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## Benefits from Social Capital and Entrepreneurship Enhancement

Mbu Daniel Tambi<sup>1</sup>, Mofow Neville Zoatsa<sup>1</sup>

<sup>1</sup>University of Dschang, Cameroon

[tambi2015@yahoo.co.uk](mailto:tambi2015@yahoo.co.uk)

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### ABSTRACT

This study employed Multiple Correspondence Analyses to construct a social capital index and verified its relationship with entrepreneurship enhancement through Probit model correcting for endogeneity using the Cameroon household consumption survey in Stata. The results indicate that benefits from social capital is strongly correlated with entrepreneurship enhancement, while result by gender of household head, shows that entrepreneurship promotion is stronger among the female as compare to the male counterparts. The same applies for the rural than urban businessmen. We suggest that support policies by donors should be granted to useful associations, and that the government should invest in social capital either directly or indirectly by creating an environment friendly to the emergence of local associations.

**Keywords:** *Social Capital, Supply, Entrepreneurship, Enhancement, Cameroon*

### I. INTRODUCTION

Another new stylized fact in developing the economy of developing countries is the importance of social capital in promoting economic growth and while not entrepreneurship, which is going to reduce poverty rate, reduce the dependency rate, increase standard of living and hence solving the problem of unemployment. With reason being that social network affects a wide array of economic outcomes, ranging from the informal credit, low cost of community development to the provision of local public development (Gartner, 1985). This is because Community development practitioners have long recognized the importance of social relationship in organizing and mobilizing community residents, as well as contributing to the success of project. People frequently become involved in Community Base Organization because their friends or neighbors are involved or because they want to meet new people who will often shape their direction, the outcome of their development effort. Most local communities' residence often depends on neighbors, friends, colleagues and families for assistance. It is from this, that social scientists consider these social relationships and ties as a form of capital referred to as social capital that facilitates collective action in communities and the effort of promoting development (Epo, 2012).

Looking back into history, social capital was popularized in studies like Coleman (1990) and Putnam (1995). Thus, the concept of social capital has a long intellectual history in social sciences, though the sense, in which the term is used today, dates from the ideas of Hanifan (1916). Precisely, Hanifan invoked the concept of social capital to explain the importance of community participation in enhancing school and business performance (society performance). After Hanifan's work, the idea of social capital disappeared and was reinvented by a team of Canadian Urban Sociologist (Gartner, 1985) within a research on urban communities' culture, and by Kirzner (1973) within a study on income distribution.

In terms of gap, most of the research done on entrepreneurship deals with determining the personal characteristics of entrepreneurs (structural and environmentally), without paying attention on the social relationship network and the non economical element where as investigations on entrepreneurship is supposed to be done on the social

surrounding of his structural framework so as to smooth a way for vast standpoints regarding entrepreneurship. This makes one to pay close attention to the entrepreneurship vague and subtle areas, like the socio-economic aspects (Kirzner, 1973). Today, social science scholars has regarded entrepreneurship as a procedure located in a variable network of social relationship both in its structural dimension, cognitive dimension as well as in its relational dimension. Pointing out that these social dimensions of social capital can facilitate the entrepreneur's access to the needed resources and opportunities through a group of people in connection with each other in a special relationship (Baker and Nelson, 2005).

Furthermore, finance has been identified as one of the main hindrances affecting the development of enterprises in an economy (Business Climate Cameroon Survey (BCCS), 2011). Since the development of other sources of financing like microfinance did not solve this problem as expected because some of the microfinance institutions adopted commercial banks' approach of financing which has greatly affected the funding of entrepreneurship. According to the literature, micro entrepreneurs' financing falls in the area of bank lending with imperfect information (Berger and Udell, 2002). This literature shows that micro entrepreneurs are excluded from financing because they are very risky (De Aghion and Morduch, 2005) and cannot provide complete information to lenders (Hugon, 1993) as well as generate high lending transaction cost (Baker and Nelson, 2005).

From the literature above, we can clearly see that the shortcomings of credit access hindering entrepreneurship process in Cameroon can be overcome by social capital which is built up on ties, relations, networks and confidence (Coleman, 1990). Henceforth the main objective of this study is to evaluate the importance of social capital on entrepreneurship enhancement in Cameroon, the specific objectives are: to evaluate gender influence on entrepreneurship response to social capital status, to examine the influence of residential areas on social capital contribution for the promotion of entrepreneurship in Cameroon, to explore the determinants of social capital in Cameroon and to suggest policy orientations on the basis of our findings.

