# Nascent Entrepreneurs in Caribbean Small Island Developing States: Opportunity versus Necessity

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## Abstract

Nascent entrepreneurship is important for economic growth and development since it often involves new firm creation and innovation. Besides the perceived ability to become an entrepreneur, determined by one's human, social and financial capital, individuals must have a willingness to become self-employed as exhibited by their entrepreneurial motivation. A distinction is made between opportunity or "pull" entrepreneurs who set up a business to take advantage of an identified opportunity and necessity or "push" entrepreneurs who are forced to start a business to escape unemployment or poverty. This paper investigates nascent entrepreneurship in a selection of Small Island Developing States of the Caribbean, along with differences between nascent opportunity and necessity entrepreneurs. We use the 2012 Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS) for Barbados, Jamaica and Trinidad and Tobago. Probit regressions are used and comparisons between opportunity and necessity driven entrepreneurs are made. The findings indicate that socio-economic and perceptual factors affect nascent entrepreneurship and do so differently among opportunity and necessity entrepreneurs.

**Keywords**: Entrepreneurship; SIDS

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## 1. Introduction

Entrepreneurs are economic agents that reallocate resources to increase the efficiency of production and distribution of goods and services, or to create new products. Nascent entrepreneurs are emerging entrepreneurs that are in the gestation and infancy stage of the entrepreneurial process (Reynolds 2007 and Davidsson 2006). Early stage entrepreneurship may contribute to economic growth and development in Small Island Developing States (SIDS) since it often involves new firm creation and innovation and results in employment creation, export expansion and increased productivity and competitiveness. The literature shows that besides the perceived ability to become an entrepreneur, determined by one's human, social and financial capital, individuals must have a willingness to become self-employed as exhibited by their entrepreneurial motivation. More generally, a distinction is made between opportunity or "pull" entrepreneurs and necessity or "push" entrepreneurs.

Opportunity entrepreneurs set up a firm for personal interest to take advantage of a new idea or business prospect such as an unexploited market, an innovative product or well-connected networks (Reynolds et al. 2001). They are motivated in particular by the desire for self-realization, achievement, independence and social development possibilities, most often when they are still employed elsewhere and operate mainly in the modern sectors. Necessity entrepreneurs, on the other hand, are forced to start a business to meet economic needs and survive unemployment or poverty as they have exploited all other options and there are no better alternatives for gainful employment, which may have been the preferred option and operate in the traditional and informal sectors. Studies identify independence as the dominant driver of new business creation and the majority of persons are pulled in entrepreneurship (Birley and Westhead 1994 and Shane and Westhead 1991). In some instances however, both push and pull factors may simultaneously be at play (Block and Sandner 2009, Giacomin et al. 2007, Solymossy 1997 and Birley and Westhead 1994).

In Caribbean SIDS, there are various elements that may influence and shape entrepreneurial motivations. Each of these, in turn, may affect business start-up and performance. Moreover, there are several studies on entrepreneurial motivation in the Caribbean region which take into account the inherent contextual and cultural factors to provide a better understanding of why a person chooses to start a business. These studies, however, tend to focus on specific groups. For

instance, studies show that entrepreneurship in the Caribbean among blacks stagnated because of weak support from the black community and family networks (Danns 1995 and Ryan and Barclay 1992); an education curriculum aimed at creating job seekers and not job makers (Danns and Mentore 1995); and greater government support to whites and hostility towards blacks from whites (Boxill 2003, Boxill 1995 and Ryan 1995). In another study, Small and McClean (2002) look at youths in Barbados and find that work experience, gender, exposure to family business and ethnicity are important factors in affecting entrepreneurship as a career choice. Additionally, Marshall and Wharton (2014) study females in Barbados and provide information on their attitudes, aspirations and entrepreneurial activity.

Caribbean studies also show that there is a perceived lack of entrepreneurship and entrepreneurial activity in the region (Devonish et al. 2010). However, this is not unusual for developing countries, where entrepreneurship is often viewed as a means to earn income and economic survival. In the latest Global Entrepreneurship Monitor (GEM) report, the Caribbean is highlighted as having a comparatively high number of necessity entrepreneurs globally (Kelley et al. 2016). Respondents participating in the GEM survey in Jamaica point to several contextual factors which limit entrepreneurial opportunities such as difficulty in accessing start-up capital, limited entrepreneurship training and education and tax benefits and high bureaucracy (Skeete et al. 2007). In Barbados, Knight and Hossain (2008) highlight shortcomings in accessing microfinance and contextual factors including the social and psychological effects of colonialism, a relatively individualistic culture and a history of distrust and suspicion. Nevertheless, there is no study on nascent entrepreneurship and entrepreneurial intentions for Caribbean SIDS.

From a policy perspective it is important to understand the characteristics of newly emerging entrepreneurs, and what distinguishes emerging opportunity versus necessity entrepreneurs. The literature suggests that opportunity entrepreneurs may not necessarily be affected by the same factors as necessity entrepreneurs since they may differ in terms of their socio-economic and perceptual characteristics (Giacomin et al. 2007, Block and Wagner 2007, Wagner 2005, Arenius and Minniti 2005, Reynolds et al. 2002 and Amit and Muller 1995). Further, this has implications for business performance and economic growth and development. Opportunity entrepreneurs are more likely to make a larger economic contribution (Reynolds et al. 2002,

Wennekers et al. 2005 and Wong et al. 2005) since they tend to be better motivated to become self-employed and consequently better manage their firms and have higher success rates and business performance (Block and Wagner 2007, Vivarelli 2004, Solymossy 1997 and Amit and Muller 1995). Also, opportunity and necessity business start-up motives may interact differently with business cycles. There is evidence that opportunity entrepreneurship is pre-cyclical in the business cycle, while necessity entrepreneurship is not (Koellinger and Thurik 2009). Measures to expand and develop opportunity and necessity based entrepreneurship may therefore require very different policies and programs (Block and Wagner 2007, Wagner 2005 and Morales-Gualdrón and Roig 2005).

This study aims to investigate embryonic entrepreneurial start-up intensions in Caribbean SIDS and differences between entrepreneurs that are pulled (opportunity driven) or pushed (necessity driven) into starting a business. We investigate socio-economic and perceptual factors affecting nascent entrepreneurship and difference between new opportunity and necessity entrepreneurs using the GEM Adult Population Survey (APS) 2012 for Barbados, Jamaica and Trinidad and Tobago. The study therefore provides essential information for Caribbean policy makers to understand the key factors that encourage or obstruct the creation of start-ups in the region. The remainder of this paper is structured as follows. Section 2 outlines the theoretical considerations driving the model used. Section 3 gives the methodology and data used. Section 4 presents the results. Lastly, section 5 concludes the paper.

