd	163,566	.3472543	.4760989	0	1
inc2	137,038	.3262599	.4688454	0	1
inc3	137,038	.3051708	.4604814	0	1
SUSKILyy	157,774	.4993345	.5000011	0	1
FRFAILyy	163,566	.3955773	.4889758	0	1
KNOWENyy	161,519	.3880225	.4873012	0	1
DISCENyy	162,171	.0285254	.166469	0	1
FUTSUPyy	155,718	.2242708	.4171025	0	1
OPPORTyy	139,240	.4045102	.4907988	0	1
NBSTATyy	142,247	.6507343	.4767397	0	1
NBGOODyy	141,420	.6048932	.4888753	0	1
NBMEDIyy	141,182	.5958267	.4907331	0	1
CULSUPH	128,427	.3168726	.4652591	0	1
lnEcoFoot	155,143	.679562	.861904	-1.13749	3.162131
ET	157,565	4.117288	1.006721	2	6
RT	157,565	4.57086	1.281961	1	6
EC	157,565	9.903651	.9940748	7	12
EBO	163,566	8.163736	4.850666	1.4	24.6
EDB	163,566	68.91307	8.186005	46.4	82.8

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
rhe	575	.018	.041	-.439	.164
gCO2	592	.001	.064	-.218	.36
gCH4	592	-.005	.041	-.286	.321
gNO2	592	-.004	.061	-.704	.519
TEA	592	12.03	7.61	2.35	41.46
TEAnec	592	3.113	2.729	.16	16.45
TEAopp	592	8.508	5.336	1.87	31.62
TEAbjg	592	1.046	.95	0	6.91
TEAnp	592	15.633	9.111	0	49.72
TEAdiff	592	9.283	4.529	0	29.52
TEAtech	592	13.534	10.845	0	72.02
DTTF	592	.217	.208	.007	1
Opport	592	41.398	16.358	2.85	85.54
Frfail	592	38.016	9.821	11.82	72.35
U	592	8.25	5.706	.14	33.76
RQ	592	.562	.919	-2.53	2.233
AG	592	.021	.025	-.097	.111
POP	592	.009	.013	-.017	.152
INV	592	.252	.066	.077	.585
COMP	580	4.546	.604	2.935	5.858
HC	574	2.934	.533	1.218	3.807
PC	592	14.426	1.638	10.096	18.103

Appendix F – *Correlation Matrix for model 1:*



Appendix G – *control tests*

Multicollinearity Test:

Variable	VIF
DTTF	3.50
Opport	1.69
FrFail	1.48
U	1.44
RQ	2.52
AG	1.60
POP	1.70
INV	1.33
COMP	5.08
HC	2.64
PC	1.72
(obs=564)	

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) DTTF	1.000										
(2) Opport	-0.066	1.000									
(3) Frfail	0.157	-0.451	1.000								
(4) U	-0.121	-0.297	0.207	1.000							
(5) RQ	0.669	-0.048	0.184	0.051	1.000						
(6) AGt5	-0.382	0.187	-0.234	-0.225	-0.320	1.000					
(7) POP	0.018	0.402	-0.338	-0.260	-0.168	-0.122	1.000				
(8) INV	0.262	-0.019	-0.042	-0.175	0.133	0.150	0.096	1.000			
(9) COMP	0.779	-0.158	0.160	-0.213	0.640	-0.257	-0.068	0.354	1.000		
(10) HC	0.638	-0.327	0.289	-0.040	0.564	-0.290	-0.333	0.099	0.658	1.000	
(11) PC	0.186	-0.276	0.284	-0.045	0.023	-0.047	-0.061	0.109	0.434	0.171	1.000

Arellano-Bond AR(2) tests for Models (1)-(14) H0: no autocorrelation:

Arellano-Bond test for zero autocorrelation in first-differenced errors

	Order	z	Prob > z
Model (1)	1	-3.405	0.001
	2	0.879	0.380
Model (2)	1	-2.654	0.008
	2	1.523	0.128
Model (3)	1	-3.438	0.001
	2	0.791	0.429
Model (4)	1	-2.615	0.009
	2	1.494	0.135
Model (5)	1	-3.383	0.001
	2	0.810	0.418
Model (6)	1	-2.655	0.008
	2	1.505	0.132
Model (7)	1	-3.519	0.000
	2	0.652	0.514
Model (8)	1	-2.671	0.008
	2	1.421	0.155
Model (9)	1	-3.333	0.001
	2	0.832	0.405
Model (10)	1	-2.661	0.008
	2	1.506	0.132
Model (11)	1	-3.404	0.001
	2	0.916	0.359
Model (12)	1	-2.659	0.008
	2	1.434	0.151
Model (13)	1	-3.448	0.001
	2	0.736	0.462
Model (14)	1	-2.670	0.008
	2	1.488	0.137

Tables, Figures, and Full Regressions:

Approach 1 Estimations (Part I):

	(1)	(2)	(3)	(4)	(5)	(6)
	rhe	rhe	rhe	rhe	rhe	rhe
L.rhe	0.466***	0.207*	0.469***	0.199*	0.463***	0.207*
	(3.31)	(1.82)	(3.44)	(1.84)	(3.26)	(1.77)
L2.rhe		-0.221**		-0.235***		-0.223**
		(-2.56)		(-2.64)		(-2.57)
TEA	0.000412	0.000986				
	(0.37)	(1.10)				
TEA*DTTF	-0.00976**	-0.00936**				
	(-2.21)	(-2.18)				
TEAnec			-0.000971	0.00513		
			(-0.24)	(1.26)		
TEAnec*DTTF			-0.00786	-0.0303		
			(-0.40)	(-1.59)		
TEAopp					0.000915	0.000664
					(0.77)	(0.81)
TEAopp*DTTF					-0.0106**	-0.00648*
					(-2.27)	(-1.71)
DTTF	0.331	-0.00597	0.196	-0.0851	0.323	-0.0655
	(0.72)	(-0.03)	(0.48)	(-0.53)	(0.70)	(-0.37)
Opport	0.00125***	0.000717**	0.00118***	0.000655**	0.00124***	0.000738**
	(3.43)	(2.10)	(3.33)	(2.08)	(3.44)	(2.17)
FrFail	-0.00111**	-0.00135***	-0.00112**	-0.00126***	-0.00112**	-0.00136***
	(-2.28)	(-2.96)	(-2.22)	(-2.80)	(-2.34)	(-2.96)
U	0.00821***	0.000585	0.00835***	0.000227	0.00821***	0.000545
	(4.99)	(0.29)	(4.81)	(0.12)	(5.05)	(0.27)
RQ	0.0214	0.0107	0.0229	0.0121	0.0221	0.0103
	(1.10)	(0.62)	(1.22)	(0.72)	(1.12)	(0.57)
Agt5	0.249	0.215	0.256	0.251	0.249	0.216
	(0.69)	(1.05)	(0.71)	(1.34)	(0.68)	(1.01)
POP	8.389***	-0.833	8.707***	-0.894	8.335***	-0.681
	(2.87)	(-0.58)	(2.97)	(-0.63)	(2.84)	(-0.48)
INV	0.0395	0.205*	0.0565	0.186*	0.0434	0.207*
	(0.27)	(1.84)	(0.40)	(1.69)	(0.30)	(1.87)
COMP	-0.00666	0.0600*	-0.0113	0.0608*	-0.00480	0.0591*
	(-0.24)	(1.90)	(-0.42)	(1.86)	(-0.17)	(1.85)
HC	-0.0588	0.0241	-0.0442	0.0486	-0.0585	0.0320
	(-0.70)	(0.34)	(-0.54)	(0.67)	(-0.70)	(0.46)
PC	-0.0873*	-0.0273	-0.0867*	-0.0216	-0.0901*	-0.0291
	(-1.84)	(-0.64)	(-1.85)	(-0.52)	(-1.88)	(-0.68)
_cons	1.295	0.0449	1.277	-0.105	1.322	0.0604
	(1.60)	(0.06)	(1.60)	(-0.14)	(1.63)	(0.08)
Instruments	68	66	68	66	68	66
N	334	261	334	261	334	261

