

## Research Article

# Social Capital and its Implication for Economic Wellbeing and Sustainable Development: Household Level Analysis to Jimma Zone, South-West Ethiopia

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### Abstract

The implication of social capital to people's economic position has not been well addressed in Ethiopia. Thus, this study is aimed to examine the effect of household's stock of social capital on its economic wellbeing, taking a random sample of households from Jimma zone. To objective this objective, we obtained the necessary data both from the primary and secondary sources. The research design is of a cross-sectional type in nature. Our binary logit regression showed that, the stock of social capital has favorable impact on the households' economic wellbeing in Jimma zone. Besides, the economic impact of households' special stock of social capital was found to be more relevant compared to their general stock of

social capital. Hence, general social capital need to be taken as an opportunity to create special social capitals, as the later is meant to favor the households' wellbeing.

**Keywords:** Economic Wellbeing; Ethiopia; Jimma Zone; Logit; Social Capita

### 1. Introduction

This survey has been expected to serve at least dual purposes. The first, and of course the most basic, is to show how social capital influences peoples' life. Next, the puzzle of human development and physical capital is among the extensive focus of most economic and social development studies in Ethiopia.

Nonetheless, despite its role in multidimensional development scenario, the notion of social capital has not as such been considered. Therefore, this paper may bring further attention towards the topic. No common empathetic on the notion of the so called, social capital. One group of social scientists relates it to engagements in civic societies [1-3]; others explain in relation to some societal norms, values, and mutual understandings among individuals or groups [4, 5]. We base our analysis on the definition given by Organization for economic and cultural development (OECD). OECD describes social capital as follows: "It is a network with shared norms, values and understandings that facilitate cooperation within or among groups" [4]. In short, we can understand the notion of social capital as the relations, collective values and understandings in society that enhances trust each other and, then work together [Ibid]. We assume the relationships as real-world links among groups or individuals. The networks assumed are true and based true bondage between friends, family members, colleagues, neighbors, civic associations, relatives and so on. Usually, the shared norms and values happen to be less concrete than the social networks. Yet, enhanced networks of various norms and values prompt trust and encourage cooperation within and among groups and, hence act together. This cooperation is expected to enhance operational efficiency and affect people's livelihood favorably [6, 7], explain societal cooperation as means of efficiency. When individuals or groups work together, it is more likely that labor cost decreases, transfer of skills and knowledge take place among them. Besides, enhanced networks encourage mass productions and create markets to each other's products. Thus, social networks, hereafter social capital, are assumed to have important implication to the people's wellbeing and

sustainable development [6, 8, 9]. This study is motivated to examine whether the households' stock of social capital has implication to economic Wellbeing. Our analysis is based on household level data sourced from sample households in Jimma zone, situated at the south-west corner of Ethiopia.

## 2. Methods

Jimma zone composes 21 sub-zonal administrative structures which are locally named *woreda*, with Jimma city being the administrative center. The total population size in the zone was estimated at 3.5 million under 518,506 households [1]. Our research design is more of a cross-sectional type. We employed both primary and secondary data types. Household specific information such as, land holding, type and nature of productions, family size, social capital, and so on, were directly sourced from the households. Secondary information was sourced from Jimma trade and finance and economic development offices. Respondents were all subjected to well-structured questionnaires to obtain the data necessary for our analyses. Out of 21 administrative *woreda*, we arbitrarily nominated four. These include Mana, Gomma, Limu-Kossa and Sokoru. Household sizes each *woreda* in their order above are estimated at 18, 201; 21, 449; 25, 305, and 30, 115, respectively. Therefore, the total of households in all sample *woreda* is 95,070. Following [10], we used the following formulation for sample determination.  $N$  denotes population;  $n$  is sample size;  $d=0.05$  measures precision;  $Z=1.96$  for 95 percent confidence interval. In our convenience for representativeness, we proportionally distributed the sample to each *woreda* under study. Then after, we arbitrarily selected 74 households from Mana; 121 households from

Sokoru; 102 from Limu-Kossa; and 86 households from Gomma.