## 2. Theoretical Considerations

### *2.1. Opportunity versus Necessity Motivation*

The recent literature categorizes entrepreneurial motives into two broad groupings namely opportunity or pull entrepreneurs and necessity or push entrepreneurs (Giacomin et. al 2011, Verheul et al. 2010 and Reynolds et al. 2002). Since 2001 the GEM introduced both terms into its data collection and reporting processes and various empirical studies adopt the entrepreneurial dualism in their investigation. The opportunity necessity dichotomy is based mainly on distinguishing between individuals motivated by an internal aspiration for self-realization and those driven by economic needs for survival. Opportunity entrepreneurs are pulled into

entrepreneurship out of choice, while necessity entrepreneurs are pushed by structural and wider economic forces.

Opportunity entrepreneurs choose to set up a business to exploit some identified business opportunity such as an unexploited market, an innovative product or well-connected networks (Reynolds et al. 2001). They are motivated by the need for achievement, the desire to be independent and social development possibilities, most often when they are still wage-employed elsewhere. Alternatively, necessity entrepreneurs are coerced into starting their own business because all other options for work have been exhausted. They become entrepreneurs because of a lack of wage-employment opportunities, poverty and economic survival, and entrepreneurship is often the best, but not necessarily the preferred, occupation. Opportunity entrepreneurial activities mainly occur in modern innovative sectors, while necessity entrepreneurs commonly operate in traditional and informal sectors (Desai 2011, Naudé 2011, Caliendo and Kiritkos 2010, Gries and Naudé 2010, Clark and Drinkwater 2000 and Storey 1991). A necessity-based start-up firm however has the potential to turn into a productive and rewarding business over time (Hinz and Jungbauer-Gans 1999 and Kautonen and Palmroos 2009).

Studies posit that the desire to be independent is the main driver explaining new venture creation, and as such individuals are more likely to be pulled than pushed into entrepreneurship (Birley and Westhead 1994 and Shane and Westhead 1991). Annual GEM reports and various national survey data correspondingly reveal that there are generally more opportunity than necessity entrepreneurs in a given country, although in developing countries there is a higher proportion of necessity entrepreneurs (Kelley et al. 2016, Block and Sandner 2009 and Wagner 2005). According to Rosa and Balunywa (2006) the number of necessity entrepreneurs increases directly with the poverty level of a country. Moreover, entrepreneurs in developing countries tend to be motivated by the desire to increase income and improve standards of living rather than an identified business opportunity (Benzing and Chu 2009).

Some studies oppose the opportunity necessity dichotomy and see entrepreneurship as more complicated than starting a business. For Wennekers and Thurik (1999) entrepreneurship is the ability and willingness of individuals on their own and within firms to perceive and create new economic opportunities, introduce new ideas and compete with others. Further, Birley and Westhead (1994) recognize that starting a business is a complex process and individuals may

simultaneously have a combination of opportunity and necessity motives. Block and Sandner (2009), Giacomin et al. (2007), Solymossy (1997) and Birley and Westhead (1994) provide empirical support that in some cases both push and pull factors may be at play when an individual decides to set up a business.

*2.2. Socio-economic and Perceptual Factors*

Demographic and economic characteristics including an individual's social status and network as well as perceptual variables notably a person's entrepreneurial risk attitude, confidence in one's entrepreneurial knowledge and skills and outlook on future entrepreneurial opportunities may affect nascent entrepreneurship. Furthermore, these factors may affect newly emerging opportunity and necessity business start-ups differently and there are several studies on this matter.

Reynolds et al. (2002) and Aldrich (1999) posit that age and entrepreneurship may be positively related since the older a person is the greater the number of years to acquire experience and business skills and a positive entrepreneurial attitude allowing for an easier entry into starting a new business. Wagner (2005) also agrees on a positive relationship since older persons generally have a greater amount of finances for business start-up capital. Additionally, Giacomin et al. (2007) contend that age increases new business ventures since older people have lower employability. On the other hand Chigunta et al. (2005) state that young people start their own business because of high youth unemployment rates and age and nascent entrepreneurship may instead be negatively related. Moreover, youths are increasingly being encouraged to switch from being job seekers to job creators (Langevang and Gough 2012).

Reynolds et al. (2001) state that age patterns may be different for opportunity and necessity entrepreneurs. Opportunity entrepreneurs may be older since these persons are expected to have more experience and finances better enabling them to perceive business opportunity and be pulled towards entrepreneurship. Whereas, the majority of young persons are not well equipped and may therefore fall into the group of necessity entrepreneurs. Empirical studies present varied conclusions and age may act as a pull or push factor. Langevang and Gough (2012), Verheul et al. (2010), Block and Sandner (2009) and Chigunta et al. (2005) provide evidence that young persons are more likely to be necessity entrepreneurs. However, Bergmann and Sternberg (2007)

do not find a significant effect of age on early stage necessity entrepreneurship and an inverse U-shaped relationship for nascent opportunity entrepreneurs. Alternatively, Wagner (2005) demonstrates that age has no effect on opportunity nascent activity, and an inverse U-shaped relationship for emerging necessity new venture activity. Giacomin et al. (2007) find that age positively affects business start-up, but is negatively related to opportunity entrepreneurial intentions.

Women traditionally have a lower level of labour force participation than men, together with lower self-employment rates since they are more likely to work part-time or leave their jobs when they have children (Becker 1993). Consequently, women may have fewer opportunities to accumulate start-up capital and develop entrepreneurial experience, skills and confidence, and if they do become entrepreneurs they are more likely to do so out of necessity (Fischer et al. 1993 and Kalleberg and Leicht 1991). In fact, the 2015 GEM report illustrates that globally women are less likely than men to set up their own business, and when they do, they stand a higher chance to do so to meet economic needs (Kelley et al. 2016). The empirical findings on the link between gender and entrepreneurial motivation are contradictory. Giacomin et al. (2007) and Bhola et al. (2006) find that men are more likely to engage in entrepreneurial activity regardless of whether they are opportunity or necessity driven. Others conclude that men are more likely to engage in opportunity-based business ventures, while women are more likely to engage in necessity-based businesses (Bergmann and Sternberg 2007, Minniti et al. 2005 and Wagner 2005). On the other hand, Block and Sandner (2009) and Block and Wagner (2007), do not find a significant effect of gender on opportunity versus necessity entrepreneurship.