t statistics in parentheses (based on heteroskedasticity robust standard errors)
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

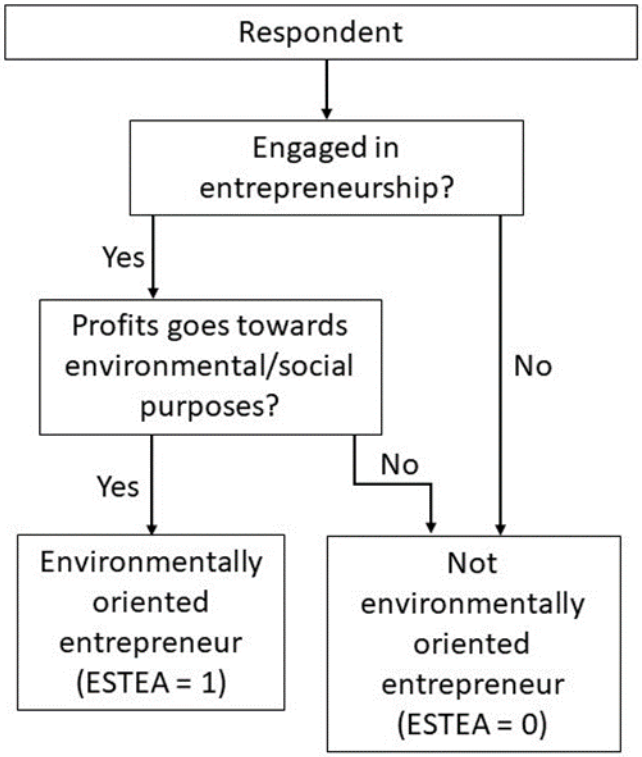
Approach 1 Estimations (Part II):