$$n \geq \frac{N}{1 + (N-1)\left(\frac{2d}{Z}\right)^2}$$

**2.1 Measuring social capital and economic wellbeing**

We argue that, societal ties constitute an important element of the so called, social capital. Hence, social capital may be explained as the stock of social relationships that an individual person possesses. Social relationships can generally be grouped in to two as general and special social relationships. General relations arise naturally from blood relation. Besides, whenever an individual forms interaction with bosses and peer, the general social relationship is there for that individual because whether an individual prefers them or not, the official interactions are already there [4, 7, 11]. On the other hand, a father may have special trust and love to one or two of his children in a family, or a boss may trust only one or more workers give special privilege to them, based on his own criterion that are not objective. These forms of relationships are, hence, called special relations. The special social relationships contain a lot more trust and certainty compared to general social relationships. An important distinction between the two is; general relationships are more in number but shallow in bonding depth whereas the special relationships are in converse [5, 12, 13]. For our convenience, we limit blood relationships to only immediate family member; born from the same mother or father or both. General social capital was accounted with the proxy indicators of (a) Does a household has children with permanent residence in nearby town? (b) Is a household is a member of local informal association, locally called ‘*Idir*’? Following

[3, 5, 11, 14] the proxy we used to capture the special social relationship is, whether a respondent is quite sure that he/she has at least one person in his/her life that he/she will not leave him/her during his/her difficult conditions to share his/her personal secrets, to lend him/her money necessary to fulfill emergencies, and any other cases. With this conceptualization, an individual’s total stock of social capital (*TSSC*) is, therefore, the sum total of general social capital (*GSC*) and Special Social Capital (*SSC*). It follows that;

$$TSSC_i = GSC_i + SSC_i \dots\dots\dots (1.1)$$

The economic wellbeing of the rural household has been noticed on the notion of whether the yearly income in ETB of the respondent is enough to cover all of his/her yearly expenditures without being indebted and have extra income in the form of saving. One difficulty here is that, some of the agricultural products are nonmarketable and others may not be sold in the same year they were produced. In it and other similar cases, products at hand were valued at their current market prices. Henceforth, the total of annual expenditure was deducted from the total income earned in the same year. The difference (indicated by 1.2 below) was taken as a proxy to ‘economic wellbeing’ of each individual household. Where *NI* is the net income of the *i*<sup>th</sup> household; *Y* and *EX* are the *i*<sup>th</sup> household annual income and expenditures, respectively. We run regression on binary logit to estimate the impact of social capital on households’ economic wellbeing. The dependent variable being, an individual household is economically secure or not, is a kind of categorical variable. It takes 1 if it is economically secured; and 0 if insecure. The labeling is based on the notion that

whether an individual concerned is able to finance his/her household expenditure without being indebted and remain with extra income to save. The response variable can be defined in terms of;

$$NI_i = Y_i - EX_i \dots\dots\dots(1.2)$$

$$\left[ \begin{array}{l} ECON_i = 1, \text{ if } i^{\text{th}} \text{ household is economically secured} \\ 0, \text{ if the } i^{\text{th}} \text{ household is economically insecure} \dots\dots\dots \end{array} \right] \dots\dots\dots (1.3)$$

In logistic regression, a single outcome variable  $y_i$  ( $i = 1, \dots, n$ ) follows a Bernoulli probability function that takes the value 1 with probability of success  $\pi_i$  or the value 0 with probability of failure  $1 - \pi_i$ . Binary logit is described as follows. Let  $y_{(n \times 1)}$  be a dichotomous outcome random vector with categories 1 (if a household is economically secured) and 0 (if a household is not secured economically). Let  $x$  be an  $n \times (k+1)$  matrix denote the collection of  $k$ -predictors, i.e.,

$$X = \begin{pmatrix} 1 & x_{11} & \dots & x_{1k} \\ 1 & x_{21} & \dots & x_{2k} \\ \vdots & \vdots & \ddots & \vdots \\ 1 & x_{n1} & \dots & x_{nk} \end{pmatrix} Y = \begin{pmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{pmatrix} \beta = \begin{pmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_k \end{pmatrix} \sim (k+1) \times 1$$

Where  $X$  - is the design matrix;  $\beta$  is vector of unknowns of the covariates and intercept. Then, the conditional probability that household is economically secured given the  $X_i$  set of predictor variables is denoted by  $P(y_i = 1/x_i) = \pi_i$ . And  $\pi_i$  can be expressed as follows:

$$\pi_i = p(y_i = 1/x_i) \dots\dots\dots (1.4)$$

The relationship between the predictor variables and response variable is not a linear function in logistic regression; instead, the logarithmic transformation of equation yields the linear relationship between the predictor and response variables. Hence, an alternative form of the logistic regression equation is the logit transformation of  $\pi_i$  given as follows:

$$\logit(\pi_i) = \log\left(\frac{\pi_i}{1 - \pi_i}\right) \dots\dots\dots (1.5)$$