To set up a new business an individual must have some level of formal education. Education helps an individual identify and exploit new business ideas and opportunities. Thus, higher educated persons are more likely to be pulled into self-employment (Ucbasaran et al. 2004, Davidsson and Honig 2003 and Reynolds et al. 2003). In contrast, persons with a lower level of education may have more difficulties finding a paid job and are more often pushed into self-employment. Bergmann and Sternberg (2007) and Morales-Gualdrón and Roig (2005) find that higher education positively influences nascent opportunity entrepreneurship but does not matter for nascent necessity entrepreneurship. Likewise, Wagner (2005) shows that the number of professional degrees is positively related to being a new opportunity entrepreneur, but has no

effect on being a nascent necessity entrepreneur. Verheul et al. (2010) on the other hand, argue that the level of education is important for both opportunity and necessity entrepreneurs. Block and Wagner (2007) alternatively find no difference between necessity and opportunity entrepreneurs and formal education. Block and Sandner (2009) assert that necessity entrepreneurs are less likely to be educated in the field that they start and run a business in compared to opportunity entrepreneurs. Giacomin et al. (2007) claim that the level of education of an individual does not have a significant effect on new business start-up.

An individual's job status in particular wage employment may affect their entry into entrepreneurship. Opportunity entrepreneurs are only attracted to self-employment when there is an identified business opportunity, while necessity entrepreneurs enter entrepreneurship when there is no other alternative. Hence, opportunity entrepreneurs are usually still wage-employed while they pursue a business opportunity (Reynolds et al. 2001). Further, the opportunity cost to an unemployed individual to become an entrepreneur is significantly lower than an individual who is still wage-employed (Amit et al. 1995 and Storey 1991). Wagner (2005) provides empirical evidence that employment is lower among necessity entrepreneurs in comparison to opportunity entrepreneurs and other studies provide evidence that employment acts as a pull factor into self-employment (Audretsch and Thurik 2000, Audretsch and Vivarelli 1995 and 1996 and Evans and Leighton 1990).

Setting up a new business requires start-up capital and early stage business people usually face liquidity constraints, especially in developing countries where the banking sector is more risk adverse. A lack of financial resources may act as a constraint on fledgling entrepreneurial activity. Household income provides a good measure of liquidity constraint and access to financial resources for nascent entrepreneurship since individuals may rely on their personal savings and also savings from family members. A person from a family with greater wealth may find it easier to enter into entrepreneurship and are more likely to be opportunity driven. Persons from poor households on the other hand may be pushed into entrepreneurship for income. Block and Sandner (2009) and Arenius and Minniti (2005) provide empirical support that entrepreneurship is positively related to an individual's household income.

A key entrepreneurial resource is a person's social status and network including family members, friends and business associates (Giacomin et al. 2007 and Hills et al. 1997). Knowing an

entrepreneur who acts as a role model can contribute to a positive entrepreneurial attitude and knowledge and skills thereby increasing burgeoning entrepreneurial activity. It may also allow for the identification of business opportunities and lead to the creation of more opportunity type firms. Self-employment is a complex and intimidating job and starting a business with support from others may positively impact nascent entrepreneurship. Several studies highlight the importance of role models and support in stimulating entrepreneurship. Verheul et al. (2010) and Morales-Gualdrón and Roig (2005) give evidence of a significant positive influence of having a role model on both opportunity and necessity business creation. Wagner (2005) however finds that nascent opportunity entrepreneurs are more likely to have a role model in the family, but for nascent necessity entrepreneurs it does not matter. Amit and Muller (1995) show that the likelihood of being an opportunity entrepreneur increases when an individual's spouse is an entrepreneur. They also posit that a higher number of push entrepreneurs report a neutral attitude towards entrepreneurship from their parents; whereas more pull entrepreneurs are either encouraged or discouraged to engage in entrepreneurship. Djankov et al. (2004) empirically demonstrate that family networks have a positive influence on opportunity and necessity entrepreneurs, although the effect is larger for opportunity entrepreneurs.

An individual's subjective perceptions and judgements can affect new business creation including their risk taking attitude, confidence in their business knowledge and skills and alertness to unexploited opportunities. These factors describe subjective perceptions, attitudes and beliefs of the individual and may not necessarily reflect objective circumstances, but nonetheless are important determinants of entrepreneurship (Arenius and Minniti 2005). Fear of failure acts as a measure of risk aversion and an individual's risk propensity can affect germinal entrepreneurial activity. A high level of risk aversion is often cited as the main reason for not starting a business. Risk aversion hinders early stage entrepreneurial activity for both opportunity and necessity entrepreneurs (Grilo and Thurik 2008, Wagner 2005, Arenius and Minniti 2005 and Morales-Gualdrón and Roig 2005). Necessity entrepreneurs have no other option to earn an income, and are less likely to take risks, while opportunity entrepreneurs tend to have alternative employment options and are willing to take on more risk. Nonetheless, Amit and Muller (1995) show empirically that push and pull entrepreneurs are similar in their risk attitudes. However, Verheul et al. (2010) and Wagner (2005) find that opportunity entrepreneurs are less risk averse than necessity-driven individuals.

Confidence in one's skills and ability is an important factor affecting early stage entrepreneurial behaviour. Perceptions individuals have of their own entrepreneurial abilities are important, since the decision to start a business is made at the individual level. This is related to intentionality and locus of control where starting a new business is an intentional act that involves the exercise of control to achieve desired goals (Arenius and Minniti 2005). Reynolds et al. (2003) show that compared to those who do not think they have the appropriate skills, those who are confident about their skills are 4 to 6 times more likely to engage in entrepreneurship. Arenius and Minniti (2005) similarly find that individuals who perceive themselves as possessing the necessary skills are almost 6.4 times more likely to be a nascent entrepreneur. Opportunity entrepreneurs are usually willing to take more risk and feel they are able to determine their own success and are more confident in their own abilities (Bhola et al. 2006). A positive outlook for future business opportunities by individuals is also important for burgeoning entrepreneurship. If an individual has an optimistic outlook on future entrepreneurial opportunity this can increase new business start-up. According to Arenius and Minniti (2005) alertness to new opportunities is a necessary condition for entrepreneurial action. Further, Arenius and Minniti (2005) provide empirical support to show that opportunity perception is positively and significantly related to nascent entrepreneurship.

## 3. Methodology and Data

### *3.1. Methodology*

Our goal is to investigate nascent entrepreneurship in Caribbean SDIS. Further, we investigate whether new opportunity and necessity entrepreneurs differ with respect to socio-economic and individual perception variables. To this end we first check if opportunity and necessity entrepreneurs are different by doing a difference in means test for all characteristics. This would help us conclude whether the difference in the sample groups is most likely representative of a meaningful difference between the populations as a whole and if any sample selection is going on in terms of the observable variables.