## **II. LITERATURE REVIEW**

According to Anderson and Miller (2003), social capital is embodied within personal networks of social relations which assist in the resource acquisition. Entrepreneurship assessed here are the informal ones and their interactions with their business partners are mostly through social relations and personal networks. Thus, social capital here enables these micro-entrepreneurs to cultivate reputation, close ties and relations with finance that will intern lead to confidence. The confidence will then be used in financial relations where there is no quantifiable assets to withhold the relationship (collateral). Confidence creates ties and if these ones are strong, they will drop other constraints to financing like physical and financial collaterals, existence of microenterprise, specific sector of activity, human capital competences, big size of the activity. Strong ties will also enable to get access to complete information on the micro-entrepreneur and breach the barrier of imperfect information of microenterprises (Ayidi, 2003). Confidence and information generated by social capital will then enable financiers to provide finances to micro-entrepreneurs (Roomi, 2013).

Social capital schemes, especially those involving group lending or other participatory activities, should have a positive impact on new venture creation and the performance of existing ventures by fostering higher levels of entrepreneurship among clients (World Bank, 2009). Arguably, social capital facilitates the sharing of knowledge and resources between clients (Roomi, 2013) and leads to an improvement in business practices, identification of new opportunities and improved risk management strategies (Cunha, 2007). Work by Casson (2003) supports the applicability of such assertions in the microfinance arena. They found that both the quantity of social ties (structural capital) and quality of social ties (relational capital) of social capital clients enhanced entrepreneurial performance in terms of self-employment incomes. However, other studies have revealed mixed results; Casson (2003) found that social capital had a positive impact on income generation for certain groups of clients belonging in social networks, yet had no effect on other groups, suggesting that group characteristics are important.

A study by Bradley et al (2012) of Kenyan clients revealed contrasting findings. Although structural social capital, as measured by the quantity of network ties between groups and other members of the lending group, was found to lead to higher levels of innovation, it did not influence firm performance. The lack of a positive impact of structural capital on firm performance in this study might result from the fact that its effectiveness depends upon the position that the individual maintains in the social network, and the diversity of people with whom the client is able to build network ties as a result of membership in the lending group. This study also failed to examine the strength of the ties (relational capital) between the client and members of the lending group. A positive relationship between structural social capital and entrepreneurial outcomes might be expected, given that network ties between the entrepreneur and a diverse range of actors within their social network exposes them to different ideas and wider sources of information, which should be useful when making decisions regarding the future direction of their business (Putnam, 1993).

### **III. THEORETICAL FRAMEWORK**

In the recent theories of entrepreneurship, Shane and Ventakaman (2000) state that "entrepreneurship involves the nexus of two phenomena: the presence of lucrative opportunities and the presence of enterprising individuals". Their theory is inspired by the "Kirznerian" entrepreneurial discovery process but they emphasize that prior information is needed to complement the new information in the discovery of business opportunities. In this respect, they are similar to Schultz who argues that human capital is an important determinant of entrepreneurship ability. Casson (2003) tries to encompass both the Schumpeterian and the 'Knightian' definitions by arguing that entrepreneurs are individuals who specialize in decision making. The Schumpeterian entrepreneur applies information about inventions to create new combinations and is ultimately the one who decides if the new combinations are profitable or not. In this framework, the economic model of the family developed by Becker (1965) form the conceptual basis for our analysis of the implication of social capital supply built on family and friends relationships. The family's objective is assumed to be the maximization of the utility that it derives from consuming the various goods that it produces using inputs of family members' time and market-purchased goods and services, also child services are viewed as consumption good from which parents derive utility. The family's level of consumption of child services depends on both the number of children that it produces and on the quality of each child, Blau and Grossberg (1990).

The time spent by members of family in activities such as food preparation, assistance during period of difficulties, collecting water and fuel as well as seeking preventive and curative medical care is an important input into the production and building of social ties among individuals in a family. Most often individuals who have problems may rely on other members of the household to provide help and care for their survival, the quality of care provided by these substitutes, is what is very important in our society especially if there is unity among the members. However, household income generating activities also increase the level of household resources, which should improve their nutritional value and their living standard. As a result, detrimental effects of changes in time allocation may be partially or completely offset. Moreover, there is some evidence that men are more likely than women to spend their income in ways that improve income generating activity and the welfare of the family as a whole. What then can we say? The net effect of social capital on entrepreneurship development is an empirical issue.

### **IV. METHODOLOGICAL ANALYSIS**

We used the economic model of the family developed by Becker (1965) and as applied by Frijters et al (2008), this forms the conceptual basis for our analysis of the contribution of Social Capital on Entrepreneurship Enhancement. Based on these authors, the relationship between social capitals on entrepreneurship promotion can be described within the framework of a simple household production model of (Blau and Grossberg, 1990). Thus, the generic model of entrepreneurship promotion for family  $i$ , is assumed to be:

$$ENTP_i = \lambda_1 \chi_i + \delta_1 SC_i + \varepsilon_{1i} \dots\dots\dots (1)$$

Where  $ENTP_i$  is a binary variable representing individual  $i$ 's participation on creativity (entrepreneurship),  $\chi_i$  is a vector of household head characteristics (access to credit, savings of household head, sex of household head, residence, level of education, age in complete number of years, professional career, household size, ownership of land) and community characteristics (appreciation of corruption, provision of basic social facilities such as electricity and water). The  $SC_i$  is Social Capital and  $\varepsilon_i$  is a random error term that captures both random effects and unobservable such as household effort, determination and ability at work. The coefficient  $\lambda_1$  is a set of parameters of the exogenous explanatory variables that correlate with the entrepreneurship generating functions to be estimated. The coefficient  $\delta_1$  is the parameter of primary interest and represents the impact that social capital has on entrepreneurship promotion in Cameroon.