The transformed variable  $\logit(\pi_i)$  is related to the explanatory variables as:

$$\logit(\pi_i) = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots + \beta_k x_{ki} = X_i' \beta \dots\dots (1.6)$$

Following [3], the probability that an individual household is economically secure for known values of each regressor considered is given by;

$$P_i = \frac{1}{1 + e^{-Q_i}} \dots\dots\dots (1.7)$$

Where  $Q_i = \beta_0 + \beta_i X_i$ .  $P_i$  is a probability that the  $i^{\text{th}}$  household is economically secured;  $\beta_0$  is the constant;  $\beta_i$ s are the slope parameters; and,  $e$  is the base of natural logarithm. For mathematical demands of negative exponents, the above equation can be re-expressed as follows;

$$P_i = \frac{e^{Q_i}}{1 + e^{Q_i}} \dots\dots\dots(1.8)$$

On the other hand, a probability that a household is economically insecure equals the value left after equation (1.8) is deducted from unity and given by;

$$1 - P_i = \frac{1}{1 + e^{Q_i}} \dots \dots \dots (1.9)$$

The odds ratio in favor of a household to be economically secure is given by the ratio of the two probabilities above as computed hereunder;

$$P / 1 - P_i = e^{Q_i} \dots \dots \dots (1.10)$$

Linearizing equation (1.10) for estimation purposes necessitate expression of it in its natural logarithm. Taking the natural log of equation (1.10), we finally obtain the following expression;

$$L = \ln \left( \frac{P_i}{1 - P_i} \right) = \ln(e^{Q_i}) \Rightarrow \beta_0 + \beta_1 X_i + U_i \dots \dots (1.11)$$

Where,  $L$  = Log of the odds ratio and  $u_i$  is the white noise. Finally, we can specify the binary logit model using the variables included in the current analysis following the procedure above.

$$L = \beta_0 + \beta_1 TSSC_i + \beta_2 IDIR_i + \beta_3 EDUC_i + \beta_4 AGE_i + u_i \dots (1.12)$$

Where  $TSSC$  is Total Stock of Social Capital of household  $i$ ;  $EDUC$  is education level of the respondent  $i$  measured in years of schooling;  $AGE$  = age in years of the  $i^{th}$  household head; and  $IDIR$  is a dummy taking a value 1 if a respondent is member of his/her hamlet  $Idir$ ; and 0 if not a member.

### 3. Analyses

#### 3.1 Effects of social capital on economic performance: household perspective

To parameterize the effect of household social capital on their economic position, we regress binary logit in four regressors; i.e., the total stock of social capital ( $TSSC$ ), education level of household head ( $EDUC$ ), age in years of the household head ( $AGE$ ), and dummy for the household’s  $Idir$  membership status ( $IDIR$ ). Households’ economic wellbeing, proxied by the annual net income (in terms of ETB) of each household, is the regressand in our logit formulation. (Table 1) Below reports the logit estimates indicating the impact of individual regressor on the households’ economic performance;

Regressors	Coeff.	Std. Error	Prob.
TSSC	0.311	0.050	0.000
AGE	0.014	0.012	0.229
IDIR	0.416	0.307	0.176
EDUC	0.150	0.041	0.000
Log LL Ratio: $\chi^2(4) = 87.55$ [0.000] Pseudo $R^2 = 0.2125$			

Source: (own survey, 2018); Note: [ ] is the probability of the log likelihood ratio.

**Table 1:** Relationship between social capital and economic wellbeing.

None of the pre and post validity examinations for logit model was reported invalid, whereby assuring

the reliability of our estimates as well as the inferences based on them. Evident from (Table 1) is

the noteworthy and positive bearing of the household's stock of social capital on its economic position. The projected coefficient being 0.311(0.000) signifies that, a point improvement in the household's stock of social capital is more likely to upsurge the odds of household wellbeing at about 0.311 points. An interesting issue with household social capital stock appears to its strong and meaningful economic involvement. The finding is theoretically expected, and empirically similar to the works of [3, 5, 10, 12]. Age and education considerations were also important predictors of household economy. A positive coefficient of education is certain. Education sways life favorably; and in respect of economy intensifies advanced production thereby enhancing technological adoption and improving managerial efficiency. All this allow for households' raising productivity, production efficiency and hence the overall asset base.

### 3.2 General versus special social capital: the comparative statistics

To address this particular issue, we compared the estimated coefficients of the two basic constituents of social capital. From the theoretical perspective, general social relations (alone) are nothing, they only borne naturally; whether or not an individual desires them they are always there. Contrariwise, special individual ties, equally referred to special social capitals, are created from some common interest and special feelings among individuals or between groups. According to [2, 10, 15], this type of social capital is more likely to enhance the technical as well as managerial efficiency, as it is expected to link individuals or groups in a more meaningful manner. Hence, they are reasonably productive in the most common sense. Based on this argument, we also expect large relative impact of special social capital on the households' economic position.