We then proceed to econometrically investigate nascent entrepreneurship in the Caribbean using 3 separate probit models for 1) nascent entrepreneurship, 2) nascent opportunity entrepreneurship

and 3) nascent necessity entrepreneurship. The probability that an individual with the related characteristic vector *W* is a nascent/nascent opportunity/nascent necessity entrepreneur is:

$$\Pr(y = 1 \mid W) = \phi\,(\alpha + \beta' W)$$

where $y$ is a binary variable equal to 1 if an individual prefers self-employment and is a nascent/nascent opportunity/nascent necessity entrepreneur and 0 if the individual does not have a preference for self-employment, $\beta'$ is a vector of coefficients including socio-economic and perceptual variables, $\alpha$ is an intercept and $\phi()$ is the standard normal distribution function. Each probit model would show the probability of revealing a preference for self-employment and the probability of being a nascent entrepreneur (binary variable equal to 1 if individual is a nascent entrepreneur and 0 otherwise), a nascent opportunity entrepreneur (binary variable equal to 1 if individual is a nascent opportunity entrepreneur and 0 otherwise) and a nascent necessity entrepreneur (binary variable equal to 1 if individual is a nascent necessity entrepreneur and 0 otherwise).

*3.2. Data*

The study uses the GEM APS which is the largest internationally comparable data set on entrepreneurship carried out annually. The GEM APS measures the level and nature of entrepreneurial activity around the world and is administered to a representative national sample of at least 2,000 respondents and therefore contains entrepreneurs and non-entrepreneurs. It tracks entrepreneurial behaviour, activity, aspirations and attitudes of individuals in the lifecycle of the entrepreneurial process. The focus is on business characteristics, people's motivation for starting a business, actions taken to start and run a business and entrepreneurship related attitudes. Since 2001 GEM, has paid attention to differences in entrepreneurial motivation and has created measures for opportunity and necessity driven entrepreneurs. A further extension to the measure was made in 2005 to account for persons pulled into entrepreneurship by opportunity, because they desire independence or an increase in their income, and persons pushed into entrepreneurship out of necessity, as they seek to maintain their income.

GEM creates a variable called Total Early Stage Entrepreneurial Activity (TEA), which assess persons of working age in the population both about to start an entrepreneurial activity, and that have started one for a maximum of three and a half years. GEM also identifies among TEA

persons who are opportunity and necessity driven. We use this information to create our measure for nascent entrepreneurs, nascent opportunity entrepreneurs and nascent necessity entrepreneurs. For consistency we use the GEM 2012 APS data for 3 Caribbean countries: Barbados (2,046 respondents), Jamaica (2,003 respondents) and Trinidad and Tobago (1,802 respondents) which gives a total sample of 5,851 persons who were interviewed. Table A1 in the appendix shows our dependent and independent variables and how they are defined using the APS data.

Within the GEM surveys those respondents indicating that they are in the process of starting or running a business are asked ”Are you involved in this start-up/firm to take advantage of a business opportunity or because you have no better choices for work?” Next to the response categories “Take advantage of a business opportunity” and “No better choices for work”, GEM interviewers can also record “Combination of both of the above”, “Have a job but seek better opportunities” or “Other”. The latter categories are rarely included in analyses, which typically focus on the opportunity-necessity dichotomy. Around 11% of entrepreneurs (nascent, new and established) fall into the combination-category. The combination category was only analysed in two studies included in the review and these were not based on GEM (Verheul et al. 2010; Block & Koellinger 2009). GEM also includes a follow-up question differentiating opportunity motivation: “Which one of the following, do you feel, was the most important motive for pursuing this opportunity: to have greater independence and freedom in your working life; to increase your personal income; or just to maintain your personal income?” This distinction is important as some findings suggest that national drivers of entrepreneurship due to motivation to maintain and even to increase income can be similar to those driving necessity-motivated entrepreneurship (Hessels et al. 2008).

## 4. Results

### *4.1. Descriptive Statistics*

Based on the GEM 2012 data for Barbados, Jamaica and Trinidad and Tobago, the total number of early stage entrepreneurs is 1,616, of which 1004 (62%) are opportunity driven, 579 (36%) are necessity driven, and just 33 (2%) have mixed opportunity and necessity motivation (Table 1). Similarly, for each country, there is a higher number of opportunity entrepreneurs- Barbados 246

(70%), Jamaica 569 (57%) and Trinidad and Tobago 189 (71%) compared to necessity entrepreneurs- Barbados 100 (29%), Jamaica 405 (41%) and Trinidad and Tobago 74 (28%). There is also a very small number of mixed motivated individuals- Barbados 3 (1%), Jamaica 25 (2%) and Trinidad and Tobago 5 (1%). It appears that relatively more individuals in the Caribbean are driven by entrepreneurial pull factors, as compared to push factors. This is in accordance with international data presented in the annual GEM reports and studies using other country level data (Block and Sandner 2009 and Wagner 2005) as well as the theoretical literature which states persons are more likely to be pulled rather than pushed into entrepreneurship because of a desire for independence (Birley and Westhead 1994 and Shane and Westhead 1991). Table 1 also shows that Jamaica has a relatively high number of necessity entrepreneurs in comparison to Barbados and Trinidad and Tobago. It must be noted also that in general the Caribbean, like other developing countries, has a relatively high number of necessity entrepreneurs by international standards (Kelley et al. 2016). This may be because a large number of entrepreneurs in developing countries or countries with relatively high poverty levels are motivated by the desire to increase income and improve living standards (Benzing and Chu 2009 and Rosa and Balunywa 2006).

**Table 1: Number of Nascent Entrepreneurs**

| Country | Nascent Entrepreneur | Opportunity Entrepreneur | Necessity Entrepreneur | Mixed Entrepreneur |
|---|---|---|---|---|
| Total | 1616 | 1004 | 579 | 33 |
| Barbados | 349 | 246 | 100 | 3 |
| Jamaica | 999 | 569 | 405 | 25 |
| Trinidad and Tobago | 268 | 189 | 74 | 5 |

*Source: Authors' Calculations based on GEM data.*

As a first glance into nascent entrepreneurship and the differences between opportunity-based and necessity-based start-up intentions Table 2, displays the mean for continuous variables and the proportion of ones for dummy variables for the various socio-economic and perceptual factors. This is shown for all nascent entrepreneurs, nascent opportunity entrepreneurs and nascent necessity entrepreneurs for our 3 Caribbean countries.[2] Table 2 also shows the t-test for

[2] Nascent entrepreneurs with mixed opportunity and necessity intentions are excluded from the analysis given the negligible numbers that exist in the region.

continuous variables and chi-squared test for dummy variables for differences between opportunity and necessity entrepreneurs.