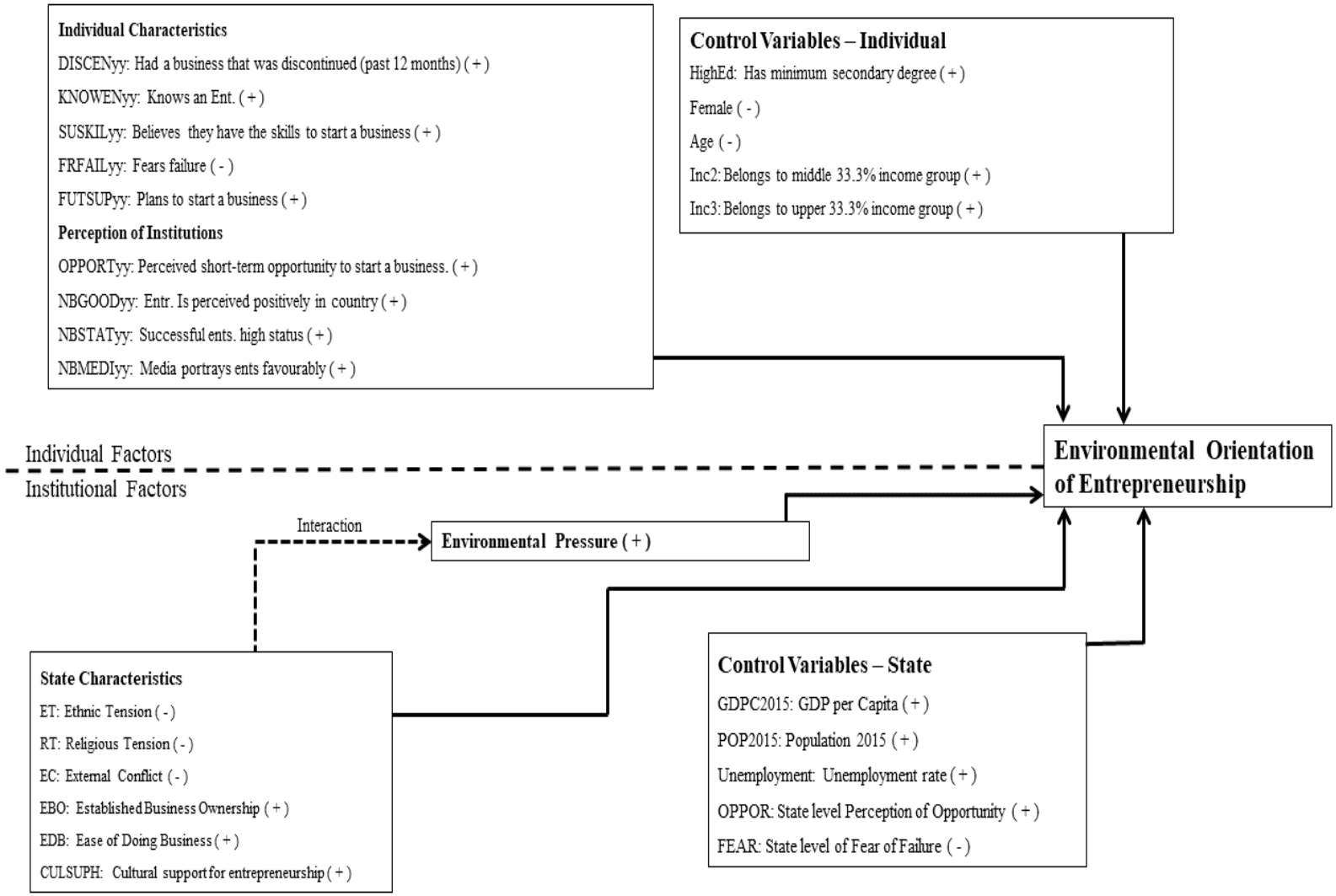
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	rhe	rhe	rhe	rhe	rhe	rhe	rhe	rhe
L.rhe	0.439***	0.196*	0.467***	0.212*	0.475***	0.225*	0.462***	0.216*
	(3.18)	(1.69)	(3.34)	(1.86)	(3.23)	(1.92)	(3.30)	(1.90)
L2.rhe		-0.221***		-0.224**		-0.221**		-0.224**
		(-2.63)		(-2.57)		(-2.49)		(-2.49)
TEAhjg	0.00505	0.00697						
	(0.85)	(1.55)						
TEAhjg*DTTF	-0.0599**	-0.0327**						
	(-2.39)	(-2.08)						
TEAnp			-0.000117	0.000399				
			(-0.23)	(0.75)				
TEAnp*DTTF			0.00193	0.000560				
			(1.07)	(0.39)				
TEAdiff					0.00223***	0.00101		
					(2.71)	(1.56)		
TEAdiff*DTFF					-0.00449**	-0.00333*		
					(-1.97)	(-1.66)		
TEAtech							0.000837*	0.000579
							(1.74)	(1.43)
TEAtech*DTTF							-0.00206	-0.00161
							(-1.09)	(-1.06)
DTTF	0.278	-0.102	0.155	-0.161	0.236	-0.0836	0.212	-0.140
	(0.66)	(-0.58)	(0.37)	(-1.04)	(0.58)	(-0.48)	(0.53)	(-0.87)
Opport	0.00111***	0.000642**	0.00117***	0.000691**	0.00121***	0.000767**	0.00119***	0.000702**
	(3.26)	(2.05)	(3.37)	(2.15)	(3.63)	(2.42)	(3.50)	(2.13)
FrFail	-0.00105**	-0.00138***	-0.00114**	-0.00144***	-0.00112**	-0.00136***	-0.00110**	-0.00137***
	(-2.21)	(-3.13)	(-2.27)	(-3.27)	(-2.34)	(-2.92)	(-2.24)	(-2.95)
U	0.00823***	0.000778	0.00831***	0.000249	0.00844***	0.000821	0.00815***	0.000487
	(5.32)	(0.38)	(4.92)	(0.12)	(4.93)	(0.41)	(4.94)	(0.24)
RQ	0.0232	0.0119	0.0246	0.00964	0.0263	0.00981	0.0252	0.0110
	(1.26)	(0.70)	(1.25)	(0.54)	(1.30)	(0.53)	(1.27)	(0.59)
Agt5	0.248	0.243	0.276	0.204	0.254	0.222	0.247	0.238
	(0.72)	(1.18)	(0.75)	(0.95)	(0.71)	(1.06)	(0.68)	(1.12)
POP	7.128***	-0.642	8.894***	-0.410	8.810***	-0.450	8.655***	-0.396
	(3.04)	(-0.47)	(3.00)	(-0.31)	(3.05)	(-0.33)	(2.94)	(-0.29)
INV	0.134	0.240**	0.0554	0.199*	0.0592	0.189	0.0416	0.191*
	(0.91)	(2.06)	(0.39)	(1.80)	(0.41)	(1.62)	(0.29)	(1.68)
COMP	-0.00515	0.0586*	-0.00855	0.0598*	-0.00883	0.0587*	-0.0114	0.0578*
	(-0.19)	(1.85)	(-0.30)	(1.84)	(-0.32)	(1.87)	(-0.41)	(1.77)
HC	-0.0601	0.0455	-0.0446	0.0465	-0.0696	0.0374	-0.0329	0.0497
	(-0.80)	(0.70)	(-0.55)	(0.71)	(-0.80)	(0.54)	(-0.41)	(0.75)
PC	-0.0884**	-0.0325	-0.0930*	-0.0264	-0.0847*	-0.0206	-0.0884*	-0.0259
	(-2.00)	(-0.78)	(-1.90)	(-0.63)	(-1.76)	(-0.48)	(-1.80)	(-0.62)
_cons	1.301*	0.0680	1.356*	-0.00920	1.286	-0.0831	1.257	-0.0225
	(1.73)	(0.09)	(1.65)	(-0.01)	(1.59)	(-0.11)	(1.53)	(-0.03)
Instruments	68	66	68	66	68	66	68	66
N	334	261	334	261	334	261	334	261

t statistics in parentheses (based on heteroskedasticity robust standard errors)
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