However, this single-equation estimate may be upward or downward biased depending upon the effect that entrepreneurship promotion has on social capital and on the correlation between omitted variables and social capital. For example as noted by Frijters et al (2008), if social capital has a positive impact on entrepreneurship promotion, then we would expect the ordinary least estimate of  $\delta_1$  to be biased upward. In empirical estimation, the prime difficulty of the two-way causality that comes in the effect that social capital has on entrepreneurship promotion may cause the classical endogeneity problem. To avoid the strong likelihood of this endogeneity bias, confounded by the problem of variables that are missing in empirical data, we use a two stage least squares estimation approach. Thus, the first-stage equation in this approach is:

$$SC_i = \beta_1 \chi_i + \alpha_1 NPH_i + \pi_{1i} \dots\dots\dots (2)$$

Whereby  $NPH_i$  is the average number of persons in a household belonging to associations; the Two Stage Least Square (2SLS) model should capture the causal effect of Social Capital for those households whose entrepreneurial ability is affected by the average number of persons in a household belonging to associations. Importantly, though  $NPH_i$  is ordinal, 2SLS estimates of  $\delta_1$  can be interpreted as estimating the average marginal effect of a unit increase in  $NPH_i$  for households whose business is affected by the average number of persons in a household belonging to associations (Angrist and Imbens, 1995). Before we can present the 2SLS estimates, we shall first present a reduced form analysis of social capital; here we would expect to observe households with small average number of persons in a household belonging to associations to have lower businesses, because social capital is negatively affected by average number of persons in a household belonging to associations. The 2SLS estimation allows us to scale the probit marginal effects into the effects on an increase in our ordinal social capital measure.

We shall use the average number of persons in a household belonging to association variable as an instrument to overcome the endogeneity problem between social capital and entrepreneurship promotion in Cameroon which cannot be adequately controlled for by observable characteristics. Assuming that the average number of persons in a household belonging to associations is a valid instrument; we can use the ivprobit model (probit model controlling for endogeneity) which better respects the binary nature of entrepreneurship as represented by the following two equations:

$$ENTP_i^* = \lambda_2 \chi_i + \delta_2 NPH_i + \varepsilon_{2i} \dots\dots\dots (3)$$

$$SC_i = \beta_2 \chi_i + \alpha_2 NPH_i + \pi_{2i} \dots\dots\dots (4)$$

Where  $ENTP_i$  denotes actual entrepreneurship and  $ENTP^*_i$  represents desired entrepreneurship, note that  $ENTP_i = 1$  if  $ENTP^*_i > 0$  and zero otherwise, and the error terms  $\varepsilon_{2i}$  and  $\pi_{2i}$  follow a bivariate normal distribution with non-zero correlation. In addition, as reviewed in Frijters et al (2008), we can calculate the marginal effects of a variable  $\chi^k$  as the average of the marginal effect of everyone in the sample, thus;

$$ME(\chi^k) = \frac{1}{N} \sum_i \frac{\partial P(ENTP_i = 1 / \chi_i, SC_i, \hat{\beta}, \hat{\lambda}, \hat{\delta})}{\partial \chi_i^k} \dots \dots \dots (5)$$

Where  $\chi_i$  is a vector of characteristics with  $\chi_i^k$  the k'th element in that vector, thus, the marginal effect of Social capital on entrepreneurship will be:

$$ME(\chi) = \frac{1}{N} \sum_i \langle P(ENTP_i = 1 | SC_i = 1) - P(ENTP_i = 1 | SC_i = 0) \rangle \dots \dots \dots (6)$$

The cluster mean of average number of persons in a household belonging to associations can be a very important subject of discussion so far as entrepreneurship is concerned because of it presents barriers of cost, time and inconvenience. It can be argued that increasing household average number of persons in associations inhibits the use of precious time and effort and this may be associated with a range of poor entrepreneurship outcomes, from higher than expected business losses numbers. It can equally be argued that the average number of persons in a household belonging to associations is an endogenous variable given that the household has to make a decision of either to become member of association or not to become. In Cameroon, this is a reality in the sense that the choice of household is determine by six principal factors: relatives, duration in the place of residence, availability of related associations, existence of professional groups, activities of the existing groups and the presence of churches. These six factors are very important in terms of decision making in relation to household involvement in professional grouping and associations. In such a case, we can say the average number of persons in a household belonging to associations is a decision variable and therefore cannot be used to instrument for social capital.