In Table 2 age (measured in years) shows that the average age of a newly emerging entrepreneur in the Caribbean is 36.29 years. The empirical evidence in the 2015 GEM report also shows that internationally TEA rates are highest among a relatively young age group of 25-34 and 35-44 year olds (Kelley et al. 2016). Additionally, the data suggest that in the Caribbean persons who started a business out of necessity are slightly older than opportunity entrepreneurs (36.91 versus 35.87) and the difference is statistically significant. Wagner (2005) similarly finds for Germany that early stage necessity entrepreneurs are older than early stage opportunity entrepreneurs, although the difference is much greater when compared to Caribbean small islands (38 years and 35 years respectively). The results reveal that there is a certain level of entrepreneurial ambition among young people in Caribbean SIDS which may attract them to set up their own business. This may be driven by the very high youth unemployment rates which exist in the region (Parra-Torrado 2014, CDB 2015 and Downes 2006) and various government programs which target the promotion of youth entrepreneurship (Knight and Hossain 2008, Lashley 2007and Lashley and McClean 2004). Also young people in the Caribbean may have accumulated some experience, networks and other resources needed to start a business and it may be too early in their wage career to reach high positions and salaries to compel them to remain wage employed, and they therefore switch to entrepreneurship (Kelley et al. 2016).

Male (a dummy variable equal to 1 if the interviewee is male) for all 3 Caribbean islands shows that 51% of nascent entrepreneurs are men while 49% are women. While this represents a high rate of female participation in TEA, our results show that a much higher proportion of men in the Caribbean are pulled into setting up a new business (56%) while a lower proportion (44%) are pushed with the difference being highly statistically significant. In other words, while the Caribbean has a large percentage of females participating in nascent entrepreneurship a greater proportion of women operate as necessity rather than opportunity entrepreneurs. Small and McClean (2002) find that males compared to females have a greater inclination for entrepreneurship among Barbados youth. Internationally the GEM 2015 report shows that female participation in entrepreneurship is much lower relative to males (Kelley et al. 2016). Studies also give empirical evidence that generally men have a much higher propensity for self-

employment than women (Block and Sandner 2009, Giacomin et al. 2007, Bergmann and Sternberg 2007, Block and Wagner 2007 and Wagner 2005). Nonetheless, the high female participation in nascent entrepreneurship is Caribbean SIDS may be because female workforce participation and firm management and ownership in the region are among the highest in the world allowing women to acquire experience and skills (World Bank 2014).

Education (number of years of formal education) shows that TEA Caribbean entrepreneurs have on average 10.23 years of formal education. Nascent opportunity entrepreneurs have a higher average number of years of education of 10.77 versus 9.24 years for nascent necessity entrepreneurs with the difference being highly statistically significant. This suggests that early stage entrepreneurs in the region generally have at least up to secondary school education with opportunity entrepreneurs generally having a higher number of years of formal education in comparison to necessity entrepreneurs. Studies in other parts of the world also show that higher educated persons are more likely to be pulled into self-employment (Ucbasaran et al. 2004, Davidsson and Honig 2003 and Reynolds et al. 2003).

In terms of employment for our 3 Caribbean countries among TEA entrepreneurs 84% are employed (dummy variable equal to 1 if interviewee is either self or wage-employed). Additionally, a much higher percent of opportunity versus necessity entrepreneurs are employed-87% and 79% respectively and the difference is highly significant. A more important difference to consider however is wage employment (dummy variable equal to 1 if interviewee is wage-employed) versus self-employment (dummy variable equal to 1 if interviewee is self-employed). This is because opportunity entrepreneurs are usually still wage-employed while they pursue a business opportunity, but necessity entrepreneurs are more likely to be self-employed since they enter into entrepreneurship because they have no other job option. Among nascent entrepreneurs 36% are wage employed and 48% are self-employed. For opportunity entrepreneurs 46% are wage employed and 48% are self-employed, while for necessity entrepreneurs only 19% are wage employed and 72% and self-employed with the difference for both wage and self-employment being highly statistically significant. Wagner (2005) also finds that unemployment is higher among necessity entrepreneurs in Germany.

Household income (dummy variable equal to 1 for high annual income of all members of the household including interviewee's income) acts as a measure of access to finance. A person from

a low income household may be pushed into entrepreneurship to meet economic needs, while a person from a high income household may be pulled because of an identified opportunity. Among TEA entrepreneurs in our three Caribbean countries 63% of individuals are from a high income household. The corresponding figures are 72% and 49% for opportunity and necessity entrepreneurs respectively, with the difference being highly statistically significant. Opportunity entrepreneurs are therefore more likely to come from higher income households in the Caribbean compared to necessity entrepreneurs.

In the Caribbean 59% of TEA entrepreneurs have a role model (dummy variable equal to 1 if interviewee knows someone personally who started a business in the past 2 years). The difference between early stage opportunity and necessity entrepreneurs is small and the figures are 60% and 59% respectively (difference not statistically significant). Wagner (2005) on the other hand finds that the share of interviewees with a role model in the family is high among early stage opportunity entrepreneurs in Germany and much lower among emerging necessity entrepreneurs. In terms of business support 60% of TEA entrepreneurs in the region have support (dummy variable equal to 1 if interviewee is with others, expecting to start a new business within the next three years) for business start-up. The difference between TEA opportunity and necessity entrepreneurs are again small with figures of 60% and 61% respectively (difference not statistically significant).

Newly emerging entrepreneurship and perceptual variables are examined. Fear failure (dummy variable equal to 1 if fear of failure does not prevent interviewee from starting a business) acts as a measure of risk attitude. 84% of respondents from our three Caribbean islands report that they do not fear failure of a new business start-up (Table 2). TEA opportunity entrepreneurs have a slightly greater risk taking attitude (85% do not fear failure) in comparison to necessity entrepreneurs (83% do not fear failure), although the difference is not statistically significant. Wagner (2005) finds that in Germany the share of risk adverse individuals is twice as high among necessity entrepreneurs. 95% of TEA entrepreneurs in the region believe that they have the required start-up knowledge (dummy variable equal to 1 if interviewee thinks that he/she has the knowledge, skills and experience to start a new business) to start a new business, while 95% of opportunity and 96% of necessity entrepreneurs feel that they possess such knowledge (difference not significant). 70% of nascent entrepreneurs in the region perceive that in the next

six months there is good entrepreneurial opportunity- measured by opportunity (dummy variable equal to 1 if interviewee feels that in the next six months there will be good opportunities for starting a business) in Table 2. Among necessity and opportunity entrepreneurs the same figure holds.