	(1) gCO2	(2) gCH4	(3) gNO2	(4) gCO2	(5) gCH4	(6) gNO2	(7) gCO2	(8) gCH4	(9) gNO2
TEA	0.00153*	0.000947	-0.000516						
	(1.87)	(1.63)	(-0.90)						
TEA*DTTF	-0.00570*	-0.00223	0.00326						
	(-1.91)	(-0.90)	(0.64)						
TEAopp				0.00208*	0.00114	-0.000392			
				(1.81)	(1.42)	(-0.54)			
TEAopp*DTTF				-0.00899**	-0.00242	0.00349			
				(-2.30)	(-0.72)	(0.54)			
TEAnp							0.000418	-0.0000554	-0.000360
							(0.94)	(-0.22)	(-1.15)
TEAnp*DTTF							-0.00295*	0.00151	0.00210*
							(-1.71)	(1.13)	(1.92)
DTTF	-0.0207	0.0195	-0.0427	-0.00856	0.0177	-0.0387	-0.0308	-0.0223	-0.0463***
	(-0.69)	(0.91)	(-0.99)	(-0.27)	(0.75)	(-0.86)	(-0.92)	(-1.01)	(-2.82)
Opport	0.000429*	-0.0000432	0.000186	0.000477*	-0.0000252	0.000148	0.000595***	0.000111	0.000171
	(1.88)	(-0.34)	(0.50)	(1.95)	(-0.19)	(0.40)	(2.73)	(0.84)	(0.66)
Frfail	-0.000129	0.000282	0.000198	-0.000149	0.000264	0.000216	-0.000231	0.000188	0.000213
	(-0.41)	(1.20)	(0.65)	(-0.47)	(1.12)	(0.71)	(-0.65)	(0.81)	(0.67)
U	0.000650	-0.000223	-0.000801	0.000746	-0.000204	-0.000768	0.000591	-0.000396	-0.000701
	(0.87)	(-0.49)	(-1.38)	(0.96)	(-0.44)	(-1.28)	(0.69)	(-1.02)	(-1.24)
RQ	-0.00417	-0.00326	-0.00308	-0.00473	-0.00368	-0.00287	-0.00544	-0.00440*	-0.00277
	(-1.06)	(-1.37)	(-0.77)	(-1.19)	(-1.53)	(-0.72)	(-1.36)	(-1.68)	(-0.68)
Agt5	0.0719	0.00140	-0.324***	0.0979	0.0104	-0.325***	0.0547	-0.00409	-0.299***
	(0.62)	(0.02)	(-3.17)	(0.84)	(0.12)	(-3.13)	(0.45)	(-0.05)	(-2.88)
POP	0.266*	-0.660***	-0.511**	0.291*	-0.659***	-0.515**	0.318*	-0.724***	-0.531*
	(1.84)	(-3.90)	(-2.23)	(1.95)	(-3.78)	(-2.20)	(1.95)	(-3.70)	(-1.89)
INV	0.0944*	0.0401	-0.0245	0.0948*	0.0397	-0.0239	0.101*	0.0359	-0.0295
	(1.92)	(1.22)	(-0.51)	(1.89)	(1.21)	(-0.50)	(1.89)	(1.06)	(-0.59)
COMP	0.0107	0.00149	-0.0157	0.0100	0.000748	-0.0152	0.00833	-0.00101	-0.0147
	(1.24)	(0.26)	(-1.43)	(1.16)	(0.13)	(-1.44)	(0.91)	(-0.17)	(-1.51)
HC	0.00530	-0.00611	0.00433	0.00518	-0.00673	0.00482	0.00378	-0.00681	0.00563
	(0.79)	(-1.01)	(0.46)	(0.77)	(-1.13)	(0.52)	(0.55)	(-1.27)	(0.75)
PC	-0.000742	-0.00135	0.00188	-0.000831	-0.00132	0.00196	-0.00142	-0.00147	0.00211
	(-0.38)	(-1.13)	(0.86)	(-0.42)	(-1.10)	(0.92)	(-0.72)	(-1.20)	(0.95)
y	0.394***	0.120**	0.325***	0.392***	0.120**	0.325***	0.400***	0.123**	0.322***
	(4.15)	(2.37)	(4.30)	(4.13)	(2.33)	(4.32)	(4.24)	(2.34)	(4.28)
Constant	-0.106**	0.00266	0.0424	-0.103**	0.00865	0.0354	-0.0705	0.0306	0.0301
	(-1.97)	(0.08)	(1.21)	(-1.97)	(0.28)	(1.02)	(-1.38)	(1.24)	(0.98)
R-sqr (within)	0.0705	0.0438	0.0320	0.0739	0.0426	0.0331	0.0777	0.0431	0.0329
R-sqr (between)	0.4770	0.2932	0.2136	0.4594	0.2746	0.2011	0.4137	0.2271	0.2128
R-sqr (overall)	0.1942	0.0914	0.0688	0.1943	0.0894	0.0676	0.1852	0.0859	0.0684
N	564	564	564	564	564	564	564	564	564

t statistics in parentheses (based on heteroskedasticity robust standard errors)
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$


Respondent
Engaged in entrepreneurship?
Yes
No
Profits goes towards environmental/social purposes?
Yes
No
Environmentally oriented entrepreneur (ESTEA = 1)
Not environmentally oriented entrepreneur (ESTEA = 0)


Individual Characteristics
DISCENyy: Had a business that was discontinued (past 12 months) (+)
KNOWENyy: Knows an Ent. (+)
SUSKILyy: Believes they have the skills to start a business (+)
FRFAILyy: Fears failure (-)
FUTSUPyy: Plans to start a business (+)
Perception of Institutions
OPPORTyy: Perceived short-term opportunity to start a business. (+)
NBGOODyy: Entr. Is perceived positively in country (+)
NBSTATyy: Successful ents. high status (+)
NBMEDIyy: Media portrays ents favourably (+)
Control Variables – Individual
HighEd: Has minimum secondary degree (+)
Female (-)
Age (-)
Inc2: Belongs to middle 33.3% income group (+)
Inc3: Belongs to upper 33.3% income group (+)
Individual Factors
Institutional Factors
Environmental Orientation of Entrepreneurship
Interaction
Environmental Pressure (+)
State Characteristics
ET: Ethnic Tension (-)
RT: Religious Tension (-)
EC: External Conflict (-)
EBO: Established Business Ownership (+)
EDB: Ease of Doing Business (+)
CULSUPH: Cultural support for entrepreneurship (+)
Control Variables – State
GDPC2015: GDP per Capita (+)
POP2015: Population 2015 (+)
Unemployment: Unemployment rate (+)
OPPOR: State level Perception of Opportunity (+)
FEAR: State level of Fear of Failure (-)