However, one can observed that the decision to join an association or not greatly depends on the place of household location which on itself depends on other factors such as schools, hospitals location, church and place of work not associations. This can undermine the argument that the average number of persons in a household belonging to associations is exogenous. However to overcome this, the average number of persons in a household belonging to associations has been captured at the cluster level to reduced individual effects and considered in the number of persons in the household in which the business was launch. This mean that individual/household decision of businessmen to be members of association is minimized since all the business households within a given region will not make the same decision at the same time, rendering the variable exogenous. In this case, average distance to health facility is assumed to be a valid instrument.

**Computation of Synthetic Variable for social capital**

Particular to this study, we construct a social capital index using the Multiple Correspondence Analysis (MCA). This is suitable to our context as have been demonstrated by the World Bank researchers since 1998 (Filmer and Pritchett 1998). To avoid negative values on our constructed index, we shall normalize the index so that the values of the index are scale to a [0, 1] range. The application of the command in STATA 13.0 normalizes the value of our social capital index directly. As concerning the estimation strategies for social capital influence on entrepreneurship enhancements, to control for sample design used for data collection, survey-based regression models, STATA 13.0 is used. Survey regressions take care of three important sample characteristics: sampling weights, clustering, and stratification. Failure to include sampling weights give estimates that are not representative of the underlying population and affect standard errors of the estimates. In addition, because of the sampling design, observations in a

cluster are strictly not independent and using the standard regression methods without correcting for intra-cluster correlation will give small standard errors which invalidate significance tests. Accounting for clustering is therefore necessary to adjust the standard errors for both survey design effects and cluster level effects.

### ***Data presentation***

In this study we employ the third Cameroon household consumption survey conducted in 2007 by the National Institute of Statistics. This survey was conducted between May and July 2007 and comprised of 11391 households that were actually interviewed with 9219 of these household heads in the private sector and about 1102 of them in public/para-public and international organizations. The selected variables for our analysis are presented in descriptive statistics of Table 1. Considering the entrepreneurship variable as indicated earlier and as shown in the household consumption survey, this variable is capture by household heads working on their own proper account such as business ownership. The variable is presented in the data set such that: 65.59 percent of households are involve in entrepreneurship, 1.70 percent apprentice, 3.99 percent are bosses, 5.59 percent labourers, 15.99 percent qualified employees and 7.14 percent administrative staff. This implies many more Cameroonians are gradually getting conscious of the importance of entrepreneurship in economic well-fare.

## **V. EMPIRICAL RESULT AND DISCUSSION**

### **5.0 Empirical Result and Discussion**

#### **5.1 Weighted Descriptive Statistics**

Table 1 provides the means of the overall variables used in the analyses of the relationship between social capital and entrepreneurship enhancement. Weighted descriptive statistics for the household consumption survey indicated that about 59 percent of income generating activity (entrepreneurship) is created using social capital and other personal and community characteristics. Looking at some exogenous and demographic characteristics on the influence of entrepreneurship enhancement in Cameroon, our weighted statistics identify that about 73 percent of the income generating activities are done by men against 27 percent of their women counterpart. Statistics also show that among this income generating activity created among household head, about 56 percent of this creation are households located in the urban area against 44 percent in the rural area in Cameroon. Averagely, household size range from 1 to 43 members, which stand at 49 percent and the members' age in complete years which is captured in this study as experience in complete years stand at 41years maximum. Still on our descriptive statistics, it shows that only 33 percent of households in Cameroon attain primary education, against 35 percent and 8 percent in the secondary and higher level respectively. On average, about 18 percent of household members are active and/or working in the formal sector against 82 percent in the informal sector. Cluster means associated to access to credit was 7.5 percent, to saving was 29 percent, to water and electricity were both 99 percent and to financial assets was 0.45 whereas household appreciation of the level of corruption stood at 45 percent and only 0,09 percent of these household head are shareholders.

With reference to social capital, weighted descriptive statistics shows that upon the number of associations that exit in Cameroon about 22 percent of these associations are for economics purposes, and 39 percent of these household belong to an association for financial reason making a total of 61 percent of household who joint an economic association for financial help. Other indicators of social capital such as individuals at the household level hold post of responsibility or are actively involved in the decision making process of associations, receiving help form family, friends, religious groups, being married and receiving help aid/loan from solidarity group all stood at 13, 9.9, 77, 28, 56 and 41 percent respectively. And most importantly our Cluster mean of average numbers of household belonging to an association which is our instrumental variable in the study stood at 69 percent (see table 1).