Regressor	Coeff.	Std. error	Prob.
GSC	0.280	0.206	0.175
SSC	0.345	0.057	0.000
Log LL Ratio: $\chi^2(2) = 69.12 [0.000]$ PseudoR <sup>2</sup> = 0.1678			

Source: (own survey, 2018)

**Table 2:** Special versus general social capital stocks and the households' economy.

The relevance of the two regressor logit model can be verified via the significant log likelihood ratio. Besides, the estimated *pseudoR*<sup>2</sup> is fair in such large cross sectional observation with only two regressors. Evident from (Table 2) is a positive and strongly significant economic bearing of the special social capital. The separate logit regression further confirms the insignificant coefficient for general social capital. The binary logit estimation reveals that, the odds of

households' economic wellbeing are likely to improve with every unit of special capital created. This improvement is meaningful as the estimated coefficient is strong from the statistical point of view. The sign and magnitude of special capital provide clear theoretical support, and many empirical findings; see [3, 4, 8, 9, 12]. Therefore, it is the special component of social capital that contributes more towards economic wellbeing.

**3.3 Implications of social capital for sustainable development**

Social capital has long been renowned to enrich the welfare in various forms. We reached an entire sample in an attempt to conveniently verify the beneficial networks in the survey area. Households subjected to questions on what and how about of the confirmed influences of their social capital stock. (Table 3) summarizes the response rate on these issues.

**3.3.1 Economic perspective:** We estimated a positive impact of social capital on the households’ economic position. However, explanation on how these economic benefits transmit is unclear. A point is how one’s stock of social capital could contribute to his/her economic position. According to our survey, the suggested economic benefits emerge from reduced transactions costs due to intensified access to information. Additionally, with better interpersonal ties the exchange of production techniques as well as

managerial skills is likely to increase. Besides, an individual with better relationship to others may possess better opportunity to have informal financial credit as well as other necessary inputs, than an individual with no such influential social tie. An interesting feature of these financial credits is that, they are interest free, which would have been impossible with formal banking sector. Abolished interest charges have obvious implications to the net income of households. Furthermore, with enhanced interpersonal linkages, individuals tend to collaborate and work together, especially, during the time of mass harvest. This mechanism obviously reduces the labor cost that would be paid for external hire and adds to the net income of the individual producer.

The response rate of about 379 (98.95%) uphold the relevance of their social capital in a number of ways. Besides its economic significance, social capital is suggested to have implications to households’ political and social status as briefed hereunder;

Items	Response	Response Rate	Percentage
Does your stock of social capital have favorable aspect in your life?	Yes	379	98.95
	No	4	1.05
	Total	383	100
Social Capital affects HHs status:	Politically	369	96.34
	Economically	383	100.00
	Socially	383	100.00

Source: (own survey, 2018)

**Table 3:** Role of social capital for sustainable development.

**3.3.2 Social perspective:** Households were all subjected to questions on the ways they benefit for their social capital with regard to social life. All most close to all,

assert that, better reputation in the community is much better than material wealth they possess. One in a good relationship cares not only to own life, but to others



with excellent attachment. It seems a priority issue for collective security. An individual feels safe and develops a sense of belongingness; and with meaningfully intensified social network, individuals become free from fraud [4-6].

**3.3.3 Political perspective:** In the same manner that social capital is essential for better social life; so is political capital indispensable for refined political attachment—an ability to resolve conflicts peacefully and a capacity to engage productively with the common interest [9, 11, 12]. About 96.34% of the current survey claimed that, social capital takes a crucial part in their political endeavor. Those with good social reputation are generally regarded as role models, and often assume the leadership role in various public organizations at local level. They participate in different public agendas and act on behalf of the community.

#### 4. Concluding Remarks

A household with better stock of social capital performs better in economic stand and vice versa. Of the distinct forms of social capital, the special stock appears the substantial contributor to household's economic wellbeing. Education and age variables are also important considerations for household economy. Besides, social capital has role in sustaining peoples's social, economic and political scenarios hereby intensifying productive bondage among them. These relations are produced based on mutual understanding, aimed to ensure mutual interest. Hence, it seems wise for households to advance general relations to special capital, as it is meant to influence them adequately. Moreover, it could be a crucial approach to increase household access to education since it better education improves the economy.

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