The comparative descriptive evidence discussed above shows that certain types of individuals are more likely to be involved in creating new ventures and there are mainly socio-economic and some perceptual differences between pull and push entrepreneurs. On average, and compared to nascent opportunity entrepreneurs, nascent necessity entrepreneurs are slightly older, more often female, less educated, not wage-employed, come from lower level income households, less often have a role model involved in entrepreneurial activity, but have support for starting a business, and consider fear of failure more often a reason not to start their own business, but try to set up their own business nevertheless, because by definition they lack a better alternative but do not necessarily lack confidence in business-start-up knowledge and equally perceive future business opportunity.

**Table 2: Descriptive Statistics**

| **Variable** | **Nascent Entrepreneur** | | **Opportunity Entrepreneur** | | **Necessity Entrepreneur** | | **Opportunity versus Necessity** | |
|---|---|---|---|---|---|---|---|---|
| | Mean | Std. dev. | Mean | Std. dev. | Mean | Std. dev. | t-test | $\chi^2$-test |
| Age | 36.29 | 11.14 | 35.87 | 11.05 | 36.91 | 11.21 | 0.074 | |
| Male (1=yes) | 0.51 | | 0.56 | | 0.44 | | | 0.000 |
| Education | 10.23 | 3.867 | 10.77 | 3.76 | 9.24 | 3.88 | 0.000 | |
| Employment (1=yes) | 0.84 | | 0.87 | | 0.79 | | | 0.000 |
| Wage-employment (1=yes) | 0.36 | | 0.46 | | 0.19 | | | 0.000 |
| Self-employment (1=yes) | 0.48 | | 0.48 | | 0.72 | | | 0.000 |
| Household income (1=high) | 0.63 | | 0.72 | | 0.49 | | | 0.000 |
| Role model (1=yes) | 0.59 | | 0.60 | | 0.59 | | | 0.568 |
| Support (1=yes) | 0.60 | | 0.60 | | 0.61 | | | 0.605 |
| Fear failure (1=no) | 0.84 | | 0.85 | | 0.83 | | | 0.324 |
| Start-up knowledge (1=yes) | 0.95 | | 0.95 | | 0.96 | | | 0.320 |
| Opportunity (1=yes) | 0.70 | | 0.70 | | 0.70 | | | 0.994 |

*Source: Authors' Compilation based on GEM data. Note: The t-test column shows the p-values of the t-test on the equality of means, whereas the $\chi^2$-test column shows the p-values of the test on the equality of proportions. A p-value of less than 0.05 means that the null-hypothesis can be rejected at an error level of less than 5 percent.*

*4.2. Econometric Results*

While the descriptive evidence discussed above reveals important information about embryonic entrepreneurs in our 3 Caribbean countries it does not tell us the extent to which the various socio-economic and perceptual factors considered are interrelated. Table 3 shows the results of our 3 probit regression models for the Caribbean- column 1 gives the results for nascent entrepreneurs, column 2 nascent opportunity entrepreneurs, and column 3 nascent necessity entrepreneurs. The coefficients reported are the marginal effects. The following compares and discusses the results for differences in socio-economic and perceptual factors among TEA entrepreneurs in our 3 Caribbean countries.

Table 3 shows that the age coefficient for the Caribbean is negative and statistically significant for all 3 models indicating that age negatively affects the probability of TEA in the region, as well as nascent opportunity and necessity business ventures. The younger a person is therefore the greater the likelihood that he/she would engage in nascent entrepreneurial activity in the Caribbean. The age coefficient is however very small and a one year increase in age reduces TEA by 0.27%. The age coefficient is larger for nascent opportunity driven individuals meaning that the age effect is greater for opportunity (0.17%) compared to necessity entrepreneurs (0.08%). The existing empirical literature provides mixed evidence on the relationship between age and TEA as well as nascent opportunity and necessity entrepreneurship. The negative relationship between age and entrepreneurship in the Caribbean may be because the region has one of the highest youth unemployment rates in the world (CDB 2015, Downes 2006 and Parra-Torrado 2014), and as such young people turn to self-employment. Furthermore, countries in the region have specialized youth entrepreneurship programs aimed at enhancing knowledge and training in key business skills, technical assistance, finance and advocacy (Knight and Hossain 2008, Lashley 2007and Lashley and McClean 2004) which may be having a positive impact.

The coefficient for male is positive and statistically significant for TEA in the Caribbean- being male increases your chances of TEA by 3.08%. It is also positive and significant for opportunity entrepreneurs, where being male increases opportunity entrepreneurship by 4.38%. The coefficient for necessity entrepreneurs is not significant. Thus, in the Caribbean gender seems to matter for early stage entrepreneurship, and men are more likely to be pulled into starting a new business compared to women. The empirical evidence on the link between gender and entrepreneurial motivation is mixed as shown earlier in the theoretical section. The

entrepreneurial environment in the Caribbean may not be conducive to female business start-up activity and as such women are less likely to be pulled into self-employment (Marshall and Wharton 2014). According to Skeete et al. (2007) in Jamaica women are the main providers in families and are often less involved in opportunity type entrepreneurial activities.

The education coefficient for TEA in the Caribbean is positive and significant. It is also positive and significant for pull entrepreneurs, but negative and significant for push entrepreneurs. A greater number of years of education in the region therefore increases the probability for nascent entrepreneurship and nascent opportunity entrepreneurship, but decreases it for nascent necessity entrepreneurship. A one year rise in the formal education of an individual increases the chances of early stage and opportunity business start-up by 0.51% and 0.74% respectively. On the other hand, it decreases necessity entrepreneurship by 0.24%. Persons with a higher level of education in the region are therefore unlikely to enter entrepreneurship for economic survival, but may do so because of an identified business opportunity. Nevertheless, studies such as Danns and Mentore (1995) state that the content of the current educational curriculum in the Caribbean is targeted at developing job seekers rather than job creators. The empirical literature on entrepreneurship provides inconclusive findings on the relationship between formal education and entrepreneurship.