**Table 1: Descriptive statistics of variables short-listed for regression analysis**

Variable	Obs	Mean	Std Dev	Min	Max
<b>Outcome Variable</b>					
Entrepreneurship (I= entrepreneur, 0 otherwise)	11391	0.5943289	0.491043	0	1
<b>Endogenous variable and its Instrument</b>					
Social Capital <sup>+++</sup>	11391	6.17e-10	1.000044	0	1
Cluster mean of average members of HH belonging to an association	11391	0.686067	0.885716	0	6
<b>Variables for the Construction Social Capital</b>					
Association type (I= Economic, 0 otherwise)	11391	0.22465	0.41737	0	1
Reasons for association (I= financial, 0 otherwise)	11391	0.393380	0.561593	0	1
Occupation in association (I= responsible, 0 otherwise)	11391	0.138442	0.345379	0	1
Aid from family (I= Yes, 0 otherwise)	11391	0.0995523	0.2994153	0	1
Aid from friends (I= Yes, 0 otherwise)	11391	.7735932	.4185238	0	1
Aid from religious groups (I= Yes, 0 otherwise)	11391	0.280309	0.4491699	0	1
Marital status (I= Married, 0 otherwise)	11391	0.5676411	0.4954253	0	1
Aid/loan from solidarity group (I= Yes, 0 otherwise)	11391	0.4124309	0.4922935	0	1
Satisfaction with association (I=Yes, 0 otherwise)	11391	0.450092	0.497524	0	1
<b>Variables for Entrepreneurship generating function</b>					
HH head work in formal sector (I=Yes, 0 otherwise)	11391	0.180142	0.384322	0	1
Have a line of credit	11391	.0745325	.3470333	0	12
Household Saving (I=Yes, 0 otherwise)	11391	0.29611	0.456561	0	1
HH Size	11391	4.493899	3.068652	1	43
HH Size Square	11391	29.61092	49.21741	1	1849
Experience in complete years	11391	41.67904	15.07182	0	95
Experience Square	11391	1964.283	1418.545	0	9025
Ownership of land (I=Yes, 0 otherwise)	11391	0.455183	0.498009	0	1
Appreciation of corruption (I=Yes, 0 otherwise)	11391	0.455183	0.498009	0	1

Primary (I=Yes, 0 otherwise)	11391	0.332104	0.470988	0	1
Secondary (I=Yes, 0 otherwise)	11391	0.350539	0.47716	0	1
Tertiary (I=Yes, 0 otherwise)	11391	0.0796243	0.270722	0	1
HH Share holder (I=Yes, 0 otherwise)	11391	0.00913	0.095118	0	1
HH has access to water (I=Yes, 0 otherwise)	11391	0.995873	0.064104	0	1
HH has access to electricity (I=Yes, 0 otherwise)	11391	0.995873	0.064104	0	1
<b>Variables identifying Gender and Place of Residence</b>					
Male household heads=1 and 0, otherwise	11391	0.733034	0.442393	0	1
Female household heads =1 and 0, otherwise	11391	0.266966	0.549169	0	1
Urban household resident =1 and 0, otherwise	11391	0.558774	0.496555	0	1
Rural household resident =1 and 0, otherwise	11391	0.441226	0.462293	0	1

Source: computed by the authors from the Third Cameroon Household Consumption Survey using STATA 13. The variable with +++ is synthetic variable obtained by the MCA approach.

### 5.2 Synopsis of Computed Synthetic Variable for Social Capital

To construct the synthetic variable for social capital we used the MCA method. Variable modalities used to construct this synthetic variable indicate that about 61% of the household join an association for financial gains, if association is for economic purpose. Average values associated to help received from friends and family revolved around 86.9 percent. The average value for our social capital index was 6.17e-10. The ordering of the various scores were generated and normalized to treat for the presence of negative values which may cloud the classification of attribute and interpretation of results (see table 2).

Variable modalities used to construct the social capital index have ordinal orderings consistent with their contributions in the first factorial axis (Asselin and Tuan, 2005). The first factorial axis accounts for about 50 percent of the total inertia. Results indicate that belonging to an association, type of association, position in the association, motive for belonging to association, receives help from family, receives help from relations, belonging to a religious orientation all contributed in building the social capital of household head for the promotion of entrepreneurship in Cameroon. However, regarding the variable being married, both modalities contributed in accounting for social capital. This result indicates that marriage does not over play a favourable part in the construction of social capital for entrepreneurs.

**Table 2: Synopsis of Computed Synthetic Variable for Social Capital**

Number of Observations: 1139; percentage share of first axis:; percentage share of second axis:									
Variables (Categories)	mass	Quality	Scores		correlations		contributions		Total % inertia
			First axis	Second axis	First axis	Second axis	First axis	Second axis	
Type of association							0.046		11.1