Full Set	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnGDPC	0.083*	0.098*	0.107**	0.121**	0.140***	0.069	0.081*
	(1.773)	(1.892)	(2.189)	(2.510)	(2.885)	(1.411)	(1.738)
lnPOP	-0.027*	-0.038**	-0.026*	-0.039**	-0.030*	-0.027*	-0.023
	(-1.739)	(-2.361)	(-1.679)	(-2.478)	(-1.932)	(-1.779)	(-1.481)
lnUnemp	-0.022	-0.015	-0.019	-0.019	-0.006	-0.024	-0.018
	(-0.638)	(-0.424)	(-0.530)	(-0.529)	(-0.179)	(-0.685)	(-0.506)
OPPOR	0.012***	0.013***	0.013***	0.013***	0.014***	0.011***	0.012***
	(6.481)	(6.213)	(6.675)	(6.906)	(7.572)	(6.356)	(6.619)
FEAR	-0.004	-0.003	-0.003	-0.003	-0.002	-0.004	-0.003
	(-1.329)	(-1.170)	(-1.217)	(-1.110)	(-0.877)	(-1.466)	(-1.239)
Female	-0.090***	-0.096***	-0.090***	-0.095***	-0.094***	-0.090***	-0.091***
	(-2.777)	(-2.965)	(-2.778)	(-2.924)	(-2.912)	(-2.778)	(-2.805)
B. What is your c~y	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.608)	(0.472)	(0.558)	(0.524)	(0.525)	(0.579)	(0.606)
HighEd	0.211***	0.239***	0.210***	0.225***	0.230***	0.213***	0.214***
	(6.275)	(6.966)	(6.216)	(6.617)	(6.763)	(6.307)	(6.337)
GEMHHINC==Middle 3~e	-0.017	-0.023	-0.006	-0.016	-0.013	-0.016	-0.019
	(-0.387)	(-0.523)	(-0.137)	(-0.370)	(-0.306)	(-0.384)	(-0.444)
GEMHHINC==Upper 3~e	0.095**	0.073*	0.099**	0.081**	0.084**	0.095**	0.094**
	(2.328)	(1.783)	(2.422)	(1.971)	(2.049)	(2.325)	(2.316)
SUSKIL adapted to ~o	0.481***	0.478***	0.481***	0.474***	0.478***	0.482***	0.479***
	(10.508)	(10.359)	(10.500)	(10.314)	(10.403)	(10.528)	(10.463)
FRFAIL adapted to ~o	-0.109***	-0.106***	-0.109***	-0.109***	-0.108***	-0.108***	-0.109***
	(-3.052)	(-2.974)	(-3.062)	(-3.067)	(-3.017)	(-3.034)	(-3.055)
KNOWENT adapted to~f	0.402***	0.405***	0.402***	0.412***	0.400***	0.402***	0.401***
	(11.461)	(11.418)	(11.459)	(11.694)	(11.354)	(11.446)	(11.419)
Discontinued a bus~p	0.089	0.094	0.088	0.094	0.091	0.089	0.088
	(1.465)	(1.541)	(1.448)	(1.548)	(1.488)	(1.462)	(1.452)
Expects to start-u~	0.484***	0.481***	0.483***	0.481***	0.480***	0.484***	0.484***
	(14.167)	(14.038)	(14.129)	(14.055)	(14.035)	(14.175)	(14.171)
OPPORT adapted to ~o	0.150***	0.153***	0.149***	0.152***	0.152***	0.150***	0.151***
	(4.397)	(4.441)	(4.364)	(4.418)	(4.434)	(4.384)	(4.409)
NBSTAT adapted to ~o	-0.030	-0.019	-0.032	-0.019	-0.022	-0.032	-0.028
	(-0.727)	(-0.444)	(-0.756)	(-0.443)	(-0.518)	(-0.758)	(-0.681)
NBGOOD adapted to ~o	-0.054	-0.054	-0.054	-0.057	-0.053	-0.054	-0.054
	(-1.253)	(-1.261)	(-1.257)	(-1.320)	(-1.224)	(-1.256)	(-1.255)
NBMEDI adapted to ~o	-0.002	0.004	-0.002	0.008	0.004	-0.004	-0.002
	(-0.053)	(0.093)	(-0.035)	(0.179)	(0.083)	(-0.087)	(-0.045)
CULSUPH	0.077	0.074	0.077	0.077	0.072	0.078	0.077
	(1.375)	(1.309)	(1.365)	(1.366)	(1.274)	(1.385)	(1.359)
lnEcoFoot	-0.157***	-0.772**	-0.300***	-1.044***	-0.641***	-0.117**	-0.422**
	(-4.738)	(-2.248)	(-3.663)	(-5.332)	(-6.670)	(-2.253)	(-2.051)
ET	0.002	-0.004	-0.016	-0.028	-0.027	0.009	0.001
	(0.114)	(-0.161)	(-0.714)	(-1.261)	(-1.232)	(0.425)	(0.054)
RT	0.003	-0.068***	-0.003	-0.016	-0.053**	-0.004	-0.002
	(0.147)	(-2.795)	(-0.163)	(-0.794)	(-2.373)	(-0.186)	(-0.114)
EC	-0.187***	-0.260***	-0.199***	-0.273***	-0.240***	-0.185***	-0.185***
	(-7.522)	(-8.160)	(-7.679)	(-8.646)	(-8.785)	(-7.406)	(-7.435)
EBO	-0.029***	-0.027***	-0.031***	-0.033***	-0.033***	-0.026***	-0.030***
	(-5.778)	(-4.037)	(-6.070)	(-6.378)	(-6.355)	(-4.813)	(-5.907)
EDB	0.005	0.010**	0.005	0.007*	0.004	0.007*	0.005
	(1.549)	(2.285)	(1.332)	(1.922)	(1.205)	(1.831)	(1.514)
lnEcoFoot # ET		-0.033	0.035*				
		(-1.379)	(1.920)				
lnEcoFoot # EC		0.041		0.091***			
		(1.476)		(4.620)			

lnEcoFoot # RT		0.095***			0.100***		
		(3.086)			(5.410)		
lnEcoFoot # EBO		-0.015*				-0.006	
		(-1.939)				(-0.996)	
lnEcoFoot # EDB		-0.000					0.004
		(-0.040)					(1.308)
constant	-2.672***	-2.060***	-2.691***	-2.074***	-2.351***	-2.656***	-2.665***
	(-6.292)	(-4.536)	(-6.320)	(-4.613)	(-5.430)	(-6.256)	(-6.273)
PseudoR-sqr	0.195	0.200	0.196	0.198	0.199	0.195	0.196
BIC	7105	7124	7112	7094	7086	7115	7114
AIC	6852.5	6825.4	6850.7	6832.4	6824.5	6853.5	6852.8