For the Caribbean the wage employment coefficient is negative and significant for TEA entrepreneurs. It is not significant for opportunity entrepreneurs and is negative and significant for newly emerging necessity entrepreneurs. Having a job therefore reduces the probability of an individual entering into nascent entrepreneurship by 10.51% and nascent necessity entrepreneurship by 7.68% in the region and does not seem to matter for pull entrepreneurship. In other words, if you are wage employed in the Caribbean it is unlikely that you have an interest in entrepreneurship. This may be the result of an educational curriculum targeted at developing job seekers rather than job creators in the Caribbean (Danns and Mentore 1995). Moreover, the Caribbean generally has a high labour force participation rate, although there is high youth unemployment. According to the World Bank World Development Indicators (WDI) the workforce participation rate in 2014 was 81%, 68% and 71% in Barbados, Jamaica and Trinidad and Tobago respectively (WDI 2017), and consequently this may negatively affect TEA in the

region.[3] Contrary to our findings in the Caribbean the empirical literature generally shows that employment acts as a pull factor into self-employment (Wagenre 2005, Audretsch and Thurik 2000, Audretsch and Vivarelli, 1995 and 1996 and Evans and Leighton 1990).

Household income does not have a significant impact on nascent entrepreneurship. It however increases the likelihood of early stage opportunity business start-ups by 2.42%, but reduces the likelihood of nascent necessity businesses by 2.41%. Given the difficulty in accessing capital including high lending rates and strict requirements to qualify for loans to fund new business activity in the Caribbean (Skeete et al. 2007) opportunity entrepreneurs are able to rely on family members for finance. Necessity entrepreneurs are however unable to do so and may be at a disadvantage. Furthermore, Knight and Hossain (2008) highlighted that there are numerous deficiencies in the microfinancing sector in Barbados which is unable to cater to low-income persons who are seeking to start their own business and existing micro and small enterprises and this may further disadvantage necessity entrepreneurs. The wider empirical literature shows that entrepreneurship is positively related to an individual's household income (Block and Sandner 2009 and Arenius and Minniti 2005).

In Table 3 the coefficient role model measures whether an individual knows someone personally who started a business in the past 2 years and therefore acts as a mentor and encourages the individual to engage in entrepreneurial activity. Role model is positive and significant for all 3 groups and therefore increases the chances of TEA by 8.88% in the region together with nascent opportunity entrepreneurship by 4.93% and nascent necessity entrepreneurship by 2.61%. Thus, role-models play a greater role in increasing the probability of pull entrepreneurship. Morales-Gualdrón and Roig (2005) and Verheul et al. (2010) similarly find a significant positive influence of having a role model on opportunity and necessity entrepreneurship. Wagner (2005), on the other hand gives empirical evidence that TEA opportunity entrepreneurs are more likely to have a role model in the family, but for nascent necessity entrepreneurs it does not matter. Similarly, Amit and Muller (1995) find that the odds of being an opportunity entrepreneur increases when an individual's spouse is an entrepreneur.

[3] Labour force participation rate is the proportion of the population ages 15-64 that is economically active: all people who supply labour for the production of goods and services during a specified period.

The coefficient support is positive and significant for nascent entrepreneurs (Table 3). It is also positive and significant for opportunity entrepreneurs but not significant for necessity entrepreneurs. This indicates that an individual expecting to start a new business with others within the next 3 years increases the chances of new business creation in the Caribbean by 5.76%. It also suggests that support from others positively affects pull business start-up in the region by 3.46%, but does not matter for push business start-up. Djankov et al. (2004) on the other hand find for Russia that family network which provides some type of support have a positive influence on opportunity and necessity entrepreneurs, although for opportunity entrepreneurs the effect is larger.

Our results for the Caribbean show that a lack of fear of failure increases nascent entrepreneurial activity in the region by 5.75%. Additionally, it increase opportunity entrepreneurship by 4.44%, but has no effect on emerging necessity entrepreneurship. The results therefore suggest that opportunity entrepreneurs may be less risk adverse versus necessity entrepreneurs who may have no other choice but to enter into self-employment. Similarly the study by Arenius and Minniti (2005) suggests that the fear of failure has a negative and significant impact on being a nascent entrepreneur. The coefficient start-up knowledge is large positive and significant for nascent entrepreneurs together with opportunity and necessity entrepreneurs. Thus, in the Caribbean thinking that one has the needed business start-up knowledge, skills and experience increases the probability of TEA by 18.75% as well as opportunity and necessity entrepreneurship by 11.20% and 6.12% respectively. The impact is almost double for opportunity-based business start-ups versus necessity-based business start-ups. Arenius and Minniti (2005) find that persons who perceive themselves as possessing the necessary entrepreneurial skills are almost 6.4 times more likely to be nascent entrepreneurs than those who do not believe to have the necessary skills. The opportunity coefficient which measures perception of future business opportunity is significant and positive for nascent entrepreneurs and nascent opportunity entrepreneurs, but not significant for nascent necessity entrepreneurs. It increases nascent entrepreneurship ad nascent opportunity entrepreneurship by 5.71% and 4.21% respectively. Hence, opportunity entrepreneurs in the region adopt a positive entrepreneurial attitude in that they are optimistic of future business prospects. Arenius and Minniti (2005) also show that opportunity perception is positively and significantly related to being a nascent entrepreneur.

From the econometric analysis nascent entrepreneurship is negatively affected by age and wage-employment, whereas being male, formal education, having a business role model and support, as well as a lack of fear of failure, confidence in business start-up knowledge and an optimistic business outlook have a positive impact. Furthermore, in the Caribbean socio-economic and perceptual factors affect opportunity and necessity based entrepreneurs differently. Age negatively affects opportunity entrepreneurs, while being male, formal education, having a business role model and support, as well as a lack of fear of failure confidence in business start-up knowledge and optimistic business outlook have a positive impact. Wage employment does not matter for new opportunity based business ventures. On the other hand, age, number of years of formal education, wage employment and household income decreases necessity based entrepreneurs and having a business role model and confidence in business start-up knowledge increases necessity entrepreneurship. Gender, business support from others, household income, fear of failure and perception of new business opportunities do not affect necessity entrepreneurship. Among the socio-economic variables wage-employment and gender play an important role in affecting nascent entrepreneurship in Caribbean SIDS, along with household income specifically for nascent opportunity and necessity entrepreneurship. Furthermore, perceptual factors play a major role in affecting nascent entrepreneurship and nascent opportunity and necessity entrepreneurship.