Economic	0.025	0.514	-2.382	-0.213	0.512	0.002	0.023	0.000	0.086
No economic	0.086	0.514	0.690	0.062	0.512	0.002	0.023	0.000	0.025
Principal reason for joining an association							0.062		11.1
Financialpurpose	0.015	0.310	-2.477	0.068	0.309	0.000	0.053	0.000	0.096
Other reasons	0.096	0.310	0.401	-0.011	0.309	0.000	0.009	0.000	0.015
Occupy a responsibility post in an association							0.069		11.1
YES	0.015	0.348	-2.629	0.271	0.346	0.002	0.059	0.000	0.096
NO	0.096	0.348	0.422	-0.044	0.346	0.002	0.010	0.000	0.015
Being Satisfy with association							0.169		11.1
YES	0.050	0.848	-1.824	-0.025	0.848	0.000	0.093	0.000	0.061
NO	0.061	0.848	1.493	0.021	0.848	0.000	0.076	0.000	0.050
Receives help from Family member							0.001		11.1
YES	0.091	0.462	0.015	-0.828	0.004	0.458	0.000	0.024	0.020
NO	0.020	0.462	-0.231	3.768	0.004	0.458	0.001	0.109	0.091
Receives help from Friends							0.000		11.1
YES	0.086	0.560	0.011	-1.056	0.000	0.560	0.000	0.037	0.025
NO	0.025	0.560	-0.038	3.610	0.000	0.560	0.000	0.126	0.086
Receives help from a Religious group							0.001		11.1
YES	0.031	0.277	-0.267	-2.168	0.009	0.269	0.001	0.056	0.080
NO	0.080	0.277	0.104	0.844	0.009	0.269	0.000	0.022	0.031
Being Married							0.002		11.1
Yes	0.063	0.043	-0.175	0.397	0.013	0.030	0.001	0.004	0.048

No	0.048	0.043	0.230	-0.521	0.013	0.030	0.001	0.005	0.063
Received aid/loan in the form of Solidarity in groups							0.152		11.1
YES	0.046	0.763	-1.868	-0.041	0.763	0.000	0.089	0.000	0.065
NO	0.065	0.763	1.311	0.029	0.763	0.000	0.063	0.000	0.046
Total							0.501		99.9

Source: Computed by Authors from 2007 Cameroon Household Consumption Survey using STATA 13.0

A potential explanation may be pointing to a possible trade-off between association membership activities and household duties for married hence women whether married or not married has the same efforts put in place in constituting their social capital. This might also be explained by the fact that a single woman is more likely to be creative in ways for making money. However, it should also be noted that the correlations are mostly strong for the variables belonging to an association and economic reasons for joining an association. Regarding the contribution of variable modalities of the different variables to the first factorial axis, except for the variable received helps from friends, all other modalities of variables associated to the stock of social capital had higher contributions.

### 5.3 Factors influencing Social Capital

Table 3 posts results identifying determinants of social capital in Cameroon. Thus, a one percent change in the number of households belonging to an association increases social capital by 87 percent. Other extended elements which are crucial elements in affecting social capital without an individual necessary belonging to a social group are the financial backing of the individual, access to credit, having saving and having some form of financial asset, all these element can positively relate with the probability of being an entrepreneur in Cameroon. Other personal, cultural and community determinants of social capital are: education, experience square household size, proportion of active household members and residential areas and experience, (used as a proxy for age).

The overall model is globally significant as seen from our F-statistics which stands at 1598.01 and (p-val<all alpha's) it can also be seen from our Adj R-squared which stands at 66.25 percent meaning our selected variables use as determinants of social capital explained social capital by 66 percent. This finding corroborates with the results from studies by Ekpe et al (2010) and the ILO (2003) report in Nigeria, Kenya and Tanzania. According to the analysis carry out by Epo (2012) social capita encompasses issues like trust, norms, and safety net mechanisms that are put in place by a given society.

### 5.4 Marginal effects of Social capital and Entrepreneurship Enhancement

The ivprobit estimate indicates that social capital is directly proportional to entrepreneurship. This result implies that an average marginal increase in social capital will increase the probability of entrepreneurship enhancement by 8.17 percent. With respect to instrument validity and relevance, we observed that the Sargan statistic is exactly identified while Cragg-Donald F-statistic test is 19.012 [14.731] indicating that we have a strong instrument that is also relevant. Further, the Durbin-Wu-Hausman  $\chi^2$  test for exogeneity of variables (32.362[0.0000]) also shows that there is no problem of endogeneity in our result. Given that the magnitude of ivprobit result are stronger than that of 2SLS result, the parsimonious of ivprobit are preferred to that of IV 2SLS. This result is consistent with that of

Roomi (2013) and Anderson et al (2002) they noted that increasing the number of skill areas in which the social capital is less competent by one, reduces entrepreneurship enhancement by 3 percentage points.