**p<0.10, **p<0.05, ***p<0.01, t-statistics in parentheses.*

Set of Entrepreneurs	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnGDPC	0.076	0.032	0.097	0.103*	0.115*	0.035	0.076
	(1.253)	(0.481)	(1.545)	(1.665)	(1.850)	(0.551)	(1.258)
lnPOP	-0.032*	-0.054***	-0.030	-0.045**	-0.035*	-0.035*	-0.030
	(-1.671)	(-2.658)	(-1.552)	(-2.285)	(-1.798)	(-1.823)	(-1.567)
lnUnemp	-0.004	-0.010	0.002	0.002	0.015	-0.013	-0.002
	(-0.080)	(-0.215)	(0.049)	(0.055)	(0.320)	(-0.288)	(-0.039)
OPPOR	0.013***	0.011***	0.014***	0.013***	0.015***	0.012***	0.013***
	(5.303)	(4.051)	(5.421)	(5.301)	(5.962)	(5.020)	(5.324)
FEAR	-0.001	-0.003	-0.000	-0.001	0.001	-0.002	-0.001
	(-0.211)	(-0.726)	(-0.130)	(-0.186)	(0.175)	(-0.638)	(-0.176)
Female	-0.064	-0.068*	-0.064	-0.068*	-0.067*	-0.064	-0.064
	(-1.584)	(-1.695)	(-1.587)	(-1.686)	(-1.677)	(-1.582)	(-1.600)
B. What is your c~y	0.006***	0.005***	0.006***	0.006***	0.005***	0.006***	0.006***
	(3.456)	(3.276)	(3.417)	(3.398)	(3.334)	(3.396)	(3.440)
HighEd	0.245***	0.270***	0.244***	0.257***	0.261***	0.248***	0.247***
	(5.845)	(6.331)	(5.819)	(6.093)	(6.165)	(5.902)	(5.863)
GEMHHINC==Middle 3~e	-0.054	-0.061	-0.045	-0.055	-0.052	-0.054	-0.055
	(-1.021)	(-1.137)	(-0.842)	(-1.031)	(-0.976)	(-1.020)	(-1.040)
GEMHHINC==Upper 3~e	0.053	0.029	0.056	0.038	0.044	0.053	0.053
	(1.049)	(0.560)	(1.110)	(0.742)	(0.871)	(1.049)	(1.053)
SUSKIL adapted to ~o	0.130**	0.129**	0.130**	0.124**	0.131**	0.131**	0.129**
	(2.101)	(2.071)	(2.109)	(2.004)	(2.124)	(2.123)	(2.095)
FRFAIL adapted to ~o	-0.037	-0.029	-0.038	-0.036	-0.036	-0.033	-0.037
	(-0.817)	(-0.634)	(-0.828)	(-0.797)	(-0.793)	(-0.730)	(-0.813)
KNOWENT adapted to~f	0.230***	0.237***	0.229***	0.241***	0.228***	0.228***	0.229***
	(5.189)	(5.298)	(5.174)	(5.409)	(5.129)	(5.146)	(5.169)
Discontinued a bus~p	0.082	0.098	0.082	0.092	0.087	0.083	0.082
	(1.121)	(1.325)	(1.113)	(1.254)	(1.185)	(1.131)	(1.114)
Expects to start-u~	0.386***	0.392***	0.385***	0.389***	0.388***	0.387***	0.386***
	(9.262)	(9.369)	(9.225)	(9.306)	(9.289)	(9.289)	(9.271)
OPPORT adapted to ~o	0.058	0.058	0.057	0.059	0.059	0.056	0.058
	(1.347)	(1.341)	(1.313)	(1.359)	(1.361)	(1.305)	(1.345)
NBSTAT adapted to ~o	-0.032	-0.020	-0.033	-0.018	-0.024	-0.035	-0.031
	(-0.611)	(-0.378)	(-0.636)	(-0.338)	(-0.460)	(-0.673)	(-0.591)
NBGOOD adapted to ~o	-0.051	-0.051	-0.051	-0.053	-0.048	-0.052	-0.051
	(-0.966)	(-0.965)	(-0.966)	(-0.989)	(-0.907)	(-0.980)	(-0.964)
NBMEDI adapted to ~o	0.007	0.012	0.008	0.019	0.013	0.002	0.007
	(0.133)	(0.232)	(0.143)	(0.355)	(0.253)	(0.044)	(0.134)
CULSUPH	0.092	0.092	0.091	0.092	0.088	0.094	0.092
	(1.319)	(1.309)	(1.301)	(1.307)	(1.249)	(1.336)	(1.314)

lnEcoFoot	-0.145***	-0.576	-0.284***	-1.016***	-0.541***	-0.035	-0.282
	(-3.585)	(-1.310)	(-2.748)	(-4.211)	(-4.598)	(-0.540)	(-1.094)
ET	0.027	0.041	0.009	-0.001	0.001	0.048*	0.026
	(1.084)	(1.269)	(0.322)	(-0.042)	(0.046)	(1.783)	(1.036)
RT	-0.021	-0.092***	-0.027	-0.038	-0.063**	-0.043*	-0.024
	(-0.868)	(-3.094)	(-1.107)	(-1.510)	(-2.320)	(-1.653)	(-0.961)
EC	-0.187***	-0.269***	-0.197***	-0.272***	-0.230***	-0.180***	-0.186***
	(-6.131)	(-6.859)	(-6.264)	(-7.019)	(-6.942)	(-5.856)	(-6.114)
EBO	-0.033***	-0.024***	-0.036***	-0.037***	-0.036***	-0.028***	-0.034***
	(-5.559)	(-3.088)	(-5.745)	(-5.976)	(-5.834)	(-4.314)	(-5.532)
EDB	0.010**	0.021***	0.009**	0.012***	0.009**	0.015***	0.010**
	(2.340)	(3.767)	(2.171)	(2.674)	(2.093)	(3.072)	(2.293)
lnEcoFoot # ET		-0.033	0.034				
		(-1.095)	(1.467)				
lnEcoFoot # EC		0.075**		0.089***			
		(2.218)		(3.671)			
lnEcoFoot # RT		0.059			0.082***		
		(1.586)			(3.595)		
lnEcoFoot # EBO		-0.030***				-0.016**	
		(-3.146)				(-2.137)	
lnEcoFoot # EDB		-0.004					0.002
		(-0.842)					(0.539)
constant	-2.102***	-1.148*	-2.130***	-1.386**	-1.806***	-2.011***	-2.093***
	(-3.727)	(-1.878)	(-3.766)	(-2.301)	(-3.151)	(-3.562)	(-3.708)
PseudoR-sqr	0.105	0.110	0.106	0.108	0.108	0.106	0.105
BIC	5214	5235	5222	5210	5211	5219	5223
AIC	5014.5	4998.0	5014.4	5002.7	5003.5	5012.0	5016.2