**Table 3: Probit Results**

| Variables | Nascent Entrepreneurs | Opportunity Entrepreneurs | Necessity Entrepreneurs |
|---|---|---|---|
| Age | -.0027191*** | -.0015638*** | -.0008245** |
| | (.000712) | (.0005573) | (.0003836) |
| Male | .0308207* | .0438565*** | -.0139481 |
| | (.0169815) | (.0132644) | (.0093114) |
| Education | .0051222** | .0074302*** | -.0024167* |
| | (.0025426) | (.0020317) | (.0013361) |
| Wage-employed | -.1050518*** | -.012727 | -.0767846*** |
| | (.0173018) | (.0138611) | (.0102034) |
| Household income | -.0082398 | .0241722*** | -.0240761*** |
| | (.0112395) | (.0089482) | (.0061089) |
| Role model | .0887667*** | .0492873*** | .0261289*** |
| | (.0175758) | (.0139572) | (.0100697) |
| Support | .0575759*** | .0345943*** | .0133506 |
| | (.018015) | (.0140649) | (.0100208) |
| Fear failure | .0575271*** | .04439*** | .0054053 |
| | (.0204771) | (.0155292) | (.011642) |
| Start-up knowledge | .1875494*** | .1120184*** | .0612209*** |
| | (.0202269) | (.0154995) | (.0108692) |
| Opportunity | .0571041*** | .0421452*** | .0067544 |

| | | | |
|---|---|---|---|
| | (.0176597) | (.0137478) | (.0100628) |
| Observations | 3208 | 3208 | 3208 |
| Wald | 605.71*** | 293.98*** | 313.42*** |
| Log Psuedo Likelihood | -1632.6713 | -1389.5718 | -975.87952 |
| Psuedo $R^2$ | 0.1817 | 0.1104 | 0.1581 |
| Observed probability | .313591 | .1904613 | .117207 |
| Predicted Probability (values at means) | .269347 | .1574544 | .0777716 |

*Source: Authors' Compilation based on GEM data .Notes: (1) Coefficients reported are marginal effects. (2) Robust standard errors in parentheses. (3) * Coefficient is statistically significant at the 10 percent level; ** at the 5 percent level; *** at the 1 percent level.*

## 5. Conclusion

Nascent entrepreneurs are important for economic growth and development through new firm creation and innovation. Apart from one's human, social and financial resources individuals must have a willingness to become self-employed as exhibited by their entrepreneurial motivation. A distinction is made between opportunity entrepreneurs who are pulled into self-employment because of a perceived business opportunity, and necessity entrepreneurs who are pushed into self-employment because of a lack of alternative option. The Caribbean is perceived as lacking entrepreneurial activity and having a large number of necessity entrepreneurs to escape poverty and unemployment and because of limited business opportunities. The empirical evidence on nascent entrepreneurship in the Caribbean is however limited. This paper investigates socio-economic and perceptual characteristics of nascent entrepreneurs, nascent opportunity entrepreneurs and nascent necessity entrepreneurs using the GEM 2012 data for Barbados, Jamaica and Trinidad and Tobago.

More individuals are pulled rather than pushed into entrepreneurship in the Caribbean in keeping with the international trend. The region however has a comparatively high number of necessity entrepreneurs when compared to global figures. From the descriptive comparison on average, necessity entrepreneurs are more often slightly older, more often female, are much less often wage-employed, have less formal years of education, come from households with a much lower income, less often have a role model but do not lack business support, consider fear of failure more often a reason not to own a business, but are but are confident in their business start-up knowledge and not less optimistic about future business opportunities and nevertheless set up their own business because of a lack of a better alternative.

Our econometric analysis shows that nascent entrepreneurship in the Caribbean is negatively affected by age and wage-employment, whereas being male, formal education, having a business role model and support, as well as a lack of fear of failure, confidence in business start-up knowledge and optimistic business outlook have a positive impact. Additionally, age negatively affects nascent opportunity entrepreneurs in the region, while being male, formal education, having a business role model and support, as well as a lack of fear of failure, confidence in business start-up knowledge and an optimistic business outlook have a positive impact. Wage employment does not matter for new opportunity based business ventures. On the other hand, age, number of years of formal education, household income and wage employment decreases necessity based entrepreneurs in Caribbean SIDS, whereas having a business role model and confidence in business start-up knowledge increases nascent necessity entrepreneurship. Business support from others, fear of failure and perception of new business opportunities do not affect nascent necessity entrepreneurship in the Caribbean. Among the socio-economic variables wage-employment and gender play an important role in affecting nascent entrepreneurship in Caribbean SIDS, along with household income specifically for nascent opportunity and necessity entrepreneurship. Furthermore, perceptual factors play a major role in affecting nascent entrepreneurship and nascent opportunity and necessity entrepreneurship.

From the comparison of socio-economic and perceptual characteristics of opportunity and necessity entrepreneurs in Caribbean SIDS it may be speculated that the expected business performance of new ventures started by push entrepreneurs may be inferior compared to pull entrepreneurs. Individuals of the former group have less years of formal education which makes it more difficult to identify business opportunities for business growth and expansion and mitigate against downturns in the economic environment. Also, necessity entrepreneurs less often have a role model who can offer tacit knowledge in setting up and running a business and provide access to capital, business networks and a positive business attitude in general. They also come from lower income households and are less often wage employed resulting in financial constraints which can jeopardize business expansion and survival. These issues are however outside of the scope of what the GEM data allows us to examine and require future investigation to inform policies on self-employment and in particular targeting necessity versus opportunity entrepreneurship in Caribbean SIDS.

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## Appendix

### Table A1: Description of Variables used

| Variable | Description |
|---|---|
| Nascent Entrepreneurs | binary variable equal to 1 if individual is a nascent entrepreneur and 0 otherwise |
| Opportunity Entrepreneurs | binary variable equal to 1 if individual is a nascent opportunity entrepreneur and 0 otherwise |
| Necessity Entrepreneurs | binary variable equal to 1 if individual is a nascent necessity entrepreneur and 0 otherwise |
| Age | continuous variable measuring age in years |
| Male | dummy variable equal to 1 if the interviewee is male and 0 otherwise |
| Education | continuous variable measuring years of formal education in years |
| Employment | dummy variable equal to 1 if interviewee is either self or wage-employed and 0 otherwise |
| Wage-employment | dummy variable equal to 1 if interviewee is wage-employed and 0 otherwise |
| Self-employment | dummy variable equal to 1 if interviewee is self-employed and 0 otherwise |
| Household income | dummy variable equal to 1 for high annual income of all members of the household including interviewee's income and 0 for low annual income household |
| Role model | dummy variable equal to 1 if interviewee knows someone personally who started a business in the past 2 years and 0 otherwise |
| Support | dummy variable equal to 1 if interviewee is with others expecting to start a new business within the next three years and 0 otherwise |
| Fear failure | dummy variable equal to 1 if fear of failure does not prevent interviewee from starting a business |
| Start-up knowledge | dummy variable equal to 1 if interviewee thinks that he/she has the knowledge, skills and experience to start a new business |
| Opportunity | dummy variable equal to 1 if interviewee feels that in the next six months there will be good opportunities for starting a business |

*Source: Authors' compilation.*