**Table 3: Marginal effects of social capital on entrepreneurship enhancement**

Variable	OLS (1)	2SLS1st Stage (2)	2SLS 2nd Stage (3)	IV Probit (4)
Social Capital	-0.0204*** (-5.18)	n/a	0.0240*** (4.64)	0.0817*** (3.70)
HH head work in formal sector	-0.5687*** (-50.66)	0.0405** (2.32)	-0.5693*** (-50.69)	-2.2937*** (-36.63)
Household gender (1=Male, 0 otherwise)	0.0500*** (6.03)	0.1165*** (9.06)	-0.0496*** (-5.98)	-0.2358*** (-6.94)
Experience in complete years	0.0206*** (16.95)	-0.0099*** (-5.27)	0.0205*** (16.81)	0.0739*** (15.37)
Experience Square	-0.0002*** (-18.02)	0.0001*** (4.93)	-0.0002*** (-17.94)	-0.0008*** (-16.80)
Household Saving	-0.0068 (-0.80)	-0.2261*** (-17.28)	-0.0093 (-1.05)	0.0355 (0.97)
HH has access to electricity	-0.0084 (-0.15)	0.0612 (0.72)	0.0082 (0.15)	0.1620 (0.73)
Appreciation of corruption	0.1731*** (19.68)	-0.0824*** (-6.05)	0.1726*** (19.62)	0.6220*** (17.73)
HH have a line of credit	0.0096 (0.83)	-0.0867*** (-4.85)	0.0088 (0.76)	0.0247 (0.61)
Primary Education	-0.0617*** (-6.36)	-0.0816*** (-5.42)	0.0631*** (6.45)	0.2112*** (4.93)
Secondary Education	0.1499*** (13.56)	0.1111*** (6.48)	0.1515*** (13.59)	898.592*** (13.17)
Tertiary / higher Education	0.2354*** (13.42)	0.1415*** (5.20)	-0.2372*** (-13.47)	-0.9973*** (-12.88)
Household Size	-0.0057*** (-4.57)	0.0062*** (3.18)	-0.0058*** (-4.64)	-0.0209*** (-4.09)

Household place of Residence (1=urban 0 otherwise)	-0.1230*** (-13.67)	0.0015 (0.08)	0.1233*** (13.71)	0.3757*** (11.17)
Average members of HH belonging to an association	n/a	-0.8748*** (-124.52)	n/a	n/a
Constant	0.4299*** (7.03)	0.9734*** (10.30)	0.4352*** (7.10)	-0.1238 (-0.51)
F( df: Prob > F)	551.15[14; 11384, 0.0000]	1598.01[13; 11384, 0.0000]	550.73[14; 11384, 0.0000]	548[14; 11384, 0.0000]
Wald chi2(14) Prob > chi2	N/A	N/A	N/A	2945.89[0.0000]
R-squared	0.6742	0.6629	0.7405	0.8141
Adj R-squared	0.6403	0.6625	0.7894	0.7901
Number of observation	11391	11391	11391	11391

Source: computed by the authors using STATA 13. Note \*\*\*, \*\*, \* indicate 1%, 5% and 10% level of significance respectively while values in parentheses represent robust t-statistics.

The 2SLS estimates shows that an increase in social capital has a probability effect of 0.0240 to increase entrepreneurship statistically significant at 1 percent level. The ivprobit estimates are slightly larger than the OLS and 2SLS estimates confirming the fact that ivprobit model better respects the binary nature of entrepreneurship as represented by the two equations above. The inverse result of OLS can be explained by the fact that the single-equation estimates may either be upward or downward biased depending upon the effect that entrepreneurship has on social capital and on the correlation between omitted variables and social capital. Other variables contributing to promote entrepreneurship in this study are: household head work in formal sector, experience in complete years, household saving, household have a line of credit, household place of residence, gender and appreciating the level of corruption is strongly influencing entrepreneurship.

Our results are an important contribution to knowledge within this area in Cameroon, given the difficulty in finding a variable that is correlated with social capital and not entrepreneurship participation (an instrument), most studies struggle to identify the causal impact Epo (2012) but did not attempt in their solving. Our results therefore provide new evidence on the likely direction and size of bias in previous studies' estimate.

### **5.5 Entrepreneurship effect by Household Gender and Household Residence**

#### ***Correlates of male and non male household head***

Here, we observed that female household head increase the probability of marginal social capital contribution with a probability effect of 0.01254 significant at 5 percent level. In Cameroon, entrepreneurship is an activity which is fast gaining ground in the country economic activity, thus most females are engaged in this sector of activity as it's their sole livelihood and hence they will participate in any trusted network to raise funds for their economic empowerment. On the contrary, a one percent increase the social capital of male headed households has a probability effect of 0.0649 to increasing entrepreneurship. Principally, their contribution includes public service workers and private sector workers. People usually turn to social capital especially when they cannot get credit from banks and the result is consistent with that of Epo (2012).