**p<0.10, **p<0.05, ***p<0.01, t-statistics in parentheses*

Mid- Low-income countries	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnGDPC	0.155	0.099	0.167*	0.068	0.173*	0.154	0.159*
	(1.630)	(0.775)	(1.718)	(0.654)	(1.834)	(1.616)	(1.665)
lnPOP	0.124***	0.124***	0.129***	0.134***	0.127***	0.118***	0.119***
	(4.410)	(2.877)	(4.388)	(4.621)	(4.541)	(4.090)	(4.182)
lnUnemp	-0.055	-0.192***	-0.055	-0.106**	-0.056	-0.070	-0.061
	(-1.143)	(-2.762)	(-1.141)	(-1.983)	(-1.153)	(-1.378)	(-1.237)
OPPOR	0.024***	0.021***	0.025***	0.028***	0.023***	0.026***	0.022***
	(4.632)	(3.180)	(4.665)	(4.959)	(4.400)	(4.687)	(3.988)
FEAR	-0.012***	-0.013***	-0.012***	-0.010**	-0.012***	-0.012***	-0.012***
	(-3.109)	(-2.947)	(-3.164)	(-2.571)	(-3.200)	(-3.171)	(-3.224)
Female	-0.134***	-0.134***	-0.134***	-0.133***	-0.135***	-0.135***	-0.134***
	(-3.040)	(-3.016)	(-3.037)	(-2.996)	(-3.052)	(-3.049)	(-3.023)
B. What is your c~y	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.329)	(0.542)	(0.317)	(0.544)	(0.303)	(0.286)	(0.366)
HighEd	0.252***	0.243***	0.251***	0.232***	0.260***	0.254***	0.246***
	(5.377)	(5.085)	(5.337)	(4.907)	(5.507)	(5.416)	(5.227)
GEMHHINC==Middle 3~e	-0.009	0.031	-0.003	0.031	-0.018	-0.002	-0.006
	(-0.150)	(0.526)	(-0.046)	(0.520)	(-0.311)	(-0.042)	(-0.101)
GEMHHINC==Upper 3~e	0.167***	0.188***	0.170***	0.192***	0.160***	0.169***	0.170***
	(2.940)	(3.236)	(2.980)	(3.335)	(2.819)	(2.975)	(2.985)
SUSKIL adapted to ~o	0.364***	0.400***	0.365***	0.377***	0.366***	0.365***	0.366***

	(5.832)	(6.283)	(5.844)	(6.010)	(5.850)	(5.842)	(5.849)
FRFAIL adapted to ~o	-0.025	-0.019	-0.025	-0.024	-0.024	-0.024	-0.025
	(-0.521)	(-0.402)	(-0.529)	(-0.504)	(-0.499)	(-0.508)	(-0.536)
KNOWENT adapted to~f	0.382***	0.369***	0.383***	0.376***	0.379***	0.383***	0.387***
	(7.639)	(7.255)	(7.644)	(7.506)	(7.544)	(7.652)	(7.709)
Discontinued a bus~p	0.109	0.100	0.108	0.101	0.110	0.108	0.109
	(1.407)	(1.285)	(1.398)	(1.306)	(1.417)	(1.394)	(1.413)
Expects to start-u~	0.501***	0.481***	0.500***	0.488***	0.504***	0.502***	0.496***
	(10.412)	(9.890)	(10.388)	(10.107)	(10.458)	(10.420)	(10.290)
OPPORT adapted to ~o	0.192***	0.207***	0.192***	0.195***	0.193***	0.191***	0.192***
	(3.961)	(4.247)	(3.961)	(4.017)	(3.995)	(3.956)	(3.967)
NBSTAT adapted to ~o	0.082	0.066	0.080	0.064	0.087	0.080	0.080
	(1.304)	(1.041)	(1.265)	(1.011)	(1.386)	(1.273)	(1.270)
NBGOOD adapted to ~o	-0.065	-0.068	-0.067	-0.068	-0.064	-0.067	-0.064
	(-1.014)	(-1.051)	(-1.036)	(-1.059)	(-1.003)	(-1.044)	(-0.991)
NBMEDI adapted to ~o	0.011	-0.021	0.010	0.002	0.009	0.009	0.010
	(0.165)	(-0.322)	(0.155)	(0.029)	(0.139)	(0.140)	(0.148)
CULSUPH	0.055	0.052	0.055	0.054	0.053	0.056	0.055
	(0.676)	(0.639)	(0.684)	(0.664)	(0.661)	(0.688)	(0.684)
lnEcoFoot	-0.254***	3.464***	-0.361**	1.622***	-0.522***	-0.177*	0.369
	(-4.418)	(3.021)	(-2.014)	(3.145)	(-2.772)	(-1.771)	(0.784)
ET	0.055*	0.187***	0.055*	0.082**	0.067**	0.061*	0.062*
	(1.698)	(4.343)	(1.692)	(2.423)	(1.998)	(1.840)	(1.894)
RT	-0.060**	-0.158***	-0.062**	-0.066**	-0.079***	-0.068**	-0.054**
	(-2.339)	(-4.498)	(-2.382)	(-2.430)	(-2.766)	(-2.522)	(-2.054)
EC	0.010	0.201***	0.010	0.132**	0.001	0.006	0.027
	(0.244)	(3.474)	(0.231)	(2.507)	(0.024)	(0.148)	(0.632)
EBO	-0.031***	-0.012	-0.032***	-0.031***	-0.031***	-0.029***	-0.027***
	(-4.674)	(-1.037)	(-4.718)	(-4.660)	(-4.604)	(-3.994)	(-3.761)
EDB	0.007	0.010	0.007	0.011**	0.005	0.010*	0.006
	(1.388)	(1.038)	(1.324)	(2.030)	(1.015)	(1.668)	(1.222)
lnEcoFoot # ET		0.017	0.026				
		(0.181)	(0.633)				
lnEcoFoot # EC		-0.307***		-0.197***			
		(-4.325)		(-3.645)			
lnEcoFoot # RT		0.254***			0.057		
		(4.061)			(1.499)		
lnEcoFoot # EBO		-0.022				-0.009	
		(-1.167)				(-0.938)	
lnEcoFoot # EDB		-0.029**					-0.010
		(-2.490)					(-1.330)
constant	-6.226***	-7.505***	-6.335***	-7.184***	-6.064***	-6.391***	-6.321***
	(-6.512)	(-7.147)	(-6.481)	(-6.805)	(-6.441)	(-6.520)	(-6.529)
PseudoR-sqr	0.198	0.206	0.198	0.201	0.198	0.198	0.198
BIC	3902	3917	3912	3899	3910	3912	3911
AIC	3665.9	3637.0	3667.5	3654.2	3665.6	3667.1	3666.2