Table 4: Entrepreneurship promotion by gender of household head and place of residence

Variable	Gender of household Head		Household place of Resident	
	Male	Female	Urban	Rural
Social Capital	0.0649** (2.47)	0.1254** (2.61)	0.0637** ( 2.18)	0.1318*** ( 3.45)
HH head work in formal sector	-2.2970*** (-33.35)	-2.2624*** (-14.91)	-2.2112*** ( -29.25)	-2.4177*** ( -22.14)
HH have a line of credit	0.0077 (0.17)	0.0903 ( 0.78)	0.0728* (1.57)	-0.1434* ( -1.72)
Household Saving	0.0064 (0.19)	0.1483* ( 1.86)	0.0693 ( 1.55)	-0.0292 ( -0.46)
HH Size	-0.0234 (-1.25)	0.0295 (0.94)	-0.0081 ( -0.64)	-0.0002 ( -0.01)
HH Size Square	-0.0008 (-1.10)	-0.0028 (-1.13)	-0.0004 ( -0.52)	-0.0015* ( -1.67)
Experience in complete years	0.06703*** (11.34)	0.0832*** (9.37)	0.0721*** ( 10.63)	0.0730*** ( 10.24)
Experience Square	-0.0008*** (-12.58)	-0.0010*** (-10.12)	-0.0008*** ( -11.51)	-0.0008*** ( -11.49)
Appreciation of corruption	0.5984*** (14.80)	0.7243*** ( 9.77)	0.4824*** ( 10.29)	0.7828*** ( 14.62)
Primary Education	-0.2557*** ( -5.11)	-0.0682 (-0.76)	-0.2190*** ( -3.71)	-0.1651*** ( -2.59)
Secondary Education	-0.5633*** (-10.76)	-0.7137*** (-7.60)	-0.5542*** ( -9.36)	-0.6314*** ( -8.79)
Tertiary/higher Education	-0.8152*** (-9.34)	-1.7876*** (-9.07)	-0.9705*** ( -10.78)	-1.0728*** ( -6.20)
HH has access to electricity	-0.2151 (-0.84)	0.0314 (0.07)	-0.3123 ( -1.01)	0.0242 ( 0.08)
Urban resident	-0.3400*** (-8.80)	-0.5179*** (-7.31)	n/a	n/a

Male	n/a	n/a	-0.1658 (-3.95)***	-0.3886*** (-6.50)
Cont	-0.1714 (-0.64)	-0.5234 (-1.07)	-0.3864 (-1.14)	-0.3002 (-0.86)
Rho( $\rho$ )	0.0072 (0.0227)	0.0114 (0.0427)	-0.0039 (0.0268)	0.0236 (0.0306)
Sigma ( $\sigma$ )	0.5909 (0.0046)	0.5965 (0.0076)	0.6070 (0.0054)	0.5782 (0.0058)
Wald chi2(df):	2117.08[14	791.98[14	1330.24[14	1154.96 [14:
Prob > chi2	0.0000]	0.0000]	0.0000]	0.0000]
Number of obs	8350	3041	6365	5026

**Source:** computed by authors using STATA 13. Note \*\*\*, \*\*, \* indicate 1%, 5% and 10% level of Significance respectively while values in parentheses represent robust t-statistics.

**Correlates of urban and rural household residence**

Estimates of urban residence revealed a decrease in the social capital with a probability effect of 0.0637 significant at 5 percent level. This result shows that a marginal change in social capital will cause an increase probability 0.0637 of household in entrepreneurship participation. In this line, our coefficient is reasonably similar in size to that of previous findings, such as Ekpe (2010). Other factors significantly contributing in this domain are: education, occupation, age, and appreciation of corruption level. In household rural resident, we observed that an average marginal change in social capital will increase the probability of rural entrepreneurship supply by 0.1218 point, significant at one percent level this result is consistent with that of Deepa et al (1996) observed in rural Tanzania. However, the magnitude of rural residence is greater than that of urban residence estimate. This is because, in real life the rural household have more pressure in involving in likely activities that will give them income than pursuing white collar jobs like their friends in the urban areas, who are complemented only on skilled work in the provision of their household basic needs. Thus, given a social capital status, the rural residence is expected to participate more in associational activities than the urban areas.

**VI. CONCLUSION**

Entrepreneurship has been identified as the best solution to the problem of unemployment, poverty reduction and amelioration of household welfare. Based on what we determined as the most important and most robust results presented in this paper, the ivprobit estimate indicates that an average marginal increase in social capital will increase the probability of entrepreneurship enhancement by 0.0817. This empirical analysis indicated a strong and positive correlation between social capital and entrepreneurship enhancement; in addition, households with high social capital have higher expenditure per capita and thus are less likely to be poor. However, the strongest effect comes from group membership as opposed to decision making index and network support.

Robust estimates (average members of household belonging to an association) that reduce potential endogeneity bias of social capital and entrepreneurship were generated at one percent significant level, The overall model was globally significant as seen from our F-statistics which stood at 1598.01 and (p-val<all alpha's) it was also seen from

our Adj R-squared which stood at 0.6625 meaning our selected variables use as determinants of social capital explained social capital by 66 percent. Other determinants of social capital where the financial backing of the individual, access to credit, having saving and having some form of financial asset, all these element can positively relate with the probability of being an entrepreneur in Cameroon. Other variables that relate positively to social capital were experience, household size square, education, proportion of active household members and urban residential area.

On the basis of our analysis, we recommend that families should inculcate the entrepreneurial culture to their children; members of an association should develop a creative attitude toward members, donors and decision makers should encourage social capital either directly or indirectly by creating an environment friendly to the emergence of local associations.

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