**p<0.10, **p<0.05, ***p<0.01, t-statistics in parentheses*

Mid- & Low-Income Countries, Entrepreneurs	*(0)*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
lnGDPC	-0.065	-0.038	-0.028	-0.130	-0.054	-0.071	-0.060
	(-0.541)	(-0.244)	(-0.228)	(-1.009)	(-0.454)	(-0.586)	(-0.495)
lnPOP	0.132***	0.165***	0.145***	0.142***	0.135***	0.118***	0.130***
	(3.842)	(3.127)	(4.063)	(4.023)	(3.955)	(3.301)	(3.771)
lnUnemp	-0.053	-0.150*	-0.054	-0.099	-0.051	-0.082	-0.058
	(-0.873)	(-1.806)	(-0.891)	(-1.505)	(-0.823)	(-1.272)	(-0.939)
OPPOR	0.010	0.006	0.012*	0.015**	0.008	0.013*	0.009
	(1.564)	(0.792)	(1.747)	(2.111)	(1.230)	(1.875)	(1.362)
FEAR	-0.013***	-0.015***	-0.014***	-0.011**	-0.013***	-0.013***	-0.013***
	(-2.666)	(-2.743)	(-2.812)	(-2.276)	(-2.712)	(-2.779)	(-2.715)
Female	-0.120**	-0.123**	-0.120**	-0.120**	-0.121**	-0.121**	-0.119**
	(-2.221)	(-2.258)	(-2.221)	(-2.211)	(-2.237)	(-2.246)	(-2.213)
B. What is your c~y	0.003	0.004	0.003	0.004	0.003	0.003	0.003
	(1.506)	(1.593)	(1.519)	(1.625)	(1.482)	(1.465)	(1.513)
HighEd	0.281***	0.274***	0.276***	0.266***	0.289***	0.284***	0.278***
	(4.918)	(4.739)	(4.823)	(4.627)	(5.034)	(4.964)	(4.855)
GEMHHINC==Middle 3~e	-0.052	-0.019	-0.037	-0.020	-0.063	-0.042	-0.050
	(-0.740)	(-0.260)	(-0.528)	(-0.276)	(-0.888)	(-0.592)	(-0.719)
GEMHHINC==Upper 3~e	0.132*	0.141**	0.140**	0.150**	0.125*	0.136**	0.134*
	(1.924)	(2.010)	(2.018)	(2.163)	(1.804)	(1.970)	(1.941)
SUSKIL adapted to ~o	0.064	0.102	0.065	0.076	0.068	0.064	0.065
	(0.791)	(1.232)	(0.802)	(0.933)	(0.831)	(0.791)	(0.799)
FRFAIL adapted to ~o	0.035	0.041	0.035	0.034	0.037	0.038	0.034
	(0.587)	(0.682)	(0.587)	(0.577)	(0.622)	(0.639)	(0.572)
KNOWENT adapted to~f	0.233***	0.224***	0.235***	0.228***	0.230***	0.237***	0.235***
	(3.809)	(3.599)	(3.833)	(3.719)	(3.749)	(3.858)	(3.834)
Discontinued a bus~p	0.109	0.098	0.107	0.099	0.111	0.110	0.109
	(1.187)	(1.060)	(1.165)	(1.075)	(1.208)	(1.193)	(1.183)
Expects to start-u~	0.447***	0.431***	0.443***	0.432***	0.454***	0.449***	0.443***
	(7.638)	(7.294)	(7.564)	(7.353)	(7.726)	(7.663)	(7.534)
OPPORT adapted to ~o	0.092	0.107*	0.091	0.095	0.093	0.090	0.092
	(1.526)	(1.764)	(1.518)	(1.577)	(1.557)	(1.499)	(1.533)
NBSTAT adapted to ~o	0.117	0.095	0.109	0.099	0.123	0.112	0.115
	(1.516)	(1.213)	(1.414)	(1.273)	(1.594)	(1.450)	(1.494)
NBGOOD adapted to ~o	-0.074	-0.079	-0.080	-0.078	-0.073	-0.080	-0.073
	(-0.952)	(-0.997)	(-1.022)	(-0.995)	(-0.930)	(-1.016)	(-0.938)
NBMEDI adapted to ~o	0.010	-0.024	0.007	0.001	0.009	0.006	0.009
	(0.130)	(-0.308)	(0.086)	(0.008)	(0.114)	(0.082)	(0.118)
CULSUPH	0.087	0.084	0.089	0.086	0.086	0.089	0.088
	(0.885)	(0.849)	(0.898)	(0.870)	(0.867)	(0.901)	(0.891)
lnEcoFoot	-0.357***	2.076	-0.649***	1.255**	-0.665***	-0.208*	0.022
	(-5.098)	(1.529)	(-2.916)	(2.013)	(-2.879)	(-1.679)	(0.039)
ET	0.145***	0.259***	0.144***	0.162***	0.160***	0.158***	0.149***
	(3.556)	(5.036)	(3.533)	(3.876)	(3.787)	(3.765)	(3.618)
RT	-0.118***	-0.213***	-0.123***	-0.118***	-0.139***	-0.135***	-0.113***
	(-3.699)	(-5.157)	(-3.821)	(-3.616)	(-3.945)	(-3.986)	(-3.475)
EC	0.060	0.204***	0.055	0.158**	0.051	0.051	0.070
	(1.172)	(2.956)	(1.072)	(2.523)	(0.986)	(0.979)	(1.326)
EBO	-0.034***	-0.021	-0.036***	-0.034***	-0.033***	-0.030***	-0.032***
	(-4.183)	(-1.505)	(-4.377)	(-4.148)	(-4.076)	(-3.422)	(-3.564)
EDB	0.013**	0.010	0.012*	0.016**	0.011*	0.019**	0.012*
	(2.064)	(0.870)	(1.935)	(2.425)	(1.789)	(2.516)	(1.955)
lnEcoFoot # ET		0.132	0.072				
		(1.156)	(1.383)				
lnEcoFoot # EC		-0.246***		-0.168***			

		(-2.934)		(-2.598)			
lnEcoFoot # RT		0.280***			0.064		
		(3.797)			(1.399)		
lnEcoFoot # EBO		-0.010				-0.017	
		(-0.437)				(-1.462)	
lnEcoFoot # EDB		-0.029**					-0.006
		(-2.189)					(-0.668)
constant	-3.531***	-4.716***	-3.816***	-4.443***	-3.290***	-3.761***	-3.624***
	(-3.003)	(-3.735)	(-3.154)	(-3.457)	(-2.822)	(-3.137)	(-3.048)
PseudoR-sqr	0.130	0.138	0.131	0.132	0.131	0.131	0.130
BIC	2958	2978	2965	2960	2965	2965	2966
AIC	2769.0	2753.8	2769.1	2764.1	2769.0	2768.9	2770.6

**p<0.10, **p<0.05, ***p<0.01, t-statistics in parentheses.*

End Notes:

[i] In 2015, the World Bank defined the income brackets as follows: Low GNI <= 1,045, Lower middle GNI: 1,046-4,125, Upper middle GNI: 4,126-12,745, High income > 12,745

[ii] For such samples, data is usually considered stationary, particular since all tests for stationarity yield biased results for very short panels.

[iii] Note that when 3 lags were introduced, the variable was always not significant and lead to a proliferation of instruments used in the estimation relative to the number of observations, which undermined the validity of the results. Hence the third lag is omitted. For a discussion of the "too many instrument" problem see Roodman (